

# ***Multi-Effect Processor***

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Effect Parameter Guide

Guide des Paramètres d'Effet

Effektparameter-Übersicht

*DPS-V55*  
*DPS-V55M*

# List of Effects / Liste des Effets / Liste der Effekte

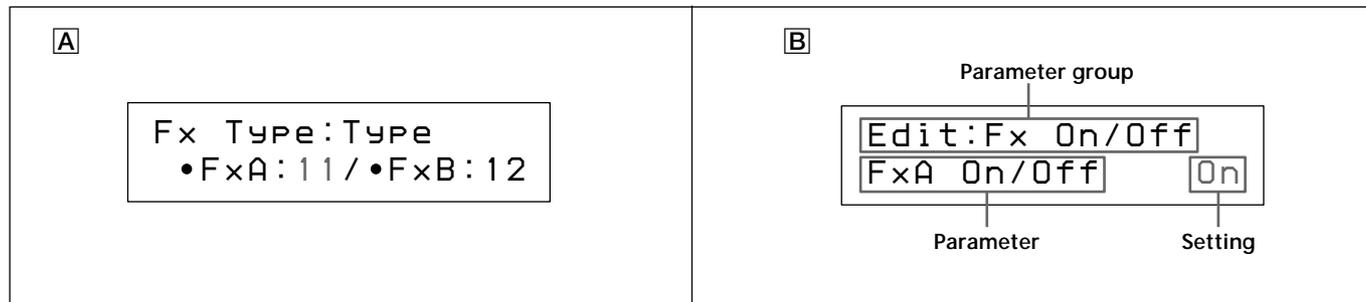
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## Note / Note / Note

- ① 4ch effects: only one can be usead at a time. ② 2ch and M-P effects: two can be used at a time.  
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# Basic Operations / Démarches de base / Grundlegender Betrieb

The following steps are simplified instructions for choosing effects, editing effects, and saving the saving the program containing the effects. For more detailed descriptions, see page 13, 14, and 16 of the “Operating Instructions.”



## Choosing effects

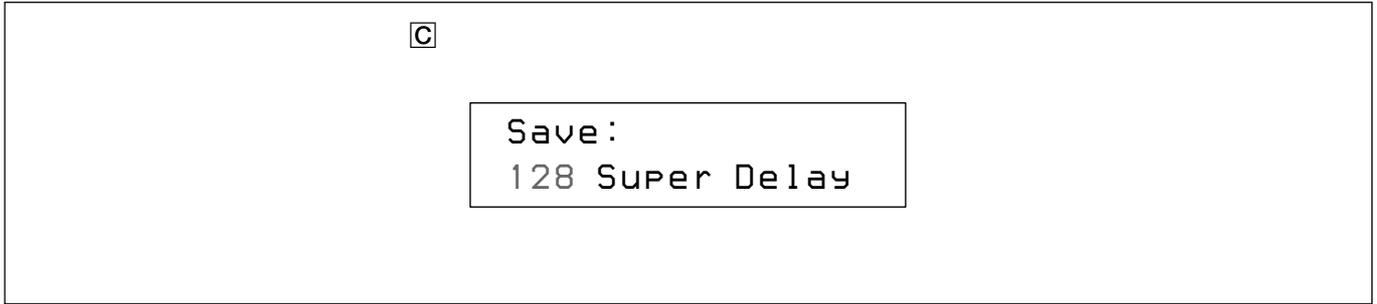
- 1 Press Fx TYPE (SEARCH).  
The “Fx Type: Type” screen appears and the FxA number starts blinking (Ill. **A**).
- 2 Turn the rotary encoder to select the effect (01–45) for Fx A.
- 3 Press EDIT PARAMETER  $\rightarrow$  twice to move the cursor to FxB.  
Note: this is not possible if you select a 4ch effect (01–09) in the previous step.
- 4 Turn the rotary encoder to select an effect (10–45) for Fx B.
- 5 Press EXIT to return to play mode.

## Changing effect parameters

- 1 Press EDIT PARAMETER  $\leftarrow$  or  $\rightarrow$  repeatedly to display the parameter you want to adjust.  
(See Ill. **B**).
- 2 Turn the rotary encoder to change the parameter.
- 3 Repeat steps 1 and 2 to change all necessary parameters.
- 4 Press EXIT to return to play mode.

# Basic Operations / Démarches de base / Grundlegender Betrieb

## Saving a program



- 1** Press **SAVE** to activate the save mode.  
The save screen appears and the program number starts blinking (Ill. ) .
- 2** Turn the rotary encoder to select the number (201~400) where you want to save the program.
- 3** Press **EDIT PARAMETER** **→** to move the cursor to the program name.  
The first character of the current program name starts blinking.
- 4** Use the rotary encoder and **EDIT PARAMETER** **←** / **→** to enter up to 12 characters.
- 5** Press **SAVE** again (or **ENTER (TAP)**) to execute the save operation.  
“Writing...” appears momentarily, the program is saved, and the unit switches back to the play mode.

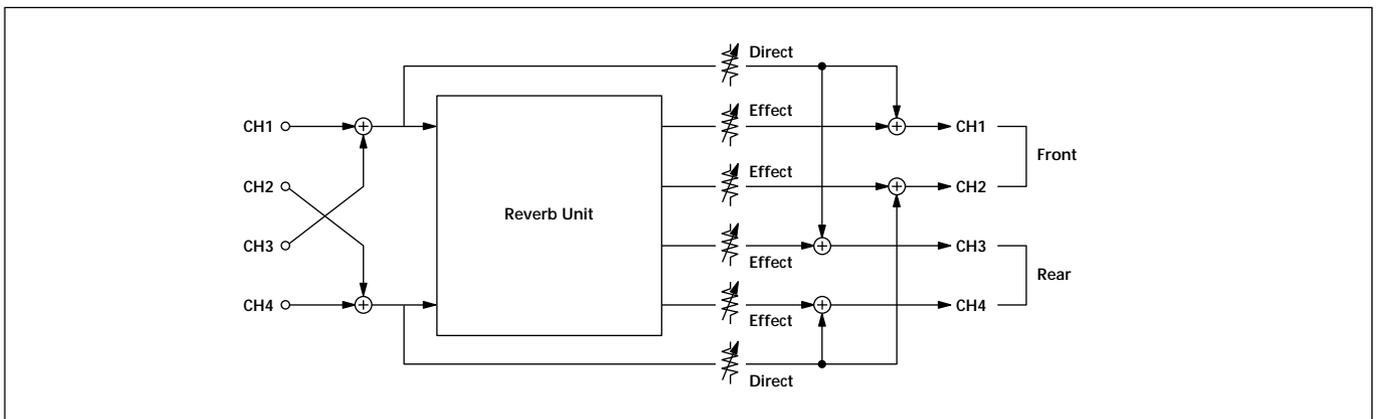
# 4 Channel Effects

## 01 Plate Reverb 1 (Plat1)

This is a reverb for stereo sources. It has a higher density than the other reverbs to produce smooth reverberation.



We especially recommend this plate reverb for percussion and vocals. It has become the standard for drums (and drum machines).



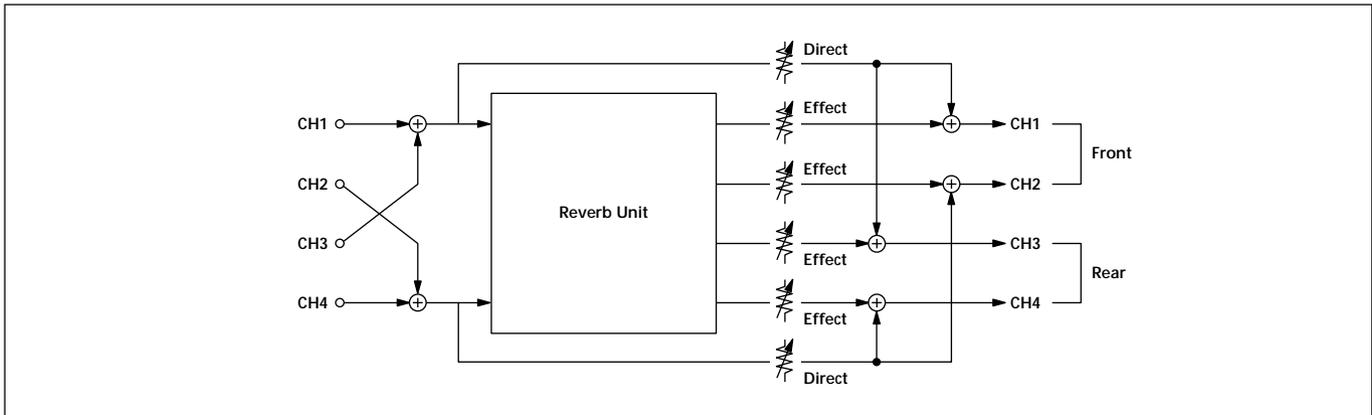
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 300 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

# 4 Channel Effects

## 02 Hall Reverb 1 (Hall1)

This is a reverb for stereo sources that lets you maintain localization of the original sound. It's ideal for reproducing the feel of relatively large spaces.



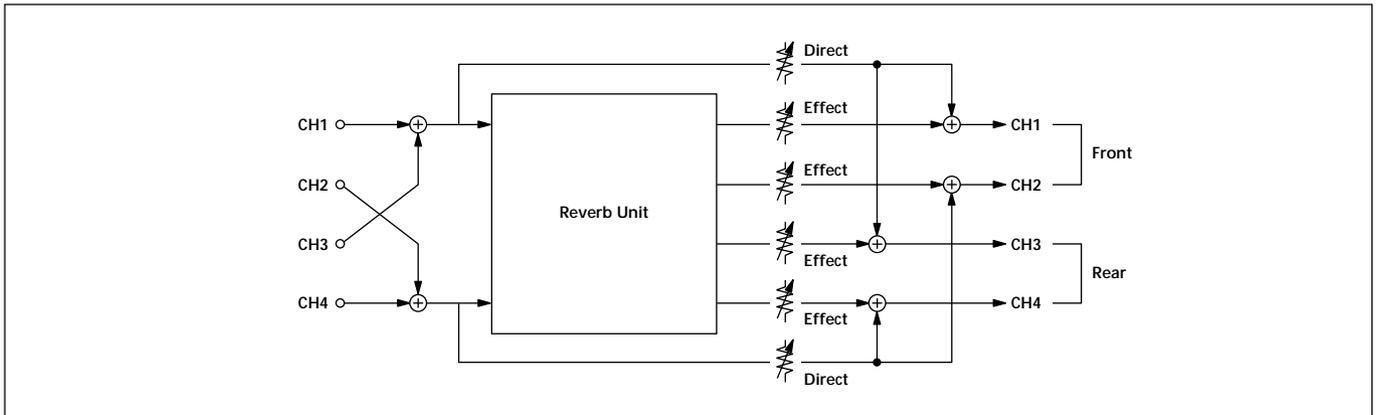
### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 400 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

# 4 Channel Effects

## 03 Room Reverb 1 (Room1)

This is a reverb for stereo sources that lets you maintain localization of the original sound. It's ideal for reproducing the feel of relatively small spaces like a studio or room.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 400 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

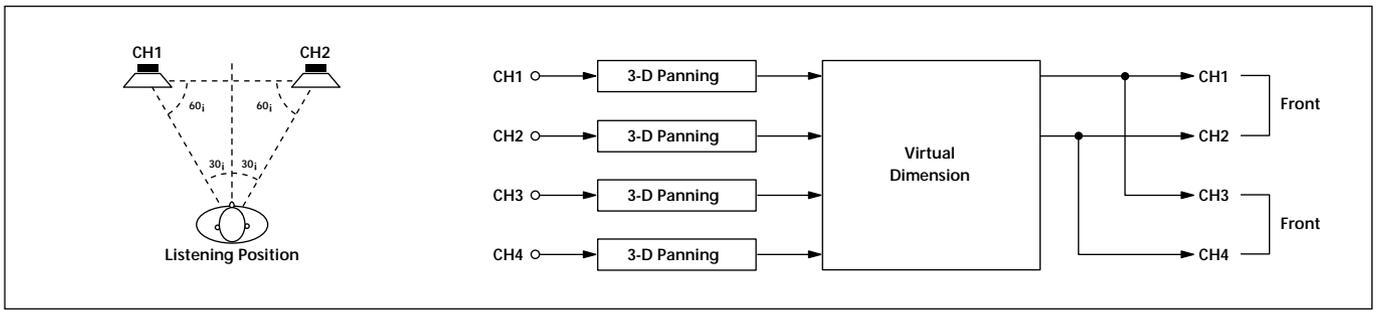
# 4 Channel Effects

## 04 3 Dimension 1 (3Dim1)

This effect lets you adjust the position of the original sound (of each of the 4 channels) within the sound stage. It lets you adjust left to right and front to back positioning simultaneously using only 2 (front) speakers.

### Note

The relationship between your listening position and the speakers should be as close as possible to that shown below. The output from Ch 3 and Ch 4 is the exact same signal as Ch 1 and Ch 2.



