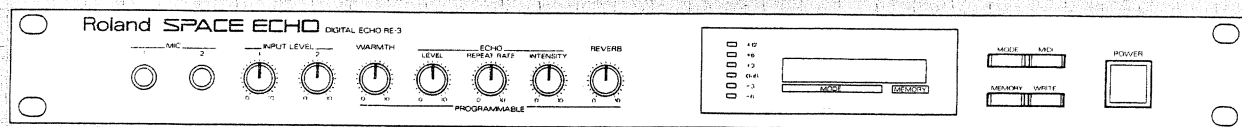
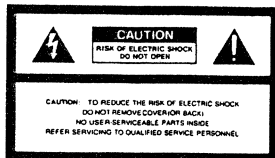


 Roland

DIGITAL SPACE ECHO RE-3

OWNER'S MANUAL





The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS

WARNING When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water- for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacture.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss.
Do not operate for a long period of time at a high volume level or at level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers or other products that produce heat.
7. The product should avoid using in where it may be effected by dust.
8. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
9. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
10. Do not tread on the power-supply cord.
11. Do not pull the cord but hold the plug when unplugging.
12. When setting up with any other instruments, the procedure should be followed in accordance with instruction manual.
13. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
14. The product should be serviced by qualified service personnel when:
A: The power-supply cord or the plug has been damaged; or
B: Objects have fallen, or liquid has been spilled into the product; or
C: The product has been exposed to rain; or
D: The product does not appear to operate normally or exhibits a marked change in performance; or
E: The product has been dropped, or the enclosure damaged.
15. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS

ADVARSEL !

Lithiumbatteri. Eksplosionsfare.
Udskiftning må kun foretages af en sagkyndig, og som beskrevet i servicemanual.

VARNING !

Lithiumbatteri. Explosionsrisk.
Får endast bytas av behörig servicetekniker.
Se instruktioner i servicemanualen.

ADVARSEL !

Lithiumbatteri. Fare for eksplosion.
Må bare skiftes av kvalifisert tekniker som beskrevet i servicemanualen.

VAROITUS !

Lithiumparisto. Rajähdyksvaara.
Pariston saa vaihtaa ainoastaan alan ammottimies.

WARNING

THIS APPARATUS MUST BE EARTH GROUNDED.

The three conductors of the mains lead attached to this apparatus are identified with color as shown in the table below, together with the matching terminal on the UK type power plug. When connecting the mains lead to a plug, be sure to connect each conductor to the correct terminal, as indicated.

"This instruction applies to the product for United Kingdom."

MAINS LEADS		PLUG
Conductor	Color	Mark on the matching terminal
Live	Brown	Red or letter L
Neutral	Blue	Black or letter N
Grounding	Green-Yellow	Green, Green-Yellow, letter E or symbol

Bescheinigung des Herstellers /Importeurs

Hiermit wird bescheinigt, daß der/die/das

ROLAND DIGITAL SPACE ECHO RE-3

(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046 / 1984

(Amtsblattverfügung)

funk-entstört ist.

Der Deutschen Bundespost wurde das Inverkehrbringen dieses Gerätes angezeigt und die Berechtigung zur Überprüfung der Serie auf Einhaltung der Bestimmungen eingeräumt.

Roland Corporation Osaka / Japan

Name des Herstellers/Importeurs

RADIO AND TELEVISION INTERFERENCE

"Warning - This equipment has been verified to comply with the limits for a Class B computing device, pursuant to Subpart J, of Part 15, of FCC rules. Operation with non-certified or non-verified equipment is likely to result in interference to radio and TV reception."

The equipment described in this manual generates and uses radio-frequency energy. If it is not installed and used properly, that is, in strict accordance with our instructions, it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J, of Part 15, of FCC Rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable.

- These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non-Roland devices, contact the manufacturer or dealer for assistance.

- If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures:

- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV.

If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

"How to Identify and Resolve Radio-TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 904-000-00345-4.

Please read the separate volume "MIDI", before reading this owner's manual.

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INTRODUCTION

Thank you for purchasing the Roland Digital Space Echo RE-3.

The RE-3 features digital echo and reverb units which can generate various types of reverberation effects.

To make the best use of the RE-3, read this owner's manual carefully.

