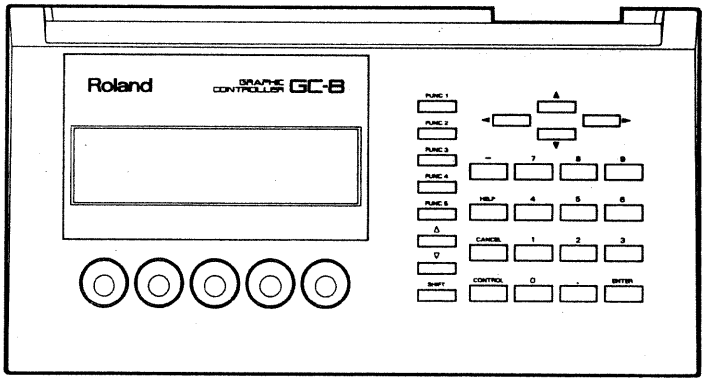
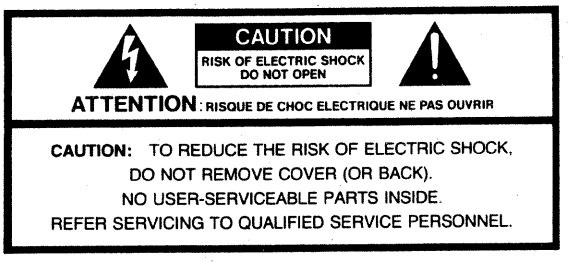
Roland

MIDI GRAPHIC CONTROLLER

GC-8

Owner's Manual





The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "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 manufacturer.
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 a 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. Avoid using the product 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

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE AC PLUG must be grounded.

INTRODUCTION

Thank you for purchasing the Roland GC-8. The GC-8 has a display which helps you edit parameters and can control up to 16 R-880's. The data you have programmed can be written to the internal memory or on to a memory card. Read this owner's manual carefully to make the best use of the unit.

CONTENTS

■ Panel Description ····· 4
■ Important Notes ····· 5
■ Memory Card ····· 7
■ Connections ····· 8
■ Power-up ····· 9
[1] How to Use this Owner's Manual ····· 12
[2] Outline of the System ····· 13
1. Overview of the R-880 ····· 13
2. Overview of the GC-8 ····· 15
3. Overview of the Procedures ····· 17
4. Outline of the Procedure ····· 19
a. Menu Selections ····· 19
b. Editing Procedure ····· 21
[3] Factory Presets ····· 23
1. Before using the Presets ····· 23
2. Calling the Presets ····· 24
[4] Overview of the Editing Functions ···· 25
1. Displays and Automatic Calculation ····· 25
2. Help Display ····· 26
[5] Editing the Algorithm ····· 27
1. R-880's Algorithm and Modes ····· 27
2. Mode Selection ····· 28
3. Editing Algorithm Data ····· 31
a. Move (Selecting and Locating the Units) ····· 33
b. Joint (Connecting the Units) ····· 34
[6] Editing Parameters ····· 39
1. Reverb ····· 43
a. Reverb (Stack Type) ····· 43
b. Reverb (Tap Type) ····· 51
2. Plate ····· 56
a. Plate (Stack Type) ····· 56
b. Plate (Tap Type) ····· 59
3. Non-linear ····· 62
4. Equalizer ····· 66
5. Chorus ····· 69
6. Delay ····· 71
7. Gate ····· 72
8. Compressor ····· 74
[7] Editing the Mixer ····· 77
1. Input/Output Level ····· 77
2. Internal Level ····· 79
[8] Memory ····· 83
1. Reading ····· 85
2. Copying ····· 86
3. Naming ····· 86
4. Writing ····· 88
5. Deleting ····· 88
6. Initializing a Memory Card ····· 89
7. Backup a Memory Card ····· 89
8. Protecting the Internal Memory ····· 89
[9] Other Useful Functions ····· 90
1. Program Change ····· 90
2. Controlling more than one R-880 ····· 92
3. Displaying the R-880's condition ····· 94
[10] Error Messages ····· 96
■ GC-8 Parameter Map ····· 98
■ Specifications ····· 100

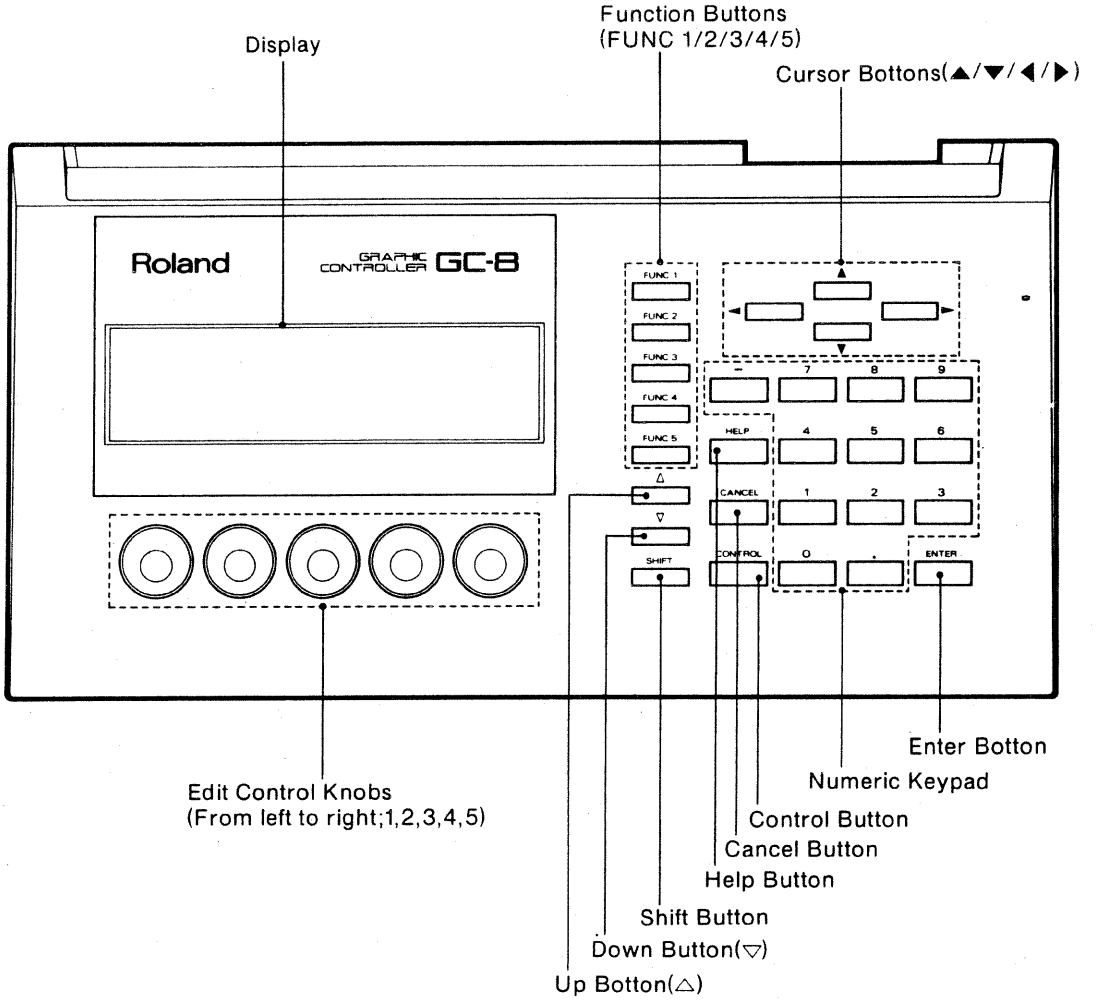
Please read the separate "Guide Book for MIDI" before reading this owner's manual.