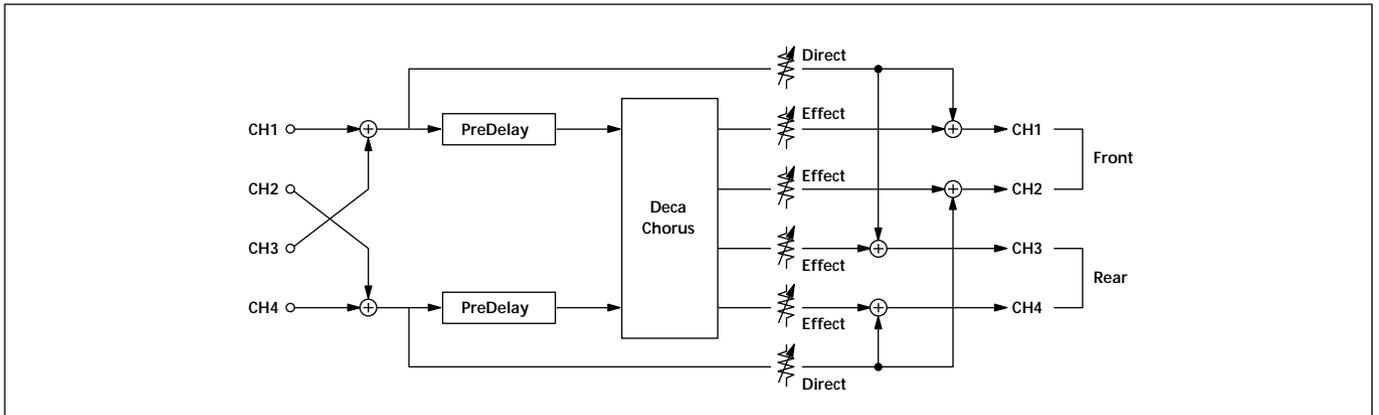
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pan 1	L180 ~ R180	Rotates the sound from Ch 1 up to 180° left or right ("0" is front and center).
2	Pan 2	L180 ~ R180	Rotates the sound from Ch 2 up to 180° left or right ("0" is front and center).
3	Pan 3	L180 ~ R180	Rotates the sound from Ch 3 up to 180° left or right ("0" is front and center).
4	Pan 4	L180 ~ R180	Rotates the sound from Ch 4 up to 180° left or right ("0" is front and center).

# 4 Channel Effects

## 05 Deca Chorus (DcCHO)

This effect incorporates 5 chorus units for each channel to allow massive expansion, even from monaural sources.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	PreDelay	0 ~ 1200 ms	Determines how long it will to activate the chorus effect.
4	Direct Level	0 ~ 100	Determines the level of the direct sound.
5	Effect Level	0 ~ 100	Determines the level of the effect sound.

# 4 Channel Effects

## 06 Ensemble (ENS)

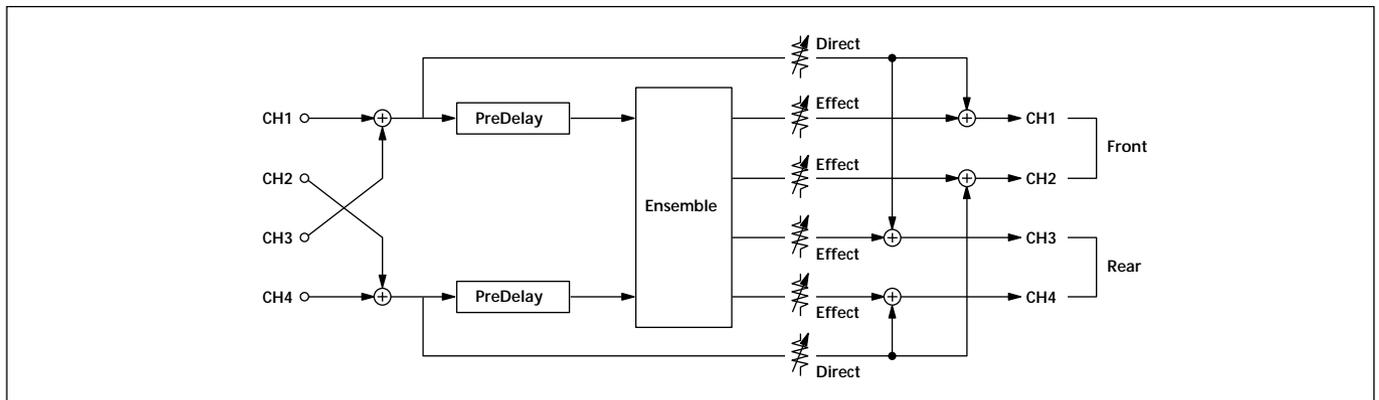
Ensemble lets you produce a more profound effect than chorus. Think of it as a massive conglomeration of chorus units. The Mode parameter determines the type of effect.

Mode 1: Expands monaural or stereo sources. (Maintains a sense of localization when used with stereo sources.)

Mode 2: Expands monaural or stereo sources. (Eliminates the sense of localization when used with stereo sources.)



We especially recommend this effect with continual sounds like strings or synthesizer pads. You might want to try setting Direct Level to "0" and eliminating the source sound.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	PreDelay	0 ~ 1200 ms	Determines how long it will to activate the ensemble effect.
4	Mode	1, 2	Sets the type of expansion effect (see above).
5	Direct Level	0 ~ 100	Determines the level of the direct sound.
6	Effect Level	0 ~ 100	Determines the level of the effect sound.

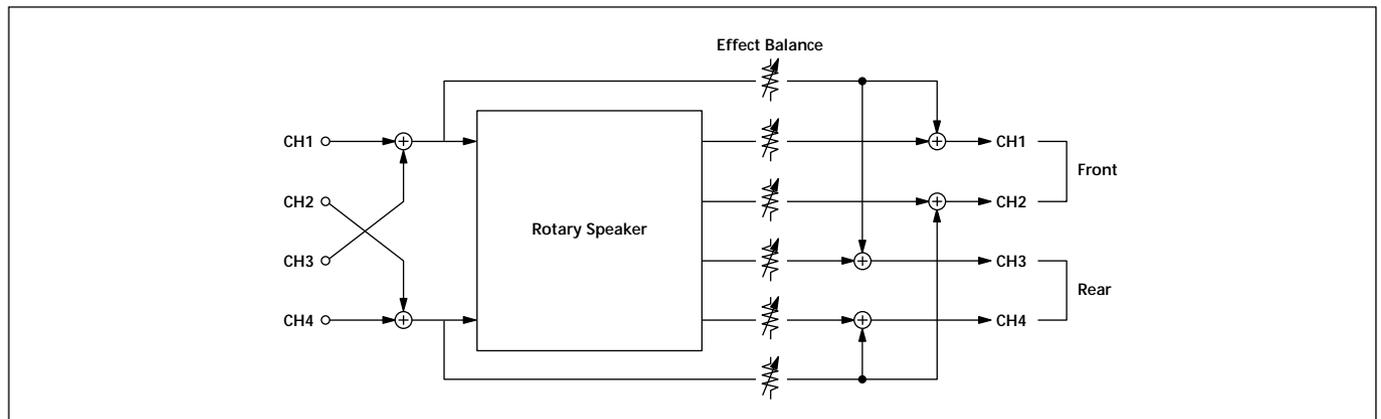
# 4 Channel Effects

## 07 Rotary Speaker (Rotry)

This is a simulation of a rotary speaker (invaluable for organ sound). It includes faithful simulations of the delicate differences in coloration produced by the direction of the speaker's horn. By using TAP (or MIDI) you can change the speed externally.



A real rotary speaker is composed of two rotating speaker cabinets (one high-band and one low-band). Since both cabinets have a different inertia, the slight difference in time required for each cabinet to speed up or slow down creates distinctive sonic undulations when the speed is changed. This effect simulates these undulations. Therefore, making small changes to the Speed parameter while playing will create a more organ-like sound. Adjust the Speed Ratio to obtain the sound you desire.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Speed	Slow, Fast	Selects the rotation speed of the rotary speaker.
2	Depth	0 ~ 100	Determines the depth of the effect. Larger values create a deeper effect.
3	Drive	0 ~ 100	Sets the overdrive distortion. Larger values produce louder and more grungy distortion.
4	Noise	0 ~ 100	Sets the noise level. Adding some noise is a good way to create a more realistic effect.
5	Ambience	0 ~ 100	Adds the sound of the rotary speaker cabinet itself.
6	Speed Ratio	-20 ~ 20	Determines the ratio of the horn's (high-band) rotation speed to the rotor's (low-band) rotation speed. Larger values create more distinctive rotary speaker undulations.
7	Speaker BAL	0 ~ 100	Determines the balance between the rotor (low-band) and horn (high-band). Larger values shift the balance toward the horn.
8	Effect BAL	0 ~ 100	Determines the balance between the dry (direct) sound and the effect sound. Larger values increase the sound of the effect.

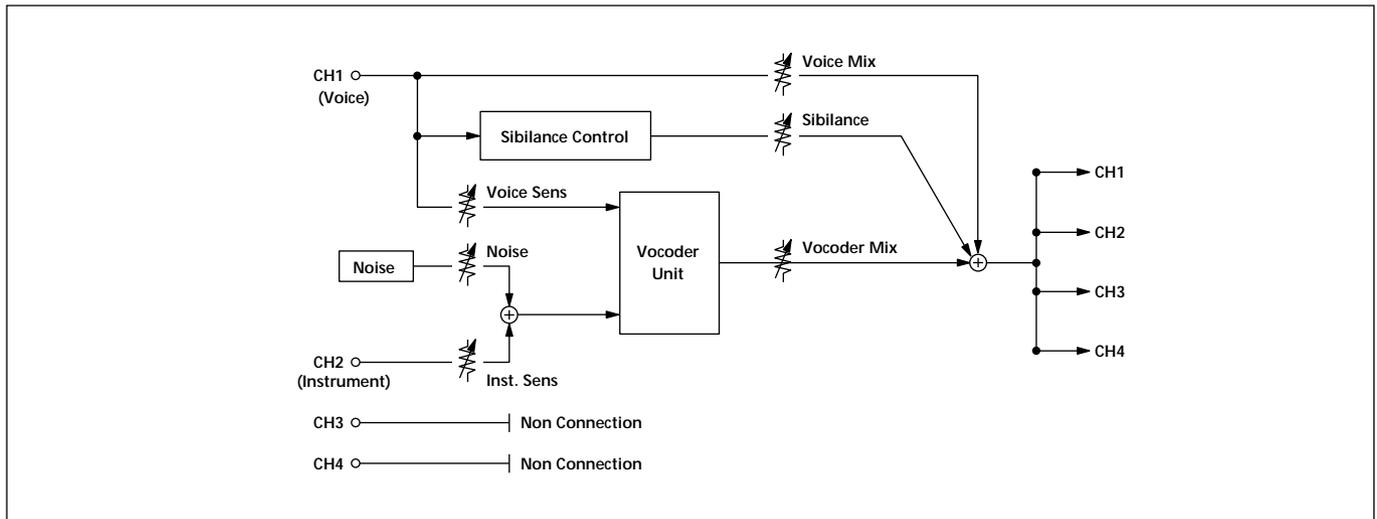
# 4 Channel Effects

## 08 Vocoder (Vocdr)

This is an 8 band vocoder. By inputting a voice through a mic (etc.) to the Lch (ch1) and inputting an instrument to the Rch (ch2), you can output the voice with the instrument's coloration. The pitch is dictated by the pitch of the instrument.

 To create the "vocoder sound" associated with electric and funk music, we recommend inputting an organ or hard synth-string type instrument to the Rch (ch2).

**Note for DPS-V55**  
 Since microphones have low output levels, be sure to connect it through a preamp (or mixer).



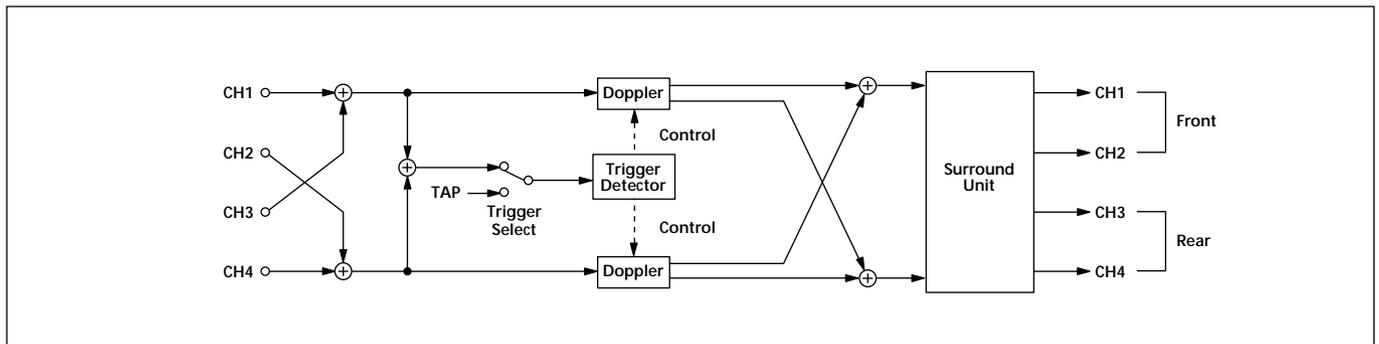
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Voice Sens	0 ~ 100	Adjusts the sensitivity to the voice (etc.) input to the Lch (ch1).
2	Inst Sens	0 ~ 100	Adjusts the sensitivity to the instrument (etc.) input to the Rch (ch2).
3	Sibilance	0 ~ 100	Sibilance is "ss" or "sh" type sounds. This parameters adjust the sibilance of the voice input into the Lch (ch1). Increasing this parameter creates more pronounced "ss" or "sh" sounds.
4	Noise	0 ~ 100	Increasing this value mixes noise into the vocoder, emphasizing vocoder sibilants and increasing clarity. It's also rather effective when using the vocoder as a sound effect.
5	Voice Mix	0 ~ 100	Determines how much of the voice (etc.) input to the Lch (ch1) will be mixed into the output.
6	Vocoder Mix	0 ~ 100	Sets the output level of the vocoder

# 4 Channel Effects

## 09 Doppler (Doplr)

Imagine an ambulance, sirens ablaze, headed your direction. The change in the way you hear the sirens during the approach and departure of the ambulance is known as the Doppler effect. This effect simulates the Doppler effect (see illustration below). When Trigger is set to "Signal" the effect is activated automatically. When Trigger is set to "Tap" the Doppler effect is activated in time with the taps on the ENTER (TAP) key.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Speed L	0 ~ 100	Determines the speed at which the sound source input to the left (L) channel will travel.
2	Speed R	0 ~ 100	Determines the speed at which the sound source input to the right (R) channel will travel.
3	Distance L	0 ~ 100	Determines the distance between the listener and the sound source input to the left (L) channel.
4	Distance R	0 ~ 100	Determines the distance between the listener and the sound source input to the right (R) channel.
5	Direction L	L→R, R→L	Determines the direction in which the sound source input to the left (L) channel will travel.
6	Direction R	L→R, R→L	Determines the direction in which the sound source input to the right (R) channel will travel.
7	Ambience	0 ~ 100	Adds ambience. Larger values create a wider "space".
8	Trigger	Signal, Tap	Determines whether the Doppler effect is triggered by the input signal or by the ENTER (TAP) key.