FEATURES

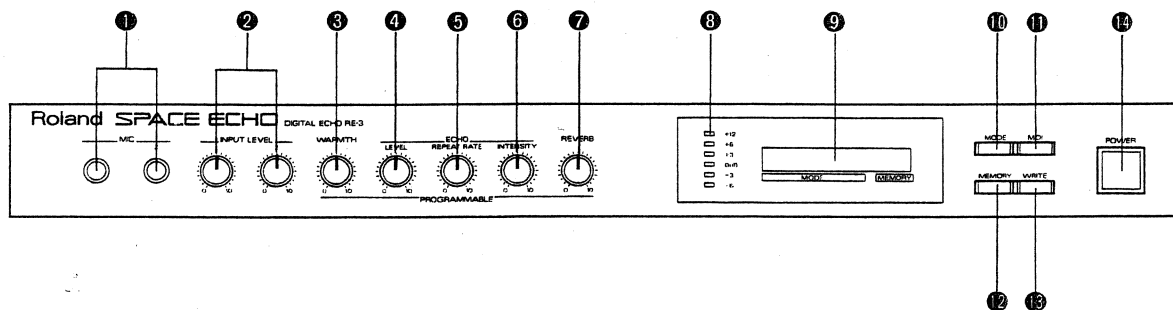
- The RE-3 is a high quality digital echo/reverb effect.
- It's provides five different Modes (preprogrammed echo patches), the RE-3 can produce a wide variety of echo effects.
- In each Mode, up to 5 different effect programs can be written into memory (altogether 25 different programs).
- The "Warmth" control serves to create warm echo sounds.
- A Remote Control Socket is provided, allowing you to turn on or off the effect with the pedal.
- Any of the effect programs written in memory can be called with program change messages sent from an external MIDI device.

CONTENTS

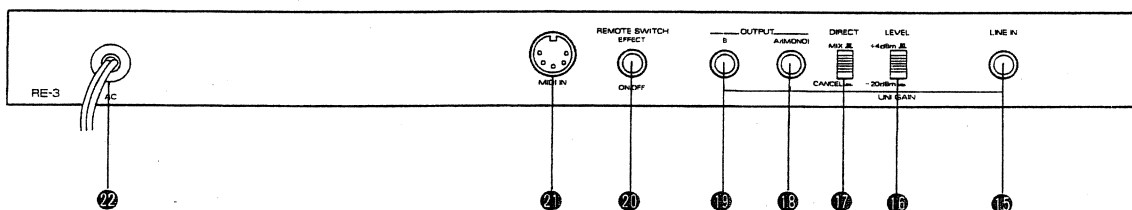
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PANEL DESCRIPTION

FRONT PANEL



REAR PANEL



① MIC Sockets 1 and 2 (P6)

Connect a units such as a microphone to this socket.

② Input Level Control Knobs 1 and 2 (P8)

The input level of the unit connected to the MIC Socket is adjusted with these knobs.

③ Warmth Control Knob (P10)

This controls the "warmth" of the effect sound.

④ Echo Level Control Knob (P10)

This adjusts the volume of the echo sound.

⑤ Repeat Rate Control Knob (P11)

This changes the speed of echo repeats.

⑥ Intensity Control Knob (P11)

This changes the number of echo repeats.

⑦ Reverb Control Knob (P11)

This controls the depth of reverberation effects.

⑧ Level Indicators (P8)

These indicate the level of the input signal.

⑨ Display

This shows the current Mode and conditions.

⑩ Mode Button (P8)

Pushing this button selects the five preset echo patches (=Modes) in sequence.

⑪ MIDI Button (P15,16)

Press this button for controlling this unit via MIDI.

⑫ Memory Button (P14)

Use this button to call any of the effect programs written in the RE-3's memory.

⑬ Write Button (P13)

Press this button for writing the edited effect program.

⑭ Power Switch (P6)

⑮ LINE IN Socket (P6)

This is to connect a line-level device such as a mixer.

⑯ Level Selector Switch (P7)

This selects the input/output level. Change the positions depending on the type of the unit you use.

⑰ Direct Switch (P6)

The MIX position provides a mixed sound of the direct and echo signals, and "Cancel" gives only the echo sound. When using the Effect Send/Return socket on a mixer, set this switch to "CANCEL". (When using microphone input, the "MIX" mode is matter which position the switch is set to.)

⑱ Output Socket A/mono (P6)

⑲ Output Socket B (P6)

These are output sockets. Use both of then for stereo output, and use the A socket for monaural output.

⑳ Effect ON/OFF Socket (P12)

The effect can be turned on or off using the footswitch or pedal switch connected to this socket.

㉑ MIDI IN Socket (P14)

㉒ Power Cord

■ IMPORTANT NOTES

Location

- Operating the unit near a neon or fluorescent lamp may cause noise interference. If so, change the angle or the position of the unit.
- Avoid using the unit in excessive heat or humidity or where it may be affected by direct sunlight or dust.

Power

- The appropriate power supply for this unit is shown on its name plate. Please make sure that the line voltage in your country meets the requirement.
- It is normal for this unit to become hot while being operated.
- Do not drop or place anything heavy on the power cord or connection cords.

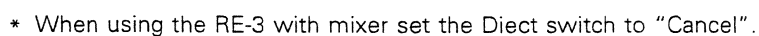
Caution

- Do not dismantle or touch inside the unit. It may cause you an electric shock and the unit breakdown.
- Do not let any solid or liquid substance into the unit.
- If the unit does not function properly, immediately switch it off, disconnect the power plug from the socket, and call your local Roland service center.

