



# FR-8X

Roland

## Tone & Drum Kit List

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# Orchestra Tone List

| No.                         | Name          | Tone Controlled by |
|-----------------------------|---------------|--------------------|
| <b>Piano</b>                |               |                    |
| 0001                        | NaturalPiano  | Keyboard           |
| 0002                        | SuperiorPian  | Keyboard           |
| 0003                        | ClassicPiano  | Keyboard           |
| 0004                        | UprightPiano  | Keyboard           |
| 0005                        | Rock Piano    | Keyboard           |
| 0006                        | RD Piano      | Keyboard           |
| 0007                        | Brite Piano   | Keyboard           |
| 0008                        | European Pf   | Keyboard           |
| 0009                        | Mild Piano    | Keyboard           |
| 0010                        | Piano+String  | Bellows+ Keyboard  |
| 0011                        | Piano+Choir   | Bellows+ Keyboard  |
| 0012                        | Honky Tonk    | Bellows+ Keyboard  |
| 0013                        | MonoAcPiano   | Keyboard           |
| 0014                        | Ac Piano      | Keyboard           |
| 0015                        | Oct.Piano     | Keyboard           |
| <b>E. Piano</b>             |               |                    |
| 0016                        | Wurly         | Keyboard           |
| 0017                        | El.Piano      | Keyboard           |
| 0018                        | EP Heaven     | Bellows+ Keyboard  |
| 0019                        | Phase Clav    | Keyboard           |
| 0020                        | Harpsy w      | Keyboard           |
| <b>Chromatic Percussion</b> |               |                    |
| 0021                        | Vibe          | Keyboard           |
| 0022                        | Marimba w     | Keyboard           |
| 0023                        | Xylophone w   | Keyboard           |
| 0024                        | Celesta       | Keyboard           |
| 0025                        | Music Box     | Keyboard           |
| <b>Organ</b>                |               |                    |
| 0026                        | Organ Flute   | Bellows            |
| 0027                        | Chapel Organ  | Bellows            |
| 0028                        | Church Organ  | Bellows            |
| 0029                        | Mid Pipe      | Bellows            |
| <b>Accordion</b>            |               |                    |
| 0030                        | Harmonica     | Bellows            |
| 0031                        | Mute Harm     | Bellows            |
| <b>Acoustic Guitar</b>      |               |                    |
| 0032                        | Nylon Guitar  | Keyboard           |
| 0033                        | Steel Guitar1 | Keyboard           |
| 0034                        | Steel Guitar2 | Keyboard           |
| 0035                        | Nylon-str.Gt  | Keyboard           |
| 0036                        | Cimbalon      | Keyboard           |
| 0037                        | Atmosphere    | Bellows+ Keyboard  |
| 0038                        | Nylon&Steel   | Keyboard           |
| 0039                        | Ac.Guitar     | Keyboard           |
| 0040                        | Banjo         | Keyboard           |
| 0041                        | Mandolin      | Keyboard           |

| No.                    | Name         | Tone Controlled by |
|------------------------|--------------|--------------------|
| <b>Electric Guitar</b> |              |                    |
| 0042                   | Clean Solid  | Keyboard           |
| 0043                   | Warm Drive   | Keyboard           |
| 0044                   | JC Chrus Gt  | Keyboard           |
| 0045                   | Jazz Guitar  | Keyboard           |
| 0046                   | JGuitar Scat | Bellows+ Keyboard  |
| 0047                   | PedalSteel   | Bellows+ Keyboard  |
| 0048                   | Overdrive    | Bellows+ Keyboard  |
| 0049                   | Distort Gt.  | Bellows+ Keyboard  |
| 0050                   | Power Gt.    | Bellows+ Keyboard  |
| <b>Bass</b>            |              |                    |
| 0051                   | Acoustic Bs1 | Keyboard           |
| 0052                   | Fingered Bs1 | Keyboard           |
| 0053                   | Fretless Bs1 | Keyboard           |
| 0054                   | Picked Bs1   | Keyboard           |
| 0055                   | 5String Bs   | Keyboard           |
| 0056                   | Nu Slap Bs   | Keyboard           |
| 0057                   | SH101 Bass   | Bellows+ Keyboard  |
| 0058                   | Bassic Needs | Bellows+ Keyboard  |
| 0059                   | XV Ac. Bass  | Keyboard           |
| 0060                   | Jazz Bass    | Keyboard           |
| 0061                   | MG Bass      | Bellows+ Keyboard  |
| 0062                   | LightSynBass | Bellows+ Keyboard  |
| 0063                   | Wood+FlessBs | Keyboard           |
| 0064                   | Acoustic Bs2 | Keyboard           |
| 0065                   | Bowed        | Bellows            |
| 0066                   | Fingered Bs2 | Keyboard           |
| 0067                   | Fretless Bs2 | Keyboard           |
| 0068                   | Picked Bs2   | Keyboard           |
| 0069                   | Rubber Bass  | Keyboard           |
| 0070                   | Tuba         | Bellows            |
| 0071                   | Tuba Mix     | Keyboard           |
| <b>Strings</b>         |              |                    |
| 0072                   | Strings      | Bellows            |
| 0073                   | Velo Strings | Bellows+ Keyboard  |
| 0074                   | Sl.Strings   | Bellows            |
| 0075                   | StraightStr  | Bellows+ Keyboard  |
| 0076                   | Syn.Strings1 | Bellows+ Keyboard  |
| 0077                   | Syn.Strings2 | Bellows+ Keyboard  |
| 0078                   | Orchestra    | Bellows+ Keyboard  |
| 0079                   | Cello        | Bellows+ Keyboard  |
| 0080                   | Harp St.     | Keyboard           |
| 0081                   | Harp&Strings | Bellows+ Keyboard  |
| 0082                   | Str.+Flute   | Bellows+ Keyboard  |
| 0083                   | Violin       | Bellows            |
| 0084                   | Pizzicato    | Keyboard           |
| 0085                   | HarpsiStr    | Bellows+ Keyboard  |
| 0086                   | Str&Choir    | Bellows+ Keyboard  |

| No.                  | Name             | Tone Controlled by |
|----------------------|------------------|--------------------|
| <b>Voices</b>        |                  |                    |
| 0087                 | Warm Voices      | Bellows+ Keyboard  |
| 0088                 | Fem Mm Srt       | Bellows+ Keyboard  |
| 0089                 | Holy Voices      | Bellows+ Keyboard  |
| 0090                 | Tears Voices     | Bellows+ Keyboard  |
| 0091                 | SC Heaven        | Bellows+ Keyboard  |
| 0092                 | LFO Vox          | Bellows+ Keyboard  |
| 0093                 | JazzScat1        | Bellows+ Keyboard  |
| 0094                 | JazzScat2        | Bellows+ Keyboard  |
| 0095                 | JazzScat3        | Bellows+ Keyboard  |
| 0096                 | JazzDoos         | Bellows+ Keyboard  |
| 0097                 | Pad Voices       | Bellows+ Keyboard  |
| 0098                 | ChorusLuh        | Bellows+ Keyboard  |
| 0099                 | ChorusWoh        | Bellows+ Keyboard  |
| 0100                 | ChoirAahs        | Bellows+ Keyboard  |
| <b>Brass</b>         |                  |                    |
| 0101                 | 2Tps+Tb          | Bellows+ Keyboard  |
| 0102                 | 2Tps+Tb+Sax      | Bellows+ Keyboard  |
| 0103                 | V Twin bones     | Bellows+ Keyboard  |
| 0104                 | St. Brass ff     | Bellows+ Keyboard  |
| 0105                 | Power Brass      | Bellows+ Keyboard  |
| 0106                 | Brass Sforz      | Bellows+ Keyboard  |
| 0107                 | JUNO Brass       | Bellows+ Keyboard  |
| 0108                 | TrumpetFall1     | Bellows+ Keyboard  |
| 0109                 | TrumpetFall2     | Bellows+ Keyboard  |
| 0110                 | Brass            | Bellows            |
| 0111                 | Horn&Orc         | Bellows            |
| <b>Sax - Trumpet</b> |                  |                    |
| 0112                 | Twin Trumpet     | Bellows            |
| 0113                 | Trumpet          | Bellows            |
| 0114                 | Wha Muted Trump  | Bellows+ Keyboard  |
| 0115                 | Soft Muted Trump | Bellows+ Keyboard  |
| 0116                 | Muted Trum       | Bellows+ Keyboard  |
| 0117                 | Trumpets & Fall  | Bellows+ Keyboard  |
| 0118                 | Trp Sfx & Fall   | Bellows+ Keyboard  |
| 0119                 | Trombone         | Bellows            |
| 0120                 | Alto Sax         | Bellows            |
| 0121                 | AltoSax Fall     | Bellows+ Keyboard  |
| 0122                 | Soprano Exp.     | Bellows+ Keyboard  |
| 0123                 | Soprano Sax      | Bellows+ Keyboard  |
| 0124                 | Tenor Sax1       | Bellows            |
| 0125                 | Tenor Sax2       | Bellows            |
| 0126                 | Tenor Sax Fall   | Bellows+ Keyboard  |
| 0127                 | Sax Section1     | Bellows+ Keyboard  |
| 0128                 | Sax Section2     | Bellows+ Keyboard  |
| 0129                 | FrenchHorn       | Bellows            |
| 0130                 | Clarinet         | Bellows            |

| No.                      | Name         | Tone Controlled by |
|--------------------------|--------------|--------------------|
| 0131                     | Oboe         | Bellows            |
| 0132                     | Flute1       | Bellows            |
| 0133                     | Flute2       | Bellows            |
| 0134                     | PanFlute     | Bellows            |
| 0135                     | Bassoon      | Bellows+ Keyboard  |
| 0136                     | Piccolo      | Bellows+ Keyboard  |
| 0137                     | Whistle      | Bellows+ Keyboard  |
| 0138                     | Ocarina      | Bellows+ Keyboard  |
| <b>Sax - Synth</b>       |              |                    |
| 0139                     | Big Lead     | Bellows+ Keyboard  |
| 0140                     | CC Solo      | Bellows+ Keyboard  |
| 0141                     | Super Poly   | Bellows+ Keyboard  |
| 0142                     | D-50 Fantasy | Bellows+ Keyboard  |
| 0143                     | Euro-Dance   | Bellows+ Keyboard  |
| 0144                     | Octave Stack | Bellows+ Keyboard  |
| 0145                     | 260HarmPad   | Bellows+ Keyboard  |
| 0146                     | Bell Heaven  | Bellows+ Keyboard  |
| 0147                     | New Age Pad  | Bellows+ Keyboard  |
| 0148                     | Fantasia     | Bellows+ Keyboard  |
| 0149                     | LA Brass Ld  | Bellows+ Keyboard  |
| 0150                     | LM Blow Lead | Bellows+ Keyboard  |
| <b>Sax - Pad - Ethic</b> |              |                    |
| 0151                     | Nay          | Bellows+ Keyboard  |
| 0152                     | Kawala       | Bellows+ Keyboard  |
| 0153                     | Shakuhachi   | Bellows+ Keyboard  |
| 0154                     | Shaku Bamboo | Bellows+ Keyboard  |
| 0155                     | Pad With     | Bellows+ Keyboard  |
| 0156                     | LA Warm Pad  | Bellows+ Keyboard  |
| 0157                     | Human Pad    | Bellows+ Keyboard  |
| 0158                     | Square Pad   | Bellows+ Keyboard  |
| 0159                     | Soft BellPad | Bellows+ Keyboard  |
| 0160                     | D-Mention    | Bellows+ Keyboard  |
| 0161                     | Sweep Pad    | Bellows+ Keyboard  |
| 0162                     | Warriors     | Bellows+ Keyboard  |
| 0163                     | Shwimmer     | Bellows+ Keyboard  |
| 0164                     | EP Pad       | Bellows+ Keyboard  |
| 0165                     | Soundtrack   | Bellows+ Keyboard  |
| 0166                     | Ambient Pad  | Bellows+ Keyboard  |
| 0167                     | FallinInsect | Bellows+ Keyboard  |
| 0168                     | Echo Drops   | Bellows+ Keyboard  |
| 0169                     | Big Panner   | Bellows+ Keyboard  |
| 0170                     | Sitar        | Keyboard           |
| 0171                     | Tamboura     | Bellows+ Keyboard  |
| 0172                     | Oud          | Keyboard           |
| 0173                     | Bazouki Trmv | Keyboard           |
| 0174                     | Oud2Trm VMix | Keyboard           |
| 0175                     | Mizmar Oct   | Bellows+ Keyboard  |
| 0176                     | HighLand     | Bellows            |

| No.                           | Name        | Tone Controlled by |
|-------------------------------|-------------|--------------------|
| 0177                          | Zampogna    | Bellows            |
| <b>Sax - Percussion - SFX</b> |             |                    |
| 0178                          | Timpani     | Keyboard           |
| 0179                          | Timpani+Low | Keyboard           |
| 0180                          | Steel Drums | Keyboard           |

## Interaction between the Tone and the Orchestra Touch Parameter

The FR-8x allows you to change the dynamics of the sound in response to the way that you press the keys of the keyboard. Moreover the FR-8x allows you to do this using the bellows.

In FR-8x, the dynamics of some tones can be controlled by keyboard, some of them by bellows and other by both, keyboard and bellows.

The above table shows the list of FR-8x tones and by what they are controlled.

The following table explains the interaction between the type of Tone (patch) and the Orchestra Touch parameter.

| Tone Controlled by | Interaction with the Orchestra Touch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bellows            | <p>The "ORCH TOUCH" parameter does not act when one of these tones is selected.</p> <p>The bellows controls the Expression.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Keyboard           | <p>The dynamics of the sound depends on how you press the keys of the keyboard.</p> <p>The "ORCH TOUCH" parameter allows you to specify the velocity sensitivity to play Orchestral sounds:</p> <ul style="list-style-type: none"> <li>● "Fixed Low", "Fixed Med", "Fixed High"</li> </ul> <p>Fixed dynamic value, no matter how hard or softly you press the keys (no dynamic control).</p> <ul style="list-style-type: none"> <li>● "Low", "Medium", "High", "Heavy"</li> </ul> <p>The dynamics of the sound depends on how you press the keys of the keyboard and which type of curve you chose.</p> <ul style="list-style-type: none"> <li>● "Fixed Low + Bellows", "Fixed Med + Bellows", "Fixed High + Bellows",</li> </ul> <p>The dynamics of the sound depends on which fixed curve you chose and how hard you compress or expand the bellows</p> <ul style="list-style-type: none"> <li>● "Bellows"</li> </ul> <p>The dynamics of the sound depends on how hard you compress or expand the bellows.</p>                                                                                                                                                                      |
| Bellows + Keyboard | <p>The dynamics of the sound depends on how you press the keys of the keyboard and/or how hard you compress or expand the bellows.</p> <p>The "ORCH TOUCH" parameter allows you to specify the velocity sensitivity to play Orchestral sounds:</p> <ul style="list-style-type: none"> <li>● "Fixed Low", "Fixed Med", "Fixed High"</li> </ul> <p>Fixed dynamic value, no matter how hard or softly you press the keys (no dynamic control).</p> <p>The bellows controls the Expression.</p> <ul style="list-style-type: none"> <li>● "Low", "Medium", "High", "Heavy"</li> </ul> <p>You can choose four types of dynamic curves.</p> <p>The bellows controls the Expression.</p> <ul style="list-style-type: none"> <li>● "Fixed Low + Bellows", "Fixed Med + Bellows", "Fixed High + Bellows",</li> </ul> <p>The dynamics of the sound depends on which fixed curve you chose and how hard you compress or expand the bellows. Moreover the bellows controls the Expression.</p> <ul style="list-style-type: none"> <li>● "Bellows"</li> </ul> <p>The dynamics of the sound depends on how hard you compress or expand the bellows. Moreover the bellows controls the Expression</p> |

# Drum Set List

| No. | Name       | CC00 | CC32 | PC |
|-----|------------|------|------|----|
| 1   | Standard   | 0    | 0    | 1  |
| 2   | Pop        | 0    | 0    | 2  |
| 3   | Folk       | 0    | 0    | 3  |
| 4   | Brush Pop  | 0    | 0    | 4  |
| 5   | V-Rock     | 0    | 0    | 5  |
| 6   | Dance      | 0    | 0    | 6  |
| 7   | House      | 0    | 0    | 7  |
| 8   | Electronic | 0    | 0    | 8  |
| 9   | TR-909     | 0    | 0    | 9  |
| 10  | SuperOrch  | 0    | 0    | 10 |

| No. | Name         | CC00 | CC32 | PC |
|-----|--------------|------|------|----|
| 11  | Orchestra    | 0    | 0    | 11 |
| 12  | V-VoxDrum    | 0    | 0    | 12 |
| 13  | Ethnic       | 0    | 0    | 13 |
| 14  | Oriental     | 0    | 0    | 14 |
| 15  | Percussion 1 | 0    | 0    | 15 |
| 16  | Percussion 2 | 0    | 0    | 16 |
| 17  | SFX          | 0    | 0    | 17 |
| 18  | Old FR-7x    | 0    | 0    | 18 |

|    |      | Standard     | Pop          | Folk             | Brush Pop    | V-Rock       | Dance        | House        | Electronic   |
|----|------|--------------|--------------|------------------|--------------|--------------|--------------|--------------|--------------|
| 0  | C-1  | Std.1 Kick1  | HipHop Kick1 | Brasil Tamburin  | HipHop Kick1 | HipHop BD1   | Elec Kick 2  | Elec Kick 2  | Elec Kick 2  |
| 1  | C#-1 | Std.1 Kick2  | Jazz Kick 1  | Marches Tamburin | Jazz Kick 1  | Jazz Kick 1  | Elec Kick 1  | Elec Kick 1  | Elec Kick 1  |
| 2  | D-1  | Std.2 Kick1  | Mex Kick     | Tamorra 1        | Mex Kick     | Mex_Kik36    | CR78 BD 1    | CR78 BD 1    | CR78 BD 1    |
| 3  | D#-1 | Std2 Kick2   | Rm Kick 1    | Tamorra 2        | Rm Kick 1    | 85Rm BsDrum1 | CR78 BD 2    | CR78 BD 2    | CR78 BD 2    |
| 4  | E-1  | Kick 1       | Rm Kick 2    | Tamorra 3        | Rm Kick 2    | 85Rm BsDrum2 | TR-606 BD1   | TR-606 BD1   | TR-606 BD1   |
| 5  | F-1  | Kick 2       | HipHop Kick2 | Tamorra 4        | HipHop Kick2 | HipHop BD2   | TR-707 BD    | TR-707 BD    | TR-707 BD    |
| 6  | F#-1 | Jazz Kick 1  | TechnoKick1  | Tamorra 6        | TechnoKick1  | Techno BD1   | 808 Kick     | 808 Kick     | 808 Kick     |
| 7  | G-1  | Jazz Kick 2  | BassDrumSet  | Tamorra 7        | BassDrumSet  | JungleBD Set | TR-808 Kick  | TR-808 Kick  | TR-808 Kick  |
| 8  | G#-1 | Room Kick 1  | HipHop Kick1 | Tamorra 8        | HipHop Kick1 | HipHop BD1   | 808 BD       | 808 BD       | 808 BD       |
| 9  | A-1  | Room Kick 2  | 909Comp Kick | Tamorra Ending   | 909Comp Kick | 909 Comp BD  | TR-909 Kick  | TR-909 Kick  | TR-909 Kick  |
| 10 | Bb-1 | Power Kick1  | St Kick 1    | Pandeiro 1       | St Kick 1    | 85St BsDrum1 | Dance Kick 2 | Dance Kick 2 | Dance Kick 2 |
| 11 | B-1  | Power Kick2  | JazzKick     | Pandeiro 2       | JazzKick     | NewJzKik     | 909 Comp BD  | 909 Comp BD  | 909 Comp BD  |
| 12 | C0   | Elec Kick 2  | NewRockKik   | Pandeiro 3       | RockKik      | NewRockKik   | TR-909 BD2   | TR-909 BD2   | TR-909 BD2   |
| 13 | C#0  | Elec Kick 1  | Cymbal Roll  | Pandeiro 4       | Cymbal Roll  | Cymbal Roll  | HipHop BD2   | HipHop BD2   | HipHop BD2   |
| 14 | D0   | TR-808 Kick  | Rock Stick 2 | Pandeiro 5       | Rock Stick 2 | NewRkCstk_2  | JungleBD Set | JungleBD Set | JungleBD Set |
| 15 | D#0  | TR-909 Kick  | Rm Snare 1   | Pandeiro 6       | Rm Snare 1   | 82Rm Snare1  | Techno BD1   | Techno BD1   | Techno BD1   |
| 16 | E0   | Dance Kick 2 | Rm Snare 2   | BeguineLoop3     | Rm Snare 2   | 82Rm Snare2  | Bounce       | Bounce       | Bounce       |
| 17 | F0   | Voice One    | St Snare1    | BeguineLoop2     | St Snare1    | 85St Snare1  | Voice One    | Voice One    | Voice One    |
| 18 | F#0  | Voice Two    | St Snare2    | BeguineLoop1     | St Snare2    | 85St Snare2  | Voice Two    | Voice Two    | Voice Two    |
| 19 | G0   | Voice Three  | JazzSnare2   | JazzSnare2       | JazzSnare2   | NewJzSn2     | Voice Three  | Voice Three  | Voice Three  |
| 20 | G#0  | ---          | JazzSnare1   | JazzSnare1       | JazzSnare1   | NewJzSn1     | HipHop BD2   | TR-909 BD2   | ---          |
| 21 | A0   | ---          | R&B Snare    | R&B Snare        | R&B Snare    | NewR&BSn     | TR-909 BD2   | Techno BD2   | ---          |
| 22 | Bb0  | MC-500 Beep  | RockSnare2_2 | RockSnare2_2     | RockSnare2 2 | IPopSn40_2   | MC-500 Beep  | MC-500 Beep  | MC-500 Beep  |
| 23 | B0   | MC-500 Beep  | RockSnare1_2 | RockSnare1_2     | RockSnare1 2 | IPopSn38_2   | MC-500 Beep  | MC-500 Beep  | MC-500 Beep  |
| 24 | C1   | Concert Snr  | PopSnare38 2 | PopSnare38 2     | PopSnare38 2 | IPopSn38_2   | Concert Snr  | Concert Snr  | Concert Snr  |
| 25 | C#1  | Snare Roll   | Snare Ghost1 | Snare Ghost1     | Snare Ghost1 | IPopGstS39_2 | Snare Roll   | Snare Roll   | Snare Roll   |
| 26 | D1   | Finger Snap  | PopSnare38 2 | PopSnare38 2     | PopSnare38 2 | IPopSn40_2   | Finger Snap  | FingerSnaps2 | Finger Snap  |
| 27 | D#1  | High-Q       | FingerSnaps2 | FingerSnaps2     | FingerSnaps2 | FingerSnaps2 | High-Q       | High-Q       | High-Q       |
| 28 | E1   | Slap         | 909 HandClap | RockSnare2_3     | 909 HandClap | 909 HandClap | Slap         | Slap         | Slap         |
| 29 | F1   | ScratchPush  | 808 Clap     | Roll Snare       | 808 Clap     | 808clap      | Scrtch Push2 | Scrtch Push2 | Scrtch Push2 |
| 30 | F#1  | ScratchPull  | Hand clap2   | Hand clap2       | Hand clap2   | Hand clap2   | Scrtch Pull2 | Scrtch Pull2 | Scrtch Pull2 |
| 31 | G1   | Sticks       | 909 HandClap | 909 HandClap     | 909 HandClap | 909 HandClap | Sticks       | Sticks       | Sticks       |
| 32 | G#1  | SquareClick  | Pedal Hi Hat | Pedal Hi Hat     | Pedal Hi Hat | NewRkHatPdL  | SquareClick  | SquareClick  | SquareClick  |
| 33 | A1   | Mtrnm.Click  | GospelHClp1  | FolkSnareTango2  | GospelHClp1  | GospelHClp1  | Mtrnm.Click  | Mtrnm.Click  | Mtrnm.Click  |
| 34 | Bb1  | Mtrnm. Bell  | Snare Roll 1 | FolkSnareRoll    | Snare Roll 1 | NewRkSnRll   | Mtrnm. Bell  | Mtrnm. Bell  | Mtrnm. Bell  |
| 35 | B1   | Std2 Kick2   | Pop Kick 35  | Pop Kick 35      | Pop Kick 35  | NewRockKik   | TR-909 BD2   | HipHop BD2   | Elec Kick 2  |
| 36 | C2   | Std.2 Kick1  | Pop Kick 36  | Pop Kick 36      | Pop Kick 36  | NewRockKik   | Techno BD2   | TR-909 BD2   | Elec Kick 1  |
| 37 | C#2  | Side Stick   | Pop Stick1   | Pop Stick1       | Pop Stick1   | NewRkCstk_1  | Side Stick   | Side Stick   | Side Stick   |
| 38 | D2   | Std.2 Snare1 | PopSnare38 1 | PopSnare38 1     | PopSnare38 1 | NewRockSn1_1 | Dance Snare1 | House SD     | Elec. Snare  |
| 39 | D#2  | 808 Clap     | Snare Ghost1 | Snare Ghost1     | Snare Ghost1 | NewRkSnGst   | 909 HandClap | 909 HandClap | 808clap      |
| 40 | E2   | Std.2 Snare2 | PopSnare40 1 | PopSnare40 1     | PopSnare40 1 | NewRockSn2_1 | Power Snare1 | Elec Snare 2 | Elec Snare 2 |
| 41 | F2   | Real Tom 6   | Flam Tom 41  | Flam Tom 41      | Flam Tom 41  | NewRkTomL2Fl | Synth Drum 2 | 909 Tom      | Synth Drum 2 |
| 42 | F#2  | JazzClosedHH | Pop Hi Hat1  | Pop Hi Hat1      | Pop Hi Hat1  | NewRkHat1    | CR-78 chh    | TR-707 HH-c  | Jazz Clsd.HH |
| 43 | G2   | Real Tom 6   | Tom 43       | Tom 43           | Tom 43       | NewRkTomL2   | Synth Drum 2 | 909 Tom      | Synth Drum 2 |