Copyright © 1988 by ROLAND CORPORATION

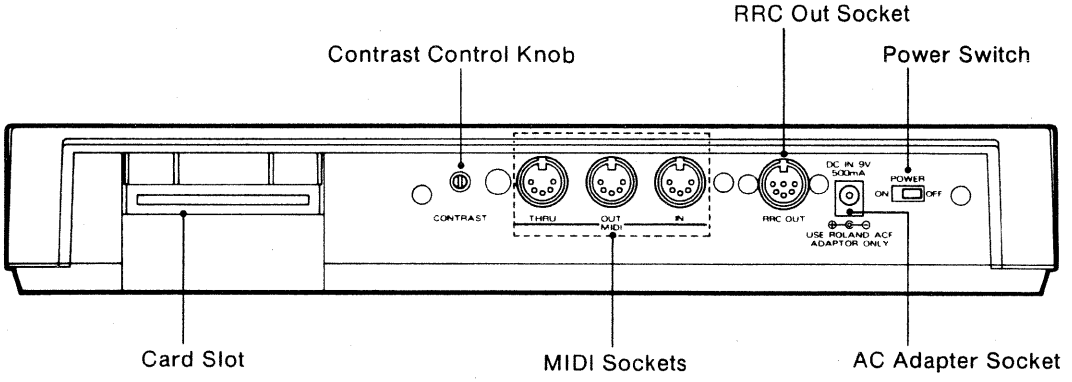
All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.

■PANEL DESCRIPTION

〈Front Panel〉



〈Rear Panel〉



■ IMPORTANT NOTES

◇Power Supply◇

●Power is supplied to this unit through an RRC cable. If you do not have an RRC cable, use the AC adapter, ACF-120, 220 or 240, depending on the voltage system in your country. Using any other adaptor will cause troubles.

●Before setting up this GC-8 with other MIDI devices, turn this unit off along with all other units.

◇AC Adapter◇

●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.

●Do not use the same socket used for any noise generating device. (such as a motor or variable lighting system)

●Make sure that the unit is turned off before connecting the AC adapter to the socket.

●Connect the AC adapter to the AC adapter socket before connecting the power plug to the socket.

●When disconnecting the power plug from the socket, do not pull the cord but hold the plug to avoid damaging the cord.

●If the unit is not to be used for a long period of time, unplug the cord from the socket.

◇Room Location◇

●Avoid using this device in excessive heat or humidity conditions, or where it may be affected by direct sunlight or dust and avoid places subject to high vibration.

●Operating the unit near a neon light, fluorescent lamp, TV or CRT Display may cause noise interference. If so, change the angle or the position of the unit.

●Do not place or drop anything heavy on the main unit or its power cord.

◇Cabinet Cleaning Care◇

●For cleaning the unit, use a dry and soft cloth.

●Should the casing become dirty, use a cloth slightly dampened with water.

●To remove grime, clean the casing with a cloth moistened with a neutral detergent, then wipe it dry with a soft cloth.

●Do not use solvents such as paint thinner when cleaning.

◇Memory Back Up System◇

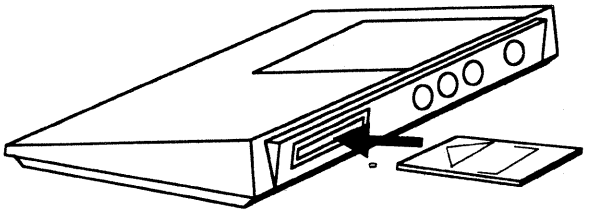
●This unit features a memory back-up system that retains the data even after switched off. The battery that supports the back-up circuit should be replaced every five years. Call the Roland service station for a battery replacement. (The first replacement may be required before five years, depending on how much time had passed before you purchased the unit.)

●When the battery is low, the Display defaults as shown below, and the data in the memory may be lost.
"Change the memory backup battery"

●Although we do our utmost to protect your data during repairs, sometimes, especially when working on the memory itself or on a related area, some of your important data may be lost. Keep a separate record of all the data that you consider important. This can be done by saving it on to a Memory Card or by writing it down on a sheet of paper.

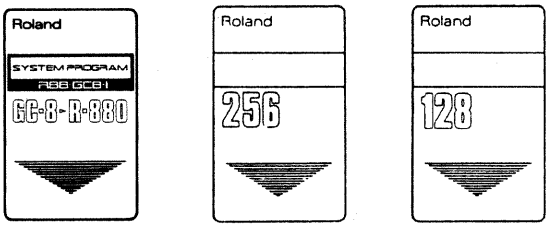
■ Memory Card

When using a memory card, securely connect it into the Card Slot in the correct direction.



The supplied System Card contains the system program that allows the GC-8 to control the R-880, and also the factory presets.

The optional memory cards M-128D and M-256D (E) can be used for saving data.



System Card　　M-256D(E)　　M-128D

*** The System Card is needed every time the unit is switched on.**

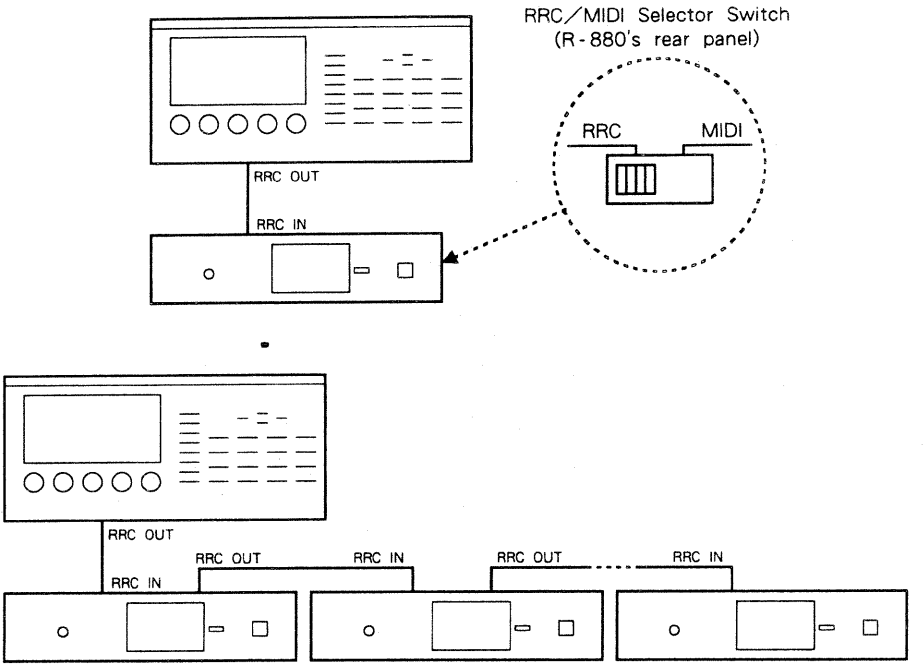
*** No data can be saved onto the System Card.**

*** Use only the specified memory card, M-128D or M-256D (E).**

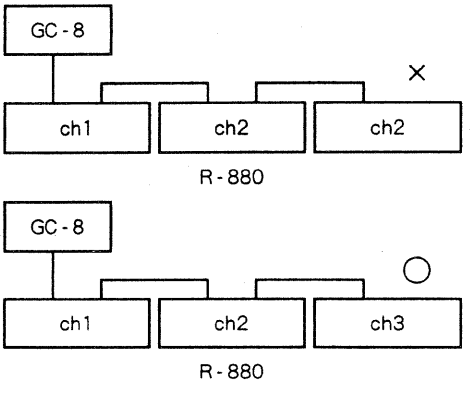
Protect Switch

The memory cards, M-128D and M-256D (E) have Protect Switches to protect data from accidental erasure or overwriting. When this switch is set to ON, data will not be erased by any means. Be sure to set this to ON except when you wish to write new data.

