

F 2 - 4 VDF 1 KBD TRK (VDF 1 Keyboard Tracking)

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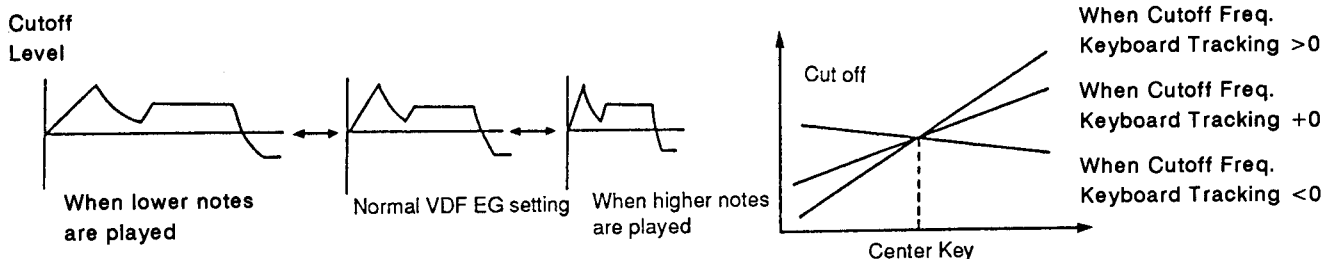
PROG  I00  VDF1 KBD TRK  Center Key
C4    F-99 EGTime=99 AT:0 DT:+ ST:+ RT:-

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[A]	Center Key	C-1 ~ G9	The central key for effect of VDF 1 keyboard tracking (key of ± 0)
[B] F	Cutoff (Cutoff Frequency Keyboard Tracking)	-99 ~ +99	Change of VDF 1 cutoff frequency (the brightness of tone color) by key position
[D]	EG Time (EG Time Keyboard Tracking)	0 ~ 99	Change of VDF 1 EG speed by key position
[E] AT	Attack Time	-, 0, +	These are the parameters that EG time keyboard tracking can be programmed to affect; negative and positive values are available, with 0 having no effect.
[F] DT	Decay Time	-, 0, +	
[G] ST	Slope Time	-, 0, +	
[H] RT	Release Time	-, 0, +	

- * VDF Keyboard Tracking is an effect that changes, in proportion to the note number played, the values of the VDF cutoff frequency and of time it takes the EG to cycle.

Center Key sets the central key (the key for which cutoff/EG time does not change) of VDF keyboard tracking. When Cutoff is set to "+," the higher the pitch played the brighter the tone color becomes. (The opposite occurs when setting to "-.") The greater the change is, the closer the value gets to + 99 or - 99. The change of Cutoff and the change of pitch are equal when set to 0.



F 3 - 1 VDF 2 --- Only DOUBLE Mode

PROG I00 VDF2 Cutoff= 99 EG Intensity= 99							
A	B	C	D	E	F	G	H

This is a VDF for Ocillator 2.

- * The functions and parameters are the same as F 2 - 1 VDF 1, as applied to Oscillator 2.

F 3 - 2 VDF 2 EG --- Only DOUBLE MODE

PROG		I00		VDF2 EG		Attack Time	
AT35		A-99		DT88		B-62 ST46 S-99 RT15 R-11	
A	B	C	D	E	F	G	H

Sets the rate at which the cutoff frequency of VDF 2 changes.

- * The functions and parameters are the same as F 2 - 2 VDF 1 EG, as applied to Oscillator 2.

F 3 - 3 VDF 2 VEL SENS (VDF 2 Velocity Sensitivity) --- Only DOUBLE MODE

PROG I00 VDF2 VEL SENS Release Time EGInt=-99 EGTime=99 AT:0 DT:+ ST:+ RT:0							
A	B	C	D	E	F	G	H

Determines the degree to which key velocity affects the change of VDF 2.

- * The functions and parameters are the same as F 2 - 3 VDF 1 VEL. SENS., as applied to Oscillator 2.

F 3 - 4 VDF 2 KBD TRK (VDF 2 Keyboard Tracking) --- Only DOUBLE MODE

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PROG I00 VDF2 KBD TRK Center Key
C4 F-99 EGTime=99 AT:0 DT:+ ST:+ RT:-

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A	B	C	D	E	F	G	H
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Determines the degree to which the keyboard tracks VDF 2.

- * The functions and parameters are the same as F 2 - 4 VDF 1 KBD TRK, as applied to Oscillator 2.

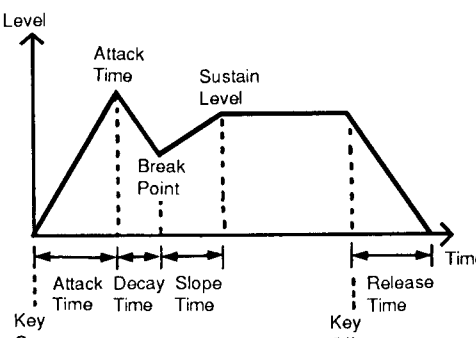
F 4 - 1 VDA 1 EG

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PROG I00 VDA1 EG Attack Time
AT33 A+44 DT25 B+99 ST14 S+99 RT68

```

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

A AT	Attack Time	0 ~ 99	<p>Determines how the volume of VDA 1 will vary over time</p> 
B A	Attack Level	0 ~ 99	
C DT	Decay Time	0 ~ 99	
D B	Break Point	0 ~ 99	
E ST	Slope Time	0 ~ 99	
F S	Sustain Level	0 ~ 99	
G RT	Release Time	0 ~ 99	

- * VDA (Variable Digital Amplifier) changes the volume of the sound origin waveform. The VDA EG determines how the volume will vary over time.

F 4 - 2 VDA 1 VEL SENS (VDA 1 Velocity Sensitivity)

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PROG I00 VDA1 VEL SENS Amplitude
A-99 EGTime=99 AT:0 DT:+ ST:+ RT:-

```

A	B	C	D	E	F	G	H
---	---	---	---	---	---	---	---

B A	Amplitude (Amplitude Velocity Sensitivity)	-99 ~ +99	Change of VDA 1's volume by key velocity
D	EG Time (EG time Velocity Sensitivity)	0 ~ 99	Change of the VDA's EG time (variation of volume over time) by key velocity
E AT	Attack Time	-, 0, +	These are the parameters that EG time velocity sensitivity can be programmed to affect; negative and positive values are available, with 0 having no effect.
F DT	Decay Time	-, 0, +	
G ST	Slope Time	-, 0, +	
H RT	Release Time	-, 0, +	

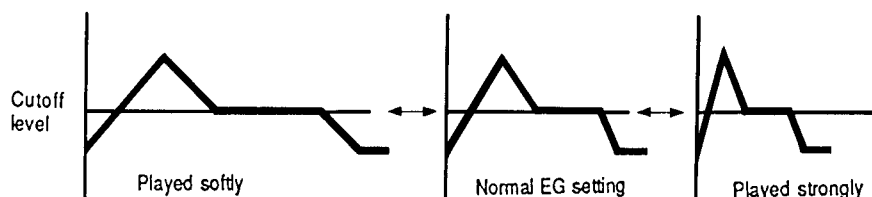
Amplitude (amplitude velocity sensitivity) is an effect that changes the volume by how hard you strike the keys. When set to positive ("+"), the stronger the key is hit the louder the sound becomes. The volume becomes softer when set to "-". The closer the value is set to + 99 or - 99, the greater the difference in volume becomes.

- * Tone color can be changed by velocity when setting the VDA velocity sensitivity of Oscillator 1 and 2 to opposite settings in the DOUBLE Mode (velocity cross fade).

- * When the keys are hit hard, the Program of OSC 1 sounds.
- * When the keys are hit with normal strength, the Programs of OSC 1 and OSC 2 both sound.
- * When the keys are hit softly, the Program of OSC 2 sounds.

EG Time (EG Time Velocity Sensitivity) is an effect that changes the speed of VDA EG by how hard you strike the keys. When set to positive ("+"), the stronger the key is hit the shorter the time of the EG (Attack / Decay / Slope / Release) becomes. (The time becomes longer when set to "-".)

- * When setting all to "+":



- * When playing Programs such as strings, it is possible to set a sharp attack/long release to result when hitting the keys hard and a slow attack/short release when playing softly by setting the Attack time to "+" and the Release time to "-".