## Drum Set List

|     |     | Standard     | Pop          | Folk         | Brush Pop    | V-Rock       | Dance        | House        | Electronic   |
|-----|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| 44  | G#2 | Pedal HiHat  | Pop Hi Hat2  | Pop Hi Hat2  | Pop Hi Hat2  | NewRkHat2    | 808__chh     | CR-78 chh    | Pedal HiHat  |
| 45  | A2  | Real Tom 4   | Flam Tom 45  | Flam Tom 45  | Flam Tom 45  | NewRkTomL1Fl | Synth Drum 2 | 909 Tom      | Synth Drum 2 |
| 46  | Bb2 | JazzOpenHH   | Pop Hi Hat3  | Pop Hi Hat3  | Pop Hi Hat3  | NewRkHat3    | CR-78 ohh    | 909 OH       | Jazz Open HH |
| 47  | B2  | Real Tom 4   | Tom 47       | Tom 47       | Tom 47       | NewRkTomL1   | Synth Drum 2 | 909 Tom      | Synth Drum 2 |
| 48  | C3  | Real Tom 1   | Flam Tom 50  | Flam Tom 50  | Flam Tom 50  | NewRkTomMFl  | Synth Drum 2 | 909 Tom      | Synth Drum 2 |
| 49  | C#3 | Crash Cymb1  | Pop Cymbal2  | Pop Cymbal2  | Pop Cymbal2  | NewRkCrCym1  | 808 Crash    | 909 Crash    | Crash Cym.1  |
| 50  | D3  | Real Tom 1   | Tom 50       | Tom 50       | Tom 50       | NewRkTomM    | Synth Drum 2 | 909 Tom      | Synth Drum 2 |
| 51  | D#3 | Ride Cymbal  | Pop Ride1    | Pop Ride1    | Pop Ride1    | NewRkRdCym1  | 606 Ride Cym | 909 Ride Cym | Ride Cymbal  |
| 52  | E3  | ChinaCymbal  | Pop Cymbal   | Pop Cymbal   | Pop Cymbal   | NewRkCrCym2  | ReverseCymb1 | ReverseCymb1 | ReverseCymb1 |
| 53  | F3  | Ride Bell    | Pop Ride2    | Pop Ride2    | Pop Ride2    | NewRkRdCym2  | Ride Bell    | Ride Bell    | Ride Bell    |
| 54  | F#3 | Tambourine   | Tambourine   | Tambourine   | Tambourine   | Tambourine   | Shake Tamb   | Shake Tamb   | Tambourine   |
| 55  | G3  | Splash Cym.  | Splash Cym.  | Splash Cym.  | Splash Cym.  | NewRkCrCym3  | Splash Cym.  | Splash Cym.  | Splash Cym.  |
| 56  | G#3 | Cowbell      | ChaChaCowb   | ChaChaCowb   | ChaChaCowb   | ChaChaCBell  | 808cowbe     | 808cowbe     | Cowbell      |
| 57  | A3  | Crash Cymb2  | CrashCymbal2 | CrashCymbal2 | CrashCymbal2 | NewRkCrCym4  | Crash Cym.2  | 909 Crash    | Crash Cym.2  |
| 58  | Bb3 | Vibraslap    | Vibraslap    | Vibraslap    | Vibraslap    | Vibraslap    | Vibraslap    | Vibraslap    | Vibraslap    |
| 59  | B3  | Ride Cymbal  | RockRideCym1 | RockRideCym1 | RockRideCym1 | IPopRd1_51   | Ride Cymbal  | Ride Cymbal  | Ride Cymbal  |
| 60  | C4  | Bongo High   | NewHiBongo   | HiBongo      | HiBongo      | NewHiBongo   | Bongo High   | CR78 HiBongo | Bongo High   |
| 61  | C#4 | Bongo Low    | NewLoBongo   | LoBongo      | LoBongo      | NewLoBongo   | Bongo Lo     | CR78 LoBongo | Bongo Lo     |
| 62  | D4  | Mute H.Conga | NewCongaSlp  | CongaSlap    | Conga Slap   | NewCongaSlp  | Mute H.Conga | 808 Conga    | Mute H.Conga |
| 63  | D#4 | Conga Hi Opn | NewCongaOp   | CongaOp      | Conga Op     | NewCongaOp   | Conga Hi Opn | 808 Conga    | Conga Hi Opn |
| 64  | E4  | Conga Lo Opn | LoConga      | LoConga      | Lo Conga     | NewLoConga   | Conga Lo Opn | 808 Conga    | Conga Lo Opn |
| 65  | F4  | High Timbale | Timbal Hi    | Timbal Hi    | Timbal Hi    | NewTmb1Hi    | High Timbale | High Timbale | High Timbale |
| 66  | F#4 | Low Timbale  | Timbal Lo    | Timbal Lo    | Timbal Lo    | NewTmb1Lo    | Low Timbale  | Low Timbale  | Low Timbale  |
| 67  | G4  | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        |
| 68  | G#4 | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        | Agogo        |
| 69  | A4  | Cabasa       | NewShaker2   | Shaker2      | Shaker2      | NewShaker2   | Cabasa       | Cabasa       | Cabasa       |
| 70  | Bb4 | Maracas      | NewShaker1   | Shaker1      | Shaker1      | NewShaker1   | Maracas      | 808marac     | Maracas      |
| 71  | B4  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  | ShrtWhistle  |
| 72  | C5  | LongWhistle  | LongWhistle  | LongWhistle  | LongWhistle  | LongWhistle  | LongWhistle  | LongWhistle  | LongWhistle  |
| 73  | C#5 | Short Guiro  | Quide1       | Quide1       | Quide1       | NewQuide1    | Short Guiro  | Short Guiro  | Short Guiro  |
| 74  | D5  | Long Guiro   | Quide2       | Quide2       | Quide2       | NewQuide2    | Long Guiro   | CR78 Guiro   | Long Guiro   |
| 75  | D#5 | Claves       | Claves       | Claves       | Claves       | NewClaves    | Claves       | 808clave     | Claves       |
| 76  | E5  | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    |
| 77  | F5  | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    | Woodblock    |
| 78  | F#5 | Mute Cuica   | Mute Cuica   | Mute Cuica   | Mute Cuica   | Mute Cuica   | Hoo          | Hoo          | Mute Cuica   |
| 79  | G5  | Open Cuica   | Open Cuica   | Open Cuica   | Open Cuica   | Open Cuica   | Hoo          | Hoo          | Open Cuica   |
| 80  | G#5 | MuteTriangl  | MuteTriangl  | MuteTriangl  | MuteTriangl  | MuteTriangl  | MuteTriangl  | MuteTriangl  | MuteTriangl  |
| 81  | A5  | OpenTriangl  | OpenTriangl  | OpenTriangl  | OpenTriangl  | OpenTriangl  | OpenTriangl  | OpenTriangl  | OpenTriangl  |
| 82  | Bb5 | Shaker       | Shaker       | Shaker       | Shaker       | Shaker       | 626 Shaker   | 626 Shaker   | Shaker       |
| 83  | B5  | Jingle Bell  | Jingle Bell  | Jingle Bell  | Jingle Bell  | Jingle Bell  | Jingle Bell  | Jingle Bell  | Jingle Bell  |
| 84  | C6  | Bar Chimes   | Bell Tree    | Bell Tree    | Bell Tree    | Bell Tree    | Bell Tree    | Bell Tree    | Bell Tree    |
| 85  | C#6 | Castanets    | Castanets    | Castanets    | Castanets    | Castanets    | Castanets    | Castanets    | Castanets    |
| 86  | D6  | Mute Surdo   | Mute Surdo   | Mute Surdo   | Mute Surdo   | Mute Surdo   | Mute Surdo   | Mute Surdo   | Mute Surdo   |
| 87  | D#6 | Open Surdo   | Open Surdo   | Open Surdo   | Open Surdo   | Open Surdo   | Open Surdo   | Open Surdo   | Open Surdo   |
| 88  | E6  | Applause 2   | Cana         | Cana         | Cana         | Cana         | Small Club   | Applause 2   | Small Club   |
| 89  | F6  | ---          | Timbal HiFlm | Timbal HiFlm | Timbal HiFlm | NewTmb1HiFlm | 66sn260      | 66sn260      | ---          |
| 90  | F#6 | ---          | Timbal LoFlm | Timbal LoFlm | Timbal LoFlm | NewTmb1LoFlm | 909 SD 1     | Dance Snare1 | ---          |
| 91  | G6  | ---          | NewTmb1PHS   | Timbal PHS   | Timbal PHS   | NewTmb1PHS   | Elec Snare 2 | 909 SD 1     | ---          |
| 92  | G#6 | ---          | NewShekere1  | Shekere1     | Shekere1     | NewShekere1  | House SD     | Dance Snare1 | ---          |
| 93  | A6  | ---          | NewShekere2  | Shekere2     | Shekere2     | NewShekere2  | Rap Snare    | Dance Snare1 | ---          |
| 94  | Bb6 | ---          | NHBngoMute   | Bongo Mute   | Bongo Mute   | NHBngoMute   | House SD     | Rap Snare    | ---          |
| 95  | B6  | ---          | L BongoMute  | L BongoMute  | L BongoMute  | NewLBngoMute | Dance Snare1 | House SD     | ---          |
| 96  | C7  | ---          | CajonHi      | CajonHi      | CajonHi      | CajonHi      | Rap Snare    | House SD     | ---          |
| 97  | C#7 | Std.1 Snare1 | CajonHiFlm   | CajonHiFlm   | CajonHiFlm   | CajonHiFlm   | Techno Hit   | Techno Hit   | Techno Hit   |
| 98  | D7  | Std.1 Snare2 | Cajon Low    | Cajon Low    | Cajon Low    | CajonLo      | Philly Hit   | Philly Hit   | Philly Hit   |
| 99  | D#7 | Std.2 Snare1 | CajonLoFlm   | CajonLoFlm   | CajonLoFlm   | CajonLoFlm   | Shock Wave   | Shock Wave   | Shock Wave   |
| 100 | E7  | Std.2 Snare2 | FlmncoHClap1 | Flmnco Clap1 | FlmncoHClap1 | FlmncoHClap1 | Lo Fi Rave   | Lo Fi Rave   | Lo Fi Rave   |
| 101 | F7  | Tight Snare  | FlmncoHClap1 | Flmnco Clap1 | FlmncoHClap1 | FlmncoHClap1 | Bam Hit      | Bam Hit      | Bam Hit      |
| 102 | F#7 | StandrdSnar1 | BongoCowBell | BongoCowBell | BongoCowBell | BongoCowBell | Bim Hit      | Bim Hit      | Bim Hit      |

## Drum Set List

|     |     | Standard     | Pop            | Folk          | Brush Pop       | V-Rock       | Dance        | House        | Electronic   |
|-----|-----|--------------|----------------|---------------|-----------------|--------------|--------------|--------------|--------------|
| 103 | G7  | LD Snare M   | RockSnareFL_H  | PopSnareFL_L  | BrushSnare Shot | AfHey        | TapeRewind   | TapeRewind   | TapeRewind   |
| 104 | G#7 | LD Snare C   | MamboCowBell   | MamboCowBell  | MamboCowBell    | MamboCowBell | Phono Noise  | Phono Noise  | Phono Noise  |
| 105 | A7  | Jazz Snare 1 | PopSnareDrag   | FolkSnrFlam2  | Phrase3         | MexFVox2     | Dance Snare1 | Dance Snare1 | Dance Snare1 |
| 106 | Bb7 | Jazz Snare 2 | HiHatPhrase3   | FolkSnrShot1  | Phrase1         | AfFoots      | Power Snare2 | Power Snare2 | Power Snare2 |
| 107 | B7  | Room Snare 1 | CrashPhrase1   | FolkSnrShot2  | RidePhrase1     | MexFVox1     | Elec Snare 1 | Elec Snare 1 | Elec Snare 1 |
| 108 | C8  | Room Snare 2 | CrashPhrase2   | SmallSnrPhr   | RidePhrase2     | MexMVox1     | Dance Snare2 | Dance Snare2 | Dance Snare2 |
| 109 | C#8 | Dance Snare1 | CrashPhrase3   | FolkSnrFlam5  | RidePhrase4     | YodelFVox1   | Elec Snare 2 | Elec Snare 2 | Elec Snare 2 |
| 110 | D8  | Power Snare1 | CrashPhrase4   | FolkSnrFlam3  | CrashPhrase4    | MexMVox2     | Elec. Snare  | Elec. Snare  | Elec. Snare  |
| 111 | D#8 | Rev.Snare    | CrashPhrase5   | FolkSdSnr1Sh  | CrashPhrase5    | YodelMVox1   | Elec Snare 3 | Elec Snare 3 | Elec Snare 3 |
| 112 | E8  | Power Snare2 | Crash_Stop     | FolkSdSnr2Sh  | SnareBrushFlam  | MexMVox3     | 66sn260      | 66sn260      | 66sn260      |
| 113 | F8  | Elec Snare 1 | RidePhrase1    | FkSdSnrPhr1   | RidePhrase1     | FlmncoFVox1  | TR-707 SD    | TR-707 SD    | TR-707 SD    |
| 114 | F#8 | Dance Snare2 | RidePhrase2    | FolkRimShtNS  | RidePhrase2     | YodelFVox2   | 808 Snare 1  | 808 Snare 1  | 808 Snare 1  |
| 115 | G8  | Elec Snare 2 | RidePhrase3    | FolkSplash1   | RidePhrase3     | FlmncoFVox2  | 808 Snare 2  | 808 Snare 2  | 808 Snare 2  |
| 116 | G#8 | Elec. Snare  | RidePhrase4    | FolkSplash2   | RidePhrase4     | NewWhistle1  | TR-808 SD2   | TR-808 SD2   | TR-808 SD2   |
| 117 | A8  | Elec Snare 3 | RidePhrase5    | PopRide_Phr4  | RidePhrase5     | FlmncoFVox3  | 909 Snare 1  | 909 Snare 1  | 909 Snare 1  |
| 118 | Bb8 | TR-707 Snare | RidePhrase1    | PopRide_Phr5  | Cascade_Ending  | NewWhistle2  | 909 Snare 2  | 909 Snare 2  | 909 Snare 2  |
| 119 | B8  | 808 Snare 1  | RidePhrase2    | PopBrRidePh2  | Chimes&Seeds    | FlmncoMVox1  | 909 SD 1     | 909 SD 1     | 909 SD 1     |
| 120 | C9  | 808 Snare 2  | RidePhrase4    | Cymbal Roll   | Chimes          | FlmncoMVox2  | TR-909 SD2   | TR-909 SD2   | TR-909 SD2   |
| 121 | C#9 | 909 Snare 1  | ChinaRoll      | AAhhh         | Crotals         | BrazilVox1   | Rap Snare    | Rap Snare    | Rap Snare    |
| 122 | D9  | 909 Snare 2  | ChinaStopped   | Uaahh         | DoorKeys        | FlmncoMVox3  | JungleSD1    | JungleSD1    | JungleSD1    |
| 123 | D#9 | Rap Snare    | Egg S4         | Egg S4        | Egg S4          | BrazilVox2   | House SD     | House SD     | House SD     |
| 124 | E9  | JungleSnare1 | Egg S1         | Egg S1        | Egg S1          | BrazilVox3   | House Snare  | House Snare  | House Snare  |
| 125 | F9  | House Snare  | Egg AllEndOff  | Egg EndOff    | Egg EndOff      | AfAahhh      | House SD     | House SD     | House SD     |
| 126 | F#9 | House Snare  | Tambour Ending | CembaloEnding | CembaloEnding   | p33137v      | Voice Tah    | Voice Tah    | Voice Tah    |
| 127 | G9  | House Snare  | Tambour Free   | CembaloFree   | CembaloFree     | p33168v      | Noise Slap   | Noise Slap   | Noise Slap   |

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|    |      | TR-909       | SuperOrch    | Orchestra    | V-VoxDrum    | Ethnic      | Oriental     | Percussion 1    | Percussion 2    |
|----|------|--------------|--------------|--------------|--------------|-------------|--------------|-----------------|-----------------|
| 0  | C-1  | Elec Kick 2  | ---          | Std.1 Kick1  | HipHop BD1   | ---         | ---          | CowBellSide     | Mambo_SW        |
| 1  | C#-1 | Elec Kick 1  | ---          | Std.1 Kick2  | Jazz Kick 1  | ---         | ---          | SeaShells       | SeaShells       |
| 2  | D-1  | CR78 BD 1    | ---          | Std.2 Kick1  | p05002v      | ---         | ---          | Equat-nutshells | Equat-nutshells |
| 3  | D#-1 | CR78 BD 2    | ---          | Std2 Kick2   | 85Rm BsDrum1 | ---         | ---          | Cascade_Ending  | Cascade_Ending  |
| 4  | E-1  | TR-606 BD1   | ---          | Kick 1       | 85Rm BsDrum2 | ---         | ---          | Chimes-Ending   | Chimes-Ending   |
| 5  | F-1  | TR-707 BD    | ---          | Kick 2       | HipHop BD2   | ---         | ---          | Goathooves      | Goathooves      |
| 6  | F#-1 | 808 Kick     | ---          | Jazz Kick 1  | Techno BD1   | ---         | ---          | GoathoovesShot  | GoathoovesShot  |
| 7  | G-1  | TR-808 Kick  | ---          | Jazz Kick 2  | JungleBD Set | ---         | ---          | Bongo1_SW1      | Bongo1_SW1      |
| 8  | G#-1 | 808 BD       | ---          | Room Kick 1  | HipHop BD1   | ---         | ---          | Bongo1_SW2      | Bongo1_SW2      |
| 9  | A-1  | TR-909 Kick  | ---          | Room Kick 2  | 909 Comp BD  | ---         | ---          | Bongo1_SW3      | Bongo1_SW3      |
| 10 | Bb-1 | Dance Kick 2 | ---          | Power Kick1  | 85St BsDrum1 | ---         | ---          | Bongo2_SW1      | Bongo2_SW1      |
| 11 | B-1  | 909 Comp BD  | ---          | Power Kick2  | NewJzKik     | ---         | ---          | Bongo2_SW2      | Bongo2_SW2      |
| 12 | C0   | TR-909 BD2   | ---          | Elec Kick 2  | NewRockKik   | ---         | Wadaiko      | Bongo2_3        | Bongo2_3        |
| 13 | C#0  | HipHop BD2   | ---          | Elec Kick 1  | Cymbal Roll  | ---         | Ohkawa       | Congas_SW1      | Congas_SW1      |
| 14 | D0   | JungleBD Set | ---          | TR-808 Kick  | NewRkCStk_2  | ---         | Shimedaiko   | Congas_SW2      | Congas_SW2      |
| 15 | D#0  | Techno BD1   | ---          | TR-909 Kick  | 82Rm Snare1  | ---         | H kotsuzumi  | Congas_SW3      | Congas_SW3      |
| 16 | E0   | Bounce       | ---          | Dance Kick 2 | 82Rm Snare2  | ---         | L Kotsuzumi  | Congas_SW4      | Congas_SW4      |
| 17 | F0   | Voice One    | ---          | Voice One    | 85St Snare1  | ---         | Tabla_Ge     | Tamorra 1       | Tamorra 1       |
| 18 | F#0  | Voice Two    | ---          | Voice Two    | 85St Snare2  | ---         | Tabla_Na     | Tamorra 2       | Tamorra 2       |
| 19 | G0   | Voice Three  | ---          | Voice Three  | NewJzSn2     | ---         | Tabla_Te     | Tamorra 3       | Tamorra 3       |
| 20 | G#0  | ---          | ---          | ---          | NewJzSn1     | ---         | Tabla_Tun    | Tamorra 4       | Tamorra 4       |
| 21 | A0   | ---          | ---          | ---          | NewR&BSn     | ---         | Udo_Long     | Tamorra 6       | Tamorra 6       |
| 22 | Bb0  | MC-500 Beep  | ---          | MC-500 Beep  | NewRockSn2_2 | ---         | Djembe_rim   | Tamorra 7       | Tamorra 7       |
| 23 | B0   | MC-500 Beep  | ---          | MC-500 Beep  | NewRockSn1_2 | ---         | 909 HandClap | Tamorra 8       | Tamorra 8       |
| 24 | C1   | Concert Snr  | OrchBD+C.Cym | Concert Snr  | IPopSn38_2   | ---         | Tambourine   | Tamorra Ending  | Tamorra Ending  |
| 25 | C#1  | Snare Roll   | Malet Cym1   | Snare Roll   | IPopGstS39_2 | Finger Snap | ChaChaCBell  | Pandeiro_SW1    | Pandeiro_SW1    |
| 26 | D1   | FingerSnaps2 | WindChimeUp1 | Finger Snap  | IPopSn38_2   | Tambourine  | Agogo        | Pandeiro_SW2    | Pandeiro_SW2    |
| 27 | D#1  | High-Q       | Cymbal1      | Jazz Clsd.HH | FingerSnaps2 | Castanets   | Agogo        | Pandeiro_SW3    | Pandeiro_SW3    |