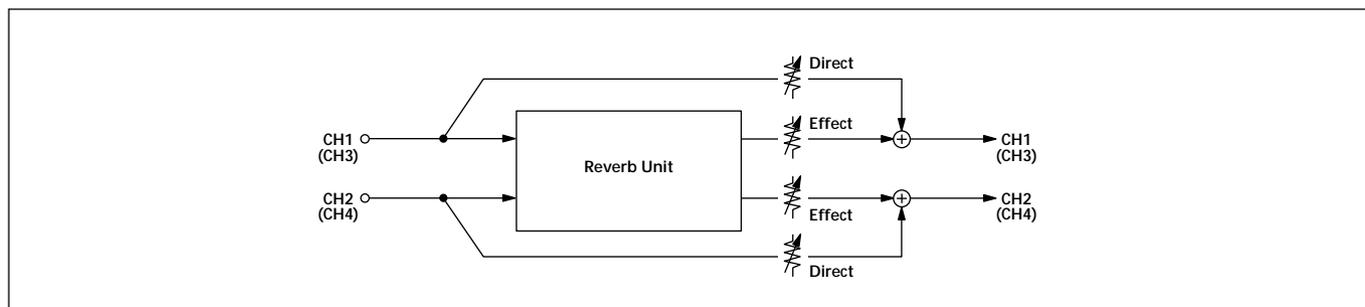
## 2 Channel Effects

### 10 Plate Reverb 2 (Plat2)

This is a reverb for stereo sources. It has a higher density than the other reverbs to produce smooth reverberation.



We especially recommend this plate reverb for percussion and vocals. It has become the standard for drums (and drum machines).



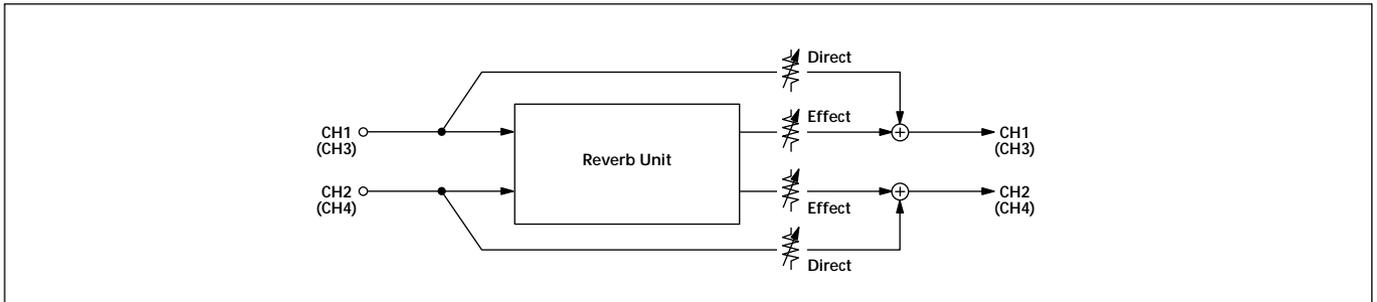
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 150 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 11 Hall Reverb 2 (Hall2)

This is a reverb for stereo sources that lets you maintain localization of the original sound. It's ideal for reproducing the feel of relatively large spaces.



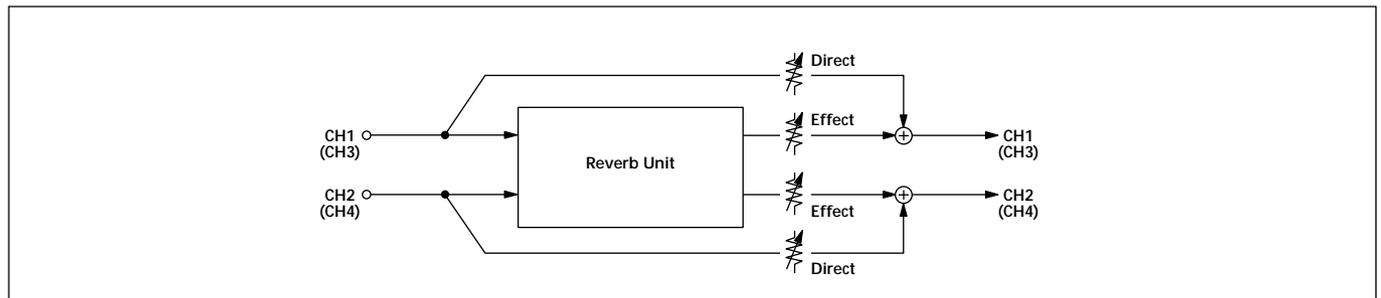
#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 150 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 12 Room Reverb 2 (Room2)

This is a reverb for stereo sources that lets you maintain localization of the original sound. It's ideal for reproducing the feel of relatively small spaces like a studio or room.



#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.12 ~ 20 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 150 ms	Sets the length of time between the input of the original sound and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Size	0.6 ~ 1.4	Adjusts the size of the soundstage without changing the character (reverb time and sound quality) of the effect.
4	Spread	0.6 ~ 1.4	Adjusts the expansiveness of the reverberation. Normally, set to the same value as Size.
5	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

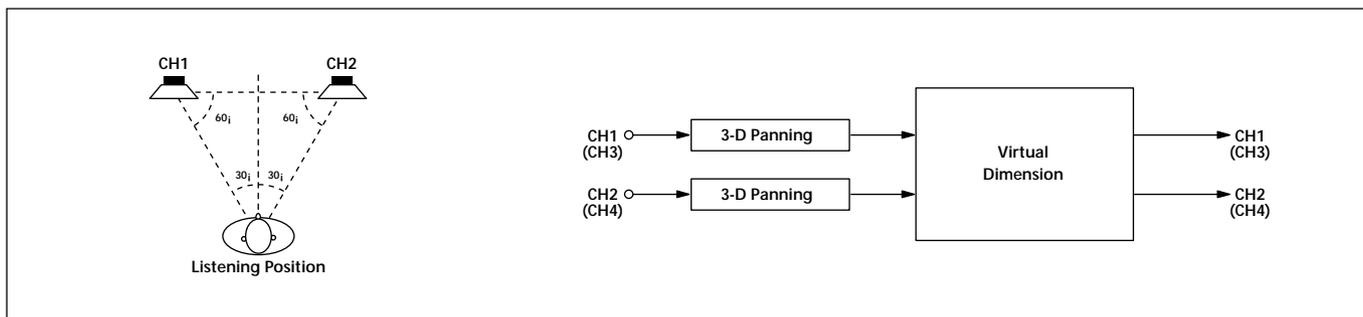
## 2 Channel Effects

### 13 3 Dimension 2 (3Dim2)

This effect lets you adjust the position of the original sound (of each of the 4 channels) within the sound stage. It lets you adjust left to right and front to back positioning simultaneously using only 2 (front) speakers.

#### Note

The relationship between your listening position and the speakers should be as close as possible to that shown below. The output from Ch 3 and Ch 4 is the exact same signal as Ch 1 and Ch 2.



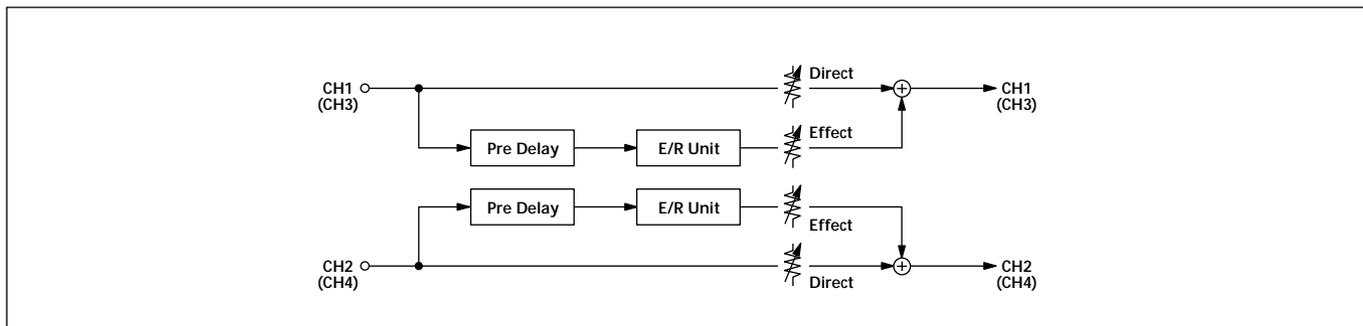
#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pan 1	L180 ~ R180	Rotates the sound from Ch 1 up to 180° left or right ("0" is front and center).
2	Pan 2	L180 ~ R180	Rotates the sound from Ch 2 up to 180° left or right ("0" is front and center).

## 2 Channel Effects

### 14 Early Reflection (E/R)

The effect lets you simulate early reflections (the first sound waves to be reflected back when using reverb, etc.). You can also use this effect for a multi-tapped delay type of sound shaping.



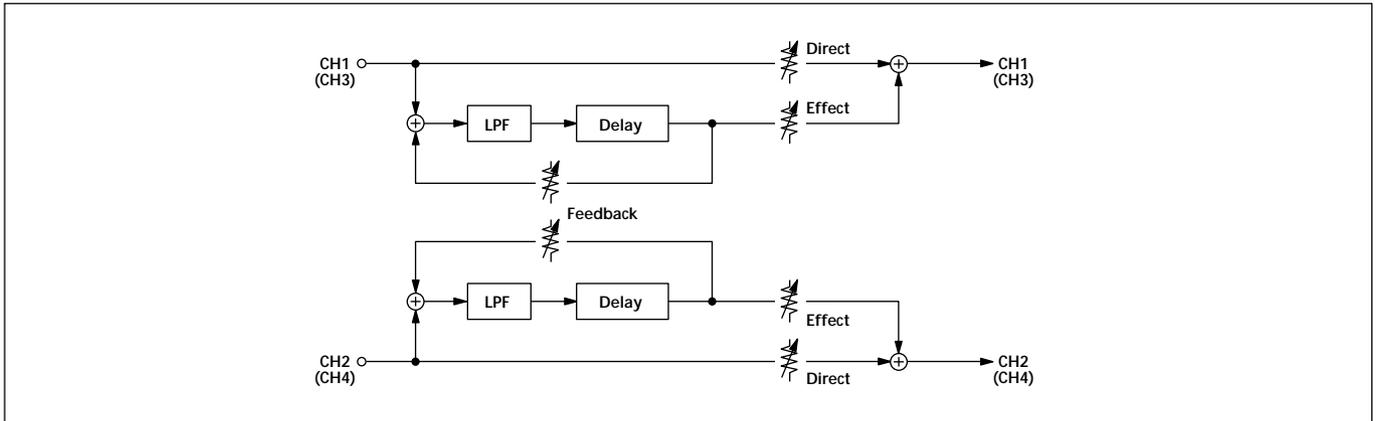
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Type	1 ~ 4	Determines the type of waves to be reflected: 1 = density of the reflected waves increases over time, 2 = density of the reflected waves does not change, 3 = density of the reflected waves decreases over time, 4 = density of the reflected waves changes randomly.
2	Level Mode	Dec, Fix, Inc	Determines how the sound level of the reflected waves will change: Dec = level of the reflected waves decreases over time, Fix = level of the reflected waves does not change, Inc = level of the reflected waves increases over time.
3	PreDelay	0 ~ 150 ms	Determines the length of time between the input of the original sound and the output of the reflected wave.
4	Diffusion L	0 ~ 100	Determines the density (time interval) of the reflected waves.
5	Diffusion R	0 ~ 100	Determines the density (time interval) of the reflected waves.
6	Direct Level	0 ~ 100	Determines the level of the direct sound.
7	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 15 Stereo Delay (StDLY)

This is a standard stereo delay effect.  
Delay adds an echo effect to the original sound.