F 4 - 3 VDA 1 KBD TRK (VDA 1 Keyboard Tracking)

PROG	I00	VDA1	KBD	TRK	Center Key		
C#-1	A-99	EGTime=99	AT:0	DT:+	ST:+	RT:-	
A	B	C	D	E	F	G	H

A	Center Key	C-1 ~ G9	The central key for the effect of VDA 1 keyboard tracking (key of ± 0)
B A	Amplitude (Amplitude Keyboard Tracking)	-99 ~ +99	Change of the volume of VDA 1 by key position
D	EG Time (EG time Keyboard Tracking)	0 ~ 99	Change of VDA 1 EG speed by key position
E AT	Attack Time	-, 0, +	These are the parameters that EG time keyboard tracking can be programmed to affect; negative and positive values can be individually selected, with 0 having no effect.
F DT	Decay Time	-, 0, +	
G ST	Slope Time	-, 0, +	
H RT	Release Time	-, 0, +	

- * VDA Keyboard Tracking is an effect that varies the volume of the VDA and all EG times by the key position played.

Center Key sets the central key (the key that is not changed by cutoff/EG time) of VDA keyboard tracking. When Amplitude is set to "+," the higher the pitch played, the louder the volume becomes. (The opposite occurs when setting to "-".) It is possible to switch between Programs depending on the key played by setting the center key of Oscillators 1 and 2 to the same value and by setting a positive value for one and a negative value for the other (positional cross fade).

- * The total volume, whatever the keyboard track setting, cannot extend beyond the minimum and maximum values of 0 and 99. When keys above the center key are played, the VDA EG time (Attack / Decay / Slope / Release) becomes progressively shorter, if set to "+" in the EG Time (EG Time Keyboard Tracking) function. The opposite occurs when setting to "-".

F 5 - 1 VDA 2 EG ---Only DOUBLE MODE

PROG I00 VDA2 EG				Attack Time			
AT66 A+22 DT49 B+99				ST77 S+23 RT40			
A	B	C	D	E	F	G	H

The VDA 2 EG determines how the volume of Oscillator 2 will vary over time.

- * The functions and parameters are the same as F4-1 VDA 1 EG, as applied to Oscillator 2.

F 5 - 2 VDA 2 VEL SENS (VDA 2 Velocity Sensitivity)--- Only DOUBLE Mode

PROG I00 VDA2 VEL SENS Amplitude							
A-99 EGTime=99 AT:0 DT:+ ST:+ RT:-							
A	B	C	D	E	F	G	H

Determines the degree to which the volume change of VDA 2 is affected by key velocity.

- * The functions and parameters are the same as F4-2 VDA 2 VEL. SENS., as applied to Oscillator 2.

F 5 - 3 VDA 2 KBD TRK (VDA 2 Keyboard Tracking) --- Only DOUBLE MODE





PROG	I00	VDA2 KBD TRK	Center Key				
C#-1	A-99	EGTime=99	AT:0 DT:+ ST:+ RT:-				
A	B	C	D	E	F	G	H

Degree to which VDA 2 (volume of Oscillator 2) tracks the keyboard.

- * The functions and parameters are the same as F4-3 VDA 1 KBD. TRK., as applied to Oscillator 2.





F 6 - 1 Pitch MG (Pitch Modulation)

PROG	I00	PITCH MG	Waveform				
TRIANGLE	F31	D41	I59	OFF	Sync:OFF		
A	B	C	D	E	F	G	H

A	Wave form	TRIANGLE  SAW UP  SAW DOWN  SQUARE 	Selects the modulation waveform Triangle wave Saw Down (reverse polarity) Square
C F	Frequency	0 ~ 99	Speed of modulation
D D	Delay	0 ~ 99	Time between the striking of the key and the onset of the modulation effect
E I	Intensity	0 ~ 99	Depth of modulation
F	OSC Select	OFF OSC 1 OSC2 BOTH	No modulation effect Affects only OSC 1 Affects only OSC 2 Affects both OSC 1 and OSC 2
H	Key Sync	OFF ON	

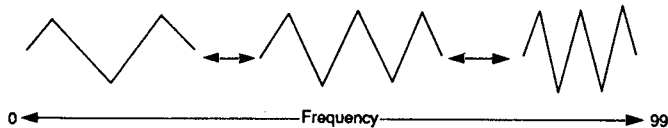
- * Pitch MG (pitch modulation) is an effect that varies the pitch periodically.

Waveform selects the modulation waveform, which determines how the pitch will be varied.

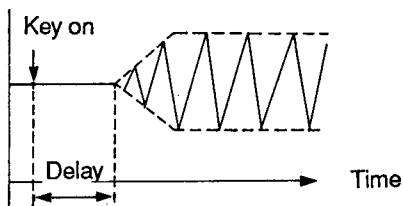
- * Triangle  (most commonly used)
- * Saw Up 
- * Saw Down  (reverse polarity)
- * Square 

Frequency sets the modulation frequency (the speed of the pitch variation)

- * When Triangle wave is selected:



Delay determines the time between the striking of the key and the onset of the modulation effect.



Intensity sets the depth of the modulation.



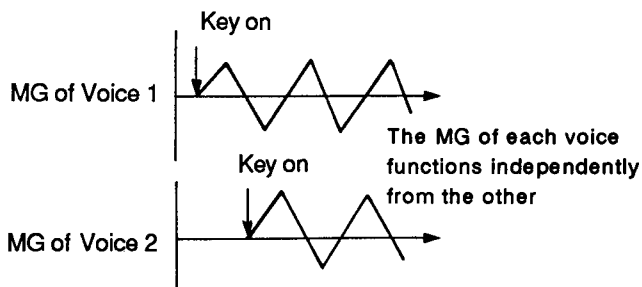
- * This effect does not work when Oscillator Select is OFF.

OSC Select selects the Oscillator to be modulated. BOTH affects both Oscillator 1 and Oscillator 2.

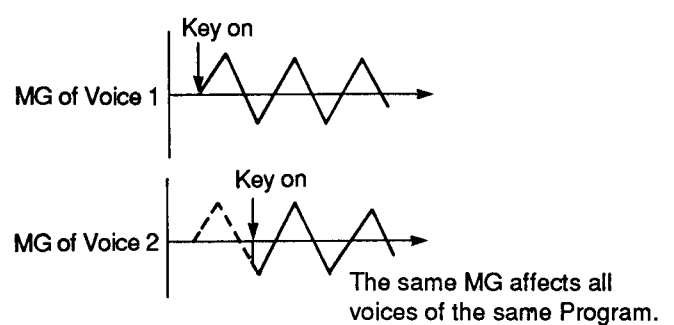
- * In all modes with the exception of DOUBLE Mode, the net effect of setting this parameter to OSC 2 is equal to that of OFF and the net effect of a BOTH setting is equal to that of OSC 1.

The modulation waveform starts upon the pressing of each key when the Key Sync is set to ON.

- * When Key Sync is ON:



- * When Key Sync is OFF:



F 6 - 2 VDF MG (VDF Modulation)

PROG	I00	VDF MG	Waveform
SAW UP	F26	D53	I58 OFF Sync:OFF
A	B	C	D E F G H

VDF MG (VDF Modulation) varies the cutoff frequency periodically for filter sweep and wah-wah effects.

- * The functions and parameters are the same as F6 -1 Pitch MG, as applied to modulation of the filter.

F 7 - 1 AFTER TOUCH

PROG	I00	AFTER TOUCH	Pitch
P+12	PM99	F+99 FM99	A+99
A	B	C	D E F G H

A P	PITCH	-12 ~ +12	Variation of pitch by after touch (within ± 1 octave)
B PM	Pitch MG	0 ~ 99	Effect of after touch on Pitch MG (F6-1)
D F	VDF Cutoff	-99 ~ +99	Cutoff frequency (tone color) variation by after touch
E FM	VDF MG	0 ~ 99	Effect of after touch on VDF MG (F6-2)
G A	VDA Amplitude	-99 ~ +99	Effect of after touch on volume

- * After Touch is an effect that can be used to change various parameters (such as pitch, volume, or tone color) when pressing down hard on the keys.

Pitch sets the width and direction of pitch change by after touch within the range of - 12 to + 12 (+/- 1 octave).