# Drum Set List

|    |     | TR-909       | Super0rch    | Orchestra    | V-VoxDrum    | Ethnic       | Oriental     | Percussion 1        | Percussion 2        |
|----|-----|--------------|--------------|--------------|--------------|--------------|--------------|---------------------|---------------------|
| 28 | E1  | Slap         | Concert Cym2 | Pedal HiHat  | 909 HandClap | Crash Cym.1  | NewShaker2   | Pandeiro 5          | Pandeiro 5          |
| 29 | F1  | Scrtch Push2 | Orch BD_SW1  | Jazz Open HH | 808clap      | Snare Roll   | NewShaker1   | Brazilian_Tam-burin | Brazilian_Tam-burin |
| 30 | F#1 | Scrtch Pull2 | Church Bell1 | Ride Cymbal  | Hand clap2   | Concert Snr  | IPopSn40_1   | Chimes&Seeds_1      | Chimes&Seeds_1      |
| 31 | G1  | Sticks       | Gong1        | Sticks       | 909 HandClap | Concert Cym  | Elec Snare 2 | Chimes&Seeds_2      | Chimes&Seeds_2      |
| 32 | G#1 | SquareClick  | WindChimeDw1 | SquareClick  | IPopPHat32   | Concert BD   | 909 Snare 2  | PopHiHatFoot        | PopHiHatFoot        |
| 33 | A1  | Mtrnm.Click  | OpenTriangl1 | Mtrnm.Click  | GospelHClp1  | Jingle Bell  | 909 Snare 1  | VibratoneSlow-Fast  | VibratoneSlow-Fast  |
| 34 | Bb1 | Mtrnm. Bell  | VibraSlap1   | Mtrnm. Bell  | p35010v      | Bell Tree    | Elec Kick 2  | AfricanCowBell      | AfricanCowBell      |
| 35 | B1  | Techno BD2   | Wind Whistle | Jazz Kick 1  | p05006v      | Bar Chimes   | TR-909 BD2   | Kick_Plastic        | Kick_Plastic        |
| 36 | C2  | TR-909 BD2   | Big Shot     | Concert BD   | p33079v      | Wadaiko      | Std.2 Kick1  | Kick_Plastic        | Kick_Plastic        |
| 37 | C#2 | TR-909 Rim   | SmshGlas     | Side Stick   | p33146v      | Wadaiko Rim  | IPopCStk37_1 | Snare               | Snare               |
| 38 | D2  | 909 SD 1     | Cymbal2      | Concert Snr  | p32011v      | Shimedaiko   | IPopSn38_1   | Snare               | Snare               |
| 39 | D#2 | 909 HandClap | Snare Roll1  | Castanets    | p43001v      | Atarigane    | HandClap1st  | SnareFlam           | SnareFlam           |
| 40 | E2  | TR-909 SD2   | Snare1       | Concert Snr  | p33137v      | Hyoushigi    | Hand Clap 21 | Snare               | Snare               |
| 41 | F2  | 909 Tom      | Cymbal3      | Timpani      | p33168v      | Ohkawa       | TR-707 SD    | FloorTomFlam        | FloorTomFlam        |
| 42 | F#2 | TR-707 HH-c  | Concert BD   | Timpani      | p33012v      | H kotsuzumi  | Jazz Clsd.HH | Jazz Hat1           | Jazz Hat1           |
| 43 | G2  | 909 Tom      | Chimes1      | Timpani      | p34001v      | L Kotsuzumi  | Real Tom 6   | FloorTom            | FloorTom            |
| 44 | G#2 | TR-707 HH-c  | Stick+Triang | Timpani      | p33014v      | Ban_Gu       | Pedal HiHat  | Jazz Hat2           | Jazz Hat2           |
| 45 | A2  | 909 Tom      | TimpaniRoll1 | Timpani      | p33157v      | Big Gong     | Real Tom 4   | Tom2Flam            | Tom2Flam            |
| 46 | Bb2 | 909 OH       | Timpani1     | Timpani      | p33019v      | Small Gong   | Jazz Open HH | Jazz Hat3           | Jazz Hat3           |
| 47 | B2  | 909 Tom      | Church Bell2 | Timpani      | p33164v      | Bend Gong    | Real Tom 4   | Tom2                | Tom2                |
| 48 | C3  | 909 Tom      | Gong2        | Timpani      | p33159v      | RAMA Cymbal  | IPopTomL43   | Tom1Flam            | Tom1Flam            |
| 49 | C#3 | 909 Crash    | Claps        | Timpani      | p35029v      | RAMA Cymbal  | Crash Cym.1  | JazzCrCym1          | JazzCrCym1          |
| 50 | D3  | 909 Tom      | WoodBlockUp1 | Timpani      | p33158v      | Gamelan Gong | IPopTomM47   | PopBrushTom1        | PopBrushTom1        |
| 51 | D#3 | 909 Ride Cym | WoodBlockDw1 | Timpani      | p43002v      | Udo_Short    | NewRkRdCym1  | NewJzRide1          | NewJzRide1          |
| 52 | E3  | ChinaCymbal  | Tambourine1  | Timpani      | cym013v      | Udo_Long     | IPopRd2_55   | BrushCrash2         | BrushCrash2         |
| 53 | F3  | Ride Bell    | Malet Cym2   | Timpani      | p45002v      | Udo_slap     | Dholla Dom   | Jazz Ride2          | Jazz Ride2          |
| 54 | F#3 | 344Tambourn  | StickSynth   | Tambourine   | p36017v      | Bendir       | Dholla Sak 1 | CembaloFree         | CembaloFree         |
| 55 | G3  | Splash Cym.  | Ratchet      | Splash Cym.  | p34109v      | Req_Dum      | Dholla Sak 2 | BrushCrash1         | BrushCrash1         |
| 56 | G#3 | 808cowbe     | Cymbal4      | Cowbell      | p36019v      | Req_tik      | Dholla Sak 3 | CowBell             | CowBell             |
| 57 | A3  | Crash Cym.2  | Orch BD_SW2  | Con.Cymbal2  | p44001v      | Tabla_Te     | Dholla Rim   | JzCrashCym1         | JzCrashCym1         |
| 58 | Bb3 | Vibraslap    | Bar Chimes   | Vibraslap    | p36009v      | Tabla_Na     | Dholla Raka  | vibraslp            | vibraslp            |
| 59 | B3  | RideCym Edge | Finger Snap  | Concert Cym. | AfAahhh      | Tabla_Tun    | Dholla Tak 1 | RockRide1           | RockRide1           |
| 60 | C4  | Bongo High   | Timp G       | Bongo High   | NewHiBongo   | Tabla_Ge     | Dholla Tak 2 | Bongo_SW            | Bongo_SW            |
| 61 | C#4 | Bongo Lo     | Timp C       | Bongo Lo     | NewLoBongo   | Tabla Ge Hi  | DofDom 1     | Bongo1_4            | Bongo1_4            |
| 62 | D4  | Mute H.Conga | Church Bell3 | Mute H.Conga | NewCongaSlp  | Talking Drum | DofDom 2     | Congas_SW           | Congas_SW           |
| 63 | D#4 | Conga Hi Opn | Church Bell4 | Conga Hi Opn | NewCongaOp   | Bend tlk_drm | DofDom 3     | Congas_7            | Congas_7            |
| 64 | E4  | Conga Lo Opn | Castanet 1   | Conga Lo Opn | NewLoConga   | Caxixi       | DofTak 1     | Congas_8            | Congas_8            |
| 65 | F4  | High Timbale | Castanet 2   | High Timbale | NewTmbIHl    | DJembe       | DofTak 2     | Timbal Hi           | Timbal Hi           |
| 66 | F#4 | Low Timbale  | Castnet2Roll | Low Timbale  | NewTmbLlo    | Djembe_rim   | DofSak 1     | Timbal Lo           | Timbal Lo           |
| 67 | G4  | Agogo        | Tambourine2  | Agogo        | Agogo        | Low Timbale  | DofRim 1     | Agogo 1             | Agogo 1             |
| 68 | G#4 | Agogo        | OpenTriangl2 | Agogo        | Agogo        | Timbl Paila  | DofSak 2     | Agogo 2             | Agogo 2             |
| 69 | A4  | Cabasa       | Mute Triangl | Cabasa       | NewShaker2   | High Timbale | DofRim 2     | Shaker2             | Shaker2             |
| 70 | Bb4 | 808marac     | RollTriangl1 | Maracas      | NewShaker1   | Cowbell      | DofSak 3     | Shaker1             | Shaker1             |
| 71 | B4  | ShrtWhistle  | WindChimeUp2 | ShrtWhistle  | ShrtWhistle  | Bongo High   | DofFinger 1  | ShrtWhistle         | ShrtWhistle         |
| 72 | C5  | LongWhistle  | WindChimeDw2 | LongWhistle  | LongWhistle  | Bongo Lo     | DofFinger 2  | LongWhistle         | LongWhistle         |
| 73 | C#5 | Short Guiro  | VibraSlap2   | Short Guiro  | NewQuide1    | Mute H.Conga | Tabla Raka 1 | Quide1              | Quide1              |
| 74 | D5  | CR78 Guiro   | FingerCymbal | Long Guiro   | NewQuide2    | Conga Hi Opn | Tabla Tak 1  | Quide2              | Quide2              |
| 75 | D#5 | 808clave     | Gong Roll    | Claves       | NewClaves    | Conga MtLow  | Tabla Tik 1  | Claves              | Claves              |
| 76 | E5  | Woodblock    | MaletCymRol1 | Woodblock    | Woodblock    | Conga Slap   | Tabla Dom    | Woodblock1          | Woodblock1          |
| 77 | F5  | Woodblock    | Cowbell1     | Woodblock    | Woodblock    | Conga Lo Opn | Tabla Sak    | Woodblock2          | Woodblock2          |
| 78 | F#5 | Hoo          | Claves1      | Mute Cuica   | Mute Cuica   | Conga Slide  | Tabla Roll   | Mute Cuica          | Mute Cuica          |
| 79 | G5  | Hoo          | Clavs Loop   | Open Cuica   | Open Cuica   | Mut Pandiero | Tabla Tak 2  | Open Cuica          | Open Cuica          |
| 80 | G#5 | MuteTriangl  | Tambourine3  | MuteTriangl  | MuteTriangl  | Opn Pandiero | Tabla Raka 2 | MuteTriangl         | MuteTriangl         |
| 81 | A5  | OpenTriangl  | Tambourine4  | OpenTriangl  | OpenTriangl  | Open Surdo   | Tabla Rim 1  | OpenTriangl         | OpenTriangl         |
| 82 | Bb5 | 626 Shaker   | Tamb Roll1   | Shaker       | Shaker       | Mute Surdo   | Tabla Toks   | Shaker              | Shaker              |
| 83 | B5  | Jingle Bell  | Malet Cym3   | Jingle Bell  | Jingle Bell  | Tamborim     | Tabla Rim 2  | Jingle Bell         | Jingle Bell         |
| 84 | C6  | Bell Tree    | Snare Roll2  | Bell Tree    | Bell Tree    | Agogo        | Tabla Tik 2  | Belltree            | Belltree            |
| 85 | C#6 | Castanets    | Snare2       | Castanets    | Castanets    | Agogo        | Rek Raka     | Castanets           | Castanets           |

## Drum Set List

|     |     | TR-909       | SuperOrch    | Orchestra  | V-VoxDrum    | Ethnic      | Oriental     | Percussion 1    | Percussion 2    |
|-----|-----|--------------|--------------|------------|--------------|-------------|--------------|-----------------|-----------------|
| 86  | D6  | Mute Surdo   | Cymbal5      | Mute Surdo | Mute Surdo   | Shaker      | Rek Dom      | Surdo_mute      | Surdo_mute      |
| 87  | D#6 | Open Surdo   | Orch BD_SW3  | Open Surdo | Open Surdo   | Low Whistle | Rek Trill    | Surdo_open      | Surdo_open      |
| 88  | E6  | Applause 2   | MaletCymRol2 | Applause   | Cana         | Low Whistle | Rek Tak 1    | Cana            | Cana            |
| 89  | F6  | ---          | TimpaniRoll2 | ---        | NewTmblHiFlm | Mute Cuica  | Rek Rim      | TimbalHiFlm     | TimbalHiFlm     |
| 90  | F#6 | ---          | Timp G#      | ---        | NewTmblLoFlm | Open Cuica  | Rek Brass 1  | TimbalLoFlm     | TimbalLoFlm     |
| 91  | G6  | ---          | Timp C#      | ---        | NewTmblPHS   | MuteTriangl | Rek Tok      | TimbalPHS       | TimbalPHS       |
| 92  | G#6 | ---          | OpenTriangl3 | ---        | NewShekere1  | OpenTriangl | Rek Brass 2  | Shekere1        | Shekere1        |
| 93  | A6  | ---          | Gong3        | ---        | NewShekere2  | Short Guiro | Rek Tak 2    | Shekere2        | Shekere2        |
| 94  | Bb6 | ---          | RollTriangl2 | ---        | NHBngoMute   | Long Guiro  | Rek Sak      | Bongo Mute      | Bongo Mute      |
| 95  | B6  | ---          | Tambourine5  | ---        | NewLBngoMute | Cabasa Up   | Rek Tik      | LBongoMute      | LBongoMute      |
| 96  | C7  | ---          | Tamb Roll2   | ---        | CajonHi      | Cabasa Down | Mazhar Dom   | CajonHi         | CajonHi         |
| 97  | C#7 | Techno Hit   | WindChimeUp3 | Applause 2 | CajonHiFlm   | Claves      | Mazhar Tak   | CajonHiFlm      | CajonHiFlm      |
| 98  | D7  | Philly Hit   | CymRol Dresc | Small Club | CajonLo      | Woodblock   | Mazhar Sak   | CajonLo         | CajonLo         |
| 99  | D#7 | Shock Wave   | Snare Roll3  | Timpani    | CajonLoFlm   | Woodblock   | Mazhar Brass | CajonLoFlm      | CajonLoFlm      |
| 100 | E7  | Lo Fi Rave   | DynamicSnare | Timpani    | FlmncoHClp1  | ---         | Sagat Mid    | FlmncoHClp1     | FlmncoHClp1     |
| 101 | F7  | Bam Hit      | Concert Cym2 | Timpani    | FlmncoHClp1  | ---         | Sagat Hi     | FlmncoHClp2     | FlmncoHClp2     |
| 102 | F#7 | Bim Hit      | Dynamic BD   | Timpani    | BongoCowBell | ---         | Sagat Closed | BongoCowBell    | BongoCowBell    |
| 103 | G7  | TapeRewind   | Short Cym    | Timpani    | AfHey        | ---         | Sagat Sak    | Crotals         | Crotals         |
| 104 | G#7 | Phono Noise  | TimpaniRoll3 | Timpani    | MamboCowBell | ---         | Dofs Tak     | MamboCowBell    | MamboCowBell    |
| 105 | A7  | Dance Snare1 | DynamicTimpG | Timpani    | MexFVox2     | ---         | Dofs Dom     | CrashPhrase4    | CrashPhrase4    |
| 106 | Bb7 | Power Snare2 | DynamicTimpC | Timpani    | AfFoots      | ---         | Dofs Sak     | CrashPhrase5    | CrashPhrase5    |
| 107 | B7  | Elec Snare 1 | Cowbell2     | Timpani    | MexFVox1     | ---         | Dofs Rim 1   | RidePhrase1     | RidePhrase1     |
| 108 | C8  | Dance Snare2 | Claves2      | Timpani    | MexMVox1     | ---         | Dofs Rim 2   | RidePhrase2     | RidePhrase2     |
| 109 | C#8 | Elec Snare 2 | Wind Whistle | Timpani    | YodelFVox1   | ---         | Dofs Dom st. | RidePhrase4     | RidePhrase4     |
| 110 | D8  | Elec. Snare  | WoodblockUp2 | Timpani    | MexMVox2     | ---         | TablaNurDom  | Egg_M3          | Egg_M3          |
| 111 | D#8 | Elec Snare 3 | WoodblockDw2 | Timpani    | YodelMVox1   | ---         | Dofs Sak st. | Egg_MEndOff     | Egg_MEndOff     |
| 112 | E8  | 66sn260      | Bell Tree    | Timpani    | MexMVox3     | ---         | TablaNurRim  | Egg_M_SW1       | Egg_M_SW1       |
| 113 | F8  | TR-707 SD    | ---          | Timpani    | FlmncoFVox1  | ---         | TablaNurTak  | Egg_L4          | Egg_L4          |
| 114 | F#8 | 808 Snare 1  | ---          | ---        | YodelFVox2   | ---         | TablaNurSak  | Egg_LEndOff     | Egg_LEndOff     |
| 115 | G8  | 808 Snare 2  | ---          | ---        | FlmncoFVox2  | ---         | BassSlideFX  | Egg_L_SW1       | Egg_L_SW1       |
| 116 | G#8 | TR-808 SD2   | ---          | ---        | NewWhistle1  | ---         | BassSlapFX   | Egg_TuttiEndOff | Egg_TuttiEndOff |
| 117 | A8  | 909 Snare 1  | ---          | ---        | FlmncoFVox3  | ---         | ZaghrouaSm2  | Egg_S4          | Egg_S4          |
| 118 | Bb8 | 909 Snare 2  | ---          | ---        | NewWhistle2  | ---         | Zir 1        | Egg_SEndOff     | Egg_SEndOff     |
| 119 | B8  | 909 SD 1     | ---          | ---        | FlmncoMVox1  | ---         | ZaghrouaEd2  | Egg_S_SW1       | Egg_S_SW1       |
| 120 | C9  | TR-909 SD2   | ---          | ---        | FlmncoMVox2  | ---         | NewHiBongo   | Chimes          | Chimes          |
| 121 | C#9 | Rap Snare    | ---          | ---        | BrazilVox1   | ---         | NewLoBongo   | DoorKeys        | DoorKeys        |
| 122 | D9  | JungleSD1    | ---          | ---        | FlmncoMVox3  | ---         | NewCongaSlp  | Pinchimes       | Pinchimes       |
| 123 | D#9 | House SD     | ---          | ---        | BrazilVox2   | ---         | NewCongaOp   | Harness-bell1   | Harness-bell1   |
| 124 | E9  | House Snare  | ---          | ---        | BrazilVox3   | ---         | NewLoConga   | Harness-bell2   | Harness-bell2   |
| 125 | F9  | House SD     | ---          | ---        | AfAahhh      | ---         | NewTmblHi    | Harness-bell3   | Harness-bell3   |
| 126 | F#9 | Voice Tah    | ---          | ---        | p33137v      | ---         | NewTmblLo    | CembaloEnding   | CembaloEnding   |
| 127 | G9  | Noise Slap   | ---          | ---        | p33168v      | ---         | Hager        | CembaloFree     | CembaloFree     |



|    | SFX  | Old FR-7x    |
|----|------|--------------|
| 0  | C-1  | ---          |
| 1  | C#-1 | Pop BD1      |
| 2  | D-1  | Pop BD2      |
| 3  | D#-1 | Folk BD      |
| 4  | E-1  | Jazz BD1     |
| 5  | F-1  | Jazz BD2     |
| 6  | F#-1 | Jazz BD3     |
| 7  | G-1  | Jazz BD4     |
| 8  | G#-1 | Mex BD       |
| 9  | A-1  | TR-909 BD    |
| 10 | Bb-1 | HipHop BD1   |
| 11 | B-1  | HipHop BD2   |
| 12 | C0   | Techno BD1   |
| 13 | C#0  | Techno BD2   |
| 14 | D0   | Jungle BD    |
| 15 | D#0  | Concert BD   |
| 16 | E0   | Folk SD      |
| 17 | F0   | Pop SD1      |
| 18 | F#0  | Pop SD2      |
| 19 | G0   | Jazz SD      |
| 20 | G#0  | Concert SD   |
| 21 | A0   | MC-500 Beep  |
| 22 | Bb0  | MC-500 Beep  |
| 23 | B0   | ytwn3.xtp    |
| 24 | C1   | ytwn2.xtp    |
| 25 | C#1  | Guitar Slap  |
| 26 | D1   | Chord Stroke |
| 27 | D#1  | Chord Stroke |
| 28 | E1   | Biwa 3       |
| 29 | F1   | Phono Noise  |
| 30 | F#1  | TapeRewind   |
| 31 | G1   | Scrth Push2  |
| 32 | G#1  | Scrth Pull2  |
| 33 | A1   | Gt.CutNoise2 |
| 34 | Bb1  | Gt.CutNoise2 |
| 35 | B1   | Dist.CutNoiz |
| 36 | C2   | Dist.CutNoiz |
| 37 | C#2  | Bass Slide   |
| 38 | D2   | Pick Scrape  |
| 39 | D#2  | High-Q       |
| 40 | E2   | Slap         |
| 41 | F2   | ScratchPush  |
| 42 | F#2  | ScratchPull  |
| 43 | G2   | Sticks       |
| 44 | G#2  | SquareClick  |
| 45 | A2   | Mtrnm.Click  |
| 46 | Bb2  | Mtrnm. Bell  |
| 47 | B2   | Gt.FretNoiz  |
| 48 | C3   | Gt.CutNoise  |
| 49 | C#3  | Gt.CutNoise  |
| 50 | D3   | String Slap  |
| 51 | D#3  | Fl.KeyClick  |
| 52 | E3   | Laughing     |
| 53 | F3   | Screaming    |
| 54 | F#3  | Punch        |
| 55 | G3   | Heart Beat   |
| 56 | G#3  | Footsteps    |
| 57 | A3   | Footsteps    |
| 58 | Bb3  | Applause     |

|     | SFX | Old FR-7x    |
|-----|-----|--------------|
| 59  | B3  | Creaking     |
| 60  | C4  | Door         |
| 61  | C#4 | Scratch      |
| 62  | D4  | Wind Chimes  |
| 63  | D#4 | Car-Engine   |
| 64  | E4  | Car-Stop     |
| 65  | F4  | Car-Pass     |
| 66  | F#4 | Car-Crash    |
| 67  | G4  | Siren        |
| 68  | G#4 | Train        |
| 69  | A4  | Jetplane     |
| 70  | Bb4 | Helicopter   |
| 71  | B4  | Starship     |
| 72  | C5  | Gun Shot     |
| 73  | C#5 | Machine Gun  |
| 74  | D5  | Lasergun     |
| 75  | D#5 | Explosion    |
| 76  | E5  | Dog          |
| 77  | F5  | HorseGallop  |
| 78  | F#5 | Bird         |
| 79  | G5  | Rain         |
| 80  | G#5 | Thunder      |
| 81  | A5  | Wind         |
| 82  | Bb5 | Seashore     |
| 83  | B5  | Stream       |
| 84  | C6  | Bubble       |
| 85  | C#6 | Kitty        |
| 86  | D6  | Bird 2       |
| 87  | D#6 | Growl        |
| 88  | E6  | Applause 2   |
| 89  | F6  | Telephone 1  |
| 90  | F#6 | Telephone 2  |
| 91  | G6  | Small Club   |
| 92  | G#6 | Small Club 2 |
| 93  | A6  | ApplauseWave |
| 94  | Bb6 | Eruption     |
| 95  | B6  | Big Shot     |
| 96  | C7  | Perc. Bang   |
| 97  | C#7 | ---          |
| 98  | D7  | ---          |
| 99  | D#7 | ---          |
| 100 | E7  | ---          |
| 101 | F7  | ---          |
| 102 | F#7 | ---          |
| 103 | G7  | ---          |
| 104 | G#7 | ---          |
| 105 | A7  | ---          |
| 106 | Bb7 | ---          |
| 107 | B7  | ---          |
| 108 | C8  | ---          |
| 109 | C#8 | ---          |
| 110 | D8  | ---          |
| 111 | D#8 | ---          |
| 112 | E8  | ---          |
| 113 | F8  | ---          |
| 114 | F#8 | ---          |
| 115 | G8  | ---          |
| 116 | G#8 | ---          |
| 117 | A8  | ---          |

|     | SFX | Old FR-7x |
|-----|-----|-----------|
| 118 | Bb8 | ---       |
| 119 | B8  | ---       |
| 120 | C9  | ---       |
| 121 | C#9 | ---       |
| 122 | D9  | ---       |
| 123 | D#9 | ---       |
| 124 | E9  | ---       |
| 125 | F9  | ---       |
| 126 | F#9 | ---       |
| 127 | G9  | ---       |

# MFX types and parameters

The multi-effects feature 83 different kinds of effects. Some of the effects consist of two or more different effects connected in series.

## MFX Type

|                                                 |    |
|-------------------------------------------------|----|
| 1: Thru .....                                   | 11 |
| 2: Stereo EQ .....                              | 11 |
| 3: Overdrive .....                              | 11 |
| 4: Distortion .....                             | 11 |
| 5: Phaser .....                                 | 12 |
| 6: Spectrum .....                               | 12 |
| 7: Enhancer .....                               | 12 |
| 8: Auto Wah .....                               | 12 |
| 9: Rotary .....                                 | 12 |
| 10: Compressor .....                            | 13 |
| 11: Limiter .....                               | 13 |
| 12: Hexa-Chorus .....                           | 13 |
| 13: Trem Chorus (Tremolo Chorus) .....          | 14 |
| 14: Space-D. ....                               | 14 |
| 15: St. Chorus (Stereo Chorus) .....            | 14 |
| 16: St. Flanger (Stereo Flanger) .....          | 14 |
| 17: Step Flanger .....                          | 15 |
| 18: St. Delay (Stereo Delay) .....              | 15 |
| 19: Mod. Delay (Modulation Delay) .....         | 16 |
| 20: 3 Tap Delay (Triple Tap Delay) .....        | 16 |
| 21: 4 Tap Delay (Quadruple Tap Delay) .....     | 17 |
| 22: Time Delay (Time Control Delay) .....       | 17 |
| 23: 2 Pitch Shift (2 Voice Pitch Shifter) ..... | 18 |
| 24: FBK Pitch (Feedback Pitch Shifter) .....    | 18 |
| 25: Reverb .....                                | 18 |
| 26: Gate Reverb .....                           | 19 |
| 27: OD→ Chorus (Overdrive →Chorus) .....        | 19 |
| 28: OD→ Flanger (Overdrive →Flanger) .....      | 19 |
| 29: OD→Delay (Overdrive →Delay) .....           | 20 |
| 30: DST→ Cho (Distortion →Chorus) .....         | 20 |
| 31: DST→ Flanger .....                          | 20 |
| 32: DST→ Delay (Distortion→Delay) .....         | 20 |
| 33: EH→ Chorus (Enhancer→Chorus) .....          | 21 |
| 34: EH→ Flanger (Enhancer→Flanger) .....        | 21 |
| 35: EH→ Delay (Enhancer→Delay) .....            | 21 |

|                                              |    |
|----------------------------------------------|----|
| 36: Cho→ DLY (Chorus→Delay) .....            | 22 |
| 37: Flgr→ DLY (Flanger→Delay) .....          | 22 |
| 38: CHO→ Flgr (Chorus→Flanger) .....         | 22 |
| 39: CHO/DLY (Chorus/Delay) .....             | 23 |
| 40: Flgr/DLY (Flanger/Delay) .....           | 23 |
| 41: CHO/Flgr (Chorus/Flanger) .....          | 23 |
| 42: Isolator .....                           | 23 |
| 43: Low Boost .....                          | 23 |
| 44: Super Filter .....                       | 24 |
| 45: Step Filter .....                        | 24 |
| 46: Humanizer .....                          | 24 |
| 47: Speaker Simulator .....                  | 25 |
| 48: Step Phaser .....                        | 25 |
| 49: MLT Phaser (Multi Stage Phaser) .....    | 25 |
| 50: INF Phaser (Infinite Phaser) .....       | 26 |
| 51: Ring Modul (Ring Modulator) .....        | 26 |
| 52: Step Ring (Step Ring Modulator) .....    | 26 |
| 53: Tremolo .....                            | 26 |
| 54: Auto Pan .....                           | 27 |
| 55: Step Pan .....                           | 27 |
| 56: Slicer .....                             | 27 |
| 57: VK Rotary .....                          | 28 |
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| 59: 3D Flanger .....                         | 28 |
| 60: 3D Step Flgr (3D Step Flanger) .....     | 29 |
| 61: Band Chorus .....                        | 29 |
| 62: Band Flgr (Band Flanger) .....           | 29 |
| 63: B. Step Flgr (2 Band Step Flanger) ..... | 30 |
| 64: VS Overdrive .....                       | 30 |
| 65: VS Distortion .....                      | 30 |
| 66: GT Amp Simul .....                       | 31 |
| 67: Gate .....                               | 31 |
| 68: Long Delay .....                         | 31 |
| 69: Serial Delay .....                       | 32 |
| 70: M. Tap DLY (Multi Tap Delay) .....       | 32 |
| 71: Reverse DLY .....                        | 32 |
| 72: Shuffle DLY (Shuffle Delay) .....        | 33 |
| 73: 3D Delay .....                           | 33 |
| 74: Long Delay .....                         | 34 |
| 75: Tape Echo .....                          | 34 |

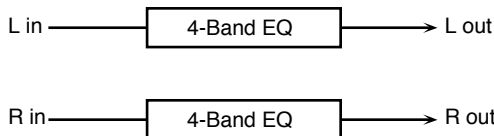
|                                                |    |
|------------------------------------------------|----|
| 76: LoFi Noise.....                            | 35 |
| 77: LoFi Comp (Lo-Fi Compressor).....          | 35 |
| 78: LoFi Radio.....                            | 35 |
| 79: Telephone.....                             | 35 |
| 80: Phonograph .....                           | 36 |
| 81: Step Pitch (Step Pitch Shifter) .....      | 36 |
| 82: Symp Reso (Sympathetic Resonance) .....    | 36 |
| 83: VIB-OD-Rot (Vibrato-Overdrive-Rotary)..... | 37 |
| 84: Center Canc (Center Canceller) .....       | 37 |

## 1: Thru

The effects processor is bypassed.