Other Notes

- For about five seconds after the unit is switched on, muting circuits function, therefore no sound (effect or direct) is produced.
- If this unit is turned on immediately after being turned off, it may not function properly. If this happens, turn off the unit once, then turn it on after waiting for a few seconds.
- The RE-3 features a memory back-up system that retains the data even when switched off. The battery that supports the back-up circuit should be replaced every five years. Call Roland for battery replacement. (The first replacement may be required before five years, depending on how much time had passed before you purchased the unit.)

When using the MIC socket



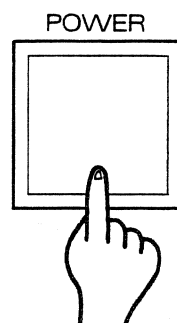
■ PROCEDURE

1 OPERATION

1. Basic Procedure

When all the necessary connections are made, follow the procedure:

- ① Make sure that the unit is turned off, then connect the power plug to the socket.
- ② Turn the unit on.



a. Basic Level Setting

Set the Level Selector Switch to an appropriate position as follows:

- **When using the MIC 1 and 2 sockets**

Set the Level Selector switch depending on the input level of the device connected to the Output socket.

- **When using the LINE IN socket.**

Change the positions depending on the output level of the connected device. (When the LINE IN socket is used, the input and output levels are simultaneously changed. So, the RE-3 should be connected between the devices which have matching levels.

[e.g.]

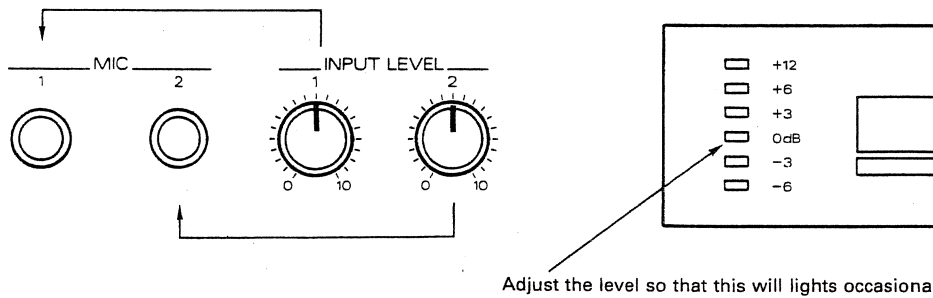
+4dBm → Roland Rack System, Professional-use equipment, etc.

−20dBm → Electronic musical instrument such as a synthesizer, Consumer type equipment, etc.

b. Input Level Setting

• When using MIC Sockets 1 and 2

As you actually listen to the sound, set the input with the relevant Input Level Control Knob. The optimum level is where the Level Indicator "0" lights up occasionally.



• When using the LINE IN socket

Adjust the output level control on the device connected to the LINE IN socket so that the Level indicator "0" on the RE-3 lights up occasionally.

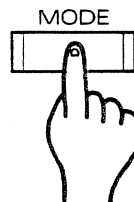
* If the level Selector Switch and Input Level Control Knob are not set properly, distortion or noise will occur.

c. Mode Selection

The RE-3 has five different preset echo patches. We call these patches "Modes" in this manual.

«Procedure»

Select a Mode you like using the Mode Button.



* The Mode being selected is retained when the unit is switched off, and therefore will be called when the unit is turned on again.

The name of the Mode currently selected is shown in the Display.

SECHO-1

This is a single echo with reverberation. Natural echo effect is obtained.

SECHO-2

This is a panning echo with reverberation. The result is a soft and wide echo effect.

SECHO-3

Two echo effects are mixed creating complex and deep echoes.

RECHO-1

Transparent sound with natural reverberation.

RECHO-2

Clear and bright tone with reverberation.

d. Effect Control

You can modify the Mode currently selected to your taste, using the following five control knobs.

When a control knob is moved even slightly, the name of the knob and the new value (00-99) are shown in the Display for about a second.

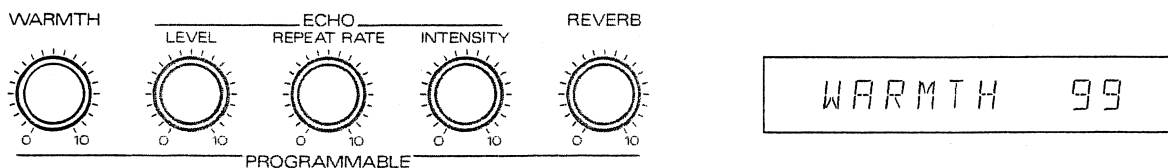
Parameter	Value
WARMTH	99

* Certain effects cannot be modified in some Modes as shown below:

Mode \ Knob	Warmth	Echo Level	Repeat Rate	Intensity	Reverb
S. ECHO-1	○	○	○	○	○
S. ECHO-2	○	○	○	○	○
S. ECHO-3	○	○	○	○	
R. ECHO-1	○				○
R. ECHO-2	○				○

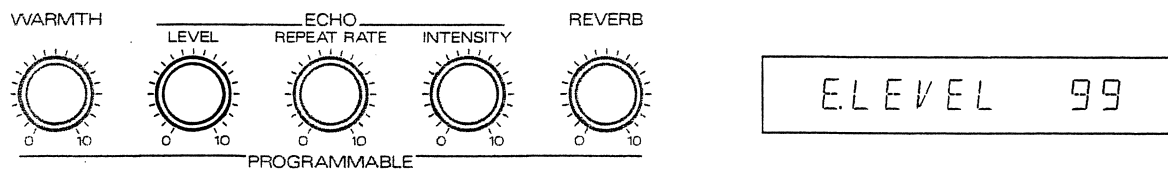
* The Mode being selected is retained when the unit is switched off, and therefore will be called when the unit is turned on again.

• WARMTH



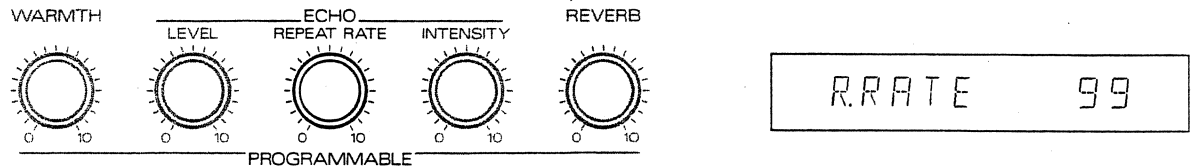
This control can add "Warmth" to the entire effect. Rotating the knob clockwise deepens the effect.

• ECHO LEVEL



This control adjusts the volume of the echo sound. Rotating it clockwise increase the echo volume.

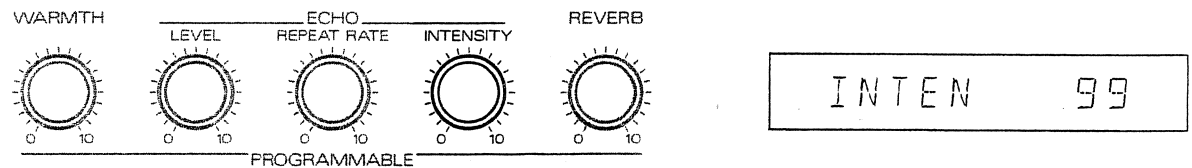
• REPEAT RATE



This adjusts the speed of the echo repeats. Rotating the knob clockwise will make the interval between any two echoes shorter.

* A Click sound may be heard when this knob is moved, but there is nothing to worry about.

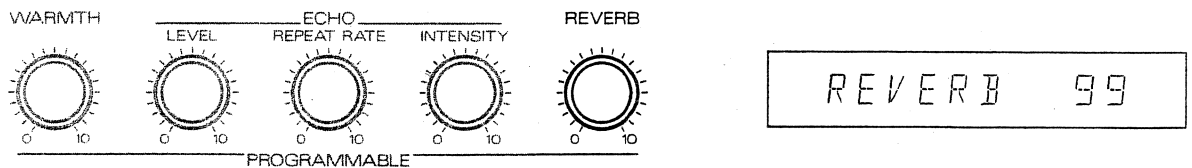
• INTENSITY



This controls the number of echo repeats. Rotating the knob clockwise will increase the number.

* As you rotate this knob clockwise, oscillation may occur.