The larger the value to which Pitch MG (pitch modulation) is set, the greater the effect of Pitch MG becomes when pressing down hard on the keys. No change is made at 0.

- * The modulation waveform, oscillator select and key sync of the VDF MG in F 6-2 are operative here.

When Cutoff is set to "+," the harder the keys are pressed, the greater the cutoff frequency (and the brighter the tone color) becomes. (The opposite occurs when setting to "-".)

The effect of the VDF MG becomes greater when pressing the keys down hard, when the VDF MG (VDF modulation) is set to higher values. No change is made at 0.

- * The modulation waveform, oscillator select and key sync of the Pitch MG in F 6-1 are operative here.

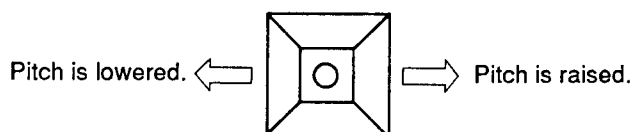
When the VDA Amplitude is set to positive ("+"), the volume becomes louder upon pressing the keys down hard. The opposite occurs when setting it to "-".

F 7 - 2 JOY STICK

PROG	I00	JOY STICK	Pitch Bend				
P+00	F+00	PM00 MF0	FM00 MF0				
A	B	C	D	E	F	G	H

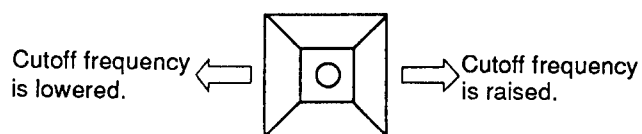
[A] P	Pitch Bend	-12 ~ +12	The maximum amount of pitch change by joy stick
[B] F	VDF Sweep Int.	-99 ~ +99	VDF cutoff frequency change by joy stick
[D] PM	Pitch MG	0 ~ 99	Pitch MG effect by joy stick
[E] MF	Pitch MG Frequency	0 ~ 3	Pitch MG speed change by joy stick
[G] FM	VDF MG Int.	0 ~ 99	VDF MG effect by joy stick
[H] MF	VDF MG Int.	0 ~ 3	VDF MG speed change by joy stick

* When setting to "+":



Pitch Bend sets, in semitone units, the range over which pitch can be changed when the joy stick is moved laterally (to the left and right). 12 is the maximum value and is equal to 1 octave above the normal pitch. The pitch is raised by moving the joy stick toward the right when it is set to "+," and the opposite occurs when it is set to "-".

* When setting to "+":



VDF Sweep Int. (VDF Sweep Intensity) sets the depth of the VDF cutoff frequency change that occurs when the joy stick is moved laterally (to the left and right). The cutoff frequency is raised by moving the joy stick toward the right when it is set to "+," and the opposite occurs when it is set to "-".

The larger the value of Pitch MG Int. (Pitch MG Intensity), the greater the effect of Pitch MG is when moving the joy stick upward.

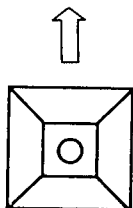
Pitch MG Frequency sets the degree to which the speed (frequency) of the Pitch MG increases when moving the joy stick upward.

* The modulation waveform, oscillator select and key sync of the Pitch MG in F 6-1 are operative here.

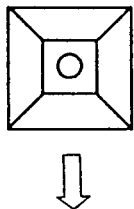
* When Pitch MG Intensity is greater than 0.....Pitch MG deepens

* When Pitch MG Frequency is greater than 0.....Pitch MG speed increases

The larger the value of VDF MG Int. (VDF MG Intensity), the deeper the effect of the VDF MG when moving the joy stick upward.



VDF MG Frequency sets the degree to which the speed (frequency) of the VDF MG increases when moving the joy stick downward.



- * The modulation waveform, oscillator select and key sync of the VDF MG in F 6-2 are operative here.
- * When VDF MG Intensity is greater than 0.....VDF MG deepens
- * When VDF MG Frequency is greater than 0.....VDF MG speed increases

EFFECT PARAMETERS

Descriptions of functions F 8 - 2 and F 8 - 4 are given in the Effect Parameter section following the EDIT PROGRAM Mode chapter.

F 8 - 1 EFFECT 1

EFFECT 1							
(01: Hall) :ON							
A	B	C	D	E	F	G	H

Selects the effect type for Effect 1.

A	EFFECT TYPE	01 ~ 33 No Effect
F	SWITCH	OFF/ON [SELECT]

F 8 - 3 EFFECT 2

Selects the effect type for Effect 2.
Same as F 8 - 1 EFFECT 1.

F 8 - 5 EFFECT PLACEMENT

EFFECT PLACEMENT							
SERIAL P3 =50:50 P4 = 50:50							
A	B	C	D	E	F	G	H

B	Effect placement	PARALLEL SERIAL
F	P3 Out 3 Panpot	OFF 100:0 ~ 0:100
H	P4 Out 4 Panpot	OFF 100:0 ~ 0:100

This function sets the Effect Placement and Pan setting of Outputs 3 and 4. (See pp. 36-37 for more on Effect Placement.)

F 8 - 6 EFFECT COPY

EFFECT COPY							
from (COMBINATION) - 100 [COPY]							
A	B	C	D	E	F	G	H

B	PROGRAM COMBINATION SONG
E	100 ~ 199 0~9
G	[COPY]

F 9 - 1 WRITE/RENAME

PROG	I00	A.PIANO				Write/Rename
		[◀] [▶]				[WRITE] --> I00
A	B	C	D	E	F	G
						H

[C]	[◀] Cursor Left		Moves the rename cursor to the left
[D]	[▶] Cursor Right		Moves the rename cursor to the right
[F]	[WRITE]		Executing the WRITE
[H]		I00 ~ I99 C00 ~ C99	Program number to be written

Writes the edited Program to internal memory or to the RAM card.

1. The Program can be named by using [◀] (cursor key [C]), [▶] (cursor key [D]), the VALUE slider and UP (▲)/DOWN (▼) keys.

* Letters, numbers and symbols, up to a maximum of 10 characters can be stored.

!"#\$%&'()*+,-./0123456789:;<=>?
@ABCDEFGHIJKLMNPQRSTUVWXYZ[^_
`abcdefghijklmnopqrstuvwxyz{|}~

* The write function cannot be executed when the Program memory protect is set to ON. (Releasing the memory protect can be done in the GLOBAL Mode, Function F 6-1.)

2. Program number to which the Program will be stored (cursor key [H]).

* I50 to I99 cannot be selected when large sequence allocation is selected.

* Card memory programs (C00 to C99) can be selected when the formatted COMBI/PROG or COMBI/PROG/SEQ RAM card is inserted in the PROG/SEQ slot.

3. Press WRITE (cursor key [F]).

4. "Are You Sure ?" will show on the display. When you want to write, press [YES] (cursor key [G]).

* Note that the Program which previously occupied that number will be lost.

* The WRITE operation can be cancelled by pressing [NO] or cursor key [H].

The display "Write Completed" is shown when the write operation is finished.

* The original display is returned to when pressing any cursor key ([A] -- [H]).

* Select this page once more when writing another Program.

* When copying a Program within internal memory to another Program number, select the Program to be copied in the PROGRAM Mode, then write to memory using this page.

3 -- EFFECT PARAMETERS

A two-system, two-channel Multi Digital Effect unit is built into the M1. Each effect has a wide range of effect types that can be selected, such as reverb, delay, chorus, flanger, phase shifter, distortion and exciter, and fine adjustment of all effect parameters is possible.

Since all effects can be assigned separately to each Program, Combination and song track, you can use the most appropriate effect for each and every playing situation.

- * The Effect functions can be considered together as an additional element in the sound making process since effect settings can be changed for each Program.
- * Assigning different effects to specific Programs is possible when using Drum Kit Programs, Combinations and the sequencer.