■ CONNECTIONS



***When using more than one R-880, be sure to set the MIDI channel of all the R-880 to different numbers.**



***When connecting the GC-8 to the R-880 using an RRC cable, you do not need to use an AC adapter with the GC-8.**

***When the GC-8 is connected to the R-880 with an RRC cable, set the MIDI/RRC Selector Switch (on the rear of the R-880) to the RRC position.**

***If you wish to know how to connect the R-880 with other devices, read the R-880's owner's manual.**

■ POWER - UP

To activate the GC-8 as a controller, the System Card is needed.

Make sure that the GC-8 is connected with the R-880 correctly.

Step 1 **Insert the System Card into the Card Slot.**

Step 2 **Switch the R-880 on, then the GC-8.**

The Display responds as shown below.

```
GC-8   Graphic controller
GC-8 version 1.01
Copyright(C) 1988 Roland Corp.

R-880 Graphic controller version 2.00
Copyright(C) 1988,1989,1990 Roland Corp.
```

Once the GC-8 has been switched on, you may remove the System Card. However, when you wish to use the Factory Presets which are stored on the System Card, you will naturally need to insert it again.

Using the Contrast Control Knob on the rear of the unit, you can adjust the contrast of the Display.

***When more than one R-880 is being connected, switch on all the R-880's first, then the GC-8.**

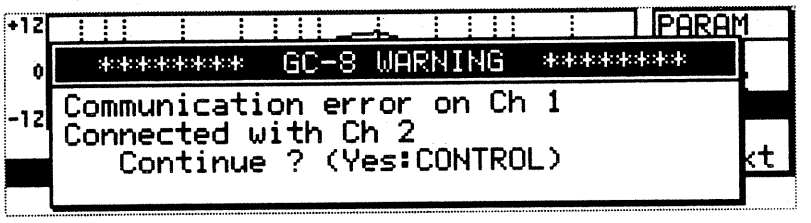
When the GC-8 cannot communicate with the R-880, the Display will respond with :

```
GC-8   Graphic controller

R-880 Graphic controller version 2.00
Copyright(C) 1988,1989,1990 Roland Corp.
Can not communicate with R-880
   Continue ? (Yes:CONTROL)
```

If this happens, switch all the units off, check the connections, then switch the units on.
Pressing [CONTROL] allows you to edit parameters, but does not allow control of the R-880.

- If you change MIDI channels of the R-880 while it is operating, the Display will respond with :



This shows that the R-880 cannot be controlled. Press [CONTROL] to resolve it.

HOW TO USE THIS OWNER'S MANUAL

[1] How to Use this Owner's Manual P.12

[2] Outline of the System P.13

[3] Factory Presets P.23

[4] Overview of the Editing Functions P.25

[5] Editing the Algorithm P.27

[6] Editing Parameters P.39

[7] Editing the Mixer P.77

[8] Memory P.83

[9] Other Useful Functions P.90

[10] Error Messages P.96

[1]HOW TO USE THIS OWNER'S MANUAL

This owner's manual consists of the following explanations.

[2]Outline of the System

This chapter explains the functions and concept of the GC-8 and R-880.

[3]Factory Presets

This chapter shows you how to call and use the Factory Presets.

[4]Overview of the Editing Procedures

This explains each editing function and how to perform it.

[5]Editing the Algorithm

This explains Algorithm data and how to set it.

[6]Editing Parameters

This describes how to edit Parameters.

[7]Editing the Mixer

This explains how to set the input/output level or effect balance, etc.

[8]Memory

This describes about the memory function and how to use it.

[9]Other Useful Functions

This explains how to control the GC-8 via MIDI, how to control more than one R-880 with the GC-8, etc.

[10]Error Messages

This explains how to resolve the error messages.

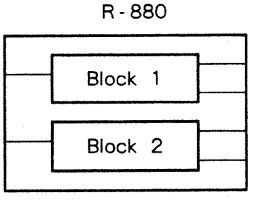
2 OUTLINE OF THE SYSTEM

The GC-8 is a remote controller for the R-880, a digital reverb. The following is the overview of the R-880 and GC-8.

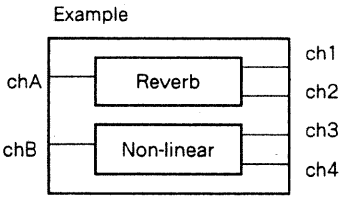
1. Overview of the R-880

The R-880 is a digital reverb unit featuring two inputs and four outputs. It can create various high quality effects such as reverberations, non-linear, delay, equalizer, chorus, compressor, etc.

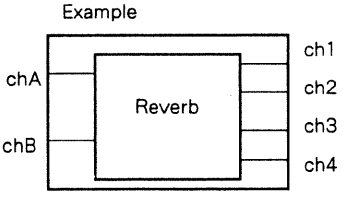
The R-880 contains two types of Effect Blocks as shown below.



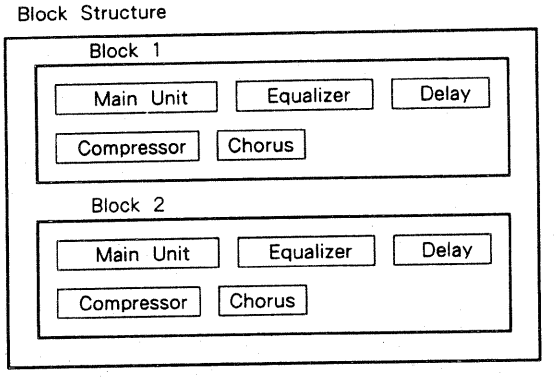
These two Effect Blocks are independent of each other, therefore, for instance, a reverb and the non-linear effects can be obtained on an R-880 at the same time.



Also, by using two Units at the same time, even better-quality effect can be obtained.

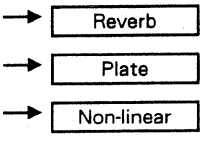


Each Effect Block consists of the Units as shown below.



That is, one R-880 contains two sets of all the Units (e.g. equalizer, chorus).

The Main Unit is the most important unit, that creating reverb and non-linear, etc. How the Main Unit works varies depending on the current Mode setting as shown below.



Normally, each Unit works independently in the Effect Block it belongs to, but it is also possible to arrange Units and use them in any combination you like.

The Input Sockets, ChA and ChB, and the Output Sockets, Ch1, Ch2, Ch3 and Ch4 can be connected to any Unit.

The Mode settings of the Main Unit, connections of the external effect units, etc. are called **"Algorithms"**.

2. Overview of the GC-8

The GC-8 allows you to perform operations visually on the Graphic Display.

● Menu Selection

Procedures related with the same function are arranged within a display. To call a display, simply use the buttons to make your selection from the menu.

● Display Access

Some procedures (such as for editing Parameters) are arranged in a tiered system of Displays. You may select the Display that suits your requirement in terms of precision.

● Parameter's Automatic Calculation

An effect unit with more functions uses more parameters, requiring more complicated procedures. The GC-8, to release you from the complicated work, features the Automatic Calculation system for Parameters. For instance, only five parameters need programming for reverb effects, the GC-8 automatically calculates other parameters and controls the R-880. So, you can quickly and easily proceed with editing. If you like, you can later edit the Auto-calculated parameters or set all the parameter manually from scratch.

The GC-8 has five main functions which we call "Modes" in this manual.

[ALG] Algorithm Mode

This mode sets the R-880's Algorithm data.

[PARAM] Parameter Mode

This mode edits the R-880's Parameters.

[MIXER] Mixer Mode

This mode sets the R-880's input/output level, etc.