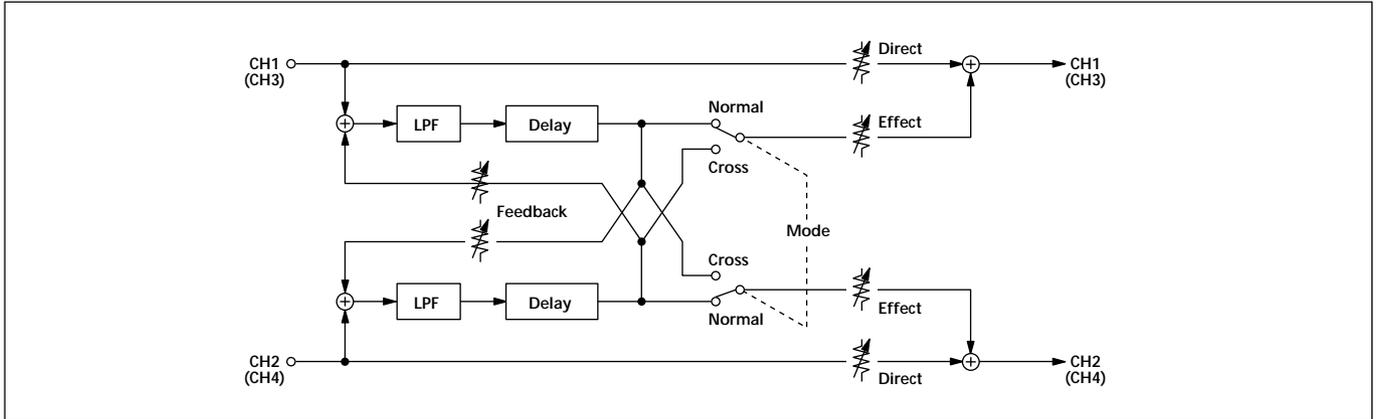
#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	DlyTime L	0 ~ 1360 ms, Tap	Sets the time that will elapse before the sound of the left (L) channel echo is output. Set to "Tap" to set the time using the TAP function.
2	DlyTime R	0 ~ 1360 ms, Tap	Sets the time that will elapse before the sound of the right (R) channel echo is output. Set to "Tap" to set the time using the TAP function.
3	Feedback L	-99 ~ +99	Feedback is what occurs when you put the sound of the echo back into the delay input. By increasing this parameter, you can add an echo to the echo to create longer reverberations. This parameter sets feedback level for the left (L) channel.
4	Feedback R	-99 ~ +99	This parameter sets feedback level for the right (R) channel.
5	LPF L	100 Hz ~ Thru	LPF (low pass filter) lets you blur the sound of the echo by blocking all frequencies higher than the one chosen in this parameter. LPF is inactive when set to "Thru". This parameter sets LPF for the left (L) channel.
6	LPF R	100 Hz ~ Thru	This parameter sets LPF for the right (R) channel.
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 16 Ping Pong Delay (PpDLY)

This effect shifts the sound of the feedback back and forth from left to right.



#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	DlyTime L	0 ~ 1360 ms, Tap	Sets the time that will elapse before the sound of the left (L) channel echo is output. Set to “Tap” to set the time using the TAP function.
2	DlyTime R	0 ~ 1360 ms, Tap	Sets the time that will elapse before the sound of the right (R) channel echo is output. Set to “Tap” to set the time using the TAP function.
3	Feedback L	–99 ~ +99	Feedback is what occurs when you put the sound of the echo back into the delay input. By increasing this parameter, you can add an echo to the echo to create longer reverberations. This parameter sets feedback level for the left (L) channel.
4	Feedback R	–99 ~ +99	This parameter sets feedback level for the right (R) channel.
5	LPF	100 Hz ~ Thru	LPF (low pass filter) lets you blur the sound of the echo by blocking all frequencies higher than the one chosen in this parameter. LPF is inactive when set to “Thru”.
6	Mode	Cross, Normal	Determines which channel the echo will be output from. “Cross” outputs the echo for the left (L) channel from the right (R) channel and vice versa. “Normal” outputs the echoes from their original channels.
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

# 2 Channel Effects

## 17 Stereo Pitch Shifter (StPCH)

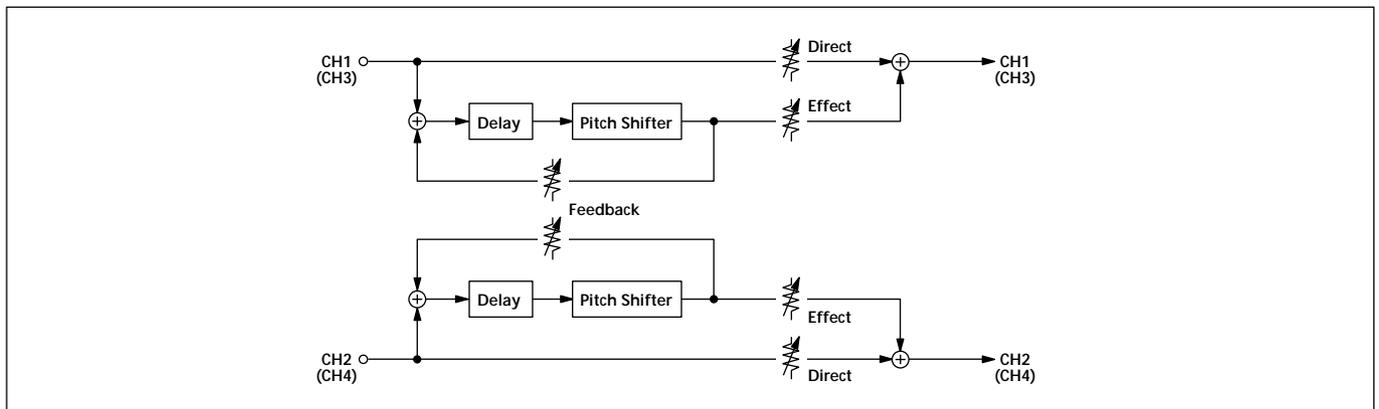
The pitch shifter changes the pitch of the input sound. The pitch of the input sound is moved parallel and output according to the value set in Pitch.

By increasing the Pitch FB L/Pitch FB R (Pitch Feedback Left and Right), you can create step-like undulating effects.

In this case, use PitchDly L/PitchDly R (Pitch Delay Left and Right) to adjust the timing and Pitch to adjust the pitch width.



If you leave the Pitch value itself set near 0 and create a slight delay between the source sound and the effect, you can obtain a chorus effect with a somewhat different flavor.



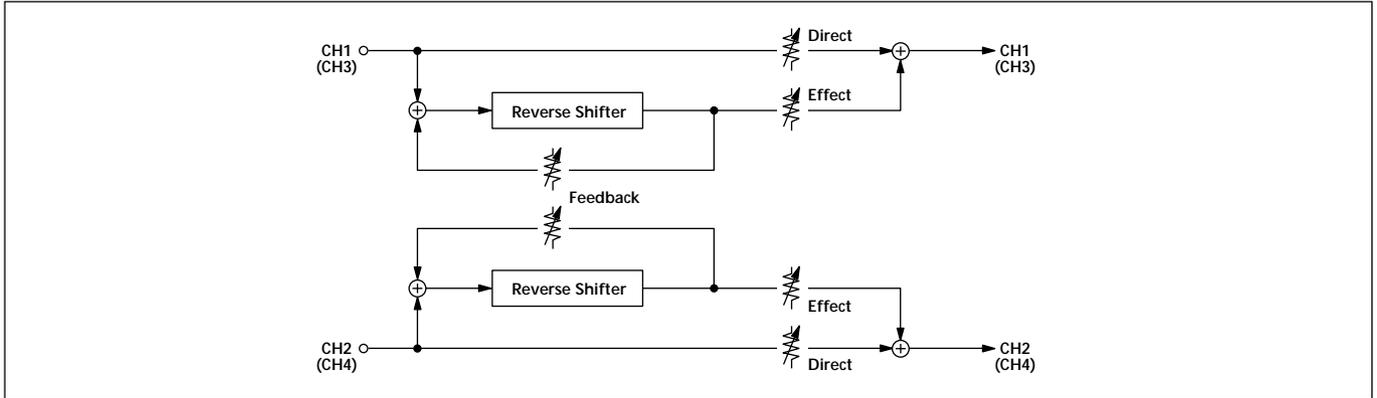
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pitch	-2400 ~ +2400	Sets the range of the pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
2	PitchDly L	0 ~ 500 ms	Determines how long it will take to activate the pitch shift effect for the Lch (ch1).
3	PitchDly R	0 ~ 500 ms	Determines how long it will take to activate the pitch shift effect for the Rch (ch2).
4	Pitch FB L	-99 ~ +99	Sets the pitch shifter feedback level for the Lch (ch1).
5	Pitch FB R	-99 ~ +99	Sets the pitch shifter feedback level for the Rch (ch2).
6	Mode	Fast, Soft	Determines the "feel" of the sound. Choose "Fast" to speed up the effect, or "Soft" when you want to soften the effect.
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 18 Reverse Shifter (RvSFT)

This stereo pitch shifter creates the effect of playing in reverse. Psychedelic!



#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pitch	-1200 ~ +1200	Sets the range of the pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
2	Length	20 ~ 650	Determines the length of the sound to be spun in reverse.
3	Feedback	-99 ~ +99	Sets the pitch shifter feedback level.
4	Direct Level	0 ~ 100	Determines the level of the direct sound.
5	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 19 Stereo Chorus (Chorus)

This is a standard chorus effect.

Chorus adds a sense of expansion and depth.



Generally speaking, you can fatten longer sounds (like strings or a chorus) by combining a large Depth and a slower (small) Rate. On the other hand, it's generally more effective to set a smaller Depth and then adjust the Rate to obtain an effective chorus for rapidly decaying sounds (like electric-piano or electric guitars).

You can also make other changes, like setting a lower LPF to create a smoother analog-like sound. Higher settings create a clearer chorus sound.

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	LFO Form	Sin, Tri	Selects the modulation waveform. Generally, Sin (sine wave) produces a deeper, undulating effect, and Tri (symmetrical triangular wave) produces a cleaner, gentle effect with less modulation.
4	PreDelay	0 ~ 500 ms	Determines how long it will take to activate the chorus effect.
5	LPF	100 Hz ~ Thru	LPF blocks all frequencies higher than the one set in this parameter. Useful for softening the chorus. LPF is inactive when set to "Thru".
6	Spread	0 ~ 20	Determines the amount of expansion between the two channels. There is no effect when set to "0".
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 20 Stereo Flanger (Flangr)

This is a standard flanger for use with stereo sources. The flanger produces undulations similar to jet takeoffs and landings. Increase the Depth for stronger undulations, or increase the Feedback to produce high pitched whining. Increase the Spread value to bring out a greater sense of left to right expansion.

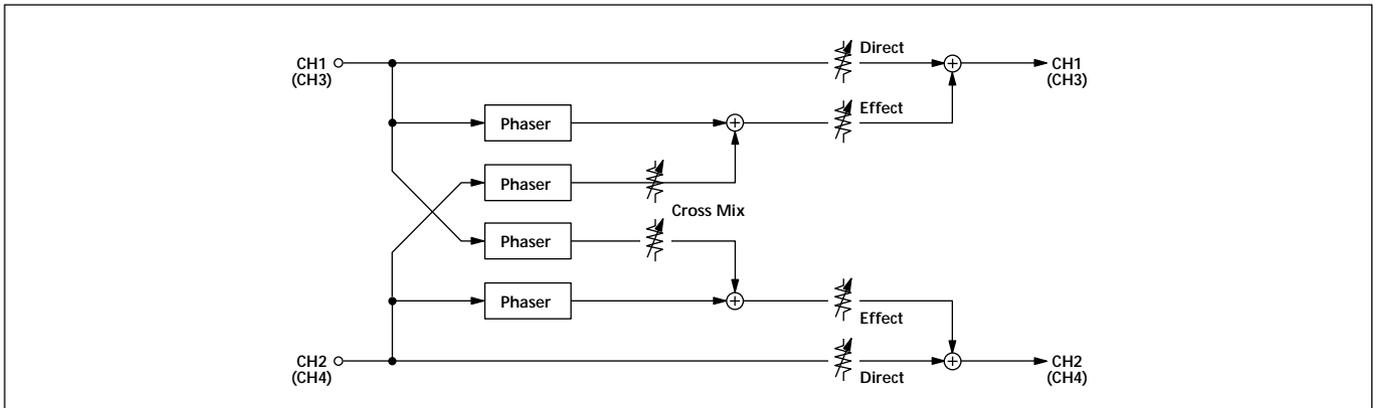
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	Feedback	–99 ~ 99	Determines the amount of feedback in the effect unit. Increasing this value lets you create a more distinct flanging undulation. With some sources, however, increasing this value too much will result in distortion.
4	PreDelay	0 ~ 500 ms	Determines how long it will to activate the flanging effect.
5	LPF	100 Hz ~ Thru	LPF blocks all frequencies higher than the one set in this parameter. Useful for softening the flanger. LPF is inactive when set to “Thru”.
6	Spread	0 ~ 20	Determines the amount of expansion between the two channels. There is no effect when set to “0”.
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 21 Stereo Phaser (StPHS)

This is a standard stereo phaser. The phaser effect adds out of phase sound to the source to create a sort of undulating expansion. Use the Cross Mix to produce a more 3-dimensional effect. Increasing the Resonance value adds bite.