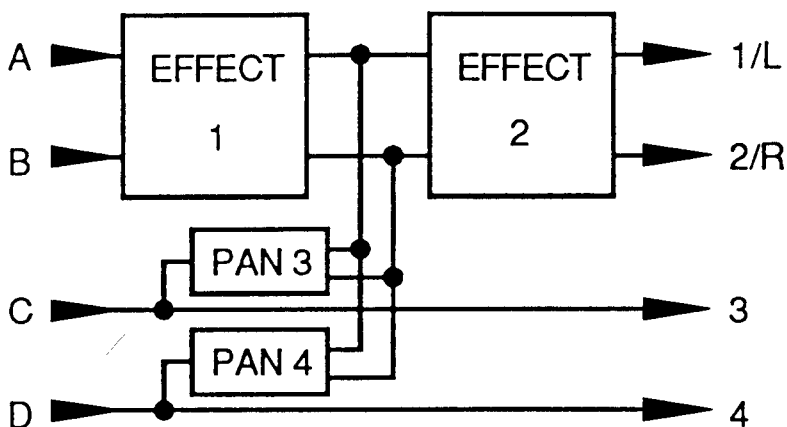
Editing of the effect parameters is executed in the Edit Program Mode, Edit Combination Mode or Sequencer Mode. (Details of editing and parameters are identical.)

The Effect section is comprised of 2 effects and 2 panpots with a 4-input (A, B, C and D) and 4-output (1/L, 2/R, 3 and 4) configuration.

For the placement of the 2 effects, there are 2 operation modes: serial and parallel. (All signal routing is digital; the signal is changed from digital to audio with the D/A converter only after passing through the Effect section.)

EFFECT PLACEMENT

Serial Routing

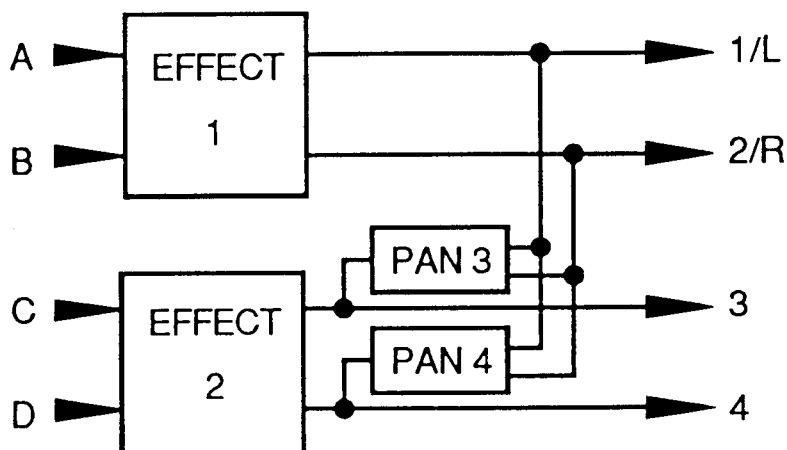


Inputs A and B send signals to both Effect 1 and Effect 2 and are output from 1/L and 2/R.

Signals from C and D are output through 3 and 4 unprocessed. The output signals from 3 and 4 can also be mixed with the A and B inputs to be routed together through Effect 2.

- * Selected Programs can be processed through Effect 1 and other Programs not, while all Programs -- processed or not -- can be routed through Effect 2; this kind of setting is possible by using the C and D inputs.

Parallel Routing



Different effects are used for each input pair, inputs A and B, and inputs C and D, and each of them are sent directly to outputs 1/L, 2/R, 3 and 4. The outputs from 3 and 4 can be mixed with the Effect 1 outputs and sent through the outputs 1/L and 2/R.

- * There are two types of effects: effects 1 - 25 are stereo effects and 26 - 33 are dual effects in which each channel has a different effect.
- * Signal routing for inputs A through D is set by using the panpot functions in the Combination parameter in the COMBINATION Mode and the Track parameter in the SEQUENCER Mode. Instrument Pan (Global F 4) is available for Programs of the drum kit. Programs with the exception of drum kit are input to A and B in a ratio of 5:5 and not input to C and D.
- * The following various settings are possible by setting the pans of each Program by using Output 3 Pan and Output 4 Pan.
- * Different sounds that are output to C and D can be mixed with the stereo output by adjusting the pan setting of each Program with Output 3 Pan and Output 4 Pan.
- * When stereo effects have been selected for Effect 1 and 2, and the operation mode has been set to Parallel, stereo out mixed outputs of Effect 1 and Effect 2 can be used by setting Output 3 Pan to 100 : 0, and Output 4 Pan to 0: 100.
- * When using an external effect or mixer, outputs 3 and 4 can be used as separate outputs by setting the Output 3 Pan and Output 4 Pan to OFF.

F 8 - 1 EFFECT 1

EFFECT 1							
(01: Hall) :ON							
A	B	C	D	E	F	G	H

Selects the effect type for Effect 1.

A	EFFECT TYPE	01~33 No Effect	Selecting effect type Effect not used
F	SWITCH	OFF/ON	Effect operation switch
		[SELECT]	Executing the selection of effect type

- * [SELECT] is indicated on the display when the EFFECT TYPE is changed.
- * Select the EFFECT TYPE (**A**) and press [SELECT] (**F**); the effect type selected will now be in operation. (The selection is cancelled when selecting other effect types instead of pressing [SELECT].)

- * When selecting the effect type again, effect parameters will be set to the default value (see pp.56-57).
- * Note that among the 2-system effects, when #24 Symphonic Ensemble and #25 Rotary Speaker are both selected for one system, the Effect types which are marked with an asterisk on the following chart cannot be selected for the second effect. (Likewise, when an asterisk-indicated Effect type is selected for one system, #24 and #25 cannot be selected for the other. Refer to the Effect Parameter Default Values Chart, pp.56-57, for more information.)
- * See explanations about each effect type for details.
- * When assigning the footswitch to Effect in GLOBAL Mode F 2 - 2, Pedal Assign, the effect is toggled ON and OFF each time the footswitch is pressed.

Switch (**[F]**) indicates and sets the condition of the switch.

- * When selecting another Program, Combination or song, the ON/OFF setting returns to the condition set in the effect parameter of each mode.
- * For all effects except Reverb (01 to 06), Overdrive (21), Distortion (22) and Ensemble (24), the equalizer settings (Low EQ and High EQ) are effective even when the effect switch is OFF.

Set the effect type to No Effect when you want all effects, including the equalizer, to be off while editing Programs.

F 8 - 2 EFFECT 1 PARAMETER

Sets the parameter of Effect 1.

- * See explanations about each parameter type (starting on p. 40) since the details of the parameters differ depending on the parameter type.
- * The value set here is lost when selecting another effect type for Effect 1.

F 8 - 3 EFFECT 2 Selects the effect type for Effect 2.

Same as F 8 - 1 EFFECT 1.

F 8 - 4 EFFECT 2 PARAMETER

Sets the parameters of Effect 2.

- * See explanations about each parameter (starting on p. 40) type since the details of the parameters differ depending on the parameter type.
- * The value set here is lost when selecting another effect type for Effect 2.

F 8 - 5 EFFECT PLACEMENT

EFFECT PLACEMENT							
SERIAL		P3 =50:50 P4 = 50:50					
A	B	C	D	E	F	G	H

[A]	Effect Placement	PARALLEL SERIAL	Selection of effect operation mode Parallel Serial
[F] P3	OUT 3 Panpot	OFF 100:0~0:100	Output 3 pan not used Setting of output 3 pan (L:R)
[H] P4	OUT 4 Panpot	OFF 100:0~0:100	Output 4 pan not used Setting of output 4 pan (L:R)

This function sets the Effect Placement and Pan setting of Outputs 3 and 4. (See pp.36-37 for more on Effect Placement.)

F 8 - 6 EFFECT COPY

EFFECT COPY							
from (COMBINATION) - I00 [COPY]							
A	B	C	D	E	F	G	H

[B]	PROGRAM COMBINATION SONG	Copying from Program Copying from Combination Copying from song
[E]	I00~I99 0~9	Number of Program/Combination to be copied Number of song to be copied
[G]	[COPY]	Executing the copy

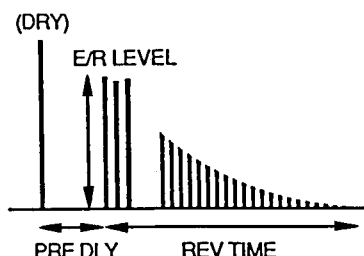
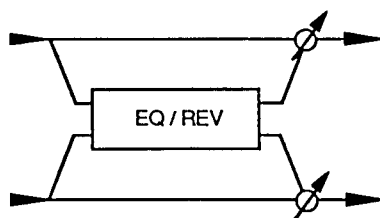
Copies only effect parameters from the Combination, Program and song in the memory.