[FUNC] Function Mode

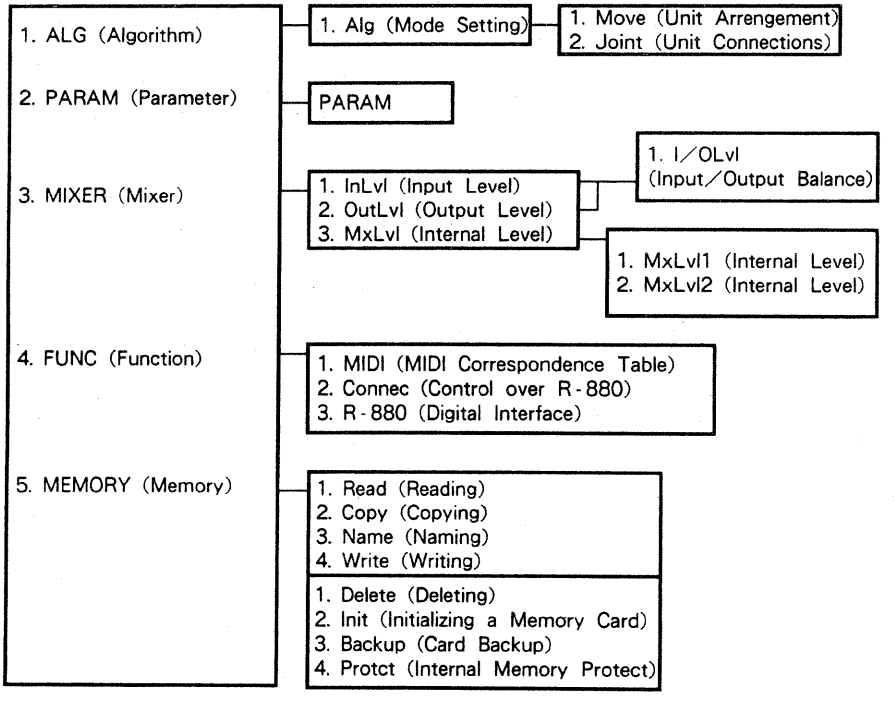
This mode changes the GC-8's settings such as MIDI and R-880's controlling conditions.

[MEMORY] Memory Mode

This allows you to perform procedures related with memory, such as reading/writing or naming, both into the internal memory or onto a memory card.

Each Mode has various displays :

Menu Map

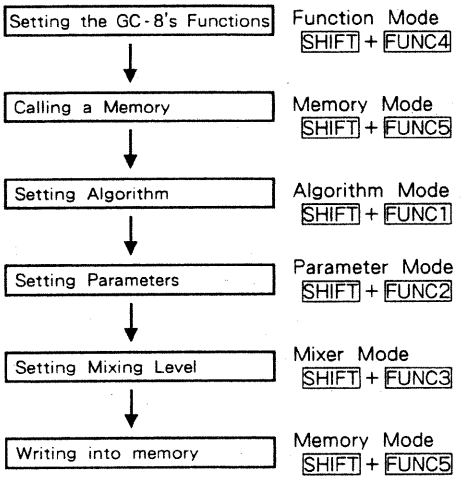


Select the relevant display and edit the parameters.

***The Menu Map of the parameters (PARAM) changes depending on the Algorithm setting. See page 39 "[6]Editing Parameters".**

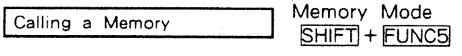
3. Overview of the Procedures

The following picture shows the overview of the basic procedures.



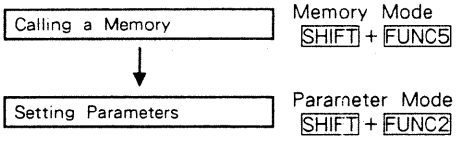
*** You can skip unnecessary procedures.**

(Ex. 1) To use a Factory Preset



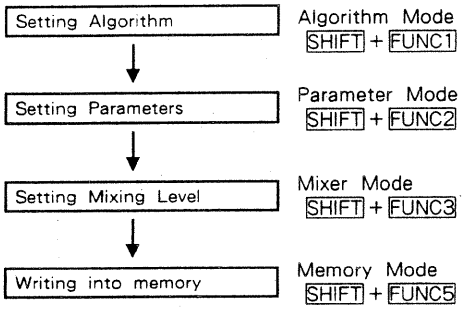
To use a Factory Preset or the program you have written in memory, simply call it from memory.

(Ex. 2) To edit a Factory Preset



If you wish to edit a Factory Preset, call the Factory Preset you wish to edit, select the Parameter mode, then edit the relevant parameters.

(Ex. 3) To make new data from scratch



To program from scratch, you must start from Algorithm setting. This is because the structure of the displays in the Parameter mode changes if the Modes on the Main Unit are altered.

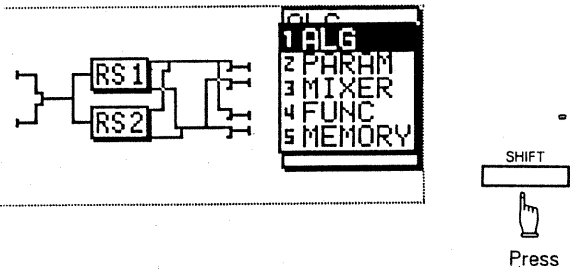
Then choose an effect to be used, and edit the relevant Parameters. Meanwhile, you can set the effect balance and the input/output level in the Mixer mode.

Finally, write the programmed data into memory.

4. Outline of the Procedure

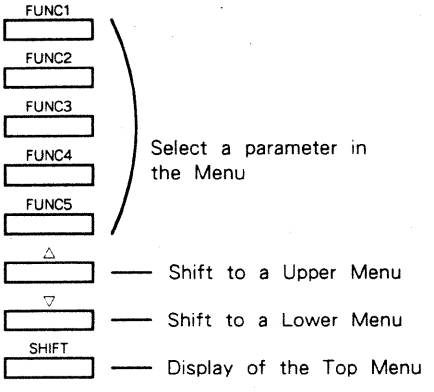
a. Menu Selections

To change Modes, first press **SHIFT** .

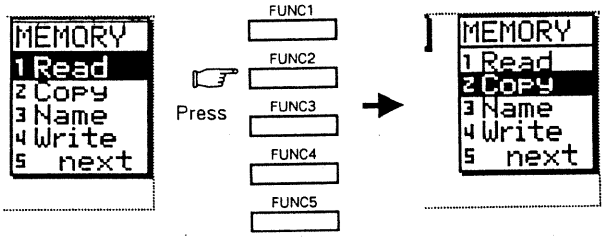


At the right of the Display, the Top Menu appears showing the Mode section. Here, press the Function button (FUNC1 – 5) while holding **SHIFT** , and you can move to the Mode that corresponds to the number.

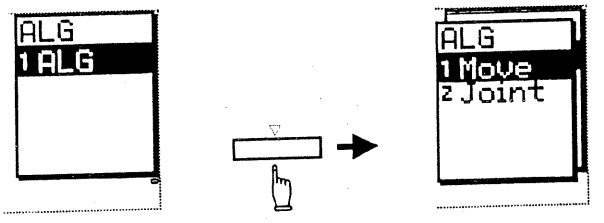
To select or shift the display, use the eight buttons located at the right of the Display.



Pressing the Function button will shift to the display of the parameter that corresponds to the number shown in the menu ; the selected parameter is displayed in reverse.



In the Algorithm, Parameter or Mixer mode, pressing [△] or [▽] shifts to the upper (simpler) or lower (more complicated) display.



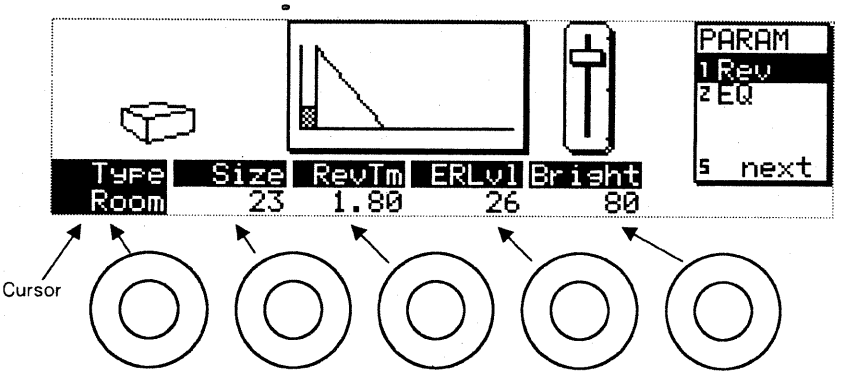
Upper displays contain less parameters, and the value settings are easier, while the lower displays contain more parameters, requiring more complicated settings.