## 2: Stereo EQ

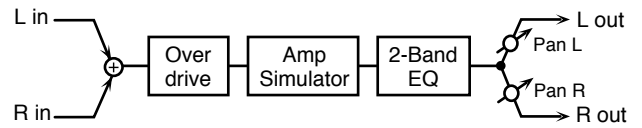
This is a four-band stereo equalizer (low, mid x 2, high).



| Parameter          | Value                   | Description                                                                                                                                                                             |
|--------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eq Low Frequency   | 200, 400Hz              | Selects the frequency of the low range.                                                                                                                                                 |
| Eq Low Gain        | -15– +15 [dB]           | Adjusts the gain of the low frequency.                                                                                                                                                  |
| Eq High Freq       | 2000, 4000, 8000 [Hz]   | Selects the frequency of the high range.                                                                                                                                                |
| Eq High Gain       | -15– +15 [dB]           | Adjusts the gain of the high frequency.                                                                                                                                                 |
| Eq Mid 1 Frequency | 200–8000 [Hz]           | Adjusts the frequency of Middle 1 (mid range).                                                                                                                                          |
| Eq Mid 1 Q         | 0.5, 1.0, 2.0, 4.0, 8.0 | This parameter adjusts the width of the area around the Middle 1 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected. |
| Eq Mid 1 Gain      | 15– +15 [dB]            | Adjusts the gain for the area specified by the Middle 1 Frequency and Q settings.                                                                                                       |
| Eq Mid 2 Frequency | 200–8000 [Hz]           | Adjusts the frequency of Middle 2 (mid range).                                                                                                                                          |
| Eq Mid 2 Q         | 0.5, 1.0, 2.0, 4.0, 8.0 | This parameter adjusts the width of the area around the Middle 2 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected. |
| Eq Mid 2 Gain      | -15– +15 [dB]           | Adjusts the gain for the area specified by the Middle 2 Frequency and Q settings.                                                                                                       |
| Level              | 0–127                   | Adjusts the output level.                                                                                                                                                               |

## 3: Overdrive

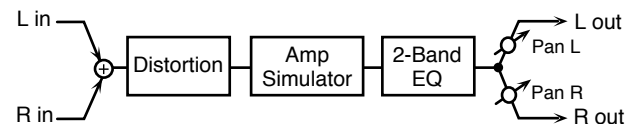
This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.



| Parameter    | Value                             | Description                                                                                                                                                                           |
|--------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive        | 0–127                             | Adjusts the degree of distortion. The volume will change together with the degree of distortion.                                                                                      |
| Panpot       | L64–63R                           | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.                                                                                  |
| Amp Type     | Small, Built-In, 2-Stack, 3-Stack | Selects the type of guitar amp.<br><b>Small:</b> small amp<br><b>Built-In:</b> single-unit type amp<br><b>2-Stack:</b> single-unit type amp<br><b>3-Stack:</b> large triple stack amp |
| Eq Low Gain  | -15– +15 [dB]                     | Adjusts the gain of the low frequency.                                                                                                                                                |
| Eq High Gain | -15– +15 [dB]                     | Adjusts the gain of the high frequency.                                                                                                                                               |
| Level        | 0–127                             | Adjusts the output level.                                                                                                                                                             |

## 4: Distortion

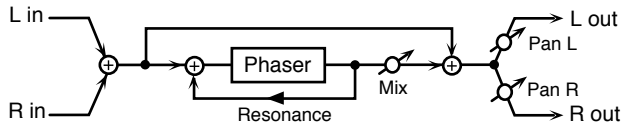
This effect produces a more intense distortion than Overdrive.



| Parameter    | Value                             | Description                                                                                                                                                                             |
|--------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive        | 0–127                             | Adjusts the degree of distortion. The volume will change together with the degree of distortion.                                                                                        |
| Panpot       | L64–63R                           | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.                                                                                    |
| Amp Type     | Small, Built-In, 2-Stack, 3-Stack | Selects the type of guitar amp.<br><b>Small:</b> small amp<br><b>Built-In:</b> single-unit type amp<br><b>2-Stack:</b> large double stack amp<br><b>3-Stack:</b> large triple stack amp |
| Eq Low Gain  | -15– +15 [dB]                     | Adjusts the gain of the low frequency.                                                                                                                                                  |
| Eq High Gain | -15– +15 [dB]                     | Adjusts the gain of the high frequency.                                                                                                                                                 |
| Level        | 0–127                             | Adjusts the output level.                                                                                                                                                               |

### 5. Phaser

A phaser adds a phase-shifted sound to the direct sound, producing a twisting modulation that creates spaciousness and depth.

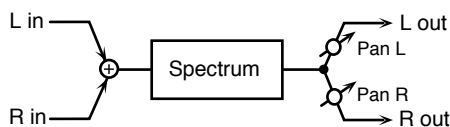


| Parameter | Value           | Description                                                                                          |
|-----------|-----------------|------------------------------------------------------------------------------------------------------|
| Manual    | 100–8000 [Hz]   | Adjusts the basic frequency from which the sound will be modulated.                                  |
| Rate      | 0.05–10.00 [Hz] | Adjusts the frequency (period) of modulation.                                                        |
| Depth     | 0–127           | Adjusts the depth of modulation.                                                                     |
| Resonance | 0–127           | Adjusts the amount of feedback for the phaser.                                                       |
| Mix Level | 0–127           | Adjusts the ratio with which the phase-shifted sound is combined with the direct sound.              |
| Pannpot   | L64–63R         | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right. |
| Level     | 0–127           | Adjusts the output level.                                                                            |

### 6: Spectrum

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

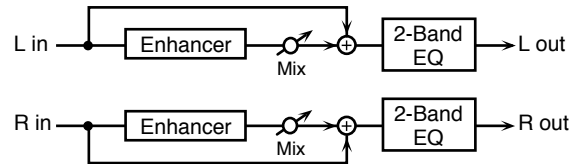
It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.



| Parameter    | Value                   | Description                                                                                          |
|--------------|-------------------------|------------------------------------------------------------------------------------------------------|
| 250 Hz Gain  | -15– +15 [dB]           | Adjusts the 250 Hz level.                                                                            |
| 500 Hz Gain  | -15– +15 [dB]           | Adjusts the 500 Hz level.                                                                            |
| 1000 Hz Gain | -15 – +15 [dB]          | Adjusts the 1000 Hz level.                                                                           |
| 1250 Hz Gain | -15– +15 [dB]           | Adjusts the 1250 Hz level.                                                                           |
| 2000 Hz Gain | -15– +15 [dB]           | Adjusts the 2000 Hz level.                                                                           |
| 3150 Hz Gain | -15– +15 [dB]           | Adjusts the 3150 Hz level.                                                                           |
| 4000 Hz Gain | -15– +15 [dB]           | Adjusts the 4000 Hz level.                                                                           |
| 8000 Hz Gain | -15– +15 [dB]           | Adjusts the 8000 Hz level.                                                                           |
| Band Width Q | 0.5, 1.0, 2.0, 4.0, 8.0 | Simultaneously adjusts the width of the adjusted areas for all the frequency bands.                  |
| Panpot       | L64–63R                 | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right. |
| Level        | 0–127                   | Adjusts the output level.                                                                            |

### 7: Enhancer

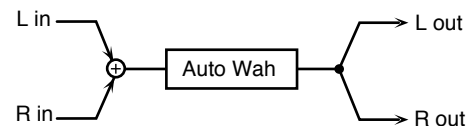
The enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



| Parameter    | Value         | Description                                                                                              |
|--------------|---------------|----------------------------------------------------------------------------------------------------------|
| Sens         | 0–127         | Adjusts the sensitivity of the enhancer.                                                                 |
| Mix          | 0–127         | Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound. |
| Eq Low Gain  | -15– +15 [dB] | Adjusts the gain of the low frequency.                                                                   |
| Eq High Gain | -15– +15 [dB] | Adjusts the gain of the high frequency.                                                                  |
| Level        | 0–127         | Adjusts the output level.                                                                                |

### 8: Auto Wah

The Auto Wah cyclically controls a filter to create cyclic change in timbre.

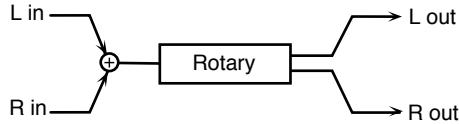


| Parameter   | Value           | Description                                                                                                                                                                                                                                                           |
|-------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type | LPF, BPF        | Selects the type of filter.<br><b>LPF:</b> The wah effect will be applied over a wide frequency range.<br><b>BPF:</b> The wah effect will be applied over a narrow frequency range.                                                                                   |
| Rate        | 0.05–10.00 [Hz] | Adjusts the frequency of the modulation.                                                                                                                                                                                                                              |
| Depth       | 0–127           | Adjusts the depth of the modulation.                                                                                                                                                                                                                                  |
| Sens        | 0–127           | Adjusts the sensitivity with which the filter is controlled.                                                                                                                                                                                                          |
| Manual      | 0–127           | Adjusts the center frequency from which the effect is applied.                                                                                                                                                                                                        |
| Peak        | 0–127           | Adjusts the amount of the wah effect that will occur in the area of the center frequency. Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range. |
| Level       | 0–127           | Adjusts the output level.                                                                                                                                                                                                                                             |

### 9: Rotary

The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past.

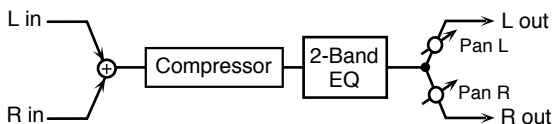
Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.



| Parameter  | Value        | Description                                                                                                                                          |
|------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| TW Slow    | 0.05-10.0 Hz | Slow speed (SLOW) of the low or high frequency rotor.                                                                                                |
| WF Slow    | 0.05-10.0 Hz |                                                                                                                                                      |
| TW Fast    | 0.05-10.0 Hz | Fast speed (FAST) of the high or low-frequency rotor.                                                                                                |
| WF Fast    | 0.05-10.0 Hz |                                                                                                                                                      |
| Speed      | Slow, Fast   | Simultaneously switches the rotational speed of the low-frequency and high-frequency rotors.                                                         |
| TW Acceler | 0-15         | Adjusts the time it takes the rotor in question to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions. |
| WF Acceler | 0-15         |                                                                                                                                                      |
| TW Level   | 0-127        | Volume of the rotor in question.                                                                                                                     |
| WF Level   | 0-127        |                                                                                                                                                      |
| Separation | 0-127        | Spatial dispersion of the sound.                                                                                                                     |
| Level      | 0-127        | Output level.                                                                                                                                        |

## 10: Compressor

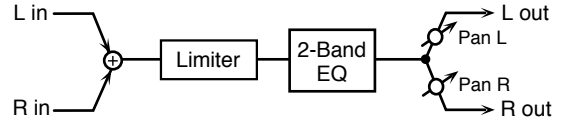
The compressor flattens out high levels and boosts low levels, smoothing out unevenness in volume.



| Parameter    | Value                | Description                                                                                          |
|--------------|----------------------|------------------------------------------------------------------------------------------------------|
| Sustain      | 0-127                | Adjusts the time over which low level sounds are boosted until they reach the specified volume.      |
| Attack       | 0-127                | Adjusts the attack time of an input sound.                                                           |
| Panpot       | L64-63R              | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right. |
| Post Gain    | 0, +6, +12, +18 [dB] | Adjusts the output gain.                                                                             |
| Eq Low Gain  | -15- +15 [dB]        | Adjusts the gain of the low frequency.                                                               |
| Eq High Gain | -15- +15 [dB]        | Adjusts the gain of the high frequency.                                                              |
| Level        | 0-127                | Adjusts the output level.                                                                            |

## 11: Limiter

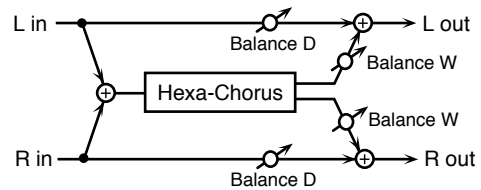
The limiter compresses signals that exceed a specified volume level, preventing distortion from occurring.



| Parameter    | Value                  | Description                                                                                             |
|--------------|------------------------|---------------------------------------------------------------------------------------------------------|
| Threshold    | 0-127                  | Adjusts the volume at which compression will begin.                                                     |
| Release      | 0-127                  | Adjusts the time from when the volume falls below the Threshold until compression is no longer applied. |
| Ratio        | 1.5:1, 2:1, 4:1, 100:1 | Adjusts the compression ratio.                                                                          |
| Panpot       | L64-63R                | Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.    |
| Post Gain    | 0, +6, +12, +18 [dB]   | Adjusts the output gain.                                                                                |
| Eq Low Gain  | -15- +15 [dB]          | Adjusts the gain of the low frequency.                                                                  |
| Eq High Gain | -15- +15 [dB]          | Adjusts the gain of the high frequency.                                                                 |
| Level        | 0-127                  | Adjusts the output level.                                                                               |

## 12: Hexa-Chorus

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



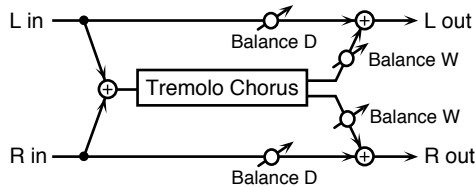
| Parameter     | Value            | Description                                                                                                                                                                                                                              |
|---------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre Delay     | 0.0-100 [ms]     | Adjusts the time delay from when the direct sound begins until the chorus sound is heard.                                                                                                                                                |
| Rate          | 0.05-10.00 [Hz]  | Adjusts the rate of modulation.                                                                                                                                                                                                          |
| Depth         | 0-127            | Adjusts the depth of modulation.                                                                                                                                                                                                         |
| Pre Delay Dev | 0-20             | Pre Delay Deviation adjusts the differences in Pre Delay between each chorus sound. Pre Delay determines the time from when the direct sound begins until the processed sound is heard.                                                  |
| Depth Dev     | -20- +20         | Adjusts the difference in modulation depth between each chorus sound.                                                                                                                                                                    |
| Pan Dev       | 0-20             | Adjusts the difference in stereo location between each chorus sound. With a setting of 0, all chorus sounds will be in the center. With a setting of 20, each chorus sound will be spaced at 60 degree intervals relative to the center. |
| Balance       | D100:0W- D0:100W | Adjusts the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.                            |

## MFX types and parameters

| Parameter | Value | Description               |
|-----------|-------|---------------------------|
| Level     | 0–127 | Adjusts the output level. |

### 13: Trem Chorus (Tremolo Chorus)

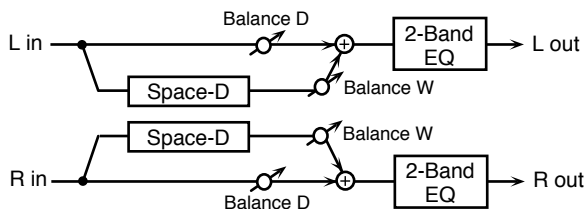
Tremolo chorus is a chorus effect with added tremolo (cyclic modulation of volume).



| Parameter     | Value               | Description                                                                                                                                                                                                                   |
|---------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre Delay     | 0.0–100 [ms]        | Adjusts the time delay from when the direct sound begins until the chorus sound is heard.                                                                                                                                     |
| Rate          | 0.05–10.00 [Hz]     | Adjusts the modulation speed of the chorus effect.                                                                                                                                                                            |
| Depth         | 0–127               | Adjusts the modulation depth of the chorus effect.                                                                                                                                                                            |
| Tremolo Rate  | 0.05–10.00 [Hz]     | Adjusts the modulation speed of the tremolo effect.                                                                                                                                                                           |
| Tremolo Separ | 0–127               | Adjusts the spread of the tremolo effect.                                                                                                                                                                                     |
| Tremolo Phase | 0–180 [deg]         | Adjusts the spread of the tremolo effect.                                                                                                                                                                                     |
| Balance       | D100:0W–<br>D0:100W | Adjusts the volume balance between the direct sound and the tremolo chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the tremolo chorus sound will be output. |
| Level         | 0–127               | Adjusts the output level.                                                                                                                                                                                                     |

### 14: Space-D

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

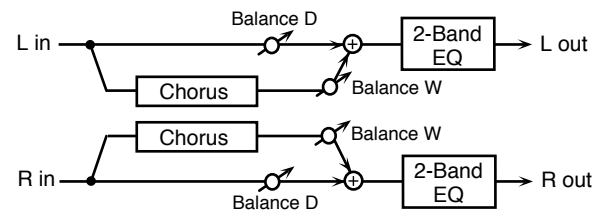


| Parameter | Value           | Description                                                                                  |
|-----------|-----------------|----------------------------------------------------------------------------------------------|
| Pre Delay | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the processed sound is heard. |
| Rate      | 0.05–10.00 [Hz] | Adjusts the rate of modulation.                                                              |
| Depth     | 0–127           | Adjusts the depth of modulation.                                                             |
| Phase     | 0–180 [deg]     | Adjusts the spatial spread of the sound.                                                     |

| Parameter    | Value               | Description                                                                                                                                                                                                   |
|--------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eq Low Gain  | -15– +15 [dB]       | Adjusts the gain of the low frequency.                                                                                                                                                                        |
| Eq High Gain | -15– +15 [dB]       | Adjusts the gain of the high frequency.                                                                                                                                                                       |
| Balance      | D100:0W–<br>D0:100W | Adjusts the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output. |
| Level        | 0–127               | Adjusts the output level.                                                                                                                                                                                     |

### 15: St. Chorus (Stereo Chorus)

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

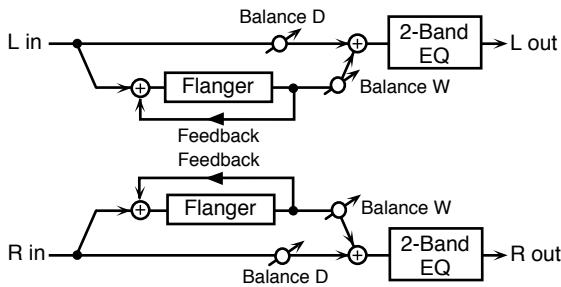


| Parameter     | Value               | Description                                                                                                                                                                                                   |
|---------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type   | OFF, LPF, HPF       | Selects the type of filter.<br><b>OFF:</b> A filter will not be used.<br><b>LPF:</b> Cuts the frequency range above the cutoff frequency.<br><b>HPF:</b> Cuts the frequency range below the cutoff frequency. |
| Filter Cutoff | 200–8000 [Hz]       | Adjusts the basic frequency of the filter.                                                                                                                                                                    |
| Pre Delay     | 0.0–100 [ms]        | Adjusts the time delay from when the direct sound begins until the processed sound is heard.                                                                                                                  |
| Rate          | 0.05–10.00 [Hz]     | Adjusts the rate of modulation.                                                                                                                                                                               |
| Depth         | 0–127               | Adjusts the depth of modulation.                                                                                                                                                                              |
| Phase         | 0–180 [deg]         | Adjusts the spatial spread of the sound.                                                                                                                                                                      |
| Eq Low Gain   | -15– +15 [dB]       | Adjusts the gain of the low frequency.                                                                                                                                                                        |
| Eq High Gain  | -15– +15 [dB]       | Adjusts the gain of the high frequency.                                                                                                                                                                       |
| Balance       | D100:0W–<br>D0:100W | Adjusts the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output. |
| Level         | 0–127               | Adjusts the output level.                                                                                                                                                                                     |

### 16: St. Flanger (Stereo Flanger)

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

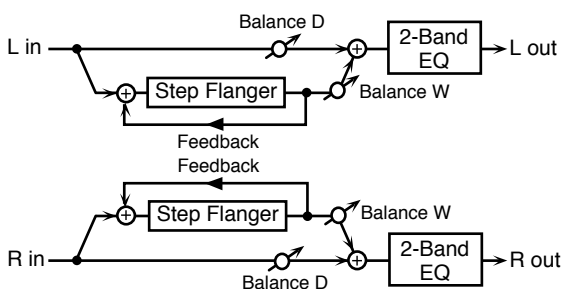




| Parameter     | Value               | Description                                                                                                                                                                                                       |
|---------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type   | OFF, LPF, HPF       | Selects the type of filter.<br><b>OFF:</b> A filter will not be used.<br><b>LPF:</b> Cuts the frequency range above the cutoff frequency.<br><b>HPF:</b> Cuts the frequency range below the cutoff frequency.     |
| Filter Cutoff | 200–8000 [Hz]       | Adjusts the basic frequency of the filter.                                                                                                                                                                        |
| Pre Delay     | 0.0–100 [ms]        | Adjusts the time delay from when the direct sound begins until the flanger sound is heard.                                                                                                                        |
| Rate          | 0.05–10.00 [Hz]     | Adjusts the rate of modulation.                                                                                                                                                                                   |
| Depth         | 0–127               | Adjusts the depth of modulation.                                                                                                                                                                                  |
| Phase         | 0–180 [deg]         | Adjusts the spatial spread of the sound.                                                                                                                                                                          |
| Feedback      | -98– +98 [%]        | Adjusts the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase. |
| Eq Low Gain   | -15– +15 [dB]       | Adjusts the gain of the low frequency.                                                                                                                                                                            |
| Eq High Gain  | -15– +15 [dB]       | Adjusts the gain of the high frequency.                                                                                                                                                                           |
| Balance       | D100:0W–<br>D0:100W | Adjusts the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.    |
| Level         | 0–127               | Adjusts the output level.                                                                                                                                                                                         |

## 17: Step Flanger

The Step Flanger effect is a flanger in which the flanger pitch changes in steps.



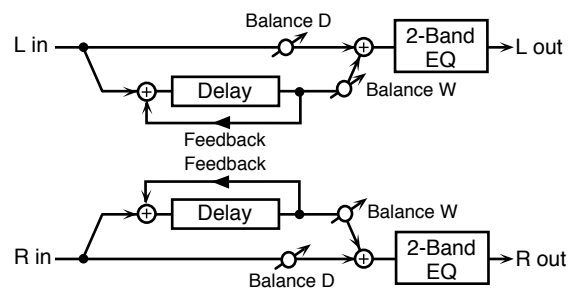
| Parameter | Value           | Description                                                                                |
|-----------|-----------------|--------------------------------------------------------------------------------------------|
| Pre Delay | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the flanger sound is heard. |
| Rate      | 0.05–10.00 [Hz] | Adjusts the rate of modulation.                                                            |

| Parameter    | Value                  | Description                                                                                                                                                                                                    |
|--------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Depth        | 0–127                  | Adjusts the depth of modulation.                                                                                                                                                                               |
| Feedback     | -98– +98 [%]           | Adjusts the amount (%) of the flanger sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.                                                                           |
| Step Rate    | 0.1–20.0 [Hz], note *1 | Adjusts the rate (period) of pitch change.                                                                                                                                                                     |
| Phase        | 0–180 [deg]            | Adjusts the spatial spread of the sound.                                                                                                                                                                       |
| Eq Low Gain  | -15– +15 [dB]          | Adjusts the gain of the low frequency.                                                                                                                                                                         |
| Eq High Gain | -15– +15 [dB]          | Adjusts the gain of the high frequency.                                                                                                                                                                        |
| Balance      | D100:0W–<br>D0:100W    | Adjusts the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output. |
| Level        | 0–127                  | Adjusts the output level.                                                                                                                                                                                      |

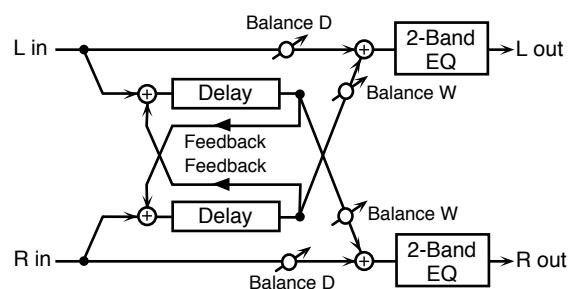
## 18: St. Delay (Stereo Delay)

This is a stereo delay.

When Feedback Mode is “Normal”:



When Feedback Mode is “Cross”:



| Parameter | Value         | Description                                                                                                                                                                                                                                                                                                                |
|-----------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feedback  | Normal, Cross | Selects the way in which delay sound is fed back into the effect.<br><b>Normal:</b> The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.<br><b>Cross:</b> The left delay sound will be fed back into the right delay, and the right delay sound into the left delay. |
| Delay L   | 0–500 [ms]    | Adjusts the time from the direct sound until when the left delay sound is heard.                                                                                                                                                                                                                                           |

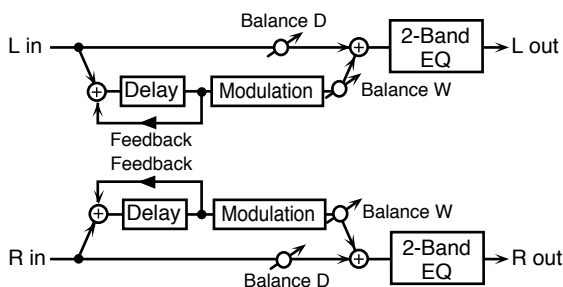
| Parameter    | Value                 | Description                                                                                                                                                                                                 |
|--------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay R      | 0–500 [ms]            | Adjusts the time from the direct sound until when the right delay sound is heard.                                                                                                                           |
| Phase L      | Normal, Invert        | Selects the phase of the left delay sound.<br><b>Normal:</b> Phase is not changed.<br><b>Invert:</b> Phase is inverted.                                                                                     |
| Phase R      | Normal, Invert        | Selects the phase of the right delay sound.<br><b>Normal:</b> Phase is not changed.<br><b>Invert:</b> Phase is inverted.                                                                                    |
| 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 of the feed-back, set this parameter to Bypass.                                  |
| Eq Low Gain  | -15– +15 [dB]         | Adjusts the gain of the low frequency.                                                                                                                                                                      |
| Eq High Gain | -15– +15 [dB]         | Adjusts the gain of the high frequency.                                                                                                                                                                     |
| Balance      | D100:0W–D0:100W       | Adjusts the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output. |
| Level        | 0–127                 | Adjusts the output level.                                                                                                                                                                                   |

| Parameter    | Value                 | Description                                                                                                                                                                                                                                                                                                                |
|--------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feedback     | Normal, Cross         | Selects the way in which delay sound is fed back into the effect.<br><b>Normal:</b> The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.<br><b>Cross:</b> The left delay sound will be fed back into the right delay, and the right delay sound into the left delay. |
| Delay L      | 0–500.0 [ms]          | Adjusts the time from the direct sound until when the left delay sound is heard.                                                                                                                                                                                                                                           |
| Delay R      | 0–500.0 [ms]          | Adjusts the time from the direct sound until when the right delay sound is heard.                                                                                                                                                                                                                                          |
| 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 of the feed-back, set this parameter to Bypass.                                                                                                                                                 |
| Modul Rate   | 0.05–10.00 [Hz]       | Adjusts the speed of the modulation.                                                                                                                                                                                                                                                                                       |
| Modul Depth  | 0–127                 | Adjusts the depth of the modulation.                                                                                                                                                                                                                                                                                       |
| Modul Phase  | 0–180 [deg]           | Adjusts the spatial spread of the sound.                                                                                                                                                                                                                                                                                   |
| Eq Low Gain  | -15– +15 [dB]         | Adjusts the gain of the low frequency.                                                                                                                                                                                                                                                                                     |
| Eq High Gain | -15– +15 [dB]         | Adjusts the gain of the high frequency.                                                                                                                                                                                                                                                                                    |
| Balance      | D100:0W–D0:100W       | Adjusts the volume balance between the direct sound and the modulation delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the modulation delay sound will be output.                                                                                          |
| Level        | 0–127                 | Adjusts the output level.                                                                                                                                                                                                                                                                                                  |

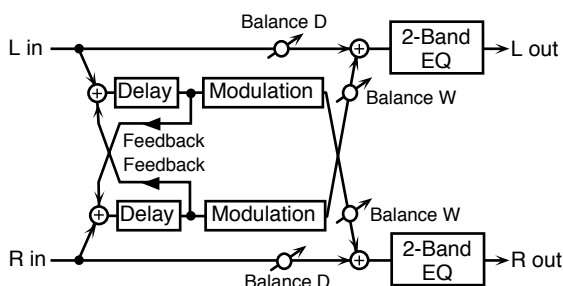
### 19: Mod. Delay (Modulation Delay)

This effect adds modulation to the delayed sound, producing an effect similar to a flanger.