* The parameters are copied to Combinations, Programs and songs when editing here.

1. Select the mode which has parameter to be copied ([B]).
2. Select the number to which the parameter will be copied. (Program number for the Program, Combination number for the Combination and song number for the song stored in the sequencer.)
3. The parameter is copied from the specified effect parameter by pressing [COPY] ([G]).

NAMES OF THE EFFECT TYPES AND AN OUTLINE OF EFFECT PARAMETERS

REVERB Group



1. HALL

EFFECT 1 Hall		Reverb Time [S]	
3.5	D055 E46 HD40	L-05 H+00	60:40
A	B	C	D

The natural, spacious ambience characteristic of a hall.

2. ENSEMBLE HALL

EFFECT 1 Ensemble Hall		Pre Delay [mS]	
2.8	D030 E46 HD40	L+03 H+00	60:40
A	B	C	D

Similar to #1 Hall above, but especially suited for string and brass ensemble sounds.

3. CONCERT HALL

EFFECT 1 Concert Hall		E/R Level	
3.8	D120 E46 HD40	L+00 H-02	60:40
A	B	C	D

Similar again to #1 Hall above, but with particular emphasis on the early reflections characteristic of a large hall.

4. ROOM

EFFECT 1 Room		High Damp [%]	
0.5	D022 E76 HD10	L+01 H-00	40:60
A	B	C	D

The tight, well-defined reverberation patterns of a relatively small room.

5. LARGE ROOM

EFFECT 1 Large Room		EQ Low [dB]	
1.5	D030 E76 HD30	L+02 H+04	60:40
A	B	C	D

Emphasis here is on the relative density of the sound. An effect similar to gating can be achieved when the reverb time is set to 0.5 seconds.

6. LIVE STAGE

EFFECT 1 Live Stage		EQ High [dB]	
2.0	D020 E60 HD20	L+03 H+00	60:40
A	B	C	D

Reverberation characteristics of a relatively large room.

[A]	Reverb Time	0.2~9.9 [Sec.] (HALL group) 0.2~5.0 [Sec.] (ROOM group)	Time before reverberation decays.
[B] D	Pre Delay	0~200 [mSec]	Time between the direct sound and the first early reflections.
[C] E	E/R Level	0~90	Level of early reflections.
[D] HD	High Damp	0~99 [%]	The larger the value set, the faster the high frequencies are damped.
[F] L	EQ Low	-12 ~ +12 [dB]	Control for cutting or boosting the low frequency components.
[G] H	EQ High	-12 ~ +12 [dB]	Control for cutting or boosting the high frequency components.
[H]	Dry: EFF Balance	DRY. 99:1 ~ 1:99. EFF	Output balance of direct sound and effect sound

* The equalizer parameters in the reverb group (Low EQ and High EQ) control the effect sound but not the direct sound.

EARLY REFLECTION Group

Early Reflection is an effect that allows you to adjust only the early reflections, which are crucial in determining the realism of the reverb sound as it would be heard in an actual room, separate from the reverberant "wash." Adjustment of the E/R TIME permits a wide range of effects, such as adding density to the sound or achieving a "live" room sound with more discrete echoes and reflections.

7. EARLY REFLECTION I

EFFECT 1	Early Ref 1	E/R Time					
<u>170mS</u>	0030	L+00 H+00 60:40					
A	B	C	D	E	F	G	H

8. EARLY REFLECTION II

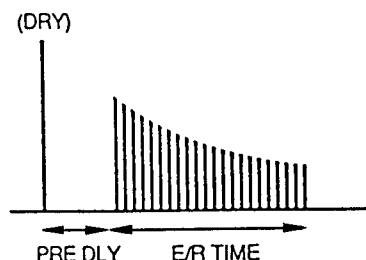
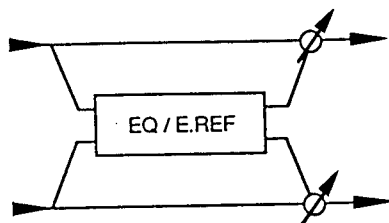
EFFECT 1	Early Ref 2	Pre Delay [mS]					
200mS	0020	L+00 H+00 60:40					
A	B	C	D	E	F	G	H

This is an effective program for reinforcing the low frequency range, as well as a general-purpose gating effect for use on drum sounds.

9. EARLY REFLECTION III

EFFECT 1	Early Ref 3	DRY:EFF Balance					
190mS	0010	L+00 H+00 60:40					
A	B	C	D	E	F	G	H

Unlike EARLY REFLECTION I and EARLY REFLECTION II, this effect uses a reverse envelope on the early reflections. A reverse effect (similar to a tape recorder being played backwards) can be applied to sounds which have strong attack characteristics, such as cymbals.



A	E/R Time	100~800 [mSec]	E/R time
C D	Pre Delay	0~200 [mSec]	Time between direct sound and E/R sound
F L	EQ Low	-12 ~ +12 [dB]	Identical to corresponding parameters in the REVERB group
G H	EQ High	-12 ~ +12 [dB]	Gain to cut or boost the high range components
H	DRY:EFF Balance	DRY. 99:1 ~ 1:99. EFF	Output balance of direct sound and effect sound

- * The equalizer parameters in the E/R group (Low EQ and High EQ) are applied to the effect sound but not the direct sound.

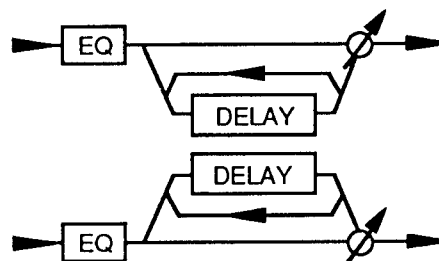
DELAY Group

Delay patterns here make the use of a stereo configuration; the delay time can be set independently for the left and right channels. The natural damping of high frequencies for more accurate reproduction of the decay of high frequencies in an actual room can be achieved by using the high damp parameter.

10. STEREO DELAY

A stereo delay effect having two delay systems, each of which has a feedback circuit that sends part of the sound back to the delay again. All parameters except delay time are set to the same value for the two delays.

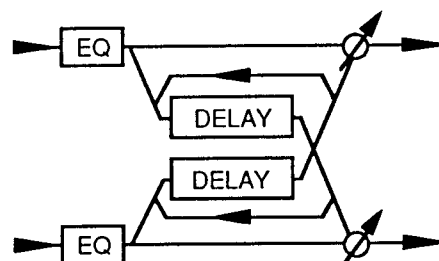
EFFECT 1 Stereo Delay		Time L [mS]	
L250	R260	F+50	HD10
		L+00	H+00 70:30
A	B	C	D



11. CROSS DELAY

A stereo delay in which the feedback signal of each delay crosses over and is routed to the other delay.

EFFECT 1 Cross Delay		Feedback [%]	
L180	R360	F+80	HD10
		L+00	H+00 70:30
A	B	C	D



A L	Delay Time Left	0~500 [mSec]	Time between the direct sound and effect sound of the left channel (Input A or C)
B R	Delay Time Right	0~500 [mSec]	Time between the direct sound and effect sound of the right channel (Input B or D)
C F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
D HD	High Damp	0~99 [%]	The larger the value set, the faster the frequencies are damped.
F L	EQ Low	-12 ~ +12 [dB]	Control for cutting or boosting the low frequency components.
G H	EQ High	-12 ~ +12 [dB]	Control for cutting or boosting the high frequency components.
H	DRY:EFF Balance	DRY. 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

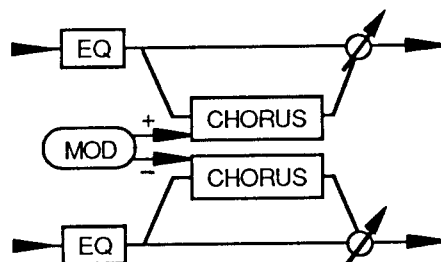
CHORUS Group

This is a stereo effect that combines two chorus circuits and imparts a natural, warm and "fat" sound to any instrument sound and is particularly effective with piano, strings and brass.