The GC-8 has the Auto-Calculating function that automatically sets the finer parameters to standard values in upper displays. This releases you from the complicated work of setting each parameter one by one. The auto-calculated parameters can be monitored, or edited in the lower displays. So, you are able to edit parameters roughly in upper displays, then finely edit them in the lower displays.

b. Editing Procedure

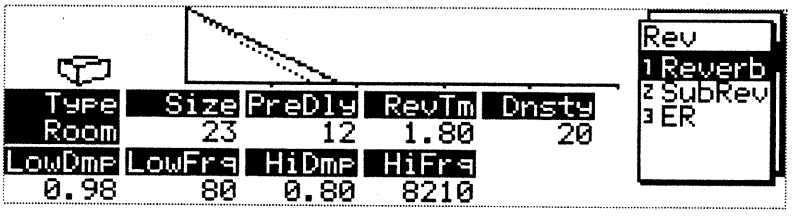
The GC-8 provides many different displays. Most often, the editing procedures are similar, though there are some exceptional cases.

● Use the five Edit Control Knobs for editing.



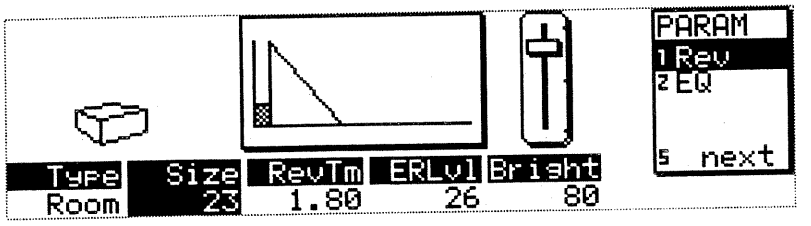
The parameters shown in the Display correspond to the Edit Control Knobs, from left to right.

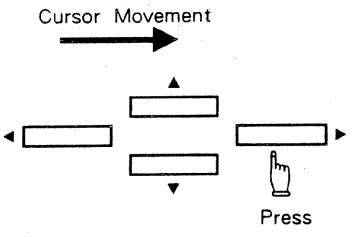
● When the parameters take more than one line, the line where the cursor is positioned can be edited.



The cursor position is reversed in the Display.

●The cursor can be shifted with the Cursor buttons. ([▲] [▼] [◀] [▶]).





If you wish to edit the parameter in a different line, move the cursor to that line first.

●The parameter of the cursor position can be edited with the Numeric Keypad (if the value is represented with a number).

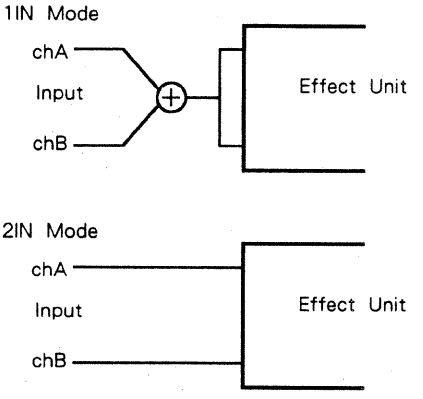
While entering a value with the Numeric Keypad, the cursor flashes. Be sure to press [ENTER] when you have entered the value.

●To quicken the changes of values, hold [SHIFT] down while using the Edit Control Knobs.

3 FACTORY PRESETS

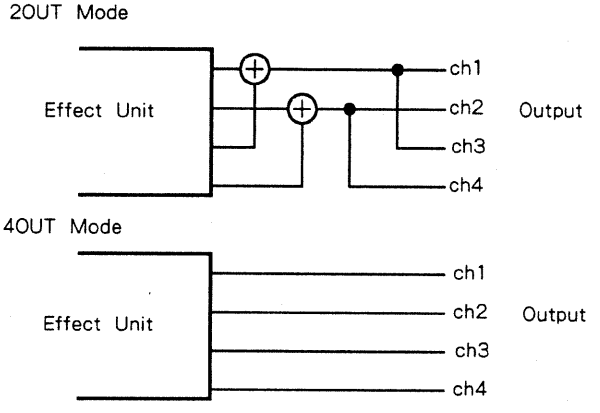
1. Before using the Presets

The R-880 features two inputs (A, B) and four outputs (1, 2, 3, 4). How these sockets are connected to the built-in signal processors can be set in the Input/Output Mode. There are two modes for each Input and Output.



Input Modes

1 IN : Inputs from Input A and B are mixed.
2 IN : Inputs from Input A and B are individually processed.



Output Modes

2 OUT : Outputs from 1 and 3 are exactly the same signal, and also outputs from 2 and 4.
4 OUT : Outputs 1, 2, 3 and 4 send different signals.

A Factory Preset indicates the name of the Input/Output mode, such as "2 – 4 Large Hall". Select the mode you like. Also, any mode combination can be used for the R-880's sockets.

2. Calling the Presets

The supplied System Card contains the Factory Presets as well as the system program that activates the GC-8. If you wish to use a Factory Preset, do as follows.

Step 1 **Insert the System Card into the Card Slot.**

Step 2 **Press [FUNC5] while holding [SHIFT] down, to call the Memory Display.**

Step 3 **Press [FUNC1] to select "Read".**
(Should "Read" not appear, press [FUNC5] : (next).)

Step 4 **Rotate Edit Control Knob 1 until "Int" changes to "Card".**

Step 5 **Rotate Edit Control Knob 2 to shift the cursor to the Preset you wish to call, then press [ENTER] .**

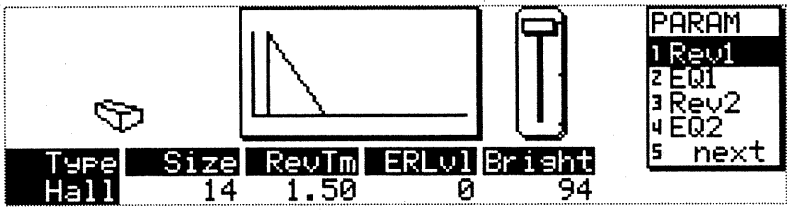
*** If you know the number of the Preset, you can call it by entering the number with the Numeric Keypad then pressing [ENTER] .**

4OVERVIEW OF THE EDITING FUNCTIONS

1. Displays and the Automatic Calculation

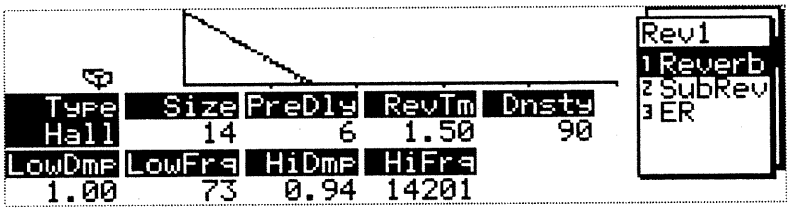
The Algorithm, Parameter and Mixer Modes have displays of different levels. Upper displays contain less parameters, while lower displays contain more parameters. Using this system and the Automatic Calculating function, you can quickly make a desired setting. The following example edits the Reverb, to show you the display system and Automatic Calculating function.

The Reverb editing uses three level displays, an upper and a lower display. (Turn to Mode 2 「PARAM」, then select "REV1" or "REV2".)



In the upper display, a standard setting is worked out with Automatic Calculating function using only five parameters ; Type, Size, RevTm, ERLvl and Bright.