• REVERB

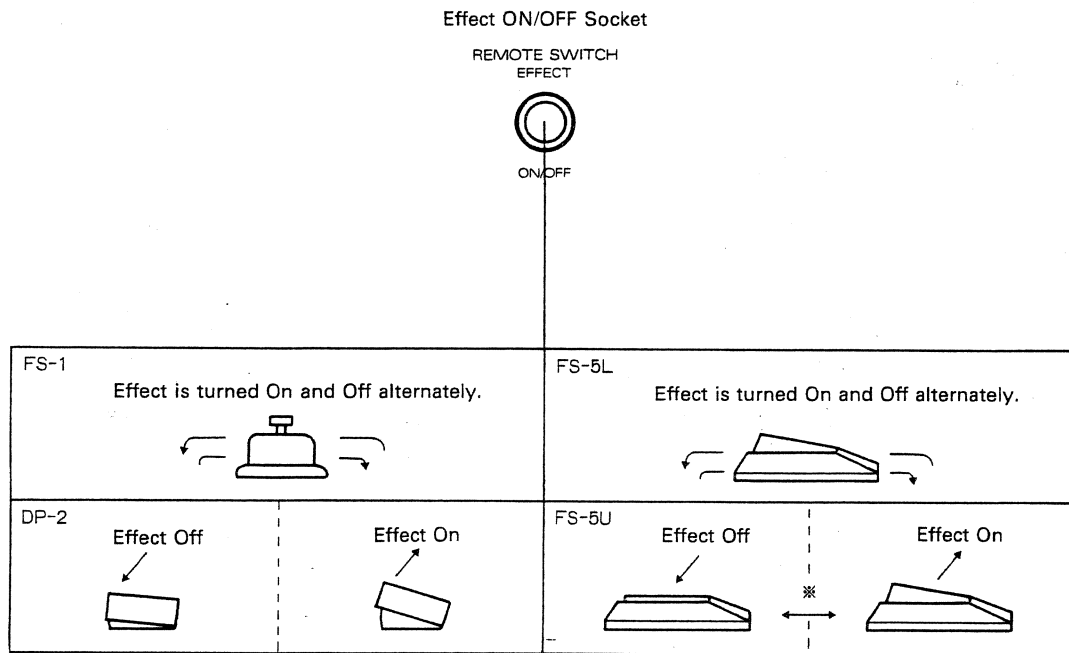


This adjusts the depth of reverberation effect. Rotating the knob clockwise will deepen the effect.

The modified data will be erased when you change the mode or memory number. To retain the data, take an appropriate writing procedure, as shown in the following section "Memory/Writing into memory".

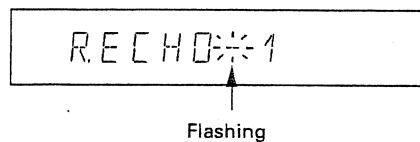
2. Remote Control

Connect an optional footswitch FS-1, FS-5L or a pedal switch DP-2 to the Effect On/Off socket on the rear of the RE-3, and you can turn on or off the effect using the pedal.



※ The polarity of the FS-5U can be Changed.
This fact reverses the Operation (Effect on/off) of the pedal.

When the effect is off, a “—” mark flashes in the Display.



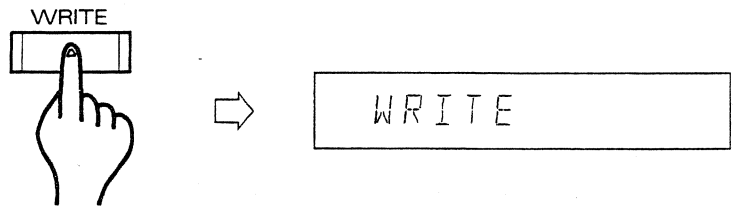
2 MEMORY

The edited echo effect is erased when a different Mode is selected or the unit is turned off. However, the memory function of the RE-3 allows you write up to 25 different effect programs into memory; five different effects (memory numbers) for each of the five Modes.

1. Writing into Memory

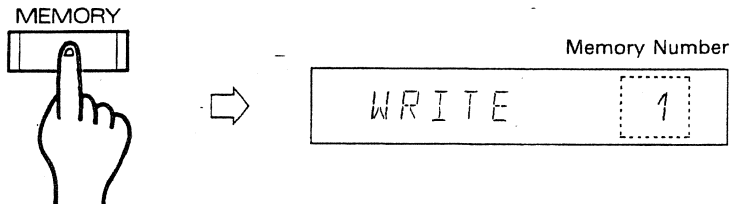
«Procedure»

- ① Press the Write Button.



To cancel the writing mode, press the Write Button again.

- ② Using the Memory Button, select the memory number where you wish to write the effect program you have made.

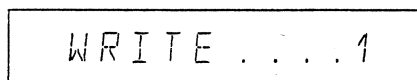


Pressing the Memory Button will select the memory numbers 1 to 5 in sequence.

To cancel the write mode at this stage, press the Mode button.

- ③ Press the Write Button.

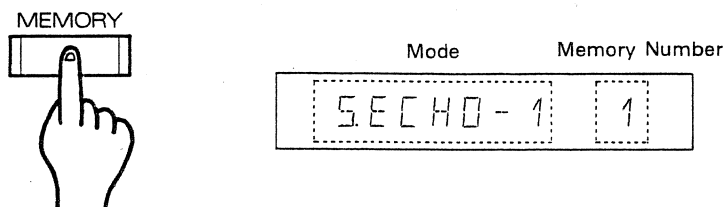
The Display responds as shown below, and the writing is completed.



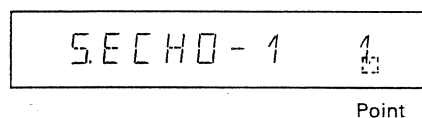
2. Selecting an Effect

a. Changing Memory Numbers

Five effect programs (=memory numbers) in each Mode are recalled in sequence by pushing the Memory Button.