When Feedback Mode is “Normal”:

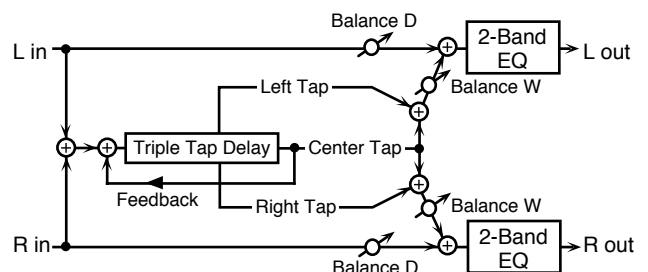


When Feedback Mode is “Cross”:



### 20: 3 Tap Delay (Triple Tap Delay)

The Triple Tap Delay produces three delay sounds; center, left and right.

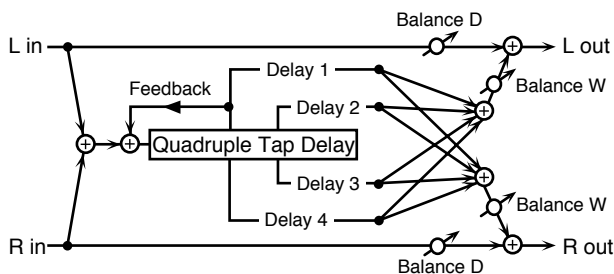


| Parameter | Value                  | Description                                                                             |
|-----------|------------------------|-----------------------------------------------------------------------------------------|
| Delay L   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when the left delay sound is heard.  |
| Delay R   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when the right delay sound is heard. |

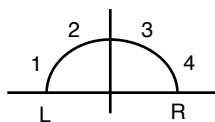
| Parameter    | Value                  | Description                                                                                                                                                                                                 |
|--------------|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay C      | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when the center delay sound is heard.                                                                                                                    |
| 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 of the feed- back, set this parameter to bypass.                                 |
| Level L      | 0–127                  | Adjusts the volume of the left delay sound.                                                                                                                                                                 |
| Level R      | 0–127                  | Adjusts the volume of the right delay sound.                                                                                                                                                                |
| Level C      | 0–127                  | Adjusts the volume of the center delay sound.                                                                                                                                                               |
| Eq Low Gain  | -15– +15 [dB]          | Adjusts the gain of the low frequency.                                                                                                                                                                      |
| Eq High Gain | -15– +15 [dB]          | Adjusts the gain of the high frequency.                                                                                                                                                                     |
| Balance      | D100:0W– D0:100W       | Adjusts the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output. |
| Level        | 0–127                  | Adjusts the output level.                                                                                                                                                                                   |

## 21: 4 Tap Delay (Quadruple Tap Delay)

The Quadruple Tap Delay has four delays.



The stereo location of each delay sound is as follows:

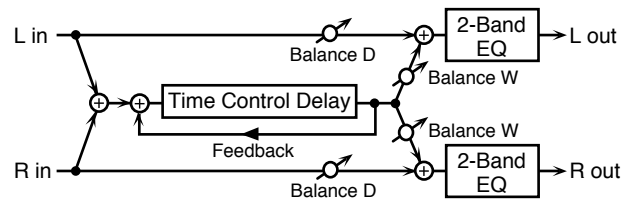


| Parameter | Value                  | Description                                                                     |
|-----------|------------------------|---------------------------------------------------------------------------------|
| Delay 1   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when delay 1 sound is heard. |
| Delay 2   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when delay 2 sound is heard. |
| Delay 3   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when delay 3 sound is heard. |
| Delay 4   | 200–1000 [ms], note *1 | Adjusts the time delay from the direct sound until when delay 4 sound is heard. |
| Level 1   | 0–127                  | Adjusts the volume of delay 1 sound.                                            |
| Level 2   | 0–127                  | Adjusts the volume of delay 2 sound.                                            |

| Parameter | Value                 | Description                                                                                                                                                                                                 |
|-----------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level 3   | 0–127                 | Adjusts the volume of delay 3 sound.                                                                                                                                                                        |
| Level 4   | 0–127                 | Adjusts the volume of delay 4 sound.                                                                                                                                                                        |
| 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 of the feed- back, set this parameter to bypass.                                 |
| Balance   | D100:0W– D0:100W      | Adjusts the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output. |
| Level     | 0–127                 | Adjusts the output level.                                                                                                                                                                                   |

## 22: Time Delay (Time Control Delay)

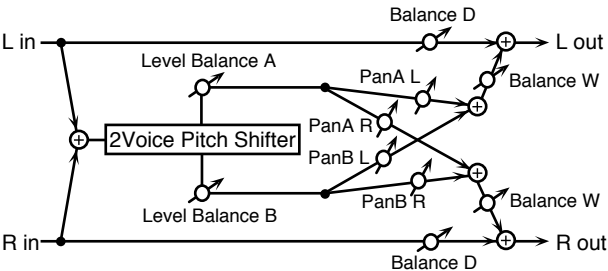
You can change the delay time in real time. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.



| Parameter    | Value                 | Description                                                                                                                                                                                                   |
|--------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time         | 200–1000 [ms]         | Adjusts the time delay from the direct sound until when each delay sound is heard.                                                                                                                            |
| Feedback     | -98– +98 [%]          | Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.                                                                                  |
| Acceler      | 0–15                  | This parameter adjusts the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change. |
| 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 of the feed- back, set this parameter to bypass.                                   |
| Panpot       | L64–63R               | Adjusts the stereo location of the delay sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                           |
| Eq Low Gain  | -15– +15 [dB]         | Adjusts the gain of the low frequency.                                                                                                                                                                        |
| Eq High Gain | -15– +15 [dB]         | Adjusts the gain of the high frequency.                                                                                                                                                                       |
| Balance      | D100:0W– D0:100W      | Adjusts the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.   |
| Level        | 0–127                 | Adjusts the output level.                                                                                                                                                                                     |

23: 2 Pitch Shift (2 Voice Pitch Shifter)

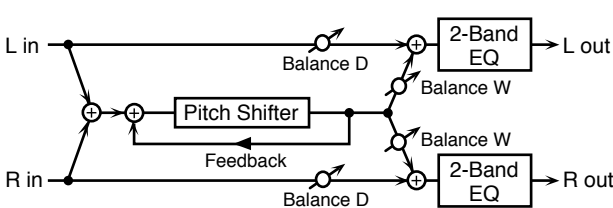
A Pitch Shifter shifts the pitch of the direct sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the direct sound.



| Parameter          | Value             | Description                                                                                                                                                                                                             |
|--------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shift Mode         | 1, 2, 3, 4, 5     | Higher settings of this parameter will result in slower response, but steadier pitch.                                                                                                                                   |
| A Coarse           | -24- +12 [semi]   | Adjusts the pitch of Pitch Shift A in semitone steps (-2- +1 octaves).                                                                                                                                                  |
| B Coarse           | -24- +12 [semi]   | Adjusts the pitch of Pitch Shift B in semitone steps (-2- +1 octaves).                                                                                                                                                  |
| A Fine             | -100- +100 [cent] | Makes fine adjustments to the pitch of Pitch Shift A in 2-cent steps (-100- +100 cents). One cent is 1/100th of a semi- tone.                                                                                           |
| B Fine             | -100- +100 [cent] | Makes fine adjustments to the pitch of Pitch Shift B in 2-cent steps (-100- +100 cents). One cent is 1/100th of a semi- tone.                                                                                           |
| A Pre Delay        | 0-500 [ms]        | Adjusts the time delay from when the direct sound begins until the Pitch Shift A sound is heard.                                                                                                                        |
| B Pre Delay        | 0-500 [ms]        | Adjusts the time delay from when the direct sound begins until the Pitch Shift B sound is heard.                                                                                                                        |
| A Panpot           | L64-63R           | Adjusts the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                             |
| B Panpot           | L64-63R           | Adjusts the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                             |
| Level AB (Balance) | A100:0B- A0:100B  | Adjusts the volume balance between the Pitch Shift A and Pitch Shift B sounds.                                                                                                                                          |
| Balance            | D100:0W- D0:100W  | Adjusts the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output. |
| Level              | 0-127             | Adjusts the output level.                                                                                                                                                                                               |

24: FBK Pitch (Feedback Pitch Shifter)

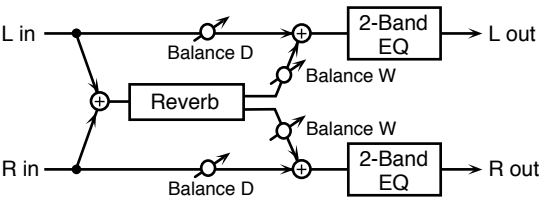
This pitch shifter allows the pitch shifted sound to be fed back into the effect.



| Parameter    | Value             | Description                                                                                                                                                                                                             |
|--------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shift Mode   | 1, 2, 3, 4, 5     | Higher settings of this parameter will result in slower response, but steadier pitch.                                                                                                                                   |
| Pitch Coarse | -24- +12 [semi]   | Adjusts the pitch of the pitch shifted sound in semitone steps (-2- +1 octaves).                                                                                                                                        |
| Pitch Fine   | -100- +100 [cent] | Makes fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100- +100 cents).                                                                                                                      |
| Pre Delay    | 0-500 [ms]        | Adjusts the time delay from when the direct sound begins until the pitch shifted sound is heard.                                                                                                                        |
| Feedback     | -98- +98 [%]      | Adjusts the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.                                                                                        |
| Panpot       | L64-63R           | Adjusts the stereo location of the pitch shifted sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                             |
| Eq Low Gain  | -15- +15 [dB]     | Adjusts the gain of the low frequency.                                                                                                                                                                                  |
| Eq High Gain | -15- +15 [dB]     | Adjusts the gain of the high frequency.                                                                                                                                                                                 |
| Balance      | D100:0W- D0:100W  | Adjusts the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output. |
| Level        | 0-127             | Adjusts the output level.                                                                                                                                                                                               |

25: Reverb

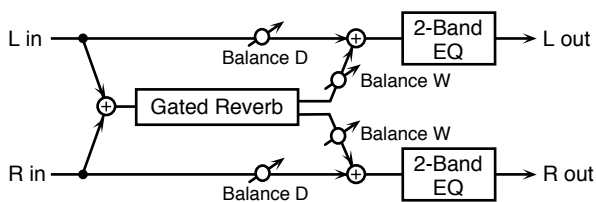
The Reverb effect adds reverberation to the sound, simulating an acoustic space.



| Parameter    | Value                                      | Description                                                                                                                                                                                                                                                                                                                                            |
|--------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | Room1, Room2, Stage1, Stage2, Hall1, Hall2 | Selects the type of Reverb effect.<br><b>Room1:</b> dense reverb with short decay.<br><b>Room2:</b> sparse reverb with short decay.<br><b>Stage1:</b> reverb with greater late reverberation.<br><b>Stage2:</b> reverb with strong early reflections.<br><b>Hall1:</b> reverb with clear reverberance.<br><b>Hall2:</b> reverb with rich reverberance. |
| Pre Delay    | 0.0–100 [ms]                               | Adjusts the time delay from when the direct sound begins until the reverb sound is heard.                                                                                                                                                                                                                                                              |
| Time         | 0–127                                      | Adjusts the time length of reverberation.                                                                                                                                                                                                                                                                                                              |
| HF Damp      | 200–8000 [Hz], Bypass                      | Adjusts the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to bypass.                                                                      |
| Eq Low Gain  | -15– +15 [dB]                              | Adjusts the gain of the low frequency.                                                                                                                                                                                                                                                                                                                 |
| Eq High Gain | -15– +15 [dB]                              | Adjusts the gain of the high frequency.                                                                                                                                                                                                                                                                                                                |
| Balance      | D100:0W–D0:100W                            | Adjusts the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output.                                                                                                                                          |
| Level        | 0–127                                      | Adjusts the output level.                                                                                                                                                                                                                                                                                                                              |

## 26: Gate Reverb

Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.

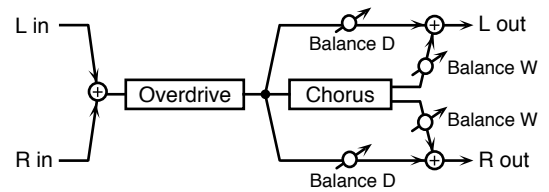


| Parameter    | Value                           | Description                                                                                                                                                                                                                                      |
|--------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | Normal, Reverse, Sweep1, Sweep2 | Selects the type of reverb.<br><b>Normal:</b> conventional gate reverb.<br><b>Reverse:</b> backwards reverb.<br><b>Sweep1:</b> the reverberant sound moves from right to left.<br><b>Sweep2:</b> the reverberant sound moves from left to right. |
| Pre Delay    | 0.0–100 [ms]                    | Adjusts the time delay from when the direct sound begins until the reverb sound is heard.                                                                                                                                                        |
| Time         | 5–500 [ms]                      | Adjusts the time from when the reverb is heard until when it disappears.                                                                                                                                                                         |
| Eq Low Gain  | -15– +15 [dB]                   | Adjusts the gain of the low frequency.                                                                                                                                                                                                           |
| Eq High Gain | -15– +15 [dB]                   | Adjusts the gain of the high frequency.                                                                                                                                                                                                          |

| Parameter | Value           | Description                                                                                                                                                                                                   |
|-----------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Balance   | D100:0W–D0:100W | Adjusts the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output. |
| Level     | 0–127           | Adjusts the output level.                                                                                                                                                                                     |

## 27: OD→ Chorus (Overdrive →Chorus)

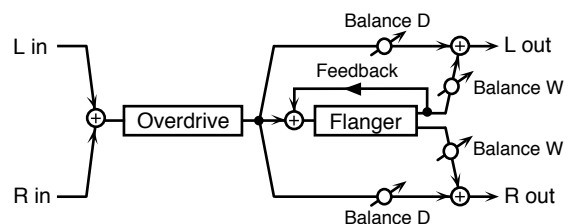
This effect connects an overdrive and a chorus in series.



| Parameter     | Value           | Description                                                                                                                                                                                                                                                                                                                     |
|---------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Od Drive      | 0–127           | Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.                                                                                                                                                                                                                      |
| Od Panpot     | L64–63R         | Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                                                                                                                                         |
| Cho Pre Delay | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the chorus sound is heard.                                                                                                                                                                                                                                       |
| Cho Rate      | 0.05–10.00 [Hz] | Adjusts the modulation speed of the chorus effect.                                                                                                                                                                                                                                                                              |
| Cho Depth     | 0–127           | Adjusts the modulation depth of the chorus effect.                                                                                                                                                                                                                                                                              |
| Cho Balance   | D100:0W–D0:100W | Adjusts the volume balance between the overdrive sound that is sent through the chorus and the overdrive sound that is not sent through the chorus. With a setting of "D100:0W," only the overdrive sound will be output. With a setting of "D0:100W," only the overdrive sound that is sent through the chorus will be output. |
| Level         | 0–127           | Adjusts the output level.                                                                                                                                                                                                                                                                                                       |

## 28: OD→ Flanger (Overdrive →Flanger)

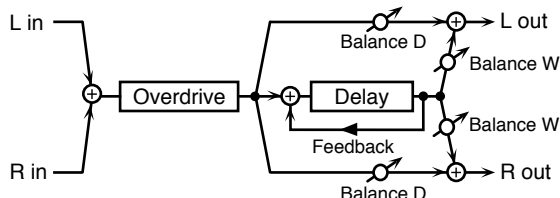
This effect connects an overdrive and a flanger in series.



| Parameter | Value               | Description                                                                                                                                                                                                                                                                                                                        |
|-----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| OD Drive  | 0–127               | Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.                                                                                                                                                                                                                         |
| OD Panpot | L64–63R             | Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.                                                                                                                                                                                                                            |
| Pre Delay | 0.0–100 [ms]        | Adjusts the time delay from when the direct sound begins until the flanger sound is heard.                                                                                                                                                                                                                                         |
| Rate      | 0.05–10.00 [Hz]     | Adjusts the modulation speed of the flanger effect.                                                                                                                                                                                                                                                                                |
| Depth     | 0–127               | Adjusts the modulation depth of the flanger effect.                                                                                                                                                                                                                                                                                |
| Feedback  | –98– +98 [%]        | Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.                                                                                                                                                                                                     |
| Balance   | D100:0W–<br>D0:100W | Adjusts the volume balance between the overdrive sound that is sent through the flanger and the overdrive sound that is not sent through the flanger. With a setting of “D100:0W,” only the overdrive sound will be output. With a setting of “D0:100W,” only the overdrive sound that is sent through the flanger will be output. |
| Level     | 0–127               | Adjusts the output level.                                                                                                                                                                                                                                                                                                          |

## 29: OD→Delay (Overdrive →Delay)

This effect connects an overdrive and a delay in series.



| Parameter | Value                    | Description                                                                                                                                                                        |
|-----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Od Drive  | 0–127                    | Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.                                                                         |
| Od Panpot | L64–63R                  | Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.                                                                            |
| Time      | 0–500 [ms]               | Adjusts the time delay from when the direct sound begins until the delay sound is heard.                                                                                           |
| 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],<br>Bypass | Adjusts the frequency above which delayed sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feed-back, set this parameter to bypass. |

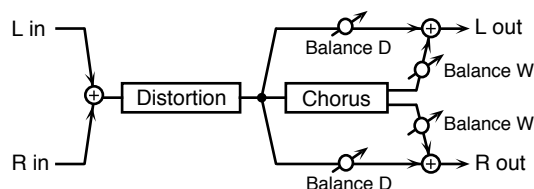
| Parameter | Value               | Description                                                                                                                                                                                                                                                                                                                  |
|-----------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Balance   | D100:0W–<br>D0:100W | Adjusts the volume balance between the overdrive sound that is sent through the delay and the overdrive sound that is not sent through the delay. With a setting of “D100:0W,” only the overdrive sound will be output. With a setting of “D0:100W,” only the overdrive sound that is sent through the delay will be output. |
| Level     | 0–127               | Adjusts the output level.                                                                                                                                                                                                                                                                                                    |

## 30: DST→ Cho (Distortion →Chorus)

This effect connects distortion and chorus in series. The parameters are essentially the same as “27: OD→Chorus,” with the exception of the following two.

OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Panpot→Dist Panpot (Specifies the stereo location of the distortion sound.)

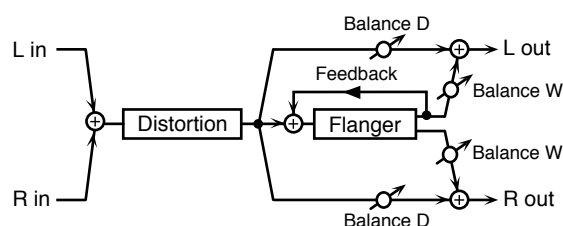


## 31: DST→ Flanger

This effect connects distortion and flanger in series. The parameters are essentially the same as in “28: OD→Flanger,” with the exception of the following two.

OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Panpot→Dist Panpot (Specifies the stereo location of the distortion sound.)

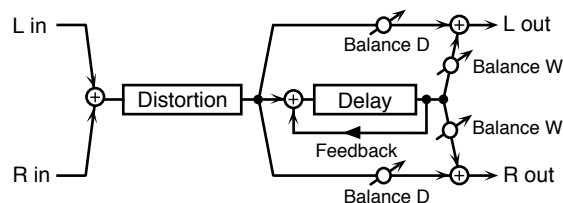


## 32: DST→ Delay (Distortion→Delay)

The parameters are essentially the same as in “29: OD→Delay” with the exception of the following two.

OD Drive→ Dist Drive (Specifies the amount of distortion.)

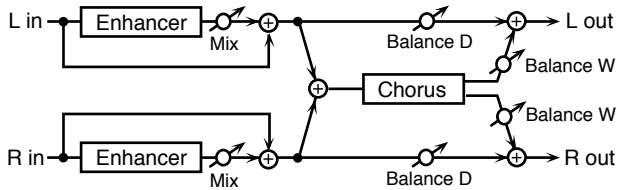
OD Panpot→Dist Panpot (Specifies the stereo location of the distortion sound.)





### 33: EH→ Chorus (Enhancer→Chorus)

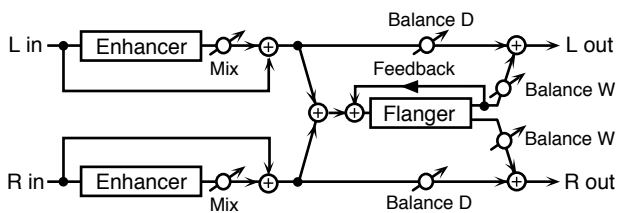
This effect connects an enhancer and a chorus in series.



| Parameter     | Value           | Description                                                                                                                                                                                                                                                                                                                 |
|---------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enh Sens      | 0–127           | Adjusts the sensitivity of the enhancer.                                                                                                                                                                                                                                                                                    |
| Enh Mix Level | 0–127           | Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.                                                                                                                                                                                                                    |
| Pre Delay     | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the chorus sound is heard.                                                                                                                                                                                                                                   |
| Rate          | 0.05–10.00 [Hz] | Adjusts the modulation speed of the chorus effect.                                                                                                                                                                                                                                                                          |
| Depth         | 0–127           | Adjusts the modulation depth of the chorus effect.                                                                                                                                                                                                                                                                          |
| Balance       | D100:0W–D0:100W | Adjusts the volume balance between the enhancer sound that is sent through the chorus and the enhancer sound that is not sent through the chorus. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the chorus will be output. |
| Level         | 0–127           | Adjusts the output level.                                                                                                                                                                                                                                                                                                   |

### 34: EH→ Flanger (Enhancer→Flanger)

This effect connects an enhancer and a flanger in series.

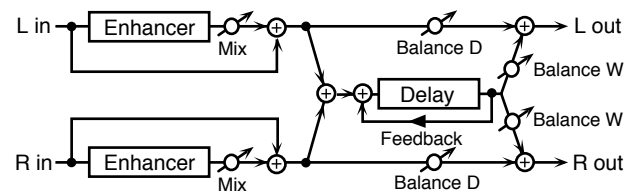


| Parameter     | Value           | Description                                                                                              |
|---------------|-----------------|----------------------------------------------------------------------------------------------------------|
| Enh Sens      | 0–127           | Adjusts the sensitivity of the enhancer.                                                                 |
| Enh Mix Level | 0–127           | Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound. |
| Pre Delay     | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the flanger sound is heard.               |
| Rate          | 0.05–10.00 [Hz] | Adjusts the modulation speed of the flanger effect.                                                      |
| Depth         | 0–127           | Adjusts the modulation depth of the flanger effect.                                                      |

| Parameter | Value           | Description                                                                                                                                                                                                                                                                                                                    |
|-----------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feedback  | -98– +98 [%]    | Adjusts the proportion (%) of the flanger sound that is feedback into the effect. Negative (-) settings will invert the phase.                                                                                                                                                                                                 |
| Balance   | D100:0W–D0:100W | Adjusts the volume balance between the enhancer sound that is sent through the flanger and the enhancer sound that is not sent through the flanger. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the flanger will be output. |
| Level     | 0–127           | Adjusts the output level.                                                                                                                                                                                                                                                                                                      |

### 35: EH→ Delay (Enhancer→Delay)

This effect connects an enhancer and a delay in series.