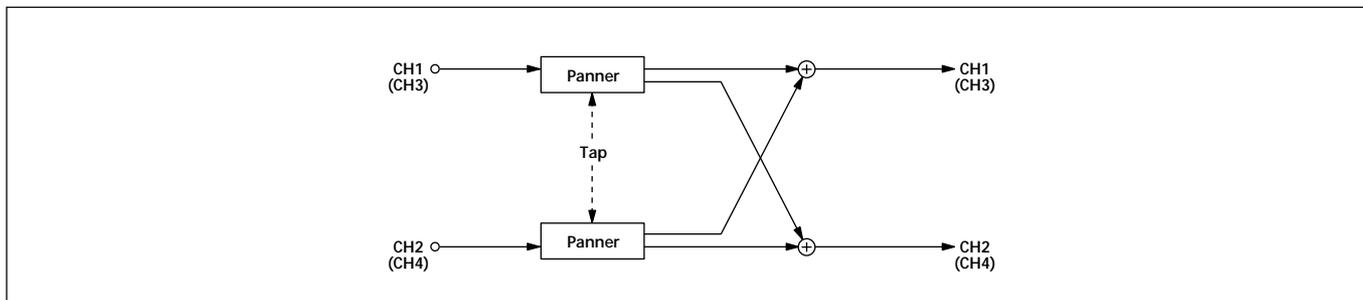
#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no phasing at 0%.
3	Manual	0 ~ 100	Determines which frequency the phasing will center on.
4	Resonance	-99 ~ +99	Sets the amount of resonance. Increasing this value produces more distinct phasing in the mid and high bands.
5	Cross Mix	0 ~ 100	Sets the mix level of the cross phasers.
6	Spread	0 ~ 20	Determines the amount of expansion between the two channels. There is no effect when set to "0".
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 22 Stereo Panner (StPAN)

This effect changes the location of the source sound. It moves input signal cyclically from left to right.



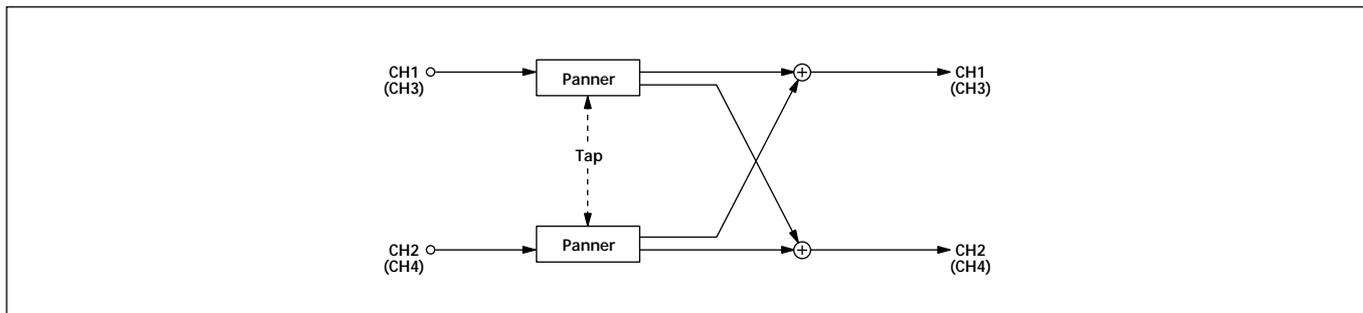
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the panning cycles.
2	Depth	0 ~ 100	Sets the depth of the panning between each channel. The effect pans deeper into each channel as you increase this value. There is no effect at "0".
3	LFO Form	Sin, Tri	Selects the panning wave form.
4	Ch Phase	0 ~ 20	Adjusts the panning phase between the channels. "0" moves the left and right in opposition. "20" moves the left and right together.
5	Attack	0 ~ 100	Determines how long it will take to start (or stop) panning when ENTER (TAP) is pressed.
6	Init. Mode	On, Off	Determines whether panning will start or stop when you press ENTER (TAP).

## 2 Channel Effects

### 23 Haas Panner (HsPAN)

This is Stereo Panning with the Haas effect. The Haas effect produces a natural pan that doesn't seem to "stick to your ear." Even when listening with headphones.



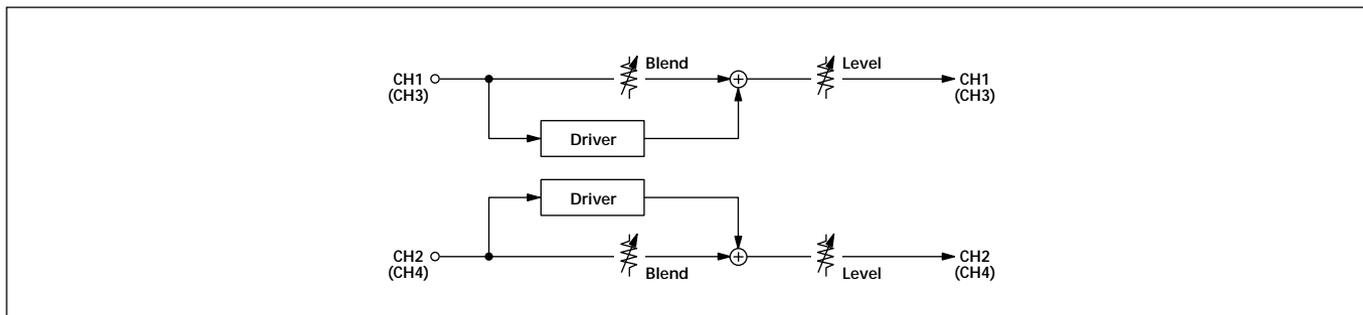
#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the panning cycles.
2	Depth	0 ~ 100	Sets the depth of the panning between each channel. The effect pans deeper into each channel as you increase this value. There is no effect at "0".
3	LFO Form	Sin, Tri	Selects the panning wave form.
4	Ch Phase	0 ~ 20	Adjusts the panning phase between the channels. "0" moves the left and right in opposition. "20" moves the left and right together.
5	Attack	0 ~ 100	Determines how long it will take to start (or stop) panning when ENTER (TAP) is pressed.
6	Init. Mode	On, Off	Determines whether panning will start or stop when you press ENTER (TAP).

## 2 Channel Effects

### 24 Driver (Drive)

This is a distortion producing stereo driver. The Color parameter lets you choose from several varieties of overdrive and distortion.



#### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Gain	0 ~ 100	Determines the effect depth. Larger values create a more radical distortion.
2	Level	0 ~ 100	Determines the output level of the driver effect
3	Color	1 ~ 6	Selects the basic tonality of the distortion or overdrive. 1 = Overdrive from an old distorting tube amp. 2 = Mid and Low band overdrive. 3 = Mid band overdrive. 4 = Grungy feeling overdrive. 5 = Distortion from an fully cranked tube amp. 6 = Overpowering "heavy metal" distortion.
4	Tone	-10 ~ +10	High band tone control. Larger values create a "tighter" sound.
5	Blend	0 ~ 100	Determines the percent of undistorted source sound to mix with the distortion. Normally, set to "0" but you can increase this value to retain more of the source's nuance.
6	N.R.	0 ~ 100	Use this parameter to reduce unwanted noise. Increasing this value cuts more noise.

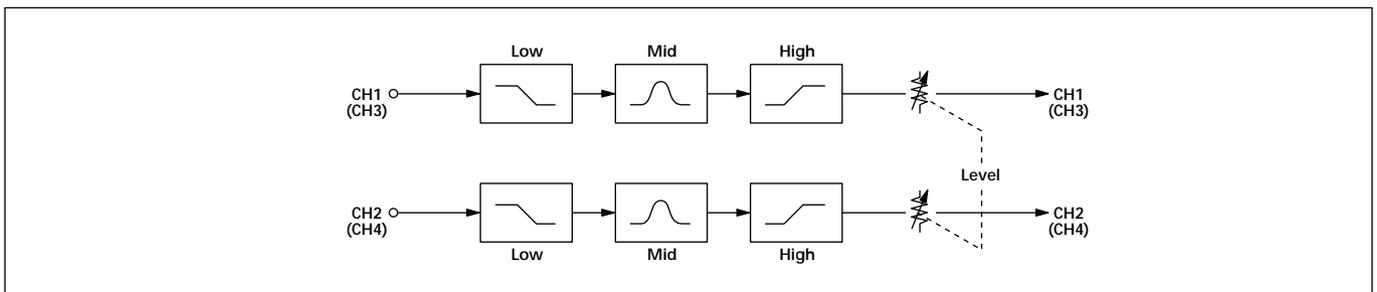
## 2 Channel Effects

### 25 3 band Equalizer (EQ)

This equalizer incorporates: a shelving equalizer for the low band, a single band parametric equalizer (with gain and Q (width) adjustments) for the mid band, and another shelving equalizer for the high band.

#### Note

If the sound becomes distorted when you increase the Gain level(s), try reducing the Level parameter.



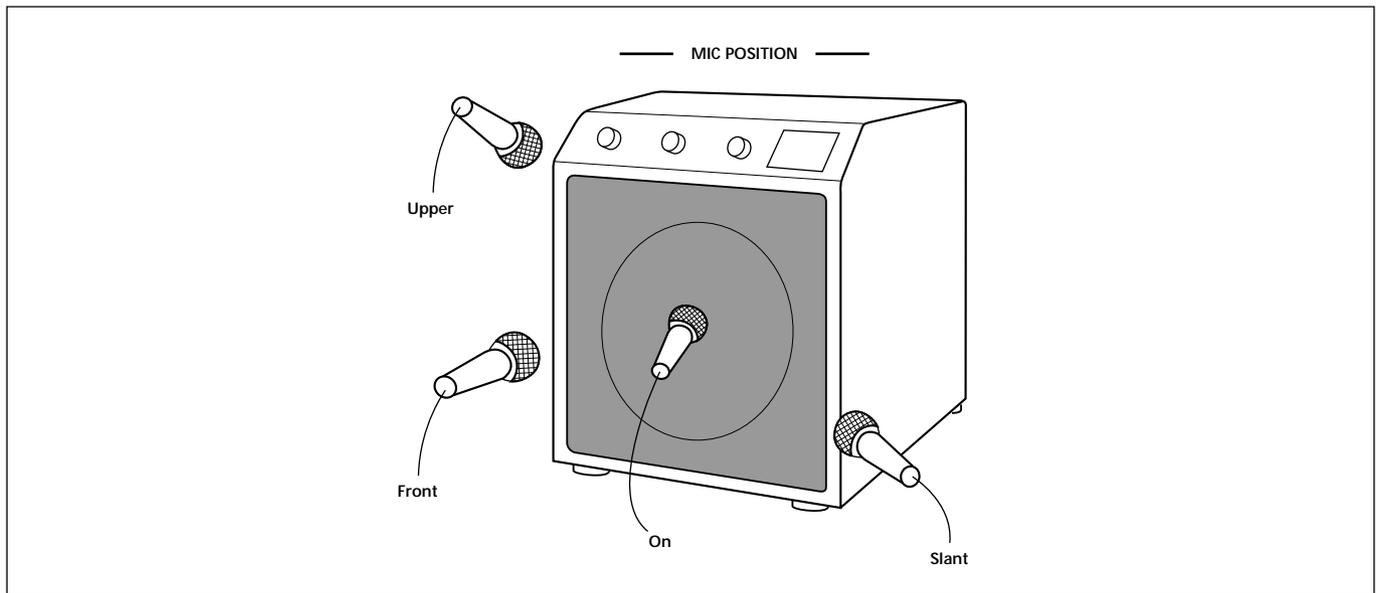
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Low Gain	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the frequency set in the Low Freq parameter.
2	Low Freq	100 Hz ~ 6.3 kHz	Determines which frequency band the low-frequency equalization will be applied to.
3	Mid Gain	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the frequency set in the Mid Freq parameter.
4	Mid Freq	100 Hz ~ 20.0 kHz	Determines which frequency band the mid-frequency equalization will be applied to.
5	Q	0.25 ~ 4.0	Determines the width of the Mid Freq equalization band. Larger values produce a narrower band.
6	High Gain	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the frequency set in the High Freq parameter.
7	High Freq	400 Hz ~ 20.0 kHz	Determines which frequency band the high-frequency equalization will be applied to.
8	Level	Link, Dual	Determines the output level for the entire equalizer block.

## 2 Channel Effects

### 26 Amp Simulator (Amp)

This effect simulates a variety of famous guitar amplifiers. Use **Amp Mode** to select the type of amp you want to simulate. Use **Mic** to experiment with the positioning of the virtual mic recording the sound from the amp.



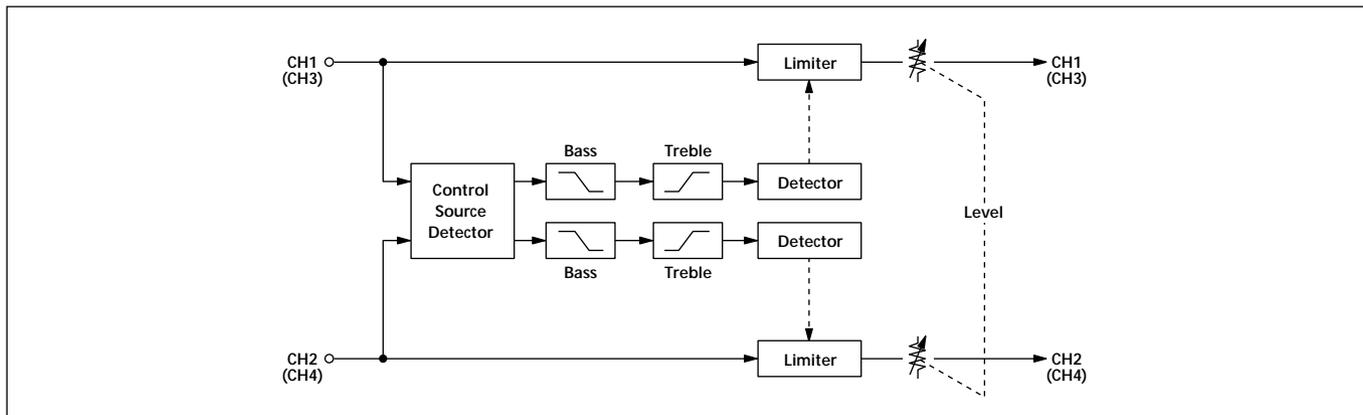
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Amp Mode	Amp-F, Amp-B, Amp-M, Amp-J	Determines the type of amp the effect will simulate. Amp-F: a 2 speaker built in tube amp. Amp-B: a 1 speaker built in tube amp. Amp-M: a large stack-type amp. Amp-J: a bright 2 speaker built in amp.
2	Mic	Front, Slant, Upper, On	Simulates various mic positions used to catch the sound of the amp. Front: Directly in front of the speaker. Slant: Slanted sideways in front of the speaker. Upper: Slanted slightly upward in front of the speaker. On: Mic touching the speaker.
3	Level L	0 ~ 100	Sets the output level for the Lch (ch1).
4	Level R	0 ~ 100	Sets the output level for the Rch (ch2).