The echo you have selected can be edited by using the five control knobs (see page 10). When any editing is made on a memory number, a decimal appears at the lower right of the Display.



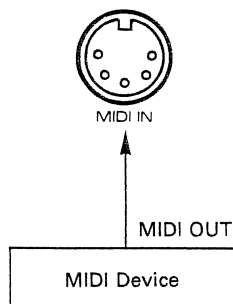
* If you wish to retain the edited version of effect program, take the appropriate writing procedure.

[Note]

The effect program currently called is not affected by the positions of the control knobs on the front panel. In other words, the control knob have no relation to the contents of the effect (except for the Input Level Control Knob). However, moving a knob even slightly will activate the relevant function.

b. Changing Memory Numbers via MIDI

When the RE-3 is connected with a MIDI device using a MIDI cable, memory numbers on the RE-3 can be changed by operating the external device.



For instance, by changing the patches on the synthesizer connected to the RE-3, Program Change messages are sent to the RE-3, selecting the corresponding memory number on the RE-3 remotely. (Refer to "Guide Book for MIDI".)

It is necessary to properly set the MIDI channel number and OMNI ON/OFF and make combination of the Program Change numbers on the external device and the memory numbers on the RE-3 as follows.

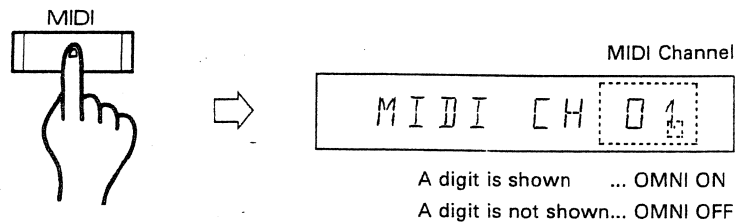
• Setting MIDI Channel and OMNI ON/OFF

(Refer to "Guide Book for MIDI".)

This is for setting the RE-3 so that it can receive the Program Change messages sent from the external MIDI device.

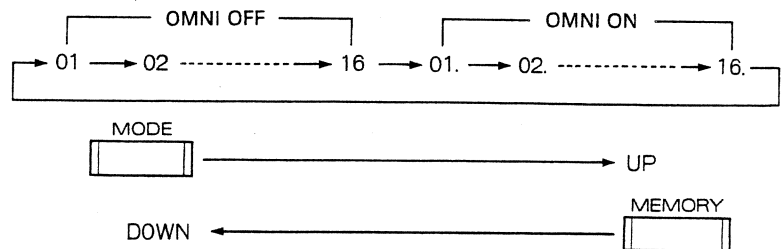
«Procedure»

- ① Press the MIDI Button.



- ② Using the Mode and the Memory Buttons, select a MIDI channel and the OMNI ON or OFF.

Pressing these two buttons will cause the Display to respond as shown below so that you can select a MIDI channel and OMNI ON or OFF.



* Pushing the Mode Button while holding the Memory Button down will quicken the change in the Display. The same effect is obtained by pushing the Memory Button while holding the Mode Button down.

- ③ Press the MIDI Button.

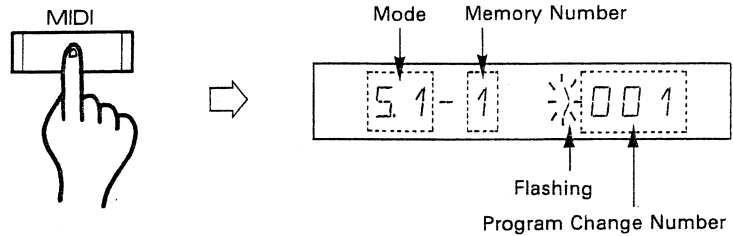
The unit is returned to the normal condition.

- **Making combination of Program Change numbers on the external device and the memory numbers on the RE-3**

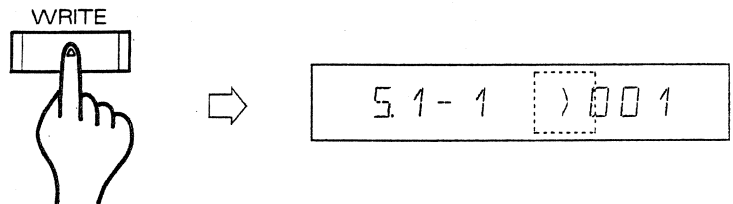
The following procedure assigns the Program Change numbers on an external MIDI device to the memory numbers on the RE-3.

«Procedure»

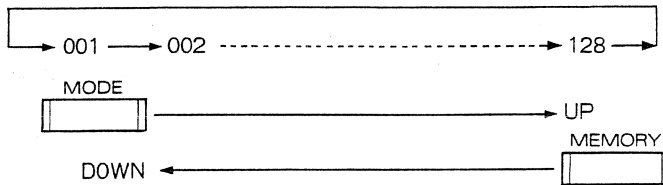
- ① Hold the MIDI Button down for about two seconds.