12. STEREO CHORUS I

A stereo effect that combines two chorus circuits. A swirling, constantly changing sound that moves between the stereo outputs is created through phase inversion of the two circuits.

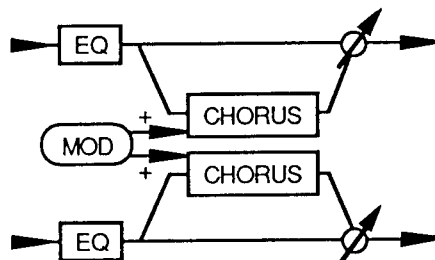
EFFECT 1 Chorus 1		Mod Depth	
M60	S0.30	D010	TRI
		L+00 H+00 60:40	
A	B	C	D
E	F	G	H



13. STEREO CHORUS II

Similar to STEREO CHORUS I except that there is no phase inversion.

EFFECT 1 Chorus 2		Mod Waveform	
M20	S2.40	D005	SIN
		L+00 H+00 60:40	
A	B	C	D
E	F	G	H



[A] M	Mod Depth	0~99	Intensity of modulation
[B] S	Mod Speed	0.03~30 [Hz]	Speed of modulation (frequency)
[C] D	Delay Time	0~200 [mSec]	Time between direct sound and effect sound
[D]	Mod Waveform	SIN TRI	Selection of waveform Sine wave ~ Triangle wave ^
[F] L	EQ Low	-12 ~ +12 [dB]	Gain to cut or boost the low range components
[G] H	EQ High	-12 ~ +12 [dB]	Gain to cut or boost the high range components
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

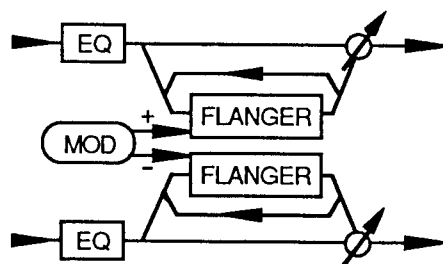
FLANGER Group

This effect is achieved by the addition of feedback to the chorus effect. Since its pronounced swirling adds color and motion, it is most effective with sounds that have many harmonics, such as cymbals.

14. STEREO FLANGER

A stereo effect that combines two flanger circuits. The swirling and swishing effect that moves expansively between the stereo outputs is enhanced by phase inversion of the two flanger circuits.

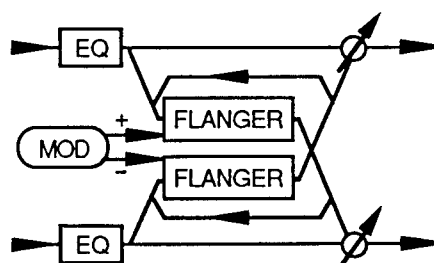
EFFECT 1 Flanger Mod Depth							
M70	S0.18	D00	F-75	SIN	L+00	H+00	40:60
A	B	C	D	E	F	G	H





15. CROSS FLANGER

A flanger effect in which the feedback signal of each flanger circuit crosses over and is routed to the other flanger. See #11 CROSS DELAY for more on feedback.

EFFECT 1 Cross Flanger Mod Speed [Hz]							
M37	S0.21	D25	F+80	SIN	L+00	H+00	25:75
A	B	C	D	E	F	G	H



[A] M	Mod Depth	0 ~ 99	Depth of flanging effect
[B] S	Mod Speed	0.03–30 [Hz]	Speed of modulation
[C] D	Delay Time	0~50[mSec]	Time between direct sound and effect sound
[D] F	Feedback	–99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[E]	Mod Waveform	SIN TRI	Selecting waveform Sine wave  Triangle wave 
[F] L	EQ Low	–12 ~ +12 [dB]	Gain to cut and boost the low range components
[G] H	EQ High	–12 ~ +12 [dB]	Gain to cut or boost the high range components
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

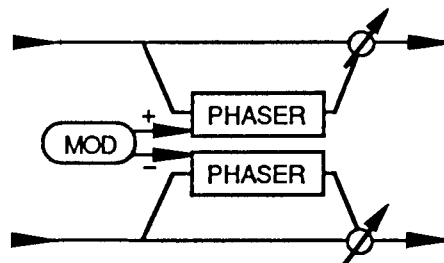
PHASE SHIFTER (Phaser) Group

Compared to the chorus and flanger programs, which use time delay to achieve their distinctive effects, the phase shifter programs use both time delay and phase shifting to create a more pronounced swirling and swishing sound than either chorus or flanger. It is most effective on electronic piano and guitar sounds.

16. PHASER I

This is a stereo effect that combines two phaser circuits. The swirling and swishing effect that moves expansively between the stereo outputs is enhanced by phase inversion of the two phaser circuits.

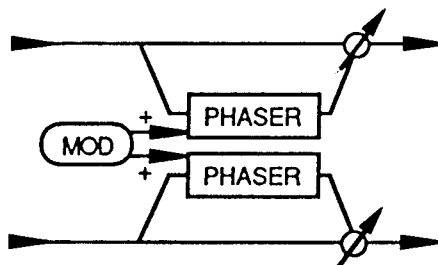
EFFECT 1 Phaser 1		Manual		25:75	
MN99	S0.69	M60	F-75	SIN	
A	B	C	D	E	F
G	H				



17. PHASER II

Similar to PHASE SHIFTER I except that there is no phase inversion.

EFFECT 1 Phaser 2		Feedback [%]		60:40	
MN99	S0.57	M69	F+87	TRI	
A	B	C	D	E	F
G	H				



[A] MN	Manual	0~99	Center frequency which phase shift affects
[B] S	Mod Speed	0.03~30 [Hz]	Speed of modulation
[C] M	Mod Depth	0~99	Depth of phase shift
[D] F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[E]	Mod Waveform	SIN TRI	Selection of modulation waveform Sine wave ~ Triangle wave ^
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

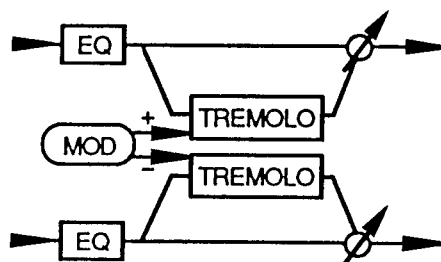
TREMOLO Group

This effect periodically varies (or modulates) the volume.

18. STEREO TREMOLO I

This is a stereo effect that combines two tremolo circuits. The stereo effect is enhanced by phase inversion of the two tremolo circuits and automatic panning between the left and right outputs.

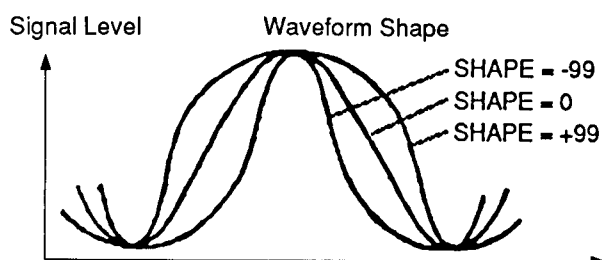
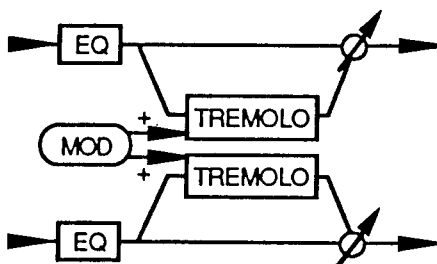
EFFECT 1 Tremolo 1		Mod Depth					
M80	S1.59	SIN	S+99	L+00	H+00	EFF	
A	B	C	D	E	F	G	H



19. STEREO TREMOLO II

Similar to STEREO TREMOLO I except that there is no phase inversion between the LFOs of the two tremolo circuits.