## 2 Channel Effects

### 27 Limiter (Limit)

This stereo limiter limits all signals above the Threshold. The Bass and Treble parameters let you emphasize or limit or the frequencies effected by the limiter.



#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Threshold	0 ~ 100	Determines the signal level necessary to activate the limiter. Smaller values allow the limiter to activate in response to smaller signal levels.
2	Ratio	1:1 ~ 1:∞	Determines the ratio of compression for signals exceeding the Threshold. Larger values create more drastic compression.
3	Release	0 ~ 100	Sets the time required for the effect to completely disappear once the input signal goes below the Threshold. Larger values retain create a slower release.
4	Level	0 ~ 100	The limiter changes the sound level of the input signals. This parameter lets you set the output level from the limiter.
5	Bass	–24.0 dB ~ +12.0 dB	Low band equalizer that allows you to determine which signals are sent to the limiter. Most effective when used during mixdown.
6	Treble	–24.0 dB ~ +12.0 dB	High band equalizer that allows you to determine which signals are sent to the limiter. Most effective when used during mixdown.
7	Range	Flat, 0 ~ 10	Determines which frequencies the limiter will “center” on. When set to “Flat” the limiter operates on the entire frequency band.
8	Mode	Link, Dual	To have process the left (L) and right (R) channels together, select “Link”. To process them separately, select to “Dual”.

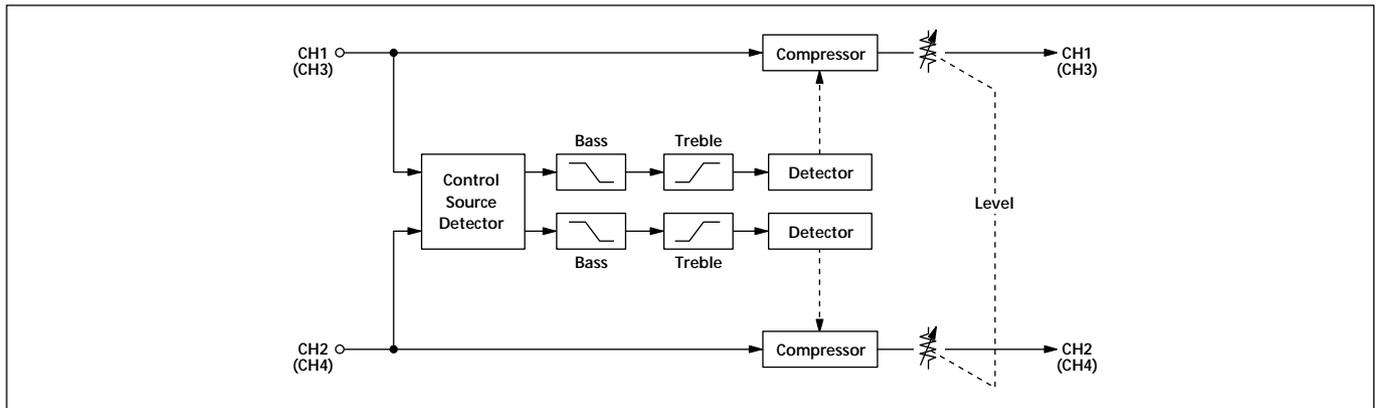
# 2 Channel Effects

## 28 Compressor (Comp)

This effect reduces signals with large levels and increases signals with small levels to create even output levels.



A particularly effective use of compression is to center low-end compression on the bass drum of a drum machine. You can also employ pro techniques like low end compression of a completed track.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Sens	0 ~ 100	Sets the compressor's sensitivity to the input signal. Larger parameter values allow the compressor to respond to smaller signal levels.
2	Attack	1:1 ~ 1:∞	Specifies the time required for the effect to fully activate once a sound is input.
3	Release	0 ~ 100	Sets the time required for the effect to completely disappear. Larger values retain create a slower release.
4	Level	0 ~ 100	The compressor changes the sound level of the input signals. This parameter lets you set the compressor's output level.
5	Bass	-24.0 dB ~ +12.0 dB	Low band equalizer that allows you to determine which signals are sent to the compressor. Most effective when used during mixdown.
6	Treble	-24.0 dB ~ +12.0 dB	High band equalizer that allows you to determine which signals are sent to the compressor. Most effective when used during mixdown.
7	Range	Flat, 0 ~ 10	Determines which frequencies the compressor will "center" on. When set to "Flat" the compressor operates on the entire frequency band.
8	Mode	Link, Dual	To process the left (L) and right (R) channels together, select "Link". To process them separately, select to "Dual".

## 2 Channel Effects

### 29 Exciter (Excit)

This stereo effect emphasizes the sound outline to produce a fully modulated sound.

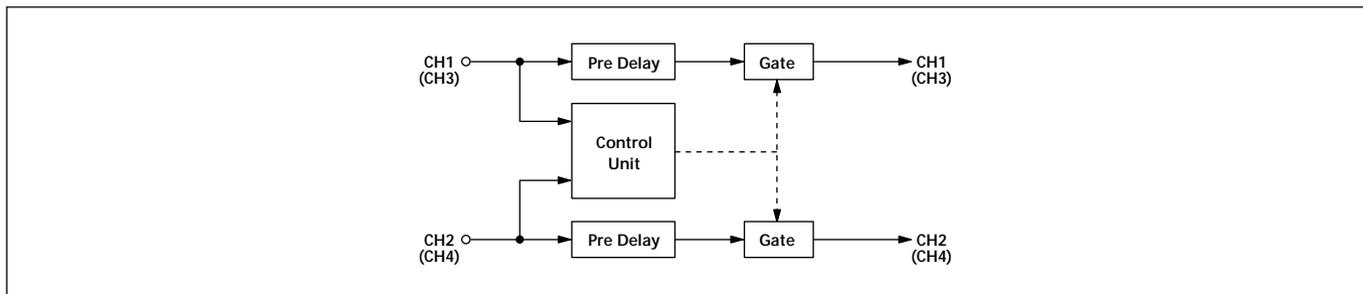
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Excite Gain	0 ~ 100	Adjusts the exciter's gain. If it seems like the signal is clipping, try lowering the input level using the INPUT LEVEL knobs or lowering the Level parameter.
2	Frequency	1 ~ 32	Sets the center frequency for the exciter effect. Larger values allow the exciter to effect higher frequencies. Note, this is only possible when the Type parameter is set to "1".
3	Type	1, 2	Sets the exciter type.
4	Level	0 ~ 100	Sets the total (output?) level. When the Exciter Gain is set to a high value, be careful when adjusting this value to avoid clipping.

## 2 Channel Effects

### 30 Gate (Gate)

Forcibly cuts the input after a given time has elapsed. You can make your own gated reverb by adding this effect to a reverb effect.



#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	GateTime	0 ~ 1000 ms	Determines how long the gate will remain open (outputting sound).
2	Threshold	0 ~ 100	Determines the input signal level necessary to open the gate. (Signal levels surpassing the Threshold open the gate.)
3	Attack	0 ~ 100	Determines how long it will take for the gate to open completely once the input signal surpasses the Threshold.
4	Release	0 ~ 100	Determines how long it will take for the gate to close completely once the input signal goes below the Threshold.
5	PreDelay	0 ~ 500 ms	Determines how long it will take for the signal to enter the gate circuitry.
6	MaskTime	0 ~ 100 (0 ~ 1.0 s)	Determines how long the gate will remain closed before opening again (mask time). Output is muted and the gate will not open during the mask time, even if the signal surpasses the Threshold.
7	Source	Lch, L+Rch, Rch	Determines which source will trigger the gate.

## 2 Channel Effects

### 31 Tremolo (TremI)

Tremolo allows you to adjust the volume cyclically.

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the tremolo cycles.
2	Depth	0 ~ 100	Sets the tremolo depth. There is no effect at "0".
3	LFO Form	Sin, Tri	Selects the wave form.
4	Ch Phase	0 ~ 20	Use to add a sense of left to right expansion or add an LFO phase difference. Does not effect the tremolo when set to "0".
5	Attack	0 ~ 100	Determines how long it will take to start (or stop) the tremolo when ENTER (TAP) is pressed.
6	Init. Mode	On, Off	Determines wether the tremolo will start or stop when you press ENTER (TAP).

### 32 Vibrato (VibrI)

Vibrato allows you to adjust the pitch cyclically.

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the vibrato cycles.
2	Depth	0 ~ 100	Sets the vibrato depth. There is no effect at "0".
3	LFO Form	Sin, Tri	Selects the wave form.
4	Ch Phase	0 ~ 20	Use to add a sense of left to right expansion or add an LFO phase difference. Does not effect the vibrato when set to "0".
5	Attack	0 ~ 100	Determines how long it will take to start (or stop) the vibrato when ENTER (TAP) is pressed.
6	Init. Mode	On, Off	Determines wether the vibrato will start or stop when you press ENTER (TAP).

## 2 Channel Effects

### 33 Auto Wah (Wah)

The auto wah effect changes according to the level of the input signal (auto wah).



The Sens parameter lets you switch the polarity of the wah effect.

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Sens	–100 ~ 100	Determines the depth of the wah. Negative (–) values shift the sound from “wah” (open) to “ooo” (closed) as the level of the input signal increases. Positive (+) values shift the sound from “ooo” to “wah” as the level of the input signal increases.
2	Attack	0 ~ 50	Determines how long it will take to activate the effect when a signal is input. Larger values take longer for the effect to activate.
3	Release	0 ~ 50	Sets the time required for the effect to completely disappear when the input signal decreases. Larger take longer for the effect to disappear.
4	Mode	Narrow, Normal, Wide, Low	Choose “Narrow” for light wah, “Wide” for a deep wah, or “Low” for low band wah.

## 2 Channel Effects

### 34 Pitch Roller (PtROL)

This effect lets you produce sounds similar to stopping, or speeding up, a tape recorder. By setting Trigger to “Tap” you can use the ENTER (TAP) key to control the speed of the tape recorder. By setting Trigger to “Signal”, you can vary the pitch according to the level of the signal being input.



By setting Pitch to “100,” Trigger to “Tap” and pressing ENTER (TAP) at just the right time, you can obtain an effect similar to that of using your hand to stop a tape recorder. Give it a try while inputting a signal from a CD (etc.).

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pitch	–100 ~ 100	When the trigger activates to adjust the pitch, this parameter determines the highest (or lowest) pitch value. 100% raises the pitch 1 octave, –100% lowers the pitch until it completely disappears.
2	Mode	Fast, Slow	Determines the “feel” of the sound. Choose “Fast” to speed up the effect, or “Soft” when you want to soften the effect.
3	Attack	0 ~ 100	Determines how long it will take for the pitch to be raised or lowered once the trigger is activated.
4	MaskTime	0 ~ 100 (0 ~1.0 s)	Determines how long the trigger will be prevented from activating (masked) once the trigger has been turned “On” or “Off.”
5	Trigger	Signal, Tap	Selects how to trigger the effect. Signal: activates the effect when the signal level surpasses the Threshold. Tap: activates the effect when ENTER (TAP) is pressed.
6	Threshold	0 ~ 100	When Trigger is set to “Signal”, the effect activates when signals larger than the value set in this parameter are input.
7	Direct Level	0 ~ 100	Determines the level of the direct sound.
8	Effect Level	0 ~ 100	Determines the level of the effect sound.

## 2 Channel Effects

### 35 Vocal Canceled (VoCNL)

This effect lets you erase vocals from a CD or other stereo music source.

#### Note

Depending on the source, vocals may not be completely erased.

#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Position	Lch, 99:1 ~ 99:1, Rch	Determines the position of the sound you want to cancel.
2	Spread	0 ~ 100	Lets you create a stereo-like effect by offsetting the phase of the signal once the vocal has been cancelled.

## 2 Channel Effects

### 36 Freeze (Freez)

This effect records and plays back the input sound. Use it as a simple sampler.

#### Operating the Effect

##### Recording

This effect is automatically set to the record standby mode when it is selected (via an effect type or program change operation) . Just activate the trigger to start recording.

##### Playback

When recording has finished, the previously output sound is cut and the effect automatically switches to play mode. To start playback, activate the trigger.

##### Recording Again

To record again, simply reset the REC Ready parameter to switch the unit to record standby mode.

#### Notes

- The recorded sound is erased if you:
  - ① turn off the power,
  - ② select another program (program change),
  - ③ change the effect type.
- The sound cannot be saved, even if you save the effect.