- ② Using the Write Button, turn the flashing arrow to the direction of the Program Change number.



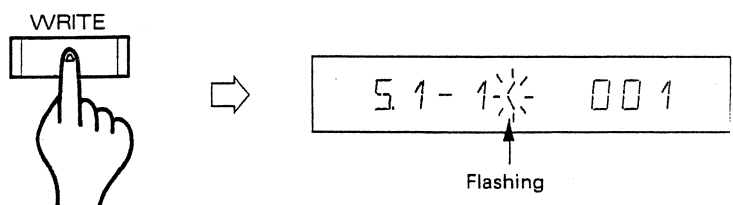
- ③ Using the Mode and the Memory Buttons, select a program change number (1 – 128).



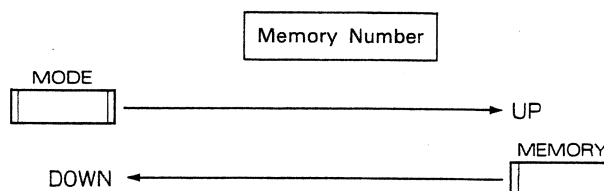
As the program change number changes, the memory number changes, too.

- * Pushing the Mode Button while holding the Memory Button down will quicken the change in the Display. The same effect is obtained by pushing the Memory Button while holding the Mode Button down.

- ④ Using the Mode and the Memory Buttons, assign a memory number to the current program change number.



- ⑤ Using the Mode and the Memory Buttons, assign a memory number to the current program change number.



- ⑥ Repeat steps 2 to 5 as many times as necessary.
- ⑦ Press the MIDI Button to return to the normal condition.

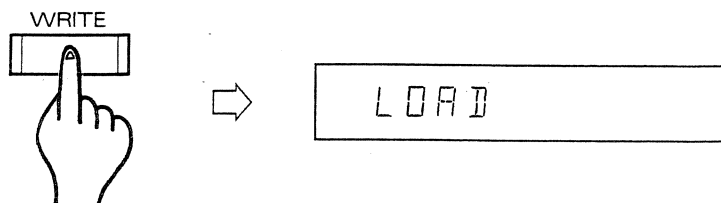
3. Restoring the pre-programmed sample effects

Writing an edited effect program will automatically erase any previous data written in that location (=memory number). However, the sample effects pre-programmed from the manufacturer can be restored at any time by following the procedure.

* Taking this procedure will restore all the 25 preprogrammed effects.

«Procedure»

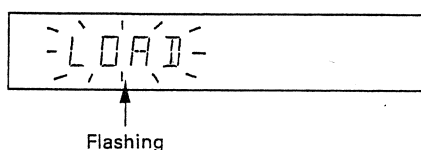
- ① Hold the Write Button down for about four seconds.



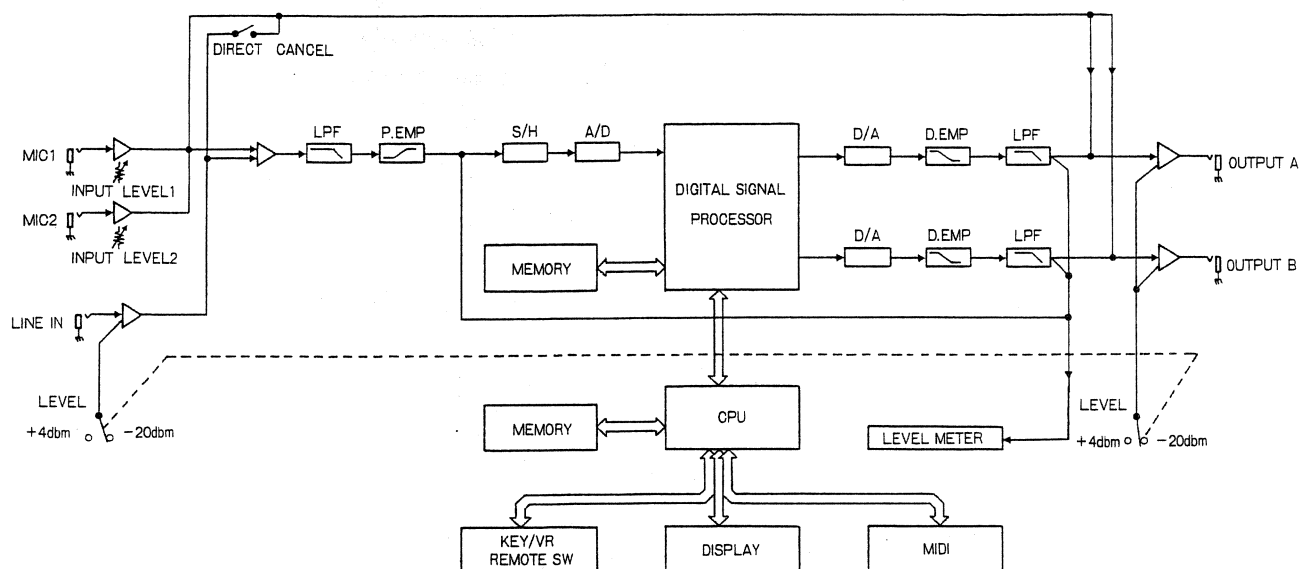
* To cancel the Sample Program Restoring mode, press the Mode Button.