Pressing [▽] shifts to the lower display where finer parameters are shown.



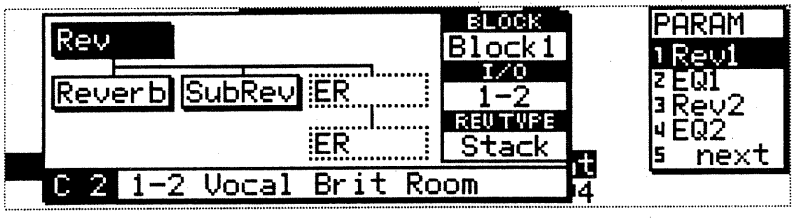
You may edit the parameters which are set to the standard values. It is also possible to set all the parameters in the lower display from scratch.

When you have edited parameters in the lower display, you should be careful not to change the parameters in the upper display. This is because the edited values in the lower display will be returned to the standard values if you make any editing in the upper display.

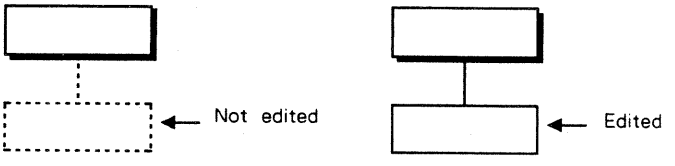
To check if any editing has been done in the lower display, use the Help display.(See the next chapter.)

2. Help Display

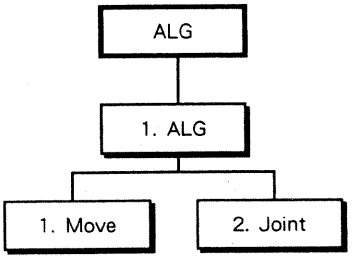
Press [HELP] to call the Menu Map.



The current editing display is reversed on the map. When the editing function has upper or lower displays, an already edited display is shown with a solid line and the one not yet edited, with a dotted line.



5 EDITING THE ALGORITHM



1. R-880's Algorithm and Modes

The Algorithm consists of

(1) Mode of the Main Unit
(2) Connections of the Units

The R-880 has two sets of the Main Units which feature main functions and another two sets of the Effect Units (e.g. chorus, equalizer, compressor) which feature additional functions.

The Main Units have the following Modes :

Unit 1	Unit 2
Reverb Plate NLR	Reverb Plate NLR sync

sync Mode

The "sync" Algorithm of Unit 2 syncs to Unit 1. When Unit 1 is Reverb, it becomes Reverb, and if it is NLR, it becomes NLR.

However,

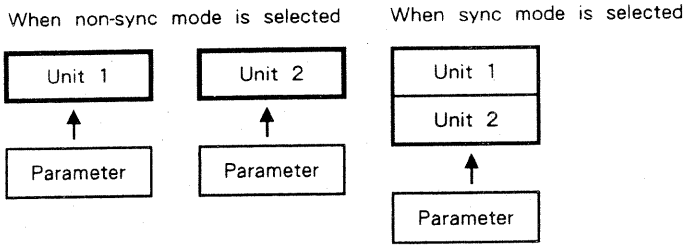
Unit 1 Reverb
Unit 2 Reverb

and

Unit 1 Reverb
Unit 2 sync

will result in different functions.

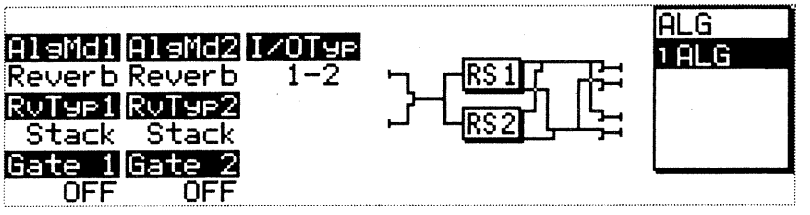
When both Units are set to "Reverb", the parameters can be edited independently of each other, while when unit 2 is set to "sync", editing either parameter will change both parameters. Also, in the sync Mode, two Units work at the same time to create one effect, increasing the quality of the effect.



2. Mode Selection

Set the basic Mode of the R-880

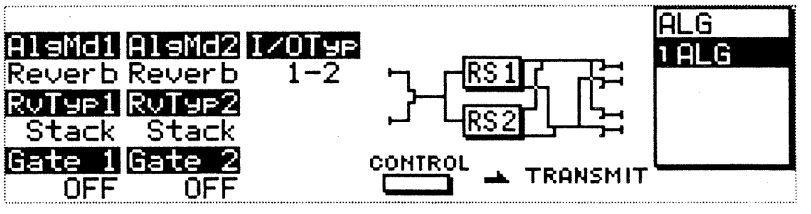
Step 1 **While holding [SHIFT], press [FUNC1] to select the Algorithm Mode.**



*** If the Display does not respond as above, press [△].**

Step 2 **Using the Cursor buttons, move the cursor to the line which contains the parameter to be edited, then adjust the value with Edit Control Knobs 1 to 3.**

Step 3 **Press [CONTROL] to activate the edited value. The R-880 is not affected by the new setting unless [CONTROL] is pressed.**



●Algorithm Mode (AlgMd1, AlgMd2)

This sets the basic Mode of the R-880. Select Rev, Plate or NLR. Only AlgMd2 contains and allows you to select "sync" which makes Unit 2 sync to Unit 1.

●Reverb Type (RvTyp1, RvTyp2)

When the Algorithm Mode is set to Rev or Plate, this selects the type of the reverb effect, Stack or Tap.

○Stack Type

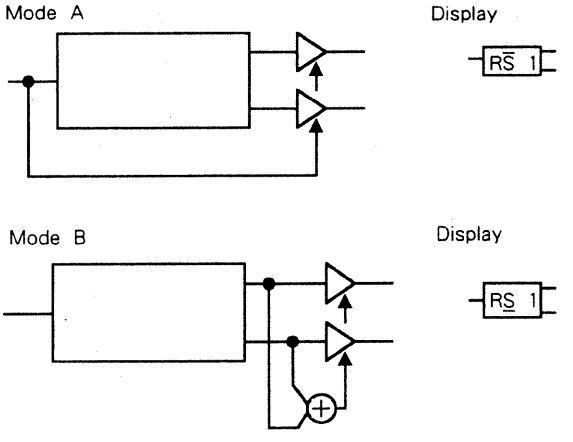
Realistic reverberation of a hall or room is obtained.

○Tap Type

Reverberation deeper than the stack type is obtained. The reverb lasts longer.

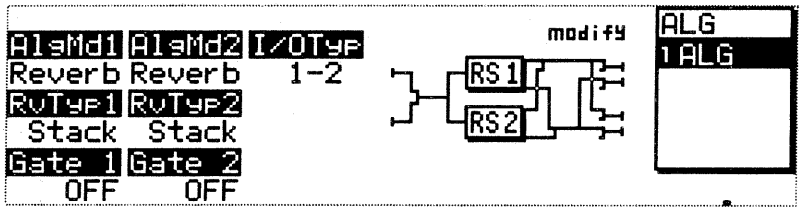
●Gate Mode (Gate1, Gate2)

When the Algorithm Mode is set to Rev or Plate, Gate effect A or B can be added.

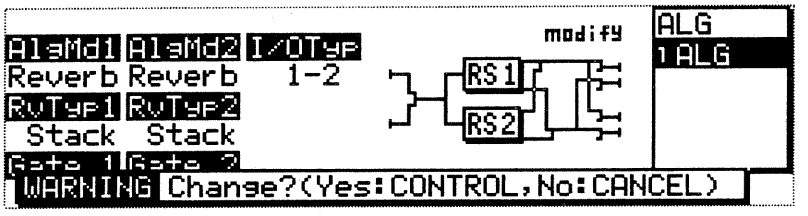


***In this display, setting the Mode will automatically return the connections between the input/output sockets and units to the standard setting, and therefore will erase the edited data in the lower displays.**

If the Algorithm data has been edited in the lower displays, "modify" will appear in the Display as shown below.