EFFECT 1 Tremolo 2		Shape					
M63	S4.00	TRI	S+00	L+00	H+00	EFF	
A	B	C	D	E	F	G	H



A	M	Mod Depth	0 ~ 99	Depth of tremolo effect
B	S	Mod Speed	0.03 ~ 30 [Hz]	Speed of modulation (tremolo effect)
C		Mod Waveform	SIN TRI	Selection of modulation waveform Sine wave Triangle wave
D	S	Shape	-99 ~ +99	Changing the modulation waveform (refer to the diagram above)
F	L	EQ Low	-12 ~ +12 [dB]	Gain that cuts or boosts low range components
G	H	EQ High	-12 ~ +12 [dB]	Gain that cuts or boosts high range components
H		DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

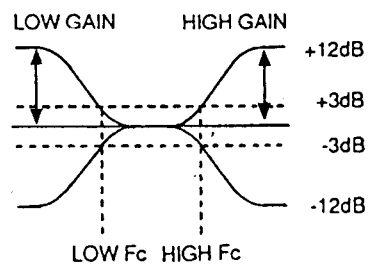
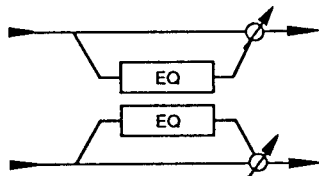
EQUALIZER Group

20. EQUALIZER

This is a 2-band (low range and high range) equalizer. It decreases (cuts) or increases (boosts) the components of each frequency range.

EFFECT 1 Equalizer		Low Gain [dB]	
L+00	500	H+00	2K
		EFF	

A B C D E F G H



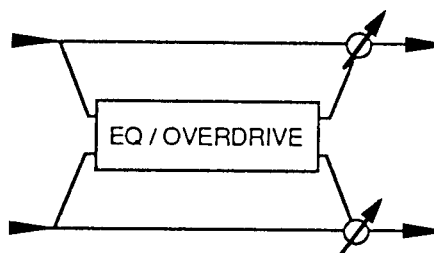
A L	Low Gain	-12 ~ +12 [dB]	Gain which cuts or boosts low range components
B	Low Fc (Low Cutoff)	250/500/1K [Hz]	Low frequency point at which boost or cut will be made
E H	High Gain	-12 ~ +12 [dB]	Gain that cuts or boosts the high range components
F	High Fc	1K/2K/4K [Hz]	High frequency at which boost or cut will be made
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

OVERDRIVE Group

21. OVERDRIVE

This is an effect that simulates the overdrive used generally for guitars, and is particularly effective when applied to guitar-like lines and solos.

EFFECT 1		Over Drive	Drive				
000	L32	M+00	1K	L+00	H+00	EFF	
A	B	C	D	E	F	G	H

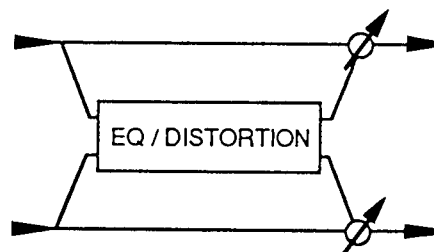


A D	Drive	0 ~ 99	Overdrive of input signal
B L	Level	0 ~ 99	Output level of processed sound
F L	EQ Low	-12 ~ +12 [dB]	Gain that cuts or boosts low range components
G H	EQ High	-12 ~ +12 [dB]	Gain that cuts or boosts high range components
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

22. DISTORTION

Compared with OVERDRIVE, this effect has a "dirtier" sound with more of a hard edge and is excellent for simulating a fuzz distortion sound. As with OVERDRIVE, it is effective when used in solos.

EFFECT 1		Over Drive	Drive				
000	L15	M+00	1K	L+00	H+00	EFF	
A	B	C	D	E	F	G	H



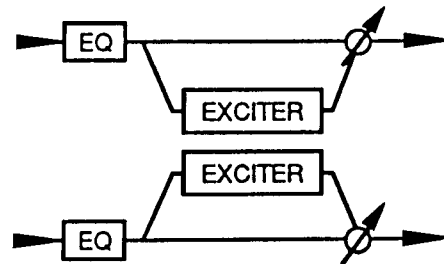
A D	Distortion	0 ~ 99	Amount of distortion applied to the input signal
B L	Level	0 ~ 99	Output level of distorted sound
F L	EQ Low	-12 ~ +12 [dB]	Gain that cuts or boosts low range components
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

EXCITER Group

23. EXCITER

This is an effect that increases the clarity of the sound, gives it greater definition and presence, and helps in bringing the sound to the forefront.

EFFECT 1	Exciter	Blend						
B+99	EP05	L+00 H+00	EFF					
A	B	C	D	E	F	G	H	



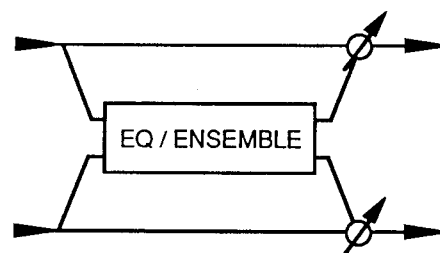
A B	Blend	-99 ~ +99	Setting the balance of the unprocessed and the exciter signals following the circuit.
C EP	Emphatic Point	1~10	Central frequency emphasized by exciter
F L	EQ Low	-12 ~ +12 [dB]	Gain that cuts or boosts low range components
G H	EQ High	-12 ~ +12 [dB]	Gain that cuts or boosts high range components
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

ENSEMBLE Group

24. SYMPHONIC ENSEMBLE

This effect is designed to be most effective for ensemble sounds like strings by applying greater modulation in a chorus-type program.

EFFECT 1	Symphonic Ens	Mod Depth						
M00		L+00 H+00	50:50					
A	B	C	D	E	F	G	H	



A M	Mod Depth	0 ~ 99	Depth of ensemble effect
F L	EQ Low	-12 ~ +12 [dB]	Gain that cuts or boosts low range components
G H	EQ High	-12 ~ +12 [dB]	Gain that cuts or boosts high range components
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

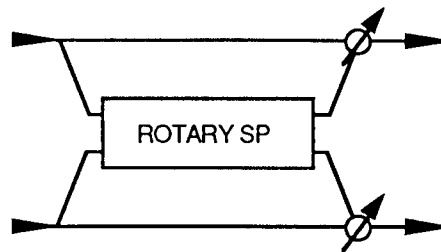
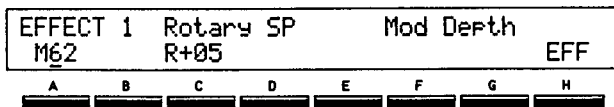
ROTARY EFFECT

25. ROTARY SPEAKER

This effect is designed to duplicate the rotational (Leslie) speaker effect popular for organ sounds.

The speed changes characteristic of the Leslie speaker can also be made in real time with the use of a volume pedal.

- * The volume pedal normally assigned to control the dry sound/effect sound balance does not control that parameter here, but is instead used to control the speed selection of the rotary effect. The pedal works as a switch and the speed of the rotary effect gradually changes regardless of the speed with which the pedal is moved.



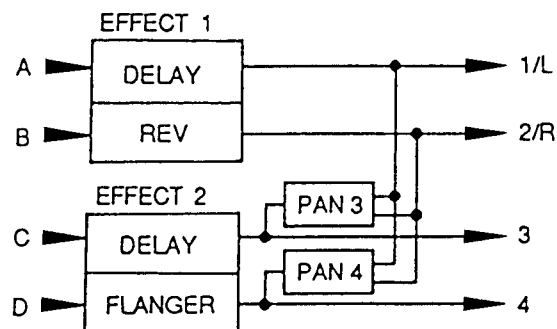
A M	Mod Depth	0 ~ 99	Depth of effect
C R	Speed Ratio	-10 ~ +10	Ratio of rotation speed of the high range speaker to the rotation speed of the low range speaker
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

COMBINATION Effects Group

Effect programs 26 to 33 are combination effects in which different effects are assigned to the two channels. Each effect can even be used in the two-system (Effect 1 and 2) configuration common to the other programs.

The diagram shows a parallel arrangement in which #26 DELAY/HALL is selected for Effect 1 and #31 DELAY/FLANGER for Effect 2.

- * See the explanation of effect programs #1 to #26 for details about each effect.
- * Parameters A to D correspond to one effect and E to H to the other one.



26. DELAY/HALL

EFFECT 1 Delay/Hall Reverb Time [S]
0250 F+50 HD10 70:30 3.5 D055 HD40 60:40

A B C D E F G H

DELAY

[A] D	Delay time	0~500 [mSec]	Time from direct sound to effect sound
[B] F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[C] HD	High Damp	0~99 [%]	The larger the value set, the faster the high frequencies are damped.
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

HALL

[E]	Reverb Time	0.2~ 9.9 [Sec]	Time before reverberation decays.
[F] D	Pre Delay	0 ~ 150 [mSec]	Time between the direct sound and the first early reflection.
[G] HD	High Damp	0 ~ 99 [%]	The larger the value set, the faster the high frequencies are damped.
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound.