- ② Press the Write Button.

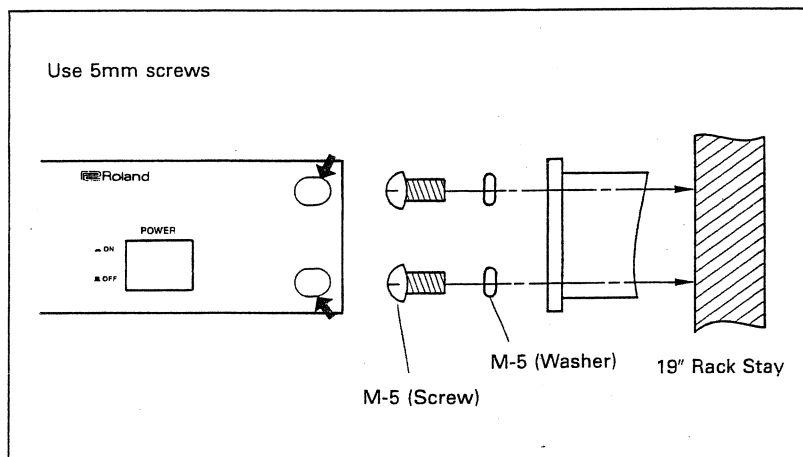
The letters in the Display flash, showing that the sample programs are restored.



■ BLOCK DIAGRAM



FIXING TO THE 19" RACK



MIDI Implementation Chart

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	×	1-16	Memorized
	Changed	×	1-16	
Mode	Default	×	1, 3 omni on/off	Memorized
	Messages	×		
	Altered	*****		
Note Number	True Voice	×	×	
		*****	×	
Velocity	Note ON	×	×	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Ch's	×	×	
Pitch Bender		×	×	
Control Change		×	×	
Prog Change	True #	×	○ 0-127 **	
		*****	0-127	
System Exclusive		×	×	
System Common	Song Pos	×	×	
	Song Sel	×	×	
	Tune	×	×	
System Real Time	Clock	×	×	
	Commands	×	×	
Aux Message	Local ON/OFF	×	×	
	All Notes OFF	×	×	
	Active Sense	×	×	
	Reset	×	×	
Notes				

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

○ : Yes
× : No

1. RECOGNIZED RECEIVE DATA

■ Program Change

<u>Status</u>	<u>Second</u>
CnH	ppH

pp=Program Change 00H-7FH (0-127)
n=MIDI Channel Number 0H- FH (1- 16)

■ SPECIFICATION

[Rated (+4dBm) output]

- **Input Level/Impedance**

MIC 1/2 : -46dBm (4mVrms)/2k Ω
(+7dBm (1.8Vrms)/150K Ω)
LINE IN : +4dBm/50k Ω

- **Output Level/Impedance**

+4dBm/600 Ω

- **AD/DA System**

16 bit linear

- **Sampling Frequency**

32kHz

- **Frequency Response**

Direct (Line) : 10Hz-30kHz (-3dB)
Effect : 20Hz-12kHz (-3dB)

- **SN Ratio (IHF-A)**

Direct (Line) : 86dB
Effect : 77dB

- **Total Harmonic Distortion**

Direct : Less than 0.004 %
Effect : Less than 0.06 %

- **Delay Time**

10-300ms

- **Reverb Time**

0-5 s

- **Consumption**

19 W

- **Dimensions**

482(W) × 47(H) × 324(D) mm
19"(W) × 1-7/8"(H) × 12-3/4"(D)

- **Weight**

3.5Kg/7lb 12oz

- **Accessories**

Owner's Manual
Guide Book for MIDI

«Front Panel»

- **Sockets**

MIC 1
MIC 2

- **Control Knobs**

Input Level 1
Input Level 2
Warmth
Echo Level
Repeat Rate
Intensity
Reverb

- **Buttons**

Mode
Memory
Write
MIDI

«Rear Panel»

- **Sockets**

LINE IN
Output A/mono
Output B
Remote Switch (Effect ON/OFF)
MIDI IN

- **Switches**

Level Selector
Direct

* Specifications are subject to change without notice.

MEMO

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88-9-A3-2N