In the case, the unit stops by moving a knob, displaying the following massage.



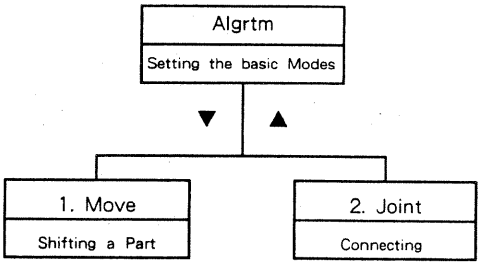
This is for preventing accidental erasure of the algorithm set in a lower display.

To rewrite it, press **CONTROL** .

To retain it, press **CANCEL** .

3. Editing the Algorithm Data

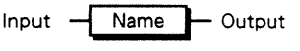
The Algorithm mode consists of three displays (of upper and lower levels).



In the lower two displays, the Algorithm data set in the upper display can be edited in detail Comletely new Algorithm data which cannot be set in the upper display can be created as well.

In the lower display, you select, locate and connect the Units (the basic elements of effects), to determine how the signals should flow.

Basic form of the unit



Each Unit is provided with 1 to 3 input/output sockets and named to show its function.

Unit Table

Display	Description
RS1 RS2	Reverb Unit (Stack Type)
RT1 RT2	Reverb Unit (Tap Type)
PS1 PS2	Plate Unit (Stack Type)
PT1 PT2	Plate Unit (Tap Type)
NL1 NL2	Non-linear Unit
EQ1 EQ2	3-band Equalizer
ER1 ER2	Early Reflection Unit
DL1 DL2	Delay Unit
CR1 CR2	Chorus Unit
CP1 CP2	Compressor Unit
0 1	Mixer Unit
2 3	
4 5	
6 7	
8 9	

***The Units shown here cannot always be used. They may not be valid depending on the Mode selected.**

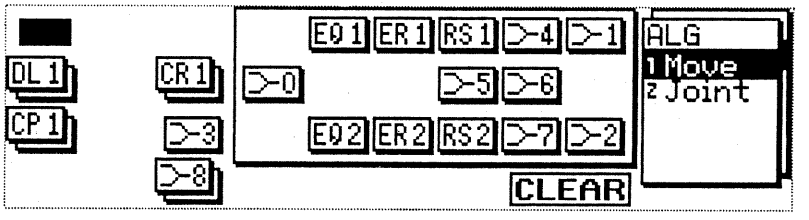
a. Move (Selecting and Locating the Units)

Step 1 Press [FUNC1] while holding [SHIFT] down, to select the Algorithm Mode.

Step 2 Press [▽] to shift to the lower display.

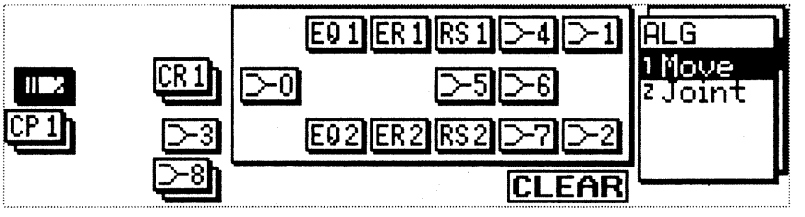
Step 3 Press [FUNC1] to select "Move".

Selecter Display (example)



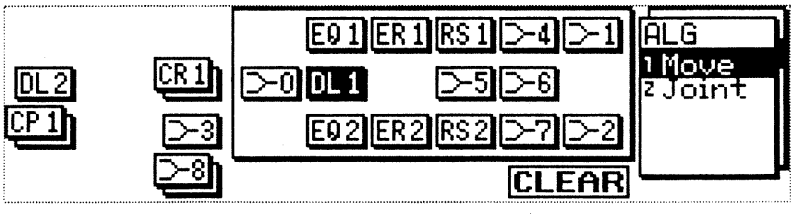
Step 4 Move the cursor to the Unit which you wish to relocate, then press [ENTER].

The cursor will change as shown below :



Step 5 Move the cursor to the destination position, then press [ENTER].

The cursor will return to its original shape, and the Unit is relocated.



*To set all the Units to the unused condition, move the cursor to "CLEAR", then press [ENTER].

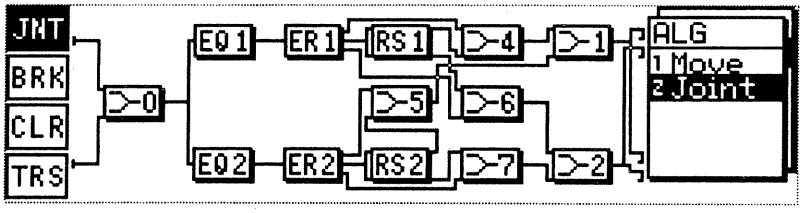
b. Joint (Connecting the Units)

In the Joint display, you can connect the Units you have located in the Move display to each other and to the Input/Output Sockets. This them froms an "Algorithm".

Step 1 Press [FUNC1] while holding [SHIFT] down, to select the Algorithm Mode.

Step 2 Press [▽] to shift to the lower display.

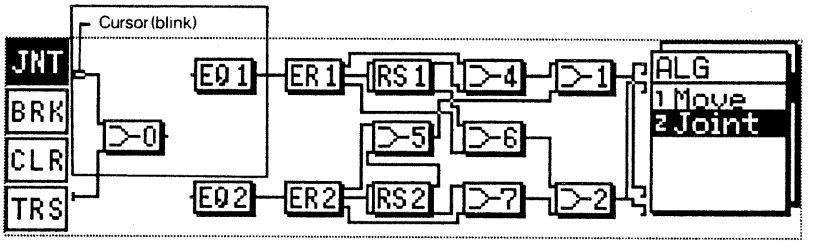
Step 3 Press [FUNC2] to select "Joint".



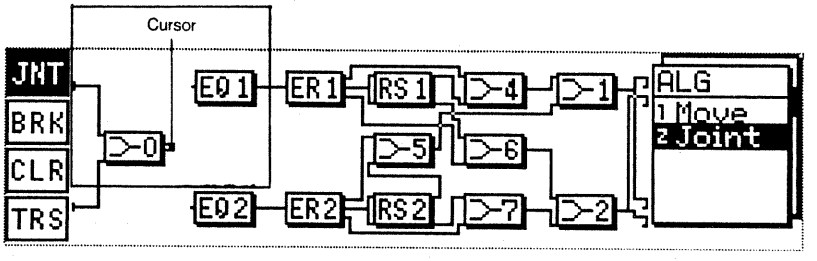
Step 4 Move the cursor to any of the Menus at the left of the Display, then press [CONTROL]. Then take the following procedure :

[JNT] Connect the Units with each other.

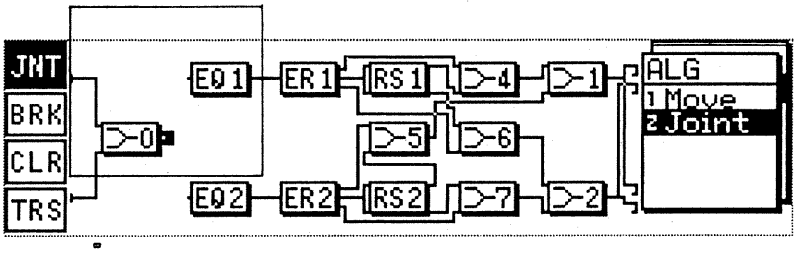
Small flashing cursor appears.