27. DELAY/ROOM

EFFECT 1 Delay/Room Pre Delay [mS]
0250 F+50 HD10 70:30 1.5 D030 HD30 60:40

A B C D E F G H

DELAY

[A] D	Delay time	0 ~ 500 [mSec]	Time from direct sound to effect sound
[B] F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[C] HD	High Damp	0 ~ 99 [%]	The larger the value set, the faster the high frequencies are damped.
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

ROOM

[E]	Reverb Time	0.2~50 [Sec] (ROOM)	Output level of processed sound
[F] D	Pre Delay	0~150 [mSec]	Time between the direct sound and first early reflections
[G] HD	High Damp	0~99 [%]	The larger the value set, the faster the high frequencies are damped.
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound.

28. DELAY/EARLY REFLECTION

EFFECT 1 Delay/E.Ref E/R Time [mS]
0250 F+50 HD10 70:30 200 0030 60:40

A B C D E F G H

DELAY

[A] D	Delay time	0~500 [mSec]	Time from direct sound to effect sound
[B] F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[C] HD	High Damp	0~99 [%]	The larger the value set, the faster the high frequencies are damped.
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

EARLY REFLECTION

[E]	E/R Time	100~400 [mSec]	E/R time
[F] D	Pre Delay	0~150 [mSec]	Time between the direct sound and E/R sound
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

29. DELAY/DELAY

EFFECT 1 Delay/Delay Time L [mS]
250 F+50 HD10 70:30 260 F+50 HD10 70:30

A B C D E F G H

DELAY

[A]	Delay Time	0 ~ 500 [mSec]	Same as DELAY of #26 DELAY/HALL
[B] F	Feedback	-99 ~ +99 [%]	
[C] HD	High Damp	0 ~ 99 [%]	
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

DELAY

[E]	Delay Time	0 ~ 500 [mSec]	Same as above
[F] F	Feedback	-99 ~ +99 [%]	
[G] HD	High Damp	0 ~ 99 [%]	
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

30. DELAY/CHORUS

EFFECT 1 Delay/Chorus Mod Depth
250 F+50 HD10 70:30 M60 0.30 TRI 60:40

A B C D E F G H

DELAY

[A]	Delay time	0 ~ 500 [mSec]	Same as DELAY of #26 DELAY/HALL
[B] F	Feedback	-99 ~ +99 [%]	
[C] HD	High Damp	0 ~ 99 [%]	
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

CHORUS

[E] M	Mod Depth	0 ~ 99 [%]	Intensity of modulation effect
[F]	Mod Speed	0.03 ~ 30 [Hz]	Speed of modulation (frequency)
[G]	Mod Waveform	SIN ~ TRI ~	Selection of waveform Sine wave Triangle wave
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Sound volume balance of direct sound and effect sound

31. DELAY/FLANGER

EFFECT 1 Delay/Flanger Mod Depth
250 F+50 HD10 70:30 M70 0.18 F-75 40:60

A B C D E F G H

DELAY

[A] D	Delay time	0~500 [mSec]	Same as DELAY of #26 DELAY/HALL
[B] F	Feedback	-99 ~ +99 [%]	
[C] HD	High Damp	0~99 [%]	
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

FLANGER

[E] M	Mod Depth	0 ~ 99 [%]	Depth of flanging effect
[F]	Mod Speed	0.03 ~ 30 [Hz]	Speed of modulation
[G] F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

32. DELAY/PHASER

EFFECT 1 Delay/Phaser Mod Speed [Hz]
 250 F+50 HD10 70:30 M60 0.69 F-75 25:75

A B C D E F G H

DELAY

A	Delay time	0 ~ 500 [mSec]	Same as DELAY of #26 DELAY/HALL
B F	Feedback	-99 ~ +99 [%]	
C HD	High Damp	0 ~ 99 [%]	
D	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

PHASER

E M	Mod Depth	0 ~ 100 [%]	Depth of phase shift
F	Mod Speed	0.03 ~ 30 [Hz]	Speed of modulation
G F	Feedback	-99 ~ +99 [%]	Amount of feedback (negative values produce inverted phase)
H	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance of direct sound and effect sound

33. DELAY/TREMOLO

EFFECT 1 Delay/Tremolo Shape							
250 F+50 HD10 70:30 M80 1.59 S+00 EFF							
A	B	C	D	E	F	G	H

DELAY

[A] D	Delay Time	0 ~ 500 [mSec]	Same as Delay of #26 DELAY/HALL
[B] F	Feedback	-99 ~ +99	
[C] HD	High Damp	0 ~ 99	
[D]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	

TREMOLO

[E] M	Mod Depth	0 ~ 99	Depth of tremolo effect
[F]	Mod Speed	0.03 ~ 30 [Hz]	Speed of modulation
[G] S	Shape	-99 ~ +99	Changing the modulation waveform
[H]	DRY:EFF Balance	DRY, 99:1 ~ 1:99, EFF	Output balance between direct sound and effect sound

EFFECT PARAMETERS DEFAULT VALUES CHART

NO.	EFFECT	A	B	C	D
		REVERB TIME	PRE DELAY	E/R LEVEL	HIGH DAMP
0 1	HALL	3. 5S	55mS	46	40%
0 2	ENSEMBLE HALL	2. 8S	30mS	46	40%
0 3	CONCERT HALL	3. 8S	120mS	46	40%
0 4	ROOM	0. 5S	22mS	76	10%
0 5	LARGE ROOM	1. 5S	30mS	76	30%
0 6	LIVE STAGE	2. 0S	20mS	60	20%
		E/R TIME		PRE DELAY	
0 7	EARLY REF 1	170mS		30mS	
0 8	EARLY REF 2	200mS		20mS	
0 9	EARLY REF 3	190mS		10mS	
		DELAY TIME L	DELAY TIME R	FEEDBACK	HIGH DAMP
1 0	STEREO DELAY	250mS	260mS	+50%	10%
1 1	CROSS DELAY	180mS	360mS	+80%	10%
		MOD DEPTH	SPEED	DELAY TIME	WAVEFORM
1 2	STEREO CHORUS 1 *	60	0. 30Hz	10mS	TRI
1 3	STEREO CHORUS 2 *	20	2. 40Hz	5mS	SIN
		MOD DEPTH	SPEED	DELAY TIME	FEEDBACK
1 4	STEREO FLANGER *	70	0. 18Hz	0mS	-75%
1 5	CROSS FLANGER *	37	0. 21Hz	25mS	+80%
		MANUAL	SPEED	MOD DEPTH	FEEDBACK
1 6	PHASER 1 *	99	0. 69Hz	60	-75%
1 7	PHASER 2 *	99	0. 57Hz	69	+87%
		MOD DEPTH	SPEED	WAVEFORM	SHAPE
1 8	STEREO TREMOLO 1 *	80	1. 59Hz	SIN	+99
1 9	STEREO TREMOLO 2 *	63	4. 00Hz	TRI	0
		LOW GAIN	LOW FC		
2 0	EQUALIZER	0dB	500Hz		
		DRIVE	LEVEL		
2 1	OVER DRIVE	80	15		
		DISTORTION	LEVEL		
2 2	DISTORTION	80	20		
		BLEND		EMPHATIC	
2 3	EXCITER	+99		5	
		MOD DEPTH			
2 4	SYMPHONIC ENS *	80			
		MOD DEPTH		SPEED RATIO	
2 5	ROTARY SPEAKER *	62		+5	
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
2 6	DELAY/HALL	250mS	+50%	10%	70:30
2 7	DELAY/ROOM	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
2 8	DELAY/E. REF	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
2 9	DELAY/DELAY	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
3 0	DELAY/CHORUS *	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
3 1	DELAY/FLANGER *	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
3 2	DELAY/PHASER *	250mS	+50%	10%	70:30
		DELAY TIME	FEEDBACK	HIGH DAMP	DRY: EFF
3 3	DELAY/TREMOLO *	250mS	+50%	10%	70:30