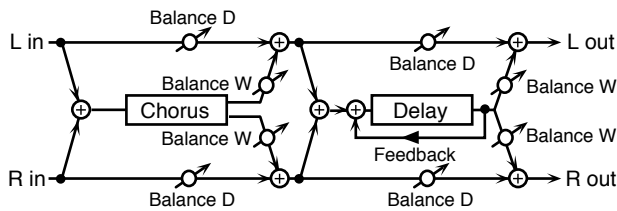


| Parameter     | Value                 | Description                                                                                                                                                                                                                                                                                                              |
|---------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enh Sens      | 0–127                 | Adjusts the sensitivity of the enhancer.                                                                                                                                                                                                                                                                                 |
| Enh Mix Level | 0–127                 | Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.                                                                                                                                                                                                                 |
| Time          | 0–500 [ms]            | Adjusts the time delay from when the direct sound begins until the delay sound is heard.                                                                                                                                                                                                                                 |
| Feedback      | 98– +98 [%]           | Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.                                                                                                                                                                                        |
| HF Damp       | 200–8000 [Hz], Bypass | Adjusts the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to bypass.                                                                                                                             |
| Balance       | D100:0W–D0:100W       | Adjusts the volume balance between the enhancer sound that is sent through the delay and the enhancer sound that is not sent through the delay. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the delay will be output. |
| Level         | 0–127                 | Adjusts the output level.                                                                                                                                                                                                                                                                                                |



### 36: Cho→ DLY (Chorus→Delay)

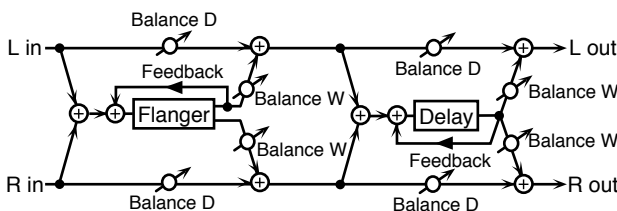
This effect connects a chorus and a delay unit in series.



| Parameter     | Value                 | Description                                                                                                                                                                                                                                                                                                      |
|---------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cho Pre Delay | 0.0–100 [ms]          | Adjusts the time delay from when the direct sound begins until the chorus sound is heard.                                                                                                                                                                                                                        |
| Cho Rate      | 0.05–10.00 [Hz]       | Adjusts the modulation speed of the chorus effect.                                                                                                                                                                                                                                                               |
| Cho Depth     | 0–127                 | Adjusts the modulation depth of the chorus effect.                                                                                                                                                                                                                                                               |
| Cho Balance   | D100:0W–D0:100W       | Adjusts the volume balance between the direct sound and the chorus sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the chorus sound will be output.                                                                                                  |
| Dly Time      | 0–500 [ms]            | Adjusts the time delay from when the direct sound begins until the delay sound is heard.                                                                                                                                                                                                                         |
| Dly Feedback  | –98– +98 [%]          | Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (–) settings will invert the phase.                                                                                                                                                                                |
| Dly HF Damp   | 200–8000 [Hz], Bypass | Adjusts the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to bypass.                                                                                                                           |
| Dly Balance   | D100:0W–D0:100W       | Adjusts the volume balance between the chorus sound that is sent through the delay and the chorus sound that is not sent through the delay. With a setting of "D100:0W," only the chorus sound will be output. With a setting of "D0:100W," only the chorus sound that is sent through the delay will be output. |
| Level         | 0–127                 | Adjusts the output level.                                                                                                                                                                                                                                                                                        |

### 37: Flgr→ DLY (Flanger→Delay)

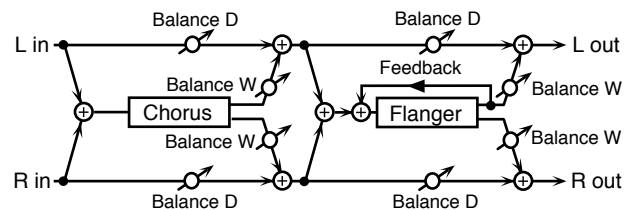
This effect connects a flanger and a delay unit in series.



| Parameter     | Value                 | Description                                                                                                                                                                                                                                                                                                          |
|---------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flg Pre Delay | 0.0–100 [ms]          | Adjusts the time delay from when the direct sound begins until the flanger sound is heard.                                                                                                                                                                                                                           |
| Flg Rate      | 0.05–10.00 [Hz]       | Adjusts the modulation speed of the flanger effect.                                                                                                                                                                                                                                                                  |
| Flg Depth     | 0–127                 | Adjusts the modulation depth of the flanger effect.                                                                                                                                                                                                                                                                  |
| Flg Feedback  | –98– +98 [%]          | Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.                                                                                                                                                                                       |
| Flg Balance   | D100:0W–D0:100W       | Adjusts the volume balance between the direct sound and the flanger sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the flanger sound will be output.                                                                                                    |
| Dly Time      | 0–500 [ms]            | Adjusts the time delay from when the direct sound begins until the delay sound is heard.                                                                                                                                                                                                                             |
| Dly Feedback  | –98– +98 [%]          | Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (–) settings will invert the phase.                                                                                                                                                                                    |
| Dly HF Damp   | 200–8000 [Hz], Bypass | Adjusts the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to bypass.                                                                                                                         |
| Dly Balance   | D100:0W–D0:100W       | Adjusts the volume balance between the flanger sound that is sent through the delay and the flanger sound that is not sent through the delay. With a setting of "D100:0W," only the flanger sound will be output. With a setting of "D0:100W," only the flanger sound that is sent through the delay will be output. |
| Level         | 0–127                 | Adjusts the output level.                                                                                                                                                                                                                                                                                            |

### 38: CHO→ Flgr (Chorus→Flanger)

This effect connects a chorus and a flanger in series.

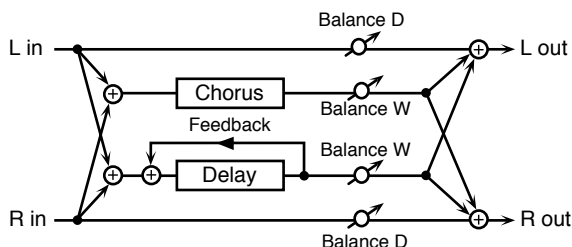


| Parameter     | Value           | Description                                                                               |
|---------------|-----------------|-------------------------------------------------------------------------------------------|
| Cho Pre Delay | 0.0–100 [ms]    | Adjusts the time delay from when the direct sound begins until the chorus sound is heard. |
| Cho Rate      | 0.05–10.00 [Hz] | Adjusts the modulation speed of the chorus effect.                                        |
| Cho Depth     | 0–127           | Adjusts the modulation depth of the chorus effect.                                        |

| Parameter     | Value               | Description                                                                                                                                                                                                                                                                        |
|---------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cho Balance   | D100:0W–<br>D0:100W | Adjusts the volume balance between the direct sound and the chorus sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the chorus sound will be output.                                                                    |
| Flg Pre Delay | 0.0–100 [ms]        | Adjusts the time delay from when the direct sound begins until the flanger sound is heard.                                                                                                                                                                                         |
| Flg Rate      | 0.05–10.00 [Hz]     | Adjusts the modulation speed of the flanger effect.                                                                                                                                                                                                                                |
| Flg Depth     | 0–127               | Adjusts the modulation depth of the flanger effect.                                                                                                                                                                                                                                |
| Flg Feedback  | –98– +98 [%]        | Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (–) settings will invert the phase.                                                                                                                                                     |
| Flg Balance   | D100:0W–<br>D0:100W | Adjusts the volume balance between the chorus sound and the chorus sound that is passed through the flanger. With a setting of "D100:0W," only the chorus sound will be output. With a setting of "D0:100W," only the chorus sound that passes through the flanger will be output. |
| Level         | 0–127               | Adjusts the output level.                                                                                                                                                                                                                                                          |

### 39: CHO/DLY (Chorus/Delay)

This effect connects a chorus and a delay in parallel. The parameters are the same as for "36: Cho→DLY." However, the Dly Balance parameter adjusts the volume balance between the direct sound and the delay sound.



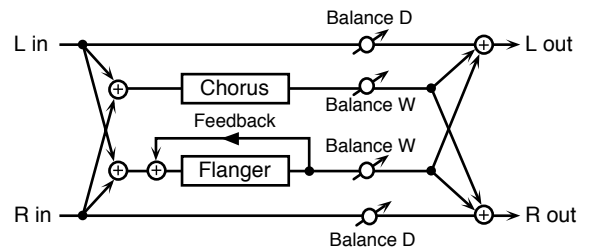
### 40: Flgr/DLY (Flanger/Delay)

This effect connects a flanger and a delay in parallel. The parameters are the same as for "37: Flgr→DLY." However, the Dly Balance parameter adjusts the volume balance between the direct sound and the delay sound.

### 41: CHO/Flgr (Chorus/Flanger)

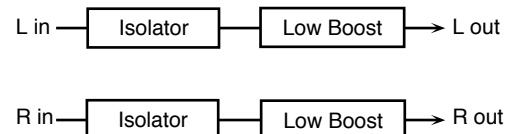
This effect connects a chorus and a flanger in parallel. The parameters are the same as for "38: CHO→Flgr." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.

This effect connects a chorus and a flanger in parallel.



### 42: Isolator

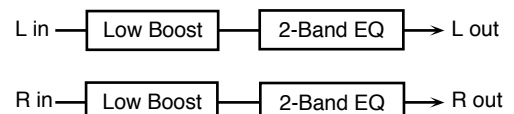
This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.



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

### 43: Low Boost

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

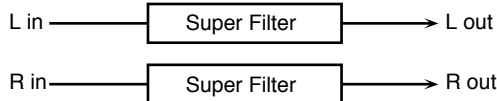


| Parameter  | Value     | Description                                                |
|------------|-----------|------------------------------------------------------------|
| Boost Freq | 50–125 Hz | Center frequency at which the lower range will be boosted. |
| Boost Gain | 0– +12 dB | Amount by which the lower range will be boosted.           |

| Parameter    | Value             | Description                                    |
|--------------|-------------------|------------------------------------------------|
| Boost Width  | Wide, Mid, Narrow | Width of the lower range that will be boosted. |
| Eq Low Gain  | -15– +15 dB       | Gain of the low frequency range.               |
| Eq High Gain | -15– +15 dB       | Gain of the high frequency range.              |
| Level        | 0–127             | Output level.                                  |

### 44: Super Filter

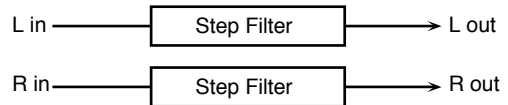
This is a filter with an extremely sharp slope. The cutoff frequency can be varied cyclically.



| Parameter     | Value                     | Description                                                                                                                                                                                                                                                                |
|---------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type   | LPF, BPF, HPF, NOTCH      | Frequency range that will pass through each filter<br><b>LPF</b> : frequencies below the cutoff.<br><b>BPF</b> : frequencies in the region of the cutoff.<br><b>HPF</b> : frequencies above the cutoff.<br><b>NOTCH</b> : frequencies other than the region of the cutoff. |
| Filter Slope  | -12, -24, -36 dB          | Amount of attenuation per octave -36 dB: extremely steep -24 dB: steep -12 dB: gentle.                                                                                                                                                                                     |
| Filter Cutoff | 0–127                     | Cutoff frequency of the filter Increasing this value will raise the cut-off frequency.                                                                                                                                                                                     |
| Filter Reso   | 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.                                                                                                                                                                                                                                     |
| Modul Switch  | Off, On                   | On/off switch for cyclic change.                                                                                                                                                                                                                                           |
| Modul Wave    | TRI, SQR, SIN, SAW1, SAW2 | How the cutoff frequency will be modulated<br><b>TRI</b> : triangle wave.<br><b>SQR</b> : square wave <b>SIN</b> : sine wave.<br><b>SAW1</b> : sawtooth wave (upward).<br><b>SAW2</b> : sawtooth wave (downward).                                                          |
|               |                           |                                                                                                                                                                                                                                                                            |
| Rate (Sync)   | Hz, Note                  | Rate of modulation.                                                                                                                                                                                                                                                        |
| Rate (Hz)     | 0.05–10.00 Hz             |                                                                                                                                                                                                                                                                            |
| Rate (Note)   | note *2                   |                                                                                                                                                                                                                                                                            |
| Depth         | 0–127                     | Depth of modulation.                                                                                                                                                                                                                                                       |
| Attack        | 0–127                     | Speed at which the cutoff frequency will change This is effective if Modulation Wave is SQR, SAW1, or SAW2.                                                                                                                                                                |
| Level         | 0–127                     | Output level.                                                                                                                                                                                                                                                              |

### 45: Step Filter

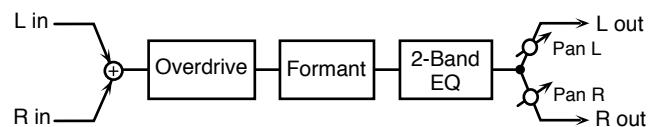
This is a filter whose cutoff frequency can be modulated in steps. You can specify the pattern by which the cutoff frequency will change.



| Parameter    | Value                | Description                                                                                                                                                                                                                                                                            |
|--------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 1–16    | 0–127                | Cutoff frequency at each step.                                                                                                                                                                                                                                                         |
| Rate (Sync)  | Hz, Note             | Rate of modulation.                                                                                                                                                                                                                                                                    |
| Rate (Hz)    | 0.05–10.00 Hz        |                                                                                                                                                                                                                                                                                        |
| Rate (Note)  | note *2              |                                                                                                                                                                                                                                                                                        |
| 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<br><b>LPF</b> : frequencies below the cutoff.<br><b>BPF</b> : frequencies in the region of the cutoff.<br><b>HPF</b> : frequencies above the cutoff.<br><b>NOTCH</b> : 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 Reso  | 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.                                                                                                                                                                                                                                                                          |

### 46: Humanizer

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

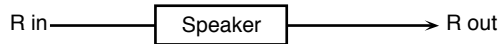
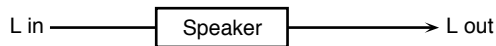


| Parameter    | Value         | Description                                                                                         |
|--------------|---------------|-----------------------------------------------------------------------------------------------------|
| Drive Switch | Off, On       | 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 (Sync)  | Hz, Note      | Frequency/Note at which the two vowels switch.                                                      |
| Rate (Hz)    | 0.05–10.00 Hz |                                                                                                     |
| Rate (Note)  | note *2       |                                                                                                     |
| Depth        | 0–127         | Effect depth.                                                                                       |
| In Sync Sw   | Off, On       | Determines whether the LFO for switching the vowels is reset by the input signal (On) or not (Off). |
| In Sync Thrs | 0–127         | Volume level at which reset is applied.                                                             |

| Parameter    | Value       | Description                                                                                                                                                                    |
|--------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manual       | 0–100       | Point at which Vowel 1/2 switch 49 or less: Vowel 1 will have a longer duration. 50: Vowel 1 and 2 will be of equal duration. 51 or more: Vowel 2 will have a longer duration. |
| Eq Low Gain  | -15– +15 dB | Gain of the low frequency range.                                                                                                                                               |
| Eq High Gain | -15– +15 dB | Gain of the high frequency range.                                                                                                                                              |
| Panpot       | L64–63R     | Stereo location of the output.                                                                                                                                                 |
| Level        | 0–127       | Output level.                                                                                                                                                                  |

## 47: Speaker Simulator

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



| Parameter    | Value                  | Description                                                                                                                                                                      |
|--------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type         | (See the table below.) | 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.                                                                                                                                                                    |

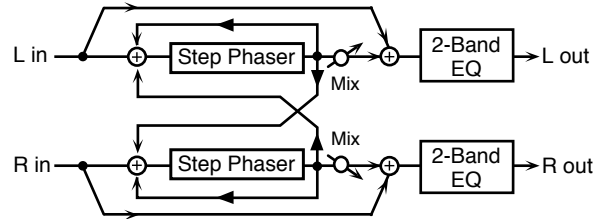
## Specifications of each Speaker Type

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 Stk  | 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  |

## 48: Step Phaser

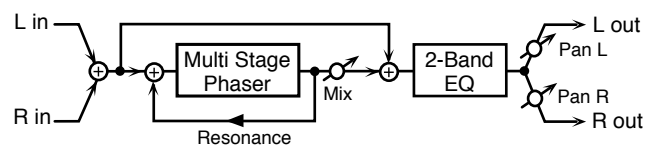
The phaser effect will be varied gradually.



| Parameter    | Value                      | Description                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mode         | 4-Stage, 8-Stage, 12-Stage | Number of stages in the phaser.                                                                                                                                                                                                                                                                                        |
| Manual       | 0–127                      | Adjusts the basic frequency from which the sound will be modulated.                                                                                                                                                                                                                                                    |
| Rate (Sync)  | Hz, Note                   | Frequency of modulation.                                                                                                                                                                                                                                                                                               |
| Rate (Hz)    | 0.05–10.00 Hz              |                                                                                                                                                                                                                                                                                                                        |
| Rate (Note)  | note *2                    |                                                                                                                                                                                                                                                                                                                        |
| 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.<br><b>Inverse:</b> The left and right phase will be opposite. When using a mono source, this spreads the sound.<br><b>Synchro:</b> The left and right phase will be the same. Select this when inputting a stereo source. |
| Resonance    | 0–127                      | Amount of feedback.                                                                                                                                                                                                                                                                                                    |
| Cross FBK    | -98– +98 %                 | Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.                                                                                                                                                                                              |
| SRate (Sync) | Hz, Note                   | Rate of the step-wise change in the phaser effect.                                                                                                                                                                                                                                                                     |
| SRate (Hz)   | 0.05–20.00 Hz              |                                                                                                                                                                                                                                                                                                                        |
| SRate (Note) | note *2                    |                                                                                                                                                                                                                                                                                                                        |
| Mix Level    | 0–127                      | Level of the phase-shifted sound.                                                                                                                                                                                                                                                                                      |
| Eq Low Gain  | -15– +15 dB                | Gain of the low range.                                                                                                                                                                                                                                                                                                 |
| Eq High Gain | -15– +15 dB                | Gain of the high range.                                                                                                                                                                                                                                                                                                |
| Level        | 0–127                      | Output Level.                                                                                                                                                                                                                                                                                                          |

## 49: MLT Phaser (Multi Stage Phaser)

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

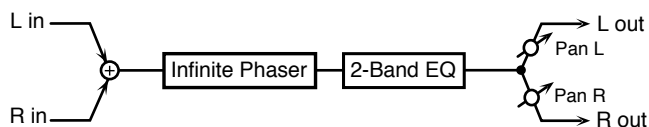


## MFX types and parameters

| Parameter    | Value                                                                   | Description                                                         |
|--------------|-------------------------------------------------------------------------|---------------------------------------------------------------------|
| Mode         | 4-Stage,<br>8-Stage,<br>12-Stage,<br>16-Stage,<br>20-Stage,<br>24-Stage | Number of phaser stages.                                            |
| Manual       | 0–127                                                                   | Adjusts the basic frequency from which the sound will be modulated. |
| Rate (Sync)  | Hz, Note                                                                | Frequency of modulation.                                            |
| Rate (Hz)    | 0.05–10.00 Hz                                                           |                                                                     |
| Rate (Note)  | note *2                                                                 |                                                                     |
| Depth        | 0–127                                                                   | Depth of modulation.                                                |
| Resonance    | 0–127                                                                   | Amount of feedback.                                                 |
| Mix Level    | 0–127                                                                   | Level of the phase-shifted sound.                                   |
| Panpot       | L64–63R                                                                 | Stereo location of the output sound.                                |
| Eq Low Gain  | -15– +15 dB                                                             | Gain of the low range.                                              |
| Eq High Gain | -15– +15 dB                                                             | Gain of the high range.                                             |
| Level        | 0–127                                                                   | Output Level.                                                       |

### 50: INF Phaser (Infinite Phaser)

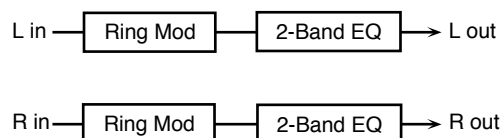
A phaser that continues raising/lowering the frequency at which the sound is modulated.



| Parameter    | Value       | Description                                                                                               |
|--------------|-------------|-----------------------------------------------------------------------------------------------------------|
| 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 Level    | 0–127       | Volume of the phase-shifted sound.                                                                        |
| Panpot       | L64–63R     | Panning of the output sound.                                                                              |
| Eq Low Gain  | -15– +15 dB | Amount of boost/cut for the low-frequency range.                                                          |
| Eq High Gain | -15– +15 dB | Amount of boost/cut for the high-frequency range.                                                         |
| Level        | 0–127       | Output volume.                                                                                            |

### 51: Ring Modul (Ring Modulator)

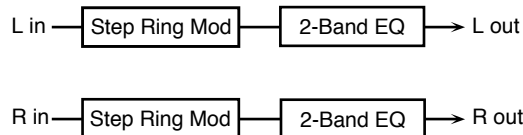
This is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency in response to changes in the volume of the sound sent into the effect.



| Parameter    | Value               | Description                                                                                                    |
|--------------|---------------------|----------------------------------------------------------------------------------------------------------------|
| 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). |
| Eq Low Gain  | -15– +15 dB         | Gain of the low frequency range.                                                                               |
| Eq High Gain | -15– +15 dB         | Gain of the high frequency range.                                                                              |
| Balance      | D100:0W–<br>D0:100W | Volume balance between the direct sound (D) and the effect sound (W).                                          |
| Level        | 0–127               | Output level.                                                                                                  |

### 52: Step Ring (Step Ring Modulator)

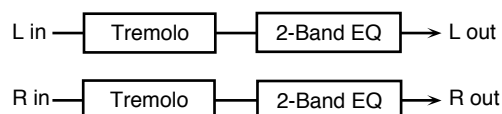
This is a ring modulator that uses a 16-step sequence to vary the frequency at which modulation is applied.



| Parameter    | Value               | Description                                                    |
|--------------|---------------------|----------------------------------------------------------------|
| Step 1–16    | 0–127               | Frequency of ring modulation at each step.                     |
| Rate (Sync)  | Hz, Note            | Rate at which the 16-step sequence will cycle.                 |
| Rate (Hz)    | 0.05–10.00 Hz       |                                                                |
| Rate (Note)  | note *2             |                                                                |
| Attack       | 0–127               | Speed at which the modulation frequency changes between steps. |
| Eq Low Gain  | -15– +15 dB         | Amount of boost/cut for the low-frequency range.               |
| Eq High Gain | -15– +15 dB         | Amount of boost/cut for the high-frequency range.              |
| Balance      | D100:0W–<br>D0:100W | Volume balance of the original sound (D) and effect sound (W). |
| Level        | 0–127               | Output volume.                                                 |

### 53: Tremolo

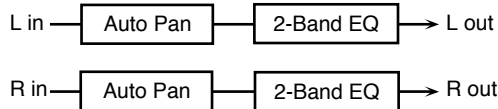
Cyclically modulates the volume to add tremolo effect to the sound.

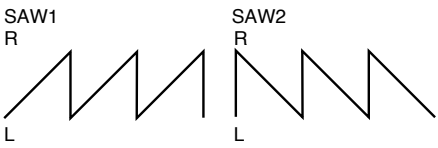


| Parameter    | Value                     | Description                                                                                              |
|--------------|---------------------------|----------------------------------------------------------------------------------------------------------|
| Wave         | TRI, SQR, SIN, SAW1, SAW2 | Modulation Wave<br>TRI: triangle wave.<br>SQR: square wave.<br>SIN: sine wave.<br>SAW1/2: sawtooth wave. |
|              | SAW1 SAW2                 |                         |
| Rate (Sync)  | Hz, Note                  | Frequency of the change.                                                                                 |
| Rate (Hz)    | 0.05–10.00 Hz             |                                                                                                          |
| Rate (Note)  | note *2                   |                                                                                                          |
| Depth        | 0–127                     | Depth to which the effect is applied.                                                                    |
| Eq Low Gain  | -15– +15 dB               | Gain of the low range.                                                                                   |
| Eq High Gain | -15– +15 dB               | Gain of the high range.                                                                                  |
| Level        | 0–127                     | Output Level.                                                                                            |

## 54: Auto Pan

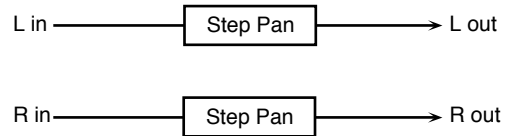
Cyclically modulates the stereo location of the sound.



| Parameter    | Value                     | Description                                                                                              |
|--------------|---------------------------|----------------------------------------------------------------------------------------------------------|
| Wave         | TRI, SQR, SIN, SAW1, SAW2 | Modulation Wave<br>TRI: triangle wave.<br>SQR: square wave.<br>SIN: sine wave.<br>SAW1/2: sawtooth wave. |
|              | SAW1 R SAW2 R             |                       |
| Rate (Sync)  | Hz, Note                  | Frequency of the change.                                                                                 |
| Rate (Hz)    | 0.05–10.00 Hz             |                                                                                                          |
| Rate (Note)  | note *2                   |                                                                                                          |
| Depth        | 0–127                     | Depth to which the effect is applied.                                                                    |
| Eq Low Gain  | -15– +15 dB               | Gain of the low range.                                                                                   |
| Eq High Gain | -15– +15 dB               | Gain of the high range.                                                                                  |
| Level        | 0–127                     | Output Level.                                                                                            |

## 55: Step Pan

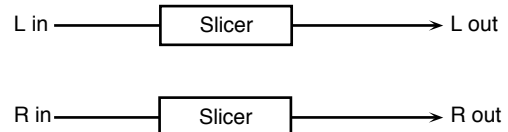
This uses a 16-step sequence to vary the panning of the sound.



| Parameter    | Value         | Description                                                                                                              |
|--------------|---------------|--------------------------------------------------------------------------------------------------------------------------|
| Step 1–16    | L64–63R       | Pan at each step.                                                                                                        |
| Rate (Sync)  | Hz, Note      | Rate at which the 16-step sequence will cycle.                                                                           |
| Rate (Hz)    | 0.05–10.00 Hz |                                                                                                                          |
| Rate (Note)  | note *2       |                                                                                                                          |
| Attack       | 0–127         | Speed at which the pan changes between steps.                                                                            |
| In Sync Sw   | Off, On       | Specifies whether an input note will cause the sequence to resume from the first step of the sequence (On) or not (Off). |
| In Sync Thrs | 0–127         | Volume at which an input note will be detected.                                                                          |
| Level        | 0–127         | Output volume.                                                                                                           |

## 56: Slicer

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



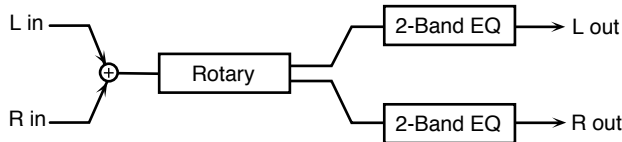
| Parameter    | Value         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Step 1–16    | 0–127         | Level at each step                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Rate (Sync)  | Hz, Note      | Rate at which the 16-step sequence will cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Rate (Hz)    | 0.05–10.00 Hz |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Rate (Note)  | note *2       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Attack       | 0–127         | Speed at which the level changes between steps                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| In Sync Sw   | Off, On       | Specifies whether an input note will cause the sequence to resume from the first step of the sequence (On) or not (Off)                                                                                                                                                                                                                                                                                                                                                                      |
| In Sync Thrs | 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.<br><b>Legato:</b> 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.<br><b>Slash:</b> The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step. |
| Shuffle      | 0–127         | Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6...). The higher the value, the later the beat progresses.                                                                                                                                                                                                                                                                                                                                                 |
| Level        | 0–127         | Output level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |



### 57: VK Rotary

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

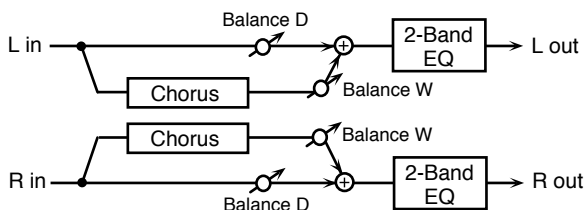
This effect features the same specifications as the VK-7's built-in rotary speaker.



| Parameter    | Value         | Description                                                                                                                                                       |
|--------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
| WF Slow      | 0.05–10.00 Hz | Low-speed rotation speed of the woofer                                                                                                                            |
| WF Fast      | 0.05–10.00 Hz | High-speed rotation speed of the woofer                                                                                                                           |
| WF Trans UP  | 0–127         | Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.                                                          |
| WF Trans DW  | 0–127         | Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.                                                          |
| WF Level     | 0–127         | Volume of the woofer                                                                                                                                              |
| TW Slow      | 0.05–10.00 Hz | Settings of the tweeter<br>The parameters are the same as for the woofer.                                                                                         |
| TW Fast      | 0.05–10.00 Hz |                                                                                                                                                                   |
| TW Trans UP  | 0–127         |                                                                                                                                                                   |
| TW Trans DW  | 0–127         |                                                                                                                                                                   |
| TW Level     | 0–127         |                                                                                                                                                                   |
| Spread       | 0–10          | Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.                                                                |
| Eq Low Gain  | -15– +15 dB   | Gain of the low range                                                                                                                                             |
| Eq High Gain | -15– +15 dB   | Gain of the high range                                                                                                                                            |
| Level        | 0–127         | Output Level                                                                                                                                                      |

### 58: 3D Chorus

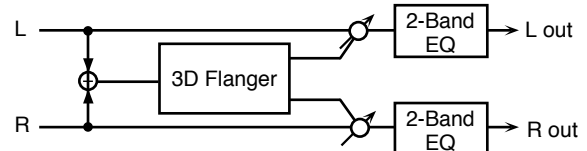
This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



| Parameter    | Value           | Description                                                                                                                                                                                                       |
|--------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type  | OFF, LPF, HPF   | Type of filter<br><b>OFF:</b> no filter is used<br><b>LPF:</b> cuts the frequency range above the Cutoff Freq<br><b>HPF:</b> 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 (Sync)  | Hz, Note        | Frequency of modulation                                                                                                                                                                                           |
| Rate (Hz)    | 0.05–10.00 Hz   |                                                                                                                                                                                                                   |
| Rate (Note)  | note *2         |                                                                                                                                                                                                                   |
| Depth        | 0–127           | Depth of modulation                                                                                                                                                                                               |
| Phase        | 0–180 deg       | Spatial spread of the sound                                                                                                                                                                                       |
| Out Mode     | Speaker, Phones | Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select "Speaker" when using speakers, or "Phones" when using headphones. |
| Eq Low Gain  | -15– +15 dB     | Gain of the low range                                                                                                                                                                                             |
| Eq 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                                                                                                                                                                                                      |

### 59: 3D Flanger

This applies a 3D effect to the flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.