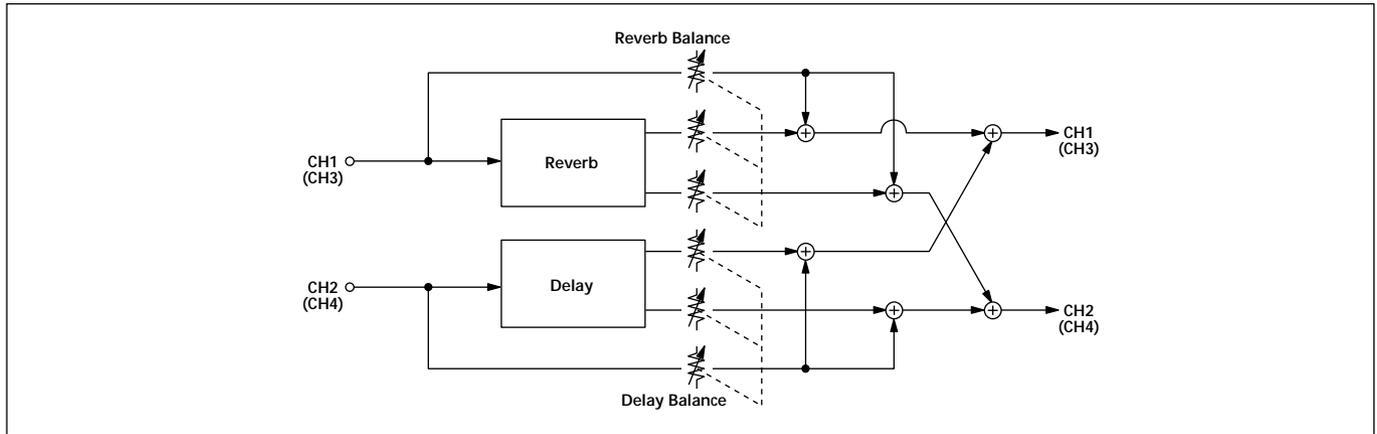
#### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Start Point	–100 ~ 0 ~ 1200	Determines where playback will start.
2	Stop Point	–100 ~ 0 ~ 1200	Determines where playback will stop.
3	Loop Point	–100 ~ 0 ~ 1200	Determines the position of the playback loop. Setting different values for the Loop Point and Stop Point allows you to play back the area in between repeatedly (loop playback). If both points have the same value, playback stops automatically.
4	REC Ready	Off, On	To record again after playback, set this parameter to “On” to set the effect to record standby mode.
5	Trigger	Signal, Tap	Selects how the trigger will be activated. Signal: activates the trigger when the signal level surpasses the Threshold. Tap: activates the trigger when ENTER (TAP) is pressed.
6	Threshold	0 ~ 100	When Trigger is set to “Signal”, the trigger activates when signals larger than the value set in this parameter are input.

# Mono-Pair Effects

## 37 Reverb / Delay (RV/DL)

In this combination effect, the Lch (ch1 or ch3) is a reverb, and the Rch (ch2 or ch4) is a delay. The output of each effect is sent to both the L and R channels.



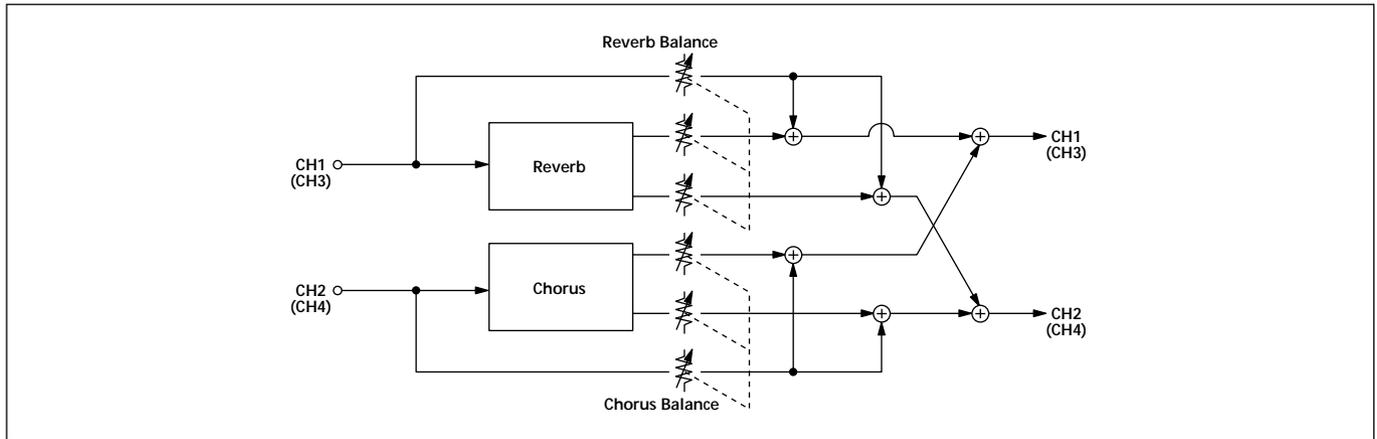
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 150 ms	Sets the length of time between the input of the sound to be reverberated and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
4	Rev BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the reverb (effect) sound. Increasing the parameter value increases the sound of the reverb.
5	DelayTime	0 ~ 500 ms	Sets the time that will elapse before the sound of the echo is output.
6	Delay FB	-99 ~ +99	This parameter sets delay's feedback level.
7	LPF L	100 Hz ~ 20 kHz, Thru	LPF (low pass filter) lets you blur the sound of the echo by blocking all frequencies higher than the one chosen in this parameter. LPF is inactive when set to "Thru". This parameter sets delay's LPF.
8	Dly BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the delay (effect) sound. Increasing the parameter value increases the sound of the delay.

# Mono-Pair Effects

## 38 Reverb / Chorus (RV/CH)

In this combination effect, the Lch (ch1 or ch3) is a reverb, and the Rch (ch2 or ch4) is a chorus. The output of each effect is sent to both the L and R channels.



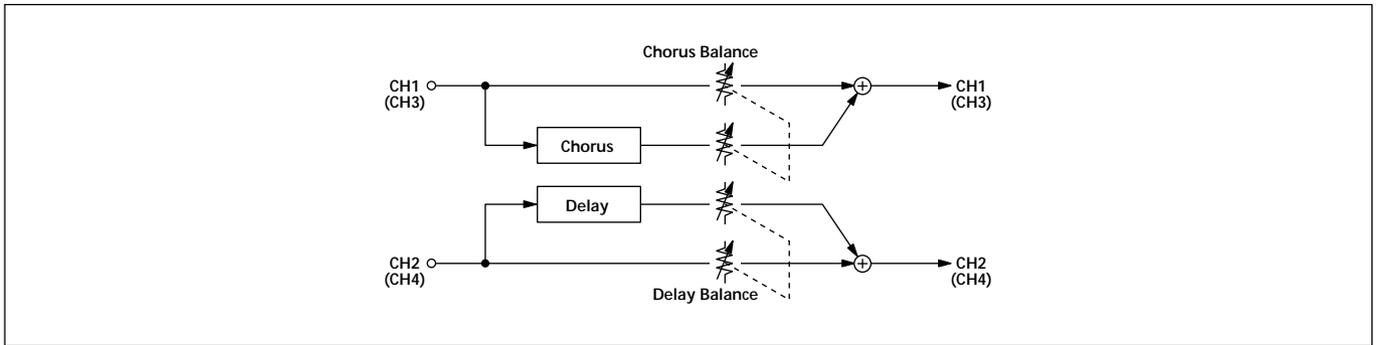
### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rev Time	0.3 ~ 50 s	Determines how long the reverberation will last.
2	PreDelay	0 ~ 150 ms	Sets the length of time between the input of the sound to be reverberated and the output of the reverberation. Normally, set the predelay relative to the reverb length (i.e., Set a long Rev Time, and a long PreDelay to create a greater sense of space).
3	Hi Damp	0 ~ 100	Sets the ratio of high frequency reverb time in relation to the overall reverberation. Smaller values increase the rate of attenuation in the high frequencies.
4	Rev BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the reverb (effect) sound. Increasing the parameter value increases the sound of the reverb.
5	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the chorus low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
6	Depth	0 ~ 100	Sets the depth of the chorus low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
7	Chr PreDly	0 ~ 500 ms	Determines how long it will take to output the chorus effect once the direct sound has been output.
8	Chr BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the chorus (effect) sound. Increasing the parameter value increases the sound of the chorus.

# Mono-Pair Effects

## 39 Chorus / Delay (CH/DL)

In this combination effect, the Lch (ch1 or ch3) is a monaural chorus, and the Rch (ch2 or ch4) is a monaural delay.



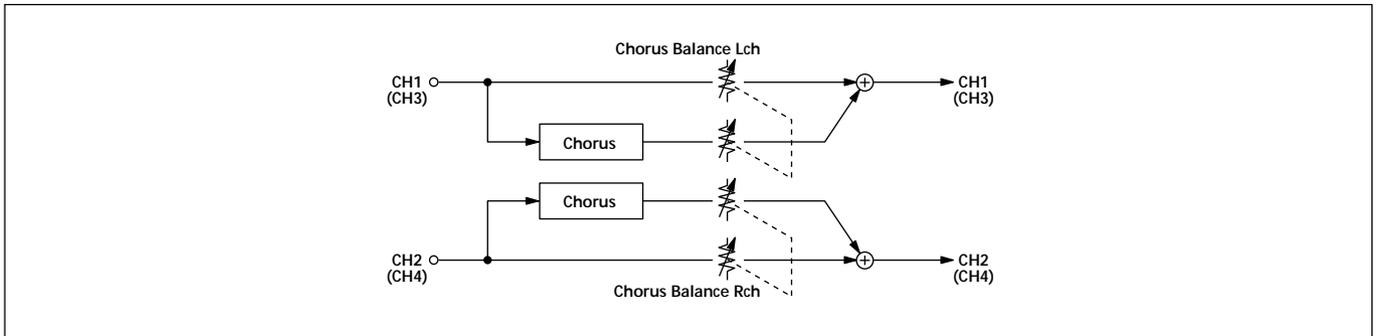
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the chorus low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the chorus low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	Chr PreDly	0 ~ 500 ms	Determines how long it will take to output the chorus effect once the direct sound has been output.
4	Chr BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the chorus (effect) sound. Increasing the parameter value increases the sound of the chorus.
5	DelayTime	0 ~ 500 ms	Sets the time that will elapse before the sound of the echo is output.
6	Delay FB	-99 ~ +99	This parameter sets delay's feedback level.
7	LPF L	100 Hz ~ 20 kHz, Thru	LPF (low pass filter) lets you blur the sound of the echo by blocking all frequencies higher than the one chosen in this parameter. LPF is inactive when set to "Thru". This parameter sets delay's LPF.
8	Dly BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the delay (effect) sound. Increasing the parameter value increases the sound of the delay.

# Mono-Pair Effects

## 40 Chorus / Chorus (CH/CH)

In this combination effect, each channel is provided with a monaural chorus.



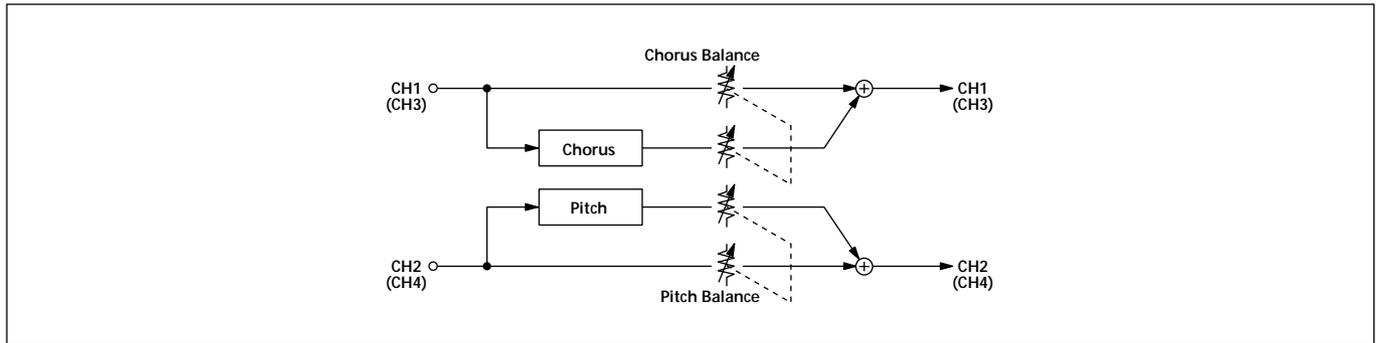
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate L	0 ~ 100	Sets the rate (frequency or modulation speed) of the chorus low frequency oscillator (LFO). The modulation cycles become faster as you increase this value. (Lch)
2	Depth L	0 ~ 100	Sets the depth of the chorus low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%. (Lch)
3	PreDelay L	0 ~ 500 ms	Determines how long it will take to output the chorus effect once the direct sound has been output. (Lch)
4	Chr BAL L	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the chorus (effect) sound. Increasing the parameter value increases the sound of the chorus. (Lch)
5	Rate R	0 ~ 100	Sets the rate (frequency or modulation speed) of the chorus low frequency oscillator (LFO). The modulation cycles become faster as you increase this value. (Rch)
6	Depth R	0 ~ 100	Sets the depth of the chorus low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%. (Rch)
7	PreDelay R	0 ~ 500 ms	Determines how long it will take to output the chorus effect once the direct sound has been output. (Rch)
8	Chr BAL R	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the chorus (effect) sound. Increasing the parameter value increases the sound of the chorus. (Rch)

# Mono-Pair Effects

## 41 Chorus / Pitch (CH/PT)

In this combination effect, the Lch (ch1 or ch3) is a monaural chorus, and the Rch (ch2 or ch4) is a monaural pitch shifter.