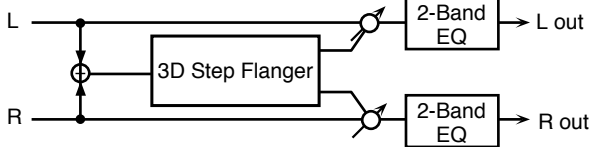


| Parameter   | Value         | Description                                                                                                                                                                    |
|-------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type | OFF, LPF, HPF | Type of filter<br><b>OFF:</b> no filter is used.<br><b>LPF:</b> cuts the frequency range above the Cutoff Freq.<br><b>HPF:</b> 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 (Sync) | Hz, Note      | Frequency of modulation.                                                                                                                                                       |
| Rate (Hz)   | 0.05–10.00 Hz |                                                                                                                                                                                |
| Rate (Note) | note *2       |                                                                                                                                                                                |
| 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.                                                     |

| Parameter    | Value               | Description                                                                                                                                                                                                     |
|--------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Out Mode     | Speaker, Phones     | Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using head- phones. |
| Eq Low Gain  | -15– +15 dB         | Gain of the low range.                                                                                                                                                                                          |
| Eq High Gain | -15– +15 dB         | Gain of the high range.                                                                                                                                                                                         |
| Balance      | D100:0W–<br>D0:100W | Volume balance between the direct sound (D) and the flanger sound (W).                                                                                                                                          |
| Level        | 0–127               | Output Level.                                                                                                                                                                                                   |

## 60: 3D Step Flgr (3D Step Flanger)

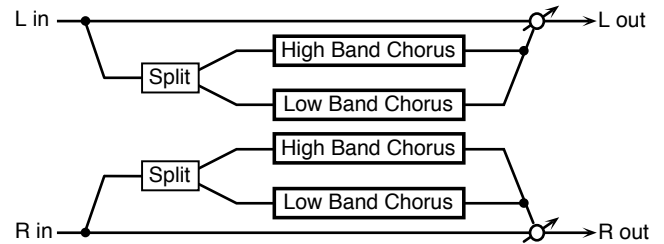
This applies a 3D effect to the step flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.



| Parameter    | Value               | Description                                                                                                                                                                                                         |
|--------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Filter Type  | OFF, LPF, HPF       | Type of filter<br><b>OFF</b> : no filter is used.<br><b>LPF</b> : cuts the frequency range above the Cutoff Freq.<br><b>HPF</b> : 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 (Sync)  | Hz, Note            | Frequency of modulation.                                                                                                                                                                                            |
| Rate (Hz)    | 0.05–10.00 Hz       |                                                                                                                                                                                                                     |
| Rate (Note)  | note *2             |                                                                                                                                                                                                                     |
| 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.                                                                                          |
| SRate (Sync) | Hz, Note            | Rate (period) of pitch change                                                                                                                                                                                       |
| SRate (Hz)   | 0.05–20.00 Hz       |                                                                                                                                                                                                                     |
| SRate (Note) | note *2             |                                                                                                                                                                                                                     |
| Out Mode     | Speaker, Phones     | Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select "Speaker" when using speakers, or "Phones" when using head- phones. |
| Eq Low Gain  | -15– +15 dB         | Gain of the low range.                                                                                                                                                                                              |
| Eq High Gain | -15– +15 dB         | Gain of the high range.                                                                                                                                                                                             |
| Balance      | D100:0W–<br>D0:100W | Volume balance between the direct sound (D) and the flanger sound (W).                                                                                                                                              |
| Level        | 0–127               | Output Level.                                                                                                                                                                                                       |

## 61: Band Chorus

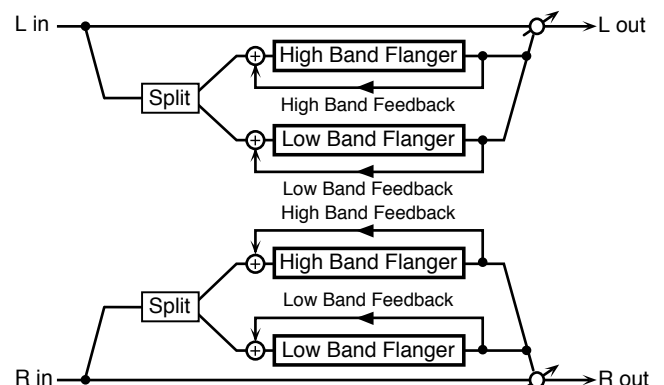
A chorus effect that lets you apply an effect independently to the low-frequency and high-frequency ranges.



| Parameter     | Value               | Description                                                                                    |
|---------------|---------------------|------------------------------------------------------------------------------------------------|
| Split Freq    | 200–8000 Hz         | Frequency at which the low and high ranges will be divided.                                    |
| Lo Pre Delay  | 0.0–100.0 ms        | Delay time from when the original sound is heard to when the low-range chorus sound is heard.  |
| Lo Rate(Sync) | Hz, Note            | Rate at which the low-range chorus sound is modulated.                                         |
| Lo Rate(Hz)   | 0.05–10.00 Hz       |                                                                                                |
| Lo Rate(Note) | note *2             |                                                                                                |
| Lo Depth      | 0–127               | Modulation depth for the low-range chorus sound.                                               |
| Lo Phase      | 0–180 deg           | Spaciousness of the low-range chorus sound.                                                    |
| Hi Pre Delay  | 0.0–100.0 ms        | Delay time from when the original sound is heard to when the high-range chorus sound is heard. |
| Hi Rate(Sync) | Hz, Note            | Rate at which the low-range chorus sound is modulated.                                         |
| Hi Rate(Hz)   | 0.05–10.00 Hz       |                                                                                                |
| Hi Rate(Note) | note *2             |                                                                                                |
| Hi Depth      | 0–127               | Modulation depth for the high-range chorus sound.                                              |
| Hi Phase      | 0–180 deg           | Spaciousness of the high-range chorus sound.                                                   |
| Balance       | D100:0W–<br>D0:100W | Volume balance of the original sound (D) and chorus sound (W).                                 |
| Level         | 0–127               | Output volume.                                                                                 |

## 62: Band Flgr (Band Flanger)

A flanger that lets you apply an effect independently to the low frequency and high-frequency ranges.

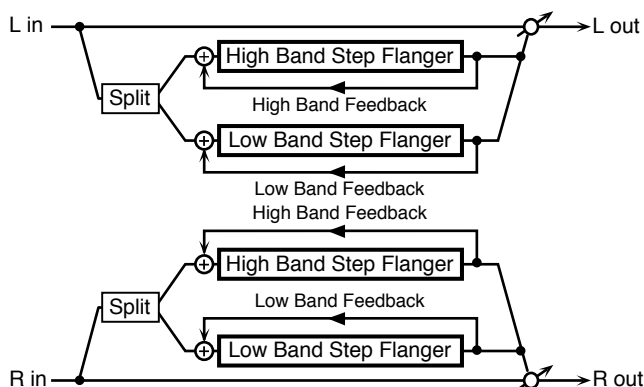


## MFX types and parameters

| Parameter     | Value           | Description                                                                                                          |
|---------------|-----------------|----------------------------------------------------------------------------------------------------------------------|
| Split Freq    | 200–8000 Hz     | Frequency at which the low and high ranges will be divided.                                                          |
| Lo Pre Delay  | 0.0–100.0 ms    | Delay time from when the original sound is heard to when the low-range flanger sound is heard.                       |
| Lo Rate(Sync) | Hz, Note        | Rate at which the low-range flanger sound is modulated.                                                              |
| Lo Rate(Hz)   | 0.05–10.00 Hz   |                                                                                                                      |
| Lo Rate(Note) | note *2         |                                                                                                                      |
| Lo Depth      | 0–127           | Modulation depth for the low-range flanger sound.                                                                    |
| Lo Phase      | 0–180 deg       | Spaciousness of the low-range flanger sound.                                                                         |
| Lo Feedback   | -98– +98%       | Proportion of the low-range flanger sound that is to be re- turned to the input (negative values invert the phase).  |
| Hi Pre Delay  | 0.0–100.0 ms    | Delay time from when the original sound is heard to when the high-range flanger sound is heard.                      |
| Hi Rate(Sync) | Hz, Note        | Rate at which the high-range flanger sound is modulated.                                                             |
| Hi Rate(Hz)   | 0.05–10.00 Hz   |                                                                                                                      |
| Hi Rate(Note) | note *2         |                                                                                                                      |
| Hi Depth      | 0–127           | Modulation depth for the high-range flanger sound.                                                                   |
| Hi Phase      | 0–180 deg       | Spaciousness of the high-range flanger sound.                                                                        |
| Hi Feedback   | -98– +98%       | Proportion of the high-range flanger sound that is to be re- turned to the input (negative values invert the phase). |
| Balance       | D100:0W–D0:100W | Volume balance of the original sound (D) and flanger sound (W).                                                      |
| Level         | 0–127           | Output volume.                                                                                                       |

### 63: B. Step Flgr (2 Band Step Flanger)

A step flanger that lets you apply an effect independently to the low frequency and high-frequency ranges.

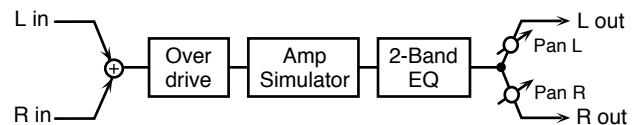


| Parameter     | Value         | Description                                                                                    |
|---------------|---------------|------------------------------------------------------------------------------------------------|
| Split Freq    | 200–8000 Hz   | Frequency at which the low and high ranges will be divided.                                    |
| Lo Pre Delay  | 0.0–100.0 ms  | Delay time from when the original sound is heard to when the low-range flanger sound is heard. |
| Lo Rate(Sync) | Hz, Note      | Rate at which the low-range flanger sound is modulated.                                        |
| Lo Rate(Hz)   | 0.05–10.00 Hz |                                                                                                |
| Lo Rate(Note) | note *2       |                                                                                                |
| Lo Depth      | 0–127         | Modulation depth for the low-range flanger sound.                                              |

| Parameter      | Value           | Description                                                                                                          |
|----------------|-----------------|----------------------------------------------------------------------------------------------------------------------|
| Lo Phase       | 0–180 deg       | Spaciousness of the low-range flanger sound.                                                                         |
| Lo Feedback    | -98– +98%       | Proportion of the low-range flanger sound that is to be re- turned to the input (negative values invert the phase).  |
| Lo Step(Sync)  | Hz, Note        | Rate at which the steps will cycle for the low-range flanger sound.                                                  |
| Lo Step(Hz)    | 0.10–20.00 Hz   |                                                                                                                      |
| Lo Step (Note) | note *2         |                                                                                                                      |
| Hi Pre Delay   | 0.0–100.0 ms    | Delay time from when the original sound is heard to when the high-range flanger sound is heard.                      |
| Hi Rate(Sync)  | Hz, Note        | Rate at which the high-range flanger sound is modulated.                                                             |
| Hi Rate(Hz)    | 0.05–10.00 Hz   |                                                                                                                      |
| Hi Rate(Note)  | note *2         |                                                                                                                      |
| Hi Depth       | 0–127           | Modulation depth for the high-range flanger sound.                                                                   |
| Hi Phase       | 0–180 deg       | Spaciousness of the high-range flanger sound.                                                                        |
| Hi Feedback    | -98– +98%       | Proportion of the high-range flanger sound that is to be re- turned to the input (negative values invert the phase). |
| Hi Step(Sync)  | Hz, Note        | Rate at which the steps will cycle for the high-range flanger sound.                                                 |
| Hi Step(Hz)    | 0.10–20.00 Hz   |                                                                                                                      |
| Hi Step (Note) | note *2         |                                                                                                                      |
| Balance        | D100:0W–D0:100W | Volume balance of the original sound (D) and flanger sound (W).                                                      |
| Level          | 0–127           | Output volume.                                                                                                       |

### 64: VS Overdrive

This is an overdrive that provides heavy distortion.



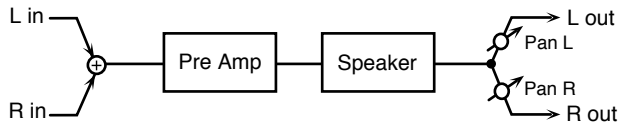
| Parameter    | Value                             | Description                                                                                                                                                                    |
|--------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drive        | 0–127                             | Degree of distortion Also changes the volume.                                                                                                                                  |
| Tone         | 0–127                             | Sound quality of the Overdrive effect.                                                                                                                                         |
| Amp Switch   | Off, On                           | Turns the Amp Simulator on/off.                                                                                                                                                |
| Amp Type     | Small, Built-In, 2-Stack, 3-Stack | Type of guitar amp<br><b>Small:</b> small amp.<br><b>Built-In:</b> single-unit type amp.<br><b>2-Stack:</b> large double stack amp.<br><b>3-Stack:</b> large triple stack amp. |
| Eq Low Gain  | -15– +15 dB                       | Gain of the low range.                                                                                                                                                         |
| Eq High Gain | -15– +15 dB                       | Gain of the high range.                                                                                                                                                        |
| Panpot       | L64–63R                           | Stereo location of the output sound.                                                                                                                                           |
| Level        | 0–127                             | Output Level.                                                                                                                                                                  |

### 65: VS Distortion

This is a distortion effect that provides heavy distortion. The parameters are the same as for "64: VS Overdrive".

## 66: GT Amp Simul

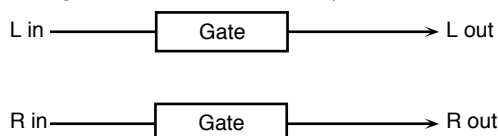
This is an effect that simulates the sound of a guitar amplifier.



| Parameter    | Value                                                                                                                                         | Description                                                                                                                                                                             |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Amp Switch   | 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     | 0–127                                                                                                                                         | Tone of the bass/mid/treble frequency range<br>* Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.                                                                 |
| Amp Middle   |                                                                                                                                               |                                                                                                                                                                                         |
| 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 "Specifications of each Speaker Type" p. 25.)                                                                                  | Type of speaker.                                                                                                                                                                        |
| Mic Setting  | 1, 2, 3                                                                                                                                       | Adjusts the location of the mic that's capturing the sound of the speaker. This can be adjusted in three steps, from 1 to 3, with the mic becoming more distant as the value increases. |
| Mic Level    | 0–127                                                                                                                                         | Volume of the microphone.                                                                                                                                                               |
| Direct Level | 0–127                                                                                                                                         | Volume of the direct sound.                                                                                                                                                             |
| Panpot       | L64–63R                                                                                                                                       | Stereo location of the output.                                                                                                                                                          |
| Level        | 0–127                                                                                                                                         | Output level.                                                                                                                                                                           |

## 67: Gate

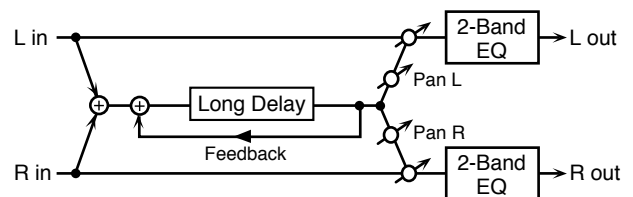
Cuts the reverb's delay according to the volume of the sound sent into the effect. Use this when you want to create an artificial sounding decrease in the reverb's decay.



| Parameter | Value           | Description                                                                                                                                                                                                                                               |
|-----------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold | 0–127           | Volume level at which the gate begins to close.                                                                                                                                                                                                           |
| Mode      | Gate, Duck      | Type of gate:<br><b>Gate:</b> The gate will close when the volume of the original sound decreases, cutting the original sound.<br><b>Duck (Ducking):</b> 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.                                                                                                                                                                                                                                             |

## 68: Long Delay

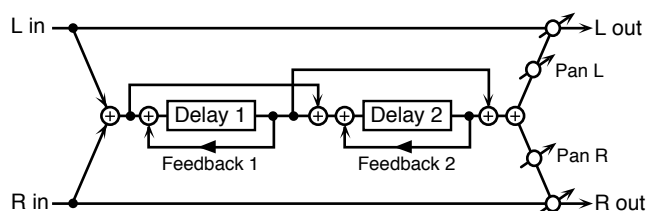
A delay that provides a long delay time.



| Parameter    | Value               | Description                                                                                                                                                                                                                                      |
|--------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay (Sync) | msec, Note          | Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Delay (msec) | 0–2600 ms           | Adjusts the time until the delay is heard.                                                                                                                                                                                                       |
| Delay (Note) | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                       |
| Phase        | Normal, Inverse     | Phase of the delay (Normal: non-inverted, Inverse: inverted).                                                                                                                                                                                    |
| Feedback     | -98– +98%           | Proportion of the delay sound that is to be returned to the input (negative values invert the phase).                                                                                                                                            |
| HF Damp      | 200–8000 Hz, Bypass | Frequency at which the high-frequency content of the delayed sound will be cut (Bypass: no cut).                                                                                                                                                 |
| Panpot       | L64–63R             | Panning of the delay sound.                                                                                                                                                                                                                      |
| Eq Low Gain  | -15– +15 dB         | Amount of boost/cut for the high-frequency range.                                                                                                                                                                                                |
| Eq 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 volume.                                                                                                                                                                                                                                   |

## 69: Serial Delay

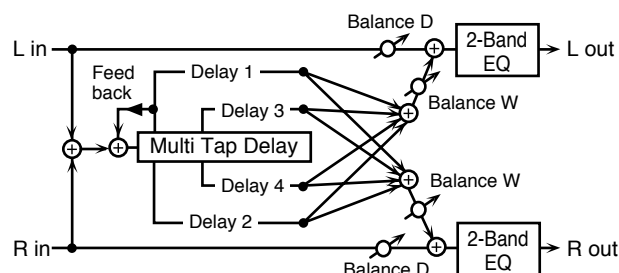
This delay connects two delay units in series. Feedback can be applied independently to each delay unit, allowing you to produce complex delay sounds.



| Parameter    | Value               | Description                                                                                                                                                                                                                                               |
|--------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dly1 (Sync)  | msec, Note          | Use this parameter to specify whether ("Note") or not ("msec") the delay 1 time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value. |
| Dly1 (msec)  | 0–1300 ms           | Delay time from when sound is input to delay 1 until the delay sound is heard.                                                                                                                                                                            |
| Dly1 (Note)  | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                                |
| Dly1 Fbk     | -98– +98%           | Proportion of the delay sound that is to be returned to the input of delay 1 (negative values invert the phase).                                                                                                                                          |
| Dly1 HF Damp | 200–8000 Hz, Bypass | Frequency at which the high-frequency content of the delayed sound of delay 1 will be cut (Bypass: no cut).                                                                                                                                               |
| Dly2 (Sync)  | msec, Note          | Use this parameter to specify whether ("Note") or not ("msec") the delay 2 time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value. |
| Dly2 (msec)  | 0–1300 ms           | Delay time from when sound is input to delay 2 until the delay sound is heard.                                                                                                                                                                            |
| Dly2 (Note)  | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                                |
| Dly2 Fbk     | -98– +98%           | Proportion of the delay sound that is to be returned to the input of delay 2 (negative values invert the phase).                                                                                                                                          |
| Dy2 HF Damp  | 200–8000 Hz, Bypass | Frequency at which the high-frequency content of the delayed sound of delay 2 will be cut (Bypass: no cut).                                                                                                                                               |
| Panpot       | L64–63R             | Panning of the delay sound.                                                                                                                                                                                                                               |
| Eq Low Gain  | -15– +15 dB         | Amount of boost/cut for the low-frequency range.                                                                                                                                                                                                          |
| Eq 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 volume.                                                                                                                                                                                                                                            |

## 70: M. Tap DLY (Multi Tap Delay)

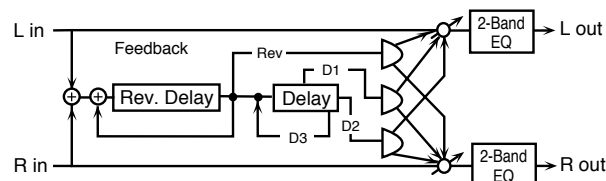
This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.



| Parameter     | Value               | Description                                                                                                                                                                                                                                      |
|---------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dly1–4 (Sync) | msec, Note          | Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Dly1–4 (msec) | 0–2600 ms           | Adjusts the time until Delay 1–4 are heard.                                                                                                                                                                                                      |
| Dly1–4 (Note) | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                       |
| Dly1 Fbk      | -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 | Adjuststhefrequencyabovewhich-sound fed back to the effect is filtered out. If you don't want to filter out any the high fre- quencies, set this parameter to bypass.                                                                            |
| Dly1–4 Panpot | L64–63R             | Stereo location of Delays 1–4.                                                                                                                                                                                                                   |
| Dly1–4 Level  | 0–127               | Output level of Delays 1–4.                                                                                                                                                                                                                      |
| Eq Low Gain   | -15– +15 dB         | Gain of the low frequency range.                                                                                                                                                                                                                 |
| Eq 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.                                                                                                                                                                                                                                    |

## 71: Reverse DLY

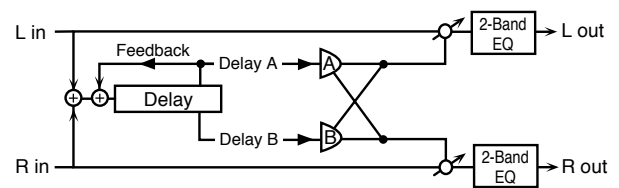
This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.



| Parameter                 | Value               | Description                                                                                                                                                                                                                                                     |
|---------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Threshold                 | 0–127               | Volume at which the reverse delay will begin to be applied.                                                                                                                                                                                                     |
| Rev Dly (Sync)            | msec, Note          | Use this parameter to specify whether (“Note”) or not (“msec”) the reverse delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time (msec) or a note value. |
| Rev Dly (msec)            | 0–1300 ms           | Delay time from when sound is input into the reverse delay until the delay sound is heard.                                                                                                                                                                      |
| Rev Dly (Note)            | note *2             | Delay times can be set as a note-value of a tempo, if you set the “Sync” parameter above to “Note”. Specify the value of the desired note.                                                                                                                      |
| Rev Dly Fbk               | -98– +98%           | Proportion of the delay sound that is to be returned to the input of the reverse delay (negative values invert the phase).                                                                                                                                      |
| Rev 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 Dly Pan               | L64–63R             | Panning of the reverse delay sound                                                                                                                                                                                                                              |
| Rev Dly Level             | 0–127               | Volume of the reverse delay sound                                                                                                                                                                                                                               |
| Dly1 – 3 (Sync)           | msec, Note          | Use this parameter to specify whether (“Note”) or not (“msec”) the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value.                |
| Dly1 – 3 (msec)           | 0–1300 ms           | Adjusts the time until the delay is heard.                                                                                                                                                                                                                      |
| Dly1 – 3 (Note)           | note *2             | Delay times can be set as a note-value of a tempo, if you set the “Sync” parameter above to “Note”. Specify the value of the desired note.                                                                                                                      |
| Dly3 Fbk                  | -98– +98%           | Proportion of the delay sound that is to be returned to the input of the tap delay (negative values invert the phase).                                                                                                                                          |
| Dly HF Damp               | 200–8000 Hz, Bypass | Frequency at which the low-frequency content of the tap delay sound will be cut (Bypass: no cut).                                                                                                                                                               |
| Dly1 Panpot, Dly 2 Panpot | L64–63R             | Panning of the tap delay sounds.                                                                                                                                                                                                                                |
| Dly1 Level, Dly2 Level    | 0–127               | Volume of the tap delay sounds.                                                                                                                                                                                                                                 |
| Eq Low Gain               | -15– +15 dB         | Amount of boost/cut for the low-frequency range.                                                                                                                                                                                                                |
| Eq 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 volume.                                                                                                                                                                                                                                                  |

## 72: Shuffle DLY (Shuffle Delay)

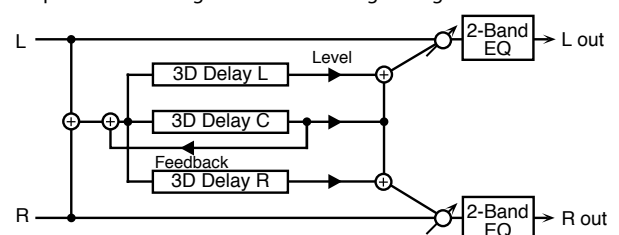
Adds a shuffle to the delay sound, giving the sound a bouncy delay effect with a swing feel.



| Parameter    | Value               | Description                                                                                                                                                                                                                                      |
|--------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay (Sync) | msec, Note          | Use this parameter to specify whether (“Note”) or not (“msec”) the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Delay (msec) | 0–2600 ms           | Delay times can be set as a note-value of a tempo, if you set the “Sync” parameter above to “Note”. Specify the value of the desired note.                                                                                                       |
| Delay (Note) | note *2             | Delay times can be set as a note-value of a tempo, if you set the “Sync” parameter above to “Note”. Specify the value of the desired note.                                                                                                       |
| Shuffle      | 0–100 %             | Adjusts the ratio (as a percentage) of the time that elapses before Delay B sounds relative to the time that elapses before the Delay A sounds. When set to 100%, the delay times are the same.                                                  |
| Acceleration | 0–15                | Adjusts the time over which the Delay Time changes from the current setting to its specified new setting.                                                                                                                                        |
| 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 don’t want to filter out any high frequencies, set this parameter to bypass.                                                                              |
| Panpot A/B   | 0–127               | Stereo location of Delay A/B.                                                                                                                                                                                                                    |
| Level A/B    | 0–127               | Volume of delay A/B.                                                                                                                                                                                                                             |
| Eq Low Gain  | -15– +15 dB         | Gain of the low frequency range.                                                                                                                                                                                                                 |
| Eq 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.                                                                                                                                                                                                                                    |

## 73: 3D Delay

This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.



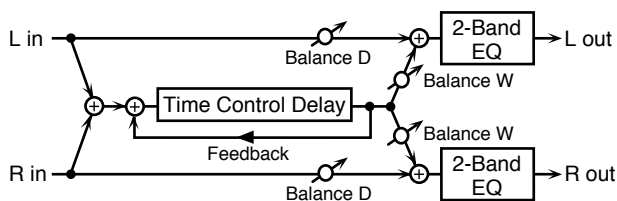


## MFX types and parameters

| Parameter                             | Value               | Description                                                                                                                                                                                                                                           |
|---------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dly L(Sync), Dly R(Sync), Dly C(Sync) | msec, Note          | Use this parameter to specify whether ("Note") or not ("msec") the left delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Dly L(msec), Dly R(msec), Dly C(msec) | 0–2600 ms           | Adjust the time from the direct sound until when the left/right/center delay sound is heard.                                                                                                                                                          |
| Dly L(Note), Dly R(Note), Dly C(Note) | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                            |
| 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.                                                                                             |
| Level L                               | 0–127               | Output level of the delay sound.                                                                                                                                                                                                                      |
| Level R                               |                     |                                                                                                                                                                                                                                                       |
| Level C                               |                     |                                                                                                                                                                                                                                                       |
| Out Mode                              | Speaker, Phones     | Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select "Speaker" when using speakers, or "Phones" when using headphones.                                     |
| Eq Low Gain                           | -15– +15 dB         | Gain of the low range.                                                                                                                                                                                                                                |
| Eq 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.                                                                                                                                                                                                                                         |

### 74: Long Delay

A delay in which the delay time can be varied smoothly and allowing an extended delay to be produced.

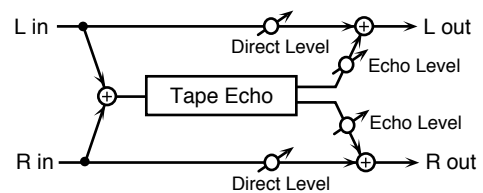


| Parameter    | Value      | Description                                                                                                                                                                                                                                      |
|--------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Delay (Sync) | msec, Note | Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Delay (msec) | 0–2600 ms  | Adjusts the time until the delay is heard.                                                                                                                                                                                                       |
| Delay (Note) | note *2    | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                       |

| Parameter    | Value               | Description                                                                                                                                                                              |
|--------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acceleration | 0–15                | Adjusts the time over 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.                     |
| Panpot       | L64–63R             | Stereo location of the delay.                                                                                                                                                            |
| Eq Low Gain  | -15– +15 dB         | Gain of the low frequency range.                                                                                                                                                         |
| Eq 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.                                                                                                                                                                            |

### 75: Tape Echo

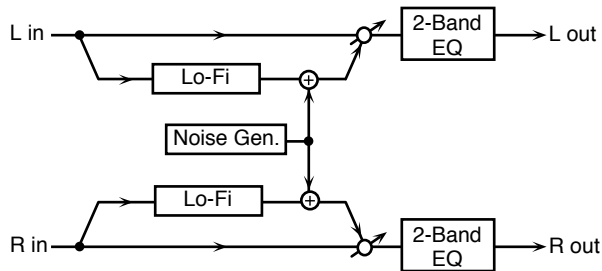
A virtual tape echo that produces a realistic tape delay sound. This simulates the tape echo section of a Roland RE-201 Space Echo.



| Parameter    | Value                         | Description                                                                                                                                                                                     |
|--------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mode         | S, M, L, S+M, S+L, M+L, S+M+L | Combination of playback heads to use. Select from three different heads with different delay times.<br>S: short, M: middle, L: long.                                                            |
| Repeat Rate  | 0–127                         | Tape speed. Increasing this value will shorten the spacing of the delayed sounds.                                                                                                               |
| Intensity    | 0–127                         | Amount of delay repeats.                                                                                                                                                                        |
| Bass         | -15– +15 dB                   | Boost/cut for the lower range of the echo sound.                                                                                                                                                |
| Treble       | -15– +15 dB                   | Boost/cut for the upper range of the echo sound.                                                                                                                                                |
| Head S Pan   | L64–63R                       | Independent panning for the short, middle, and long playback heads.                                                                                                                             |
| Head M Pan   |                               |                                                                                                                                                                                                 |
| Head L Pan   |                               |                                                                                                                                                                                                 |
| Distortion   | 0–5                           | Amount of tape-dependent distortion to be added. This simulates the slight tonal changes that can be detected by signal-analysis equipment. Increasing this value will increase the distortion. |
| Wow/F Rate   | 0–127                         | Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity).                                                                                              |
| Wow/F Depth  | 0–127                         | Depth of wow/flutter.                                                                                                                                                                           |
| Echo Level   | 0–127                         | Volume of the echo sound                                                                                                                                                                        |
| Direct Level | 0–127                         | Volume of the original sound                                                                                                                                                                    |
| Level        | 0–127                         | Output level                                                                                                                                                                                    |

## 76: LoFi Noise

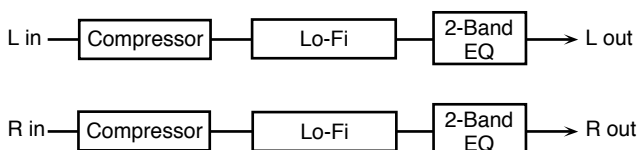
In addition to a lo-fi effect, this adds various types of noise such as white noise and disc noise.



| Parameter     | Value               | Description                                                                                                                                                            |
|---------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoFi Type     | 1–9                 | Degrades the sound quality. The sound quality grows poorer as this value is increased.                                                                                 |
| Filter Type   | OFF, LPF, HPF       | Type of filter.<br><b>OFF</b> : no filter is used<br><b>LPF</b> : cuts the frequency range above the Cutoff<br><b>HPF</b> : cuts the frequency range below the Cutoff. |
| Filter Cutoff | 200–8000 Hz         | Center frequency of the filter.                                                                                                                                        |
| W/P Noise TY  | White, Pink         | Switch between white noise and pink noise.                                                                                                                             |
| W/P Noise LP  | 200–8000 Hz, Bypass | Center frequency of the low pass filter applied to the white/pink noise (Bypass: no cut)                                                                               |
| W/P Noise     | 0–127               | Volume of the white/pink noise.                                                                                                                                        |
| DIS Noise TY  | LP, EP, SP, RND     | Type of record noise<br>The frequency at which the noise is heard depends on the selected type.                                                                        |
| DIS Noise LP  | 200–8000 Hz, Bypass | Adjusts the cutoff frequency of the low pass filter applied to the record noise. If you don't want to filter out any high frequencies, set this parameter to bypass.   |
| DIS Noise     | 0–127               | Volume of the record noise.                                                                                                                                            |
| HUM Noise TY  | 50 Hz, 60 Hz        | Frequency of the hum noise.                                                                                                                                            |
| HUM Noise LP  | 200–8000 Hz, Bypass | Center frequency of the low pass filter applied to the hum noise (Bypass: no cut).                                                                                     |
| HUM Noise     | 0–127               | Volume of the hum noise.                                                                                                                                               |
| Eq Low Gain   | -15– +15 dB         | Gain of the low range.                                                                                                                                                 |
| Eq 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.                                                                                                                                                          |

## 77: LoFi Comp (Lo-Fi Compressor)

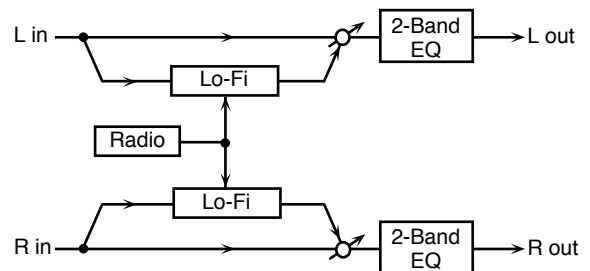
This is an effect that intentionally degrades the sound quality for creative purposes.



| Parameter       | Value           | Description                                                                                                                                                             |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pre Filter Type | 1–6             | Selects the type of filter applied to the sound before it passes through the Lo-Fi effect.                                                                              |
| LoFi Type       | 1–9             | Degrades the sound quality. The sound quality grows poorer as this value is increased.                                                                                  |
| Filter Type     | OFF, LPF, HPF   | Type of filter<br><b>OFF</b> : no filter is used.<br><b>LPF</b> : cuts the frequency range above the Cutoff.<br><b>HPF</b> : cuts the frequency range below the Cutoff. |
| Filter Cutoff   | 200–8000 Hz     | Basic frequency of the Post Filter.                                                                                                                                     |
| Eq Low Gain     | -15– +15 dB     | Gain of the low range.                                                                                                                                                  |
| Eq 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.                                                                                                                                                           |

## 78: LoFi Radio

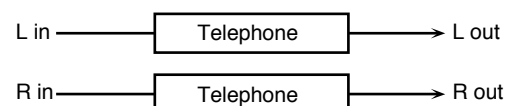
In addition to a Lo-Fi effect, this effect also generates radio noise.



| Parameter     | Value           | Description                                                                                                                                                             |
|---------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LoFi Type     | 1–9             | Degrades the sound quality. The sound quality grows poorer as this value is increased.                                                                                  |
| Filter Type   | OFF, LPF, HPF   | Type of filter<br><b>OFF</b> : no filter is used.<br><b>LPF</b> : cuts the frequency range above the Cutoff.<br><b>HPF</b> : cuts the frequency range below the Cutoff. |
| Filter Cutoff | 200–8000 Hz     | Basic frequency of the Post Filter                                                                                                                                      |
| Detune        | 0–127           | Simulates the tuning noise of a radio. As this value is raised, the tuning drifts further.                                                                              |
| Noise         | 0–127           | Volume of the radio noise.                                                                                                                                              |
| Eq Low Gain   | -15– +15 dB     | Gain of the low range.                                                                                                                                                  |
| Eq 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.                                                                                                                                                           |

## 79: Telephone

This effect simulates the tonal character of a telephone transmission.

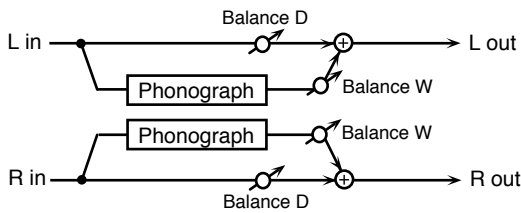


## MFX types and parameters

| Parameter | Value              | Description                                                           |
|-----------|--------------------|-----------------------------------------------------------------------|
| Quality   | 0–15               | Audio quality of the telephone voice.                                 |
| Treble    | -15– +15 dB        | Bandwidth of the telephone voice.                                     |
| Balance   | D100:0–<br>D0:100W | Volume balance between the direct sound (D) and the effect sound (W). |
| Level     | 0–127              | Output level.                                                         |

### 80: Phonograph

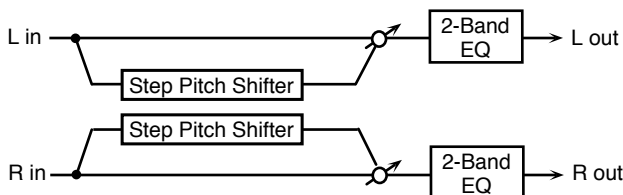
Simulates a sound recorded on an analog record and played back on a record player. This effect also simulates the various types of noise that are typical of a record, and even the rotational irregularities of an old turntable.



| Parameter     | Value               | Description                                                                                                                                   |
|---------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Distortion    | 0–127               | Depth of distortion.                                                                                                                          |
| Freq Range    | 0–127               | Frequency response of the playback system. Decreasing this value will produce the impression of an old system with a poor frequency response. |
| Disc Type     | LP, EP, SP          | Rotational speed of the turntable. This will affect the frequency of the scratch noise.                                                       |
| Scratch Noise | 0–127               | Amount of noise due to scratches on the record.                                                                                               |
| Dust Noise    | 0–127               | Volume of noise due to dust on the record.                                                                                                    |
| Hiss Noise    | 0–127               | Volume of continuous "hiss".                                                                                                                  |
| Total Noise   | 0–127               | Volume of overall noise.                                                                                                                      |
| Wow           | 0–127               | Depth of long-cycle rotational irregularity.                                                                                                  |
| Flutter       | 0–127               | Depth of short-cycle rotational irregularity.                                                                                                 |
| Random        | 0–127               | Depth of indefinite-cycle rotational irregularity.                                                                                            |
| Total Wow/ F  | 0–127               | Depth of overall rotational irregularity.                                                                                                     |
| Balance       | D100:0W–<br>D0:100W | Volume balance between the direct sound (D) and the effect sound (W).                                                                         |
| Level         | 0–127               | Output level.                                                                                                                                 |

### 81: Step Pitch (Step Pitch Shifter)

A pitch shifter in which the amount of pitch shift is varied by a 16-step sequence.

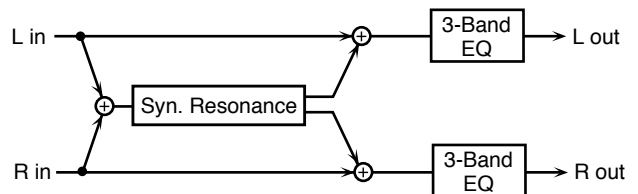


| Parameter | Value        | Description                                          |
|-----------|--------------|------------------------------------------------------|
| Step 1–16 | -24–+12 semi | Amount of pitch shift at each step (semitone units). |

| Parameter    | Value               | Description                                                                                                                                                                                                                                      |
|--------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rate (Sync)  | Hz, Note            | Use this parameter to specify whether ("Note") or not ("Hz") the rate should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a speed (Hz) or a note value.   |
| Rate (Hz)    | 0.05–10.00Hz        | Rate at which the 16-step sequence will cycle.                                                                                                                                                                                                   |
| Rate (Note)  | note *2             | Rate parameters can be set as a note-value of a tempo if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                    |
| Attack       | 0–127               | Speed at which the amount of pitch shift changes between steps.                                                                                                                                                                                  |
| Gate Time    | 0–127               | Duration of the pitch shifted sound at each step.                                                                                                                                                                                                |
| Fine         | -100– +100 cent     | Pitch shift adjustment for all steps (2-cent units).                                                                                                                                                                                             |
| Delay (Sync) | msec, note          | Use this parameter to specify whether ("Note") or not ("msec") the delay time should be synchronized to the Arranger or Recorder tempo. Depending on your choice, the setting range of the following parameter refers to a time or a note value. |
| Delay (msec) | 0–1300ms            | Delay time from the original sound until the pitch-shifted sound is heard.                                                                                                                                                                       |
| Delay (Note) | note *2             | Delay times can be set as a note-value of a tempo, if you set the "Sync" parameter above to "Note". Specify the value of the desired note.                                                                                                       |
| Feedback     | -98– +98%           | Proportion of the pitch-shifted sound that is to be returned to the input (negative values invert the phase).                                                                                                                                    |
| Eq Low Gain  | -15– +15 dB         | Amount of boost/cut for the low-frequency range.                                                                                                                                                                                                 |
| Eq High Gain | -15– +15 dB         | Amount of boost/cut for the high-frequency range.                                                                                                                                                                                                |
| Balance      | D100:0W–<br>D0:100W | Volume balance of the original sound (D) and pitch-shifted sound (W).                                                                                                                                                                            |
| Level        | 0–127               | Output volume.                                                                                                                                                                                                                                   |

### 82: Symp Reso (Sympathetic Resonance)

On an acoustic piano, holding down the damper pedal allows other strings to resonate in sympathy with the notes you play, creating rich and spacious resonances. This effect simulates these sympathetic resonances.

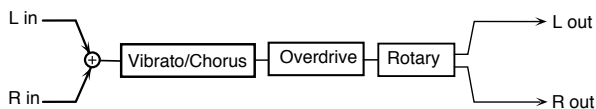


| Parameter | Value               | Description                                                                                       |
|-----------|---------------------|---------------------------------------------------------------------------------------------------|
| Depth     | 0–127               | Depth of the effect.                                                                              |
| Damper    | 0–127               | Depth to which the damper pedal is pressed (controls the resonant sound).                         |
| Pre LPF   | 16–15000 Hz, Bypass | Frequency of the filter that cuts the high-frequency content of the input sound (Bypass: no cut). |
| Pre HPF   | Bypass, 16–15000 Hz | Frequency of the filter that cuts the low-frequency content of the input sound (Bypass: no cut).  |
| Peak Freq | 200–8000 Hz         | Frequency of the filter that boosts/ cuts a specific frequency region of the input sound.         |

| Parameter    | Value                   | Description                                                                                                         |
|--------------|-------------------------|---------------------------------------------------------------------------------------------------------------------|
| Peak Gain    | -15– +15 dB             | Amount of boost/cut produced by the filter at the specified frequency region of the input sound.                    |
| Peak Q       | 0.5, 1.0, 2.0, 4.0, 8.0 | Width of the frequency region boosted/cut by the 'Peaking Gain' parameter (larger values make the region narrower). |
| HF Damp      | 16–15000 Hz, Bypass     | Frequency at which the high-frequency content of the resonant sound will be cut (Bypass: no cut).                   |
| LF Damp      | Bypass, 16–15000 Hz     | Frequency at which the low-frequency content of the resonant sound will be cut (Bypass: no cut).                    |
| Lid          | 0-5                     | This simulates the actual changes in sound that occur when the lid of a grand piano is set at different heights.    |
| Eq Low Freq  | 200, 400 Hz             | Frequency of the low-range EQ.                                                                                      |
| Eq Low Gain  | -15– +15 dB             | Amount of low-range boost/cut.                                                                                      |
| Eq Mid Freq  | 200–8000 Hz             | Frequency of the midrange EQ.                                                                                       |
| Eq Mid Gain  | -15– +15 dB             | Amount of midrange boost/cut.                                                                                       |
| Eq Mid Q     | 0.5, 1.0, 2.0, 4.0, 8.0 | Width of midrange (larger values make the region narrower).                                                         |
| Eq High Freq | 2000, 4000, 8000 Hz     | Frequency of the high-range EQ.                                                                                     |
| Eq High Gain | -15–+15 dB              | Amount of high-range boost/cut.                                                                                     |
| Level        | 0–127                   | Output Level.                                                                                                       |

### 83: VIB-OD-Rot (Vibrato-Overdrive-Rotary)

This effect combines an overdrive and a rotary with Vibrato/Chorus. The vibrato effect cyclically modulates the pitch of organ sounds (which is not the same as the Rotary effect). The chorus effect mixes the normal sound of the organ with a sound to which vibrato has been applied, adding richness and spaciousness to the sound.

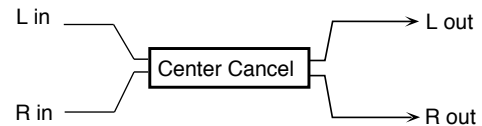


| Parameter   | Value                        | Description                                                                                                                                                                                                                                                   |
|-------------|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VIB Switch  | Off, On                      | Turns the Vibrato Chorus on/ off.                                                                                                                                                                                                                             |
| VIB Type    | V-1, V-2, V-3, C-1, C-2, C-3 | <b>V-1, V-2, V-3:</b> This applies vibrato (pitch modulation). Increasing the value will produce a deeper effect.<br><b>C-1, C-2, C-3:</b> This applies chorus to add depth and spaciousness to the sound. Increasing the value will produce a deeper effect. |
| VIB Vintage | '50, '60, '70                | Tonewheel sounds of the 1950s, '60s and '70.                                                                                                                                                                                                                  |
| VIB Level   | 0-127                        | Level of the Vibrato Chorus effect.                                                                                                                                                                                                                           |
| OD Switch   | Off, On                      | Turns the Overdrive on/off.                                                                                                                                                                                                                                   |
| OD Drive    | 0-127                        | Degree of distortion.                                                                                                                                                                                                                                         |
| OD Level    | 0-127                        | Sets the Overdrive output level.                                                                                                                                                                                                                              |
| Rot Switch  | Off, On                      | Turns the Rotary on/off.                                                                                                                                                                                                                                      |
| Rot Speed   | Slow, Fast                   | Rotational speed of the rotating speaker.                                                                                                                                                                                                                     |
| Rot WF Slow | 0.05~10.00Hz                 | Low-speed rotation speed of the woofer.                                                                                                                                                                                                                       |
| Rot WF Fast | 0.05~10.00Hz                 | High-speed rotation speed of the woofer.                                                                                                                                                                                                                      |

| Parameter      | Value        | Description                                                                                                                                      |
|----------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Rot WF Accel   | 0~15         | Adjusts the time it takes the rotor woofer to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions.  |
| Rot WF Level   | 0~127        | Sets the woofer level.                                                                                                                           |
| Rot TW Slow    | 0.05~10.00Hz | Low-speed rotation speed of the tweeter.                                                                                                         |
| Rot TW Fast    | 0.05~10.00Hz | High-speed rotation speed of the tweeter.                                                                                                        |
| Rot TW Accel   | 0~15         | Adjusts the time it takes the rotor tweeter to reach the newly selected speed ("Fast" or "Slow"). Lower values correspond to slower transitions. |
| Rot TW Level   | 0~127        | Sets the tweeter level.                                                                                                                          |
| Rot Separation | 0~127        | Spatial dispersion of the sound.                                                                                                                 |
| Rot Level      | 0~127        | Sets the output level of the effect.                                                                                                             |

### 84: Center Canc (Center Canceller)

Removes the sounds that are localized at the center of the stereo input. This is a convenient way to eliminate a vocal.



| Parameter   | Value      | Description                                                                   |
|-------------|------------|-------------------------------------------------------------------------------|
| Balance L-R | -50~0~50   | Volume balance of the L (left) and R (right) channels for removing the sound. |
| Range Low   | 16~15000Hz | Lower frequency limit of the band to be removed.                              |
| Range High  | 16~15000Hz | Upper frequency limit of the band to be removed.                              |

note \*1

| Value | Notation |
|-------|----------|
| 1/16  |          |
| 1/8T  |          |
| 1/16. |          |
| 1/8   |          |
| 1/4T  |          |
| 1/8.  |          |
| 1/4   |          |
| 1/2T  |          |
| 1/4.  |          |
| 1/2   |          |

note \*2

| Value | Notation | Value | Notation |
|-------|----------|-------|----------|
| 1/64T |          | 1/8.  |          |
| 1/64  |          | 1/4   |          |
| 1/32T |          | 1/2T  |          |
| 1/32  |          | 1/4.  |          |
| 1/16T |          | 1/2   |          |
| 1/32. |          | 1/1T  |          |
| 1/16  |          | 1/2.  |          |
| 1/8T  |          | 1/1   |          |
| 1/16. |          | 2/1T  |          |
| 1/8   |          | 1/1.  |          |
| 1/4T  |          | 2/1   |          |





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