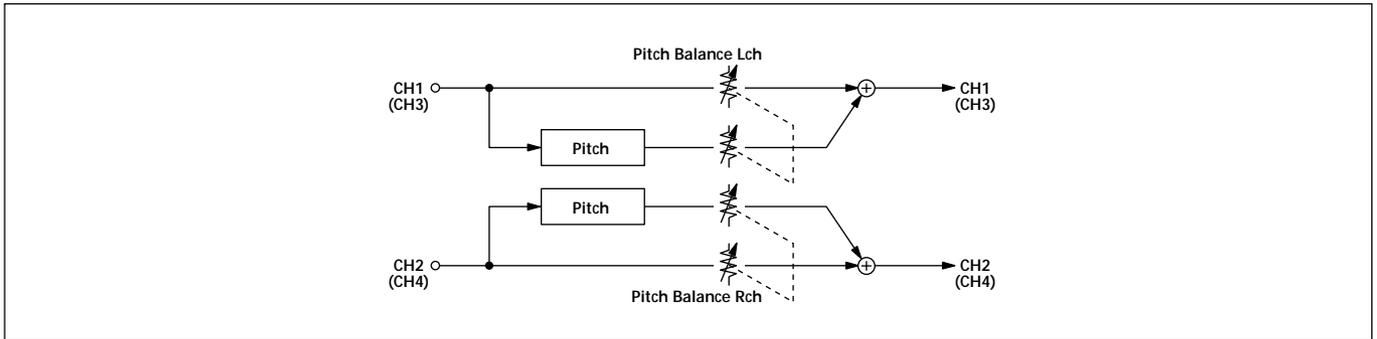
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Rate	0 ~ 100	Sets the rate (frequency or modulation speed) of the chorus low frequency oscillator (LFO). The modulation cycles become faster as you increase this value.
2	Depth	0 ~ 100	Sets the depth of the chorus low frequency oscillator (LFO). The sense of modulation becomes stronger as you increase this value. There is no chorus effect at 0%.
3	Chr PreDly	0 ~ 500 ms	Determines how long it will take to output the chorus effect once the direct sound has been output.
4	Chr BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the chorus (effect) sound. Increasing the parameter value increases the sound of the chorus.
5	Pitch	-2400 ~ +2400	Sets the range of the pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
6	Pitch Dly	0 ~ 500 ms	Determines how long it will take to activate the pitch shift effect.
7	Pitch FB	-99 ~ +99	Sets the pitch shifter feedback level.
8	Pitch BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the pitch shifter (effect) sound. Increasing the parameter value increases the sound of the pitch shifter.

# Mono-Pair Effects

## 42 Pitch / Pitch (PT/PT)

In this combination effect, each channel is provided with a monaural pitch shifter.



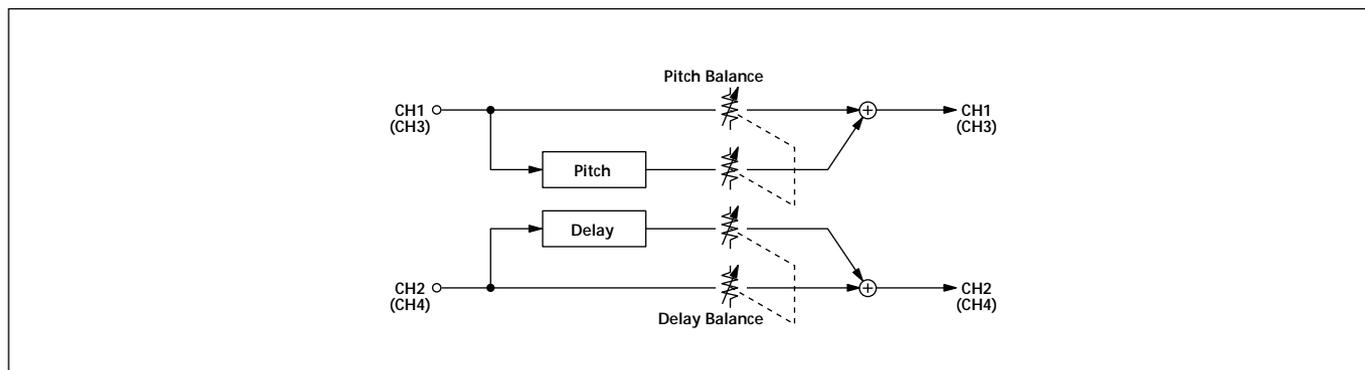
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pitch L	-2400 ~ +2400	Sets the range of the (Lch) pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
2	Pitch Dly L	0 ~ 500 ms	Determines how long it will take to activate the (Lch) pitch shift effect.
3	Pitch FB L	-99 ~ +99	Sets the (Lch) pitch shifter feedback level.
4	Pitch BAL L Direct, 99:1 ~ 1:99, Effect		Determines the balance between the source (direct) sound to the pitch shifter (effect) sound in the (Lch). Increasing the parameter value increases the sound of the pitch shifter.
5	Pitch R	-2400 ~ +2400	Sets the range of the (Rch) pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
6	Pitch Dly R	0 ~ 500 ms	Determines how long it will take to activate the (Rch) pitch shift effect.
7	Pitch FB R	-99 ~ +99	Sets the (Rch) pitch shifter feedback level.
8	Pitch BAL R Direct, 99:1 ~ 1:99, Effect		Determines the balance between the source (direct) sound to the pitch shifter (effect) sound in the (Rch). Increasing the parameter value increases the sound of the pitch shifter.

# Mono-Pair Effects

## 43 Pitch / Delay (PT/DL)

In this combination effect, the Lch (ch1 or ch3) is a monaural pitch shifter, and the Rch (ch2 or ch4) is a monaural delay.



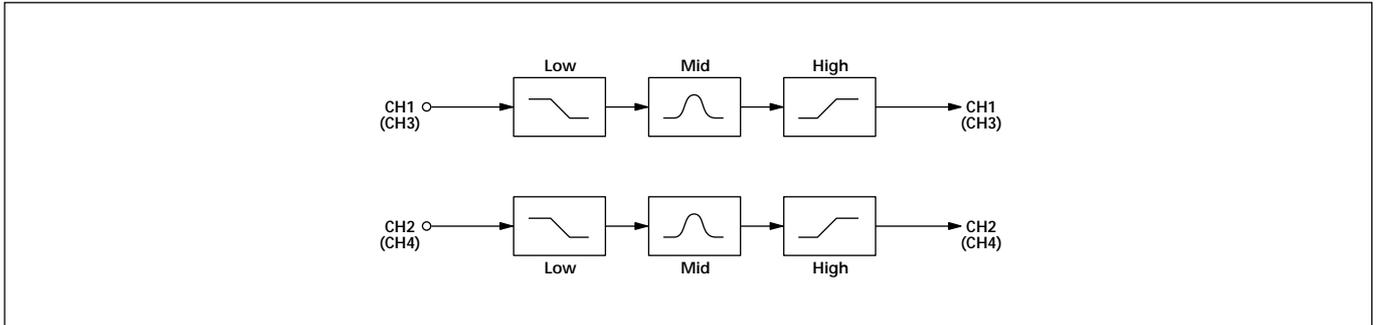
### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Pitch	-2400 ~ +2400	Sets the range of the pitch shift. 100 cent represents a semitone shift. 1200 cent represents a 1 octave shift.
2	Pitch Dly	0 ~ 500 ms	Determines how long it will take to activate the pitch shift effect.
3	Pitch FB	-99 ~ +99	Sets the pitch shifter feedback level.
4	Pitch BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the pitch shifter (effect) sound. Increasing the parameter value increases the sound of the pitch shifter.
5	DelayTime	0 ~ 500 ms	Sets the time that will elapse before the sound of the echo is output.
6	Delay FB	-99 ~ +99	This parameter sets delay's feedback level.
7	LPF L	100 Hz ~ 20 kHz, Thru	LPF (low pass filter) lets you blur the sound of the echo by blocking all frequencies higher than the one chosen in this parameter. LPF is inactive when set to "Thru". This parameter sets delay's LPF.
8	Dly BAL	Direct, 99:1 ~ 1:99, Effect	Determines the balance between the source (direct) sound to the delay (effect) sound. Increasing the parameter value increases the sound of the delay.

# Mono-Pair Effects

## 44 EQ / EQ (EQ/EQ)

In this combination effect, each channel is provided with a separate equalizer.



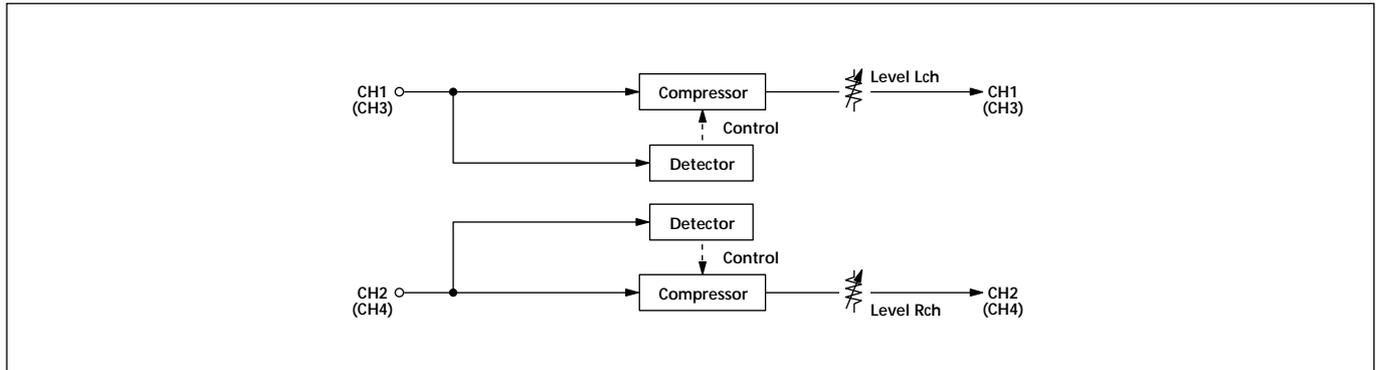
### Parameters

No.	Name	Range	Comments
–	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	LwGain L	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the low frequencies in the (Lch).
2	MdGain L	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the frequency set in the MdFreq L parameter.
3	MdFreq L	100 Hz ~ 20.0 kHz	Determines which frequency band the (Lch) mid-frequency equalization will be applied to.
4	HiGain L	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the high frequencies in the (Lch).
5	LwGain R	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the low frequencies in the (Rch).
6	MdGain R	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the frequency set in the MdFreq L parameter.
7	MdFreq R	100 Hz ~ 20.0 kHz	Determines which frequency band the (Rch) mid-frequency equalization will be applied to.
8	HiGain R	–24.0 dB ~ +12.0 dB	Determines how much to increase or decrease the level of the high frequencies in the (Rch).

# Mono-Pair Effects

## 45 Compressor / Compressor (CP/CP)

In this combination effect, each channel is provided with a monaural compressor.



### Parameters

No.	Name	Range	Comments
-	FxA(B) On/Off	On, Off	Turns the effect on or off.
1	Sens L	0 ~ 100	Sets the (Lch) compressor's sensitivity to the input signal. Larger parameter values allow the compressor to respond to smaller signal levels.
2	Attack L	0 ~ 100	Specifies the time required for the (Lch) effect to fully activate once a sound is input.
3	Release L	0 ~ 100	Sets the time required for the (Lch) effect to completely disappear. Larger values retain create a slower release.
4	Level L	0 ~ 100	The compressor changes the sound level of the input signals. This parameter lets you set the (Lch) compressor's output level.
5	Sens R	0 ~ 100	Sets the (Rch) compressor's sensitivity to the input signal. Larger parameter values allow the compressor to respond to smaller signal levels.
6	Attack R	0 ~ 100	Specifies the time required for the (Rch) effect to fully activate once a sound is input.
7	Release R	0 ~ 100	Sets the time required for the (Rch) effect to completely disappear. Larger values retain create a slower release.
8	Level R	0 ~ 100	The compressor changes the sound level of the input signals. This parameter lets you set the (Rch) compressor's output level.







# Appendix / Annexe / Anhang

## Percentage (%) and decible (dB) conversion chart

Use this chart as a reference for parameter values like Level and Sens.

## Tableau de conversion de pourcentage (%) et décibel (dB)

Utilisez ce tableau comme référence pour les valeurs de paramètre telles que Level et Sens.

## Umwandlungstabelle von Prozent (%) in Dezibel (dB)

Verwenden Sie die folgende Tabelle als Referenz für die Parameterwerte Level, Sens usw.

(%)	(dB)
100 .....	0
89 .....	-1
79 .....	-2
71 .....	-3
63 .....	-4
56 .....	-5
50 .....	-6
45 .....	-7
40 .....	-8
35 .....	-9
32 .....	-10
28 .....	-11
25 .....	-12
22 .....	-13
20 .....	-14
18 .....	-15
16 .....	-16
14 .....	-17

(%)	(dB)
13 .....	-18
11 .....	-19
10 .....	-20
9 .....	-21
8 .....	-22
7 .....	-23
6 .....	-24
5 .....	-26
4 .....	-28
3 .....	-30
2 .....	-34
1 .....	-40
0.8 .....	-42
0.6 .....	-44
0.5 .....	-46
0.4 .....	-48
0 .....	-INF