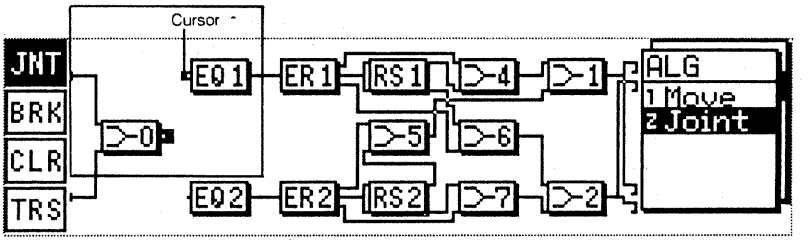
Move this flashing cursor to one of the points to be connected.



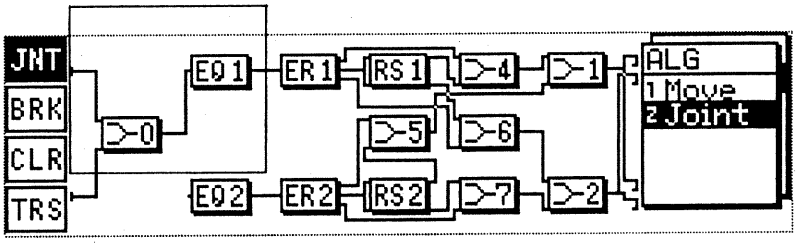
Press [ENTER] .



Move the cursor to another point.

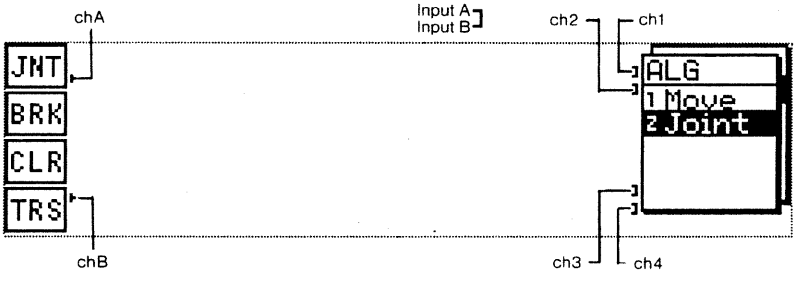


Press [ENTER] again, and the two points are connected.

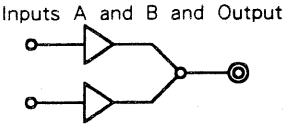


* The connection can only be made between an input and output. It is not possible to connect an input to another input or an output to another output.

The Input and Output Sockets of the R-880 are shown as follows :



Each of the Output sockets (CH1 to CH4) has two inputs, A and B which are mixed and output.



To leave the Joint Mode, press [CONTROL].

***When the Algorithm data is too complicated to be shown with full lines, lighter lines will be used for new data. In this case, however, two lines may be overlapped. Be careful.**

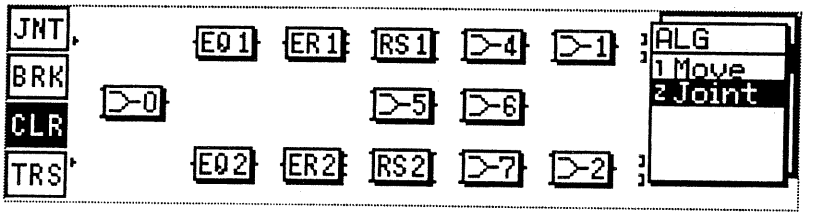
[BRK] Cancel each connection.

Each connection can be cleared using the same method as [JOINT].

[CLR] Cancels all connections.

All connections between Units can be cancelled.

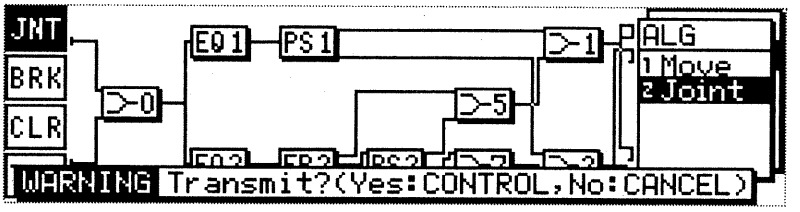
Operation Example



[TRS] The Joint data is transferred to the R-880.

The R-880 is not affected by the edited data until the data is transferred to the R-880 with the TRS procedure. Be sure to take the TRS procedure when you have completed the Joint setting.

If you try to move to a different display without taking the transfer procedure, the unit stops immediately and display the following massage.



Here, pressing [CONTROL] will transfer the data to the R-880 then shift the display.
Pressing [CANCEL] will shift the display without transfer.

⟨NOTE⟩

When you have changed the connections and transferred the data of the changed connections to the R-880, all the output levels will be set to zero.

After editing the Algorithm data, select the Mixer display and adjust the output levels.(See page 77 "[7]Editing the Mixer".)

NOTES ON USING THE COMPRESSOR/GATE

●Compressor and Gate

The Compressor and Gate use the same unit, therefore, when the Gate is being used (Mode A or B), the Compressor unit cannot be used. (The Compressor unit disappears from the Move Display.)
With Gates 1 and 2 OFF, their respective Compressors 1 and 2 become activated.

●Compressor and Mixer

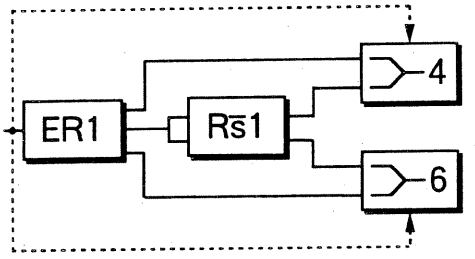
If you use a Compressor unit (CP1 or CP2) in the Move Display, a Mixer unit (8 or 9) will also disappear, and therefore can no longer be used as a separate mixer unit. (Mixer unit disappears from the display.)
This is because a Compressor requires its own mixer unit.

● Gate and Mixer

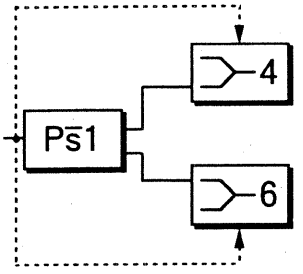
In the Gate operating mode (Mode A or B), Gate 1 automatically controls the output from Mixers 4 and 6, and Gate 2 controls the Mixers 5 and 7. This fact means you cannot set the output levels of those Mixers.

●Control Input of the Gate (Mode A)

When the Gate is operating in Mode A, the input point of an Early Reflection Unit (ER1 or ER2) is used for control input.



When the algorithm Mode is set to "Plate", the input point of the Main Unit (Plate) is used for a control input.

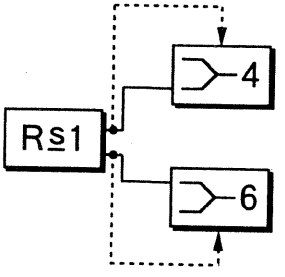


●Gate (Mode B) and Mixer

When the Gate is operating in Mode B, Mixer Unit 8 (for Gate 1) and Mixer Unit 9 (for Gate 2) cannot be used as independent mixer units. (The Mixer Unit disappears from the Display.)
This is because a Gate requires its own mixer unit to function in Mode B.

●Control Input of Gate (Mode B)

When the Gate is operating in Mode B, the output point of the Main Unit is used for control input.

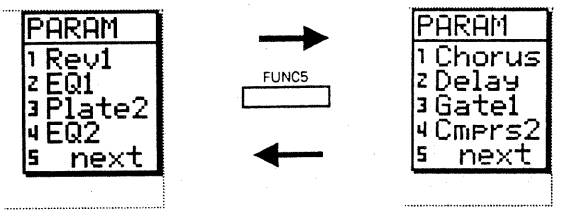


6 EDITING PARAMETERS

To edit Parameters, press [FUNC2] while holding [SHIFT] down, to select the Parameter Mode.

At the right of the Display, a menu of the available effects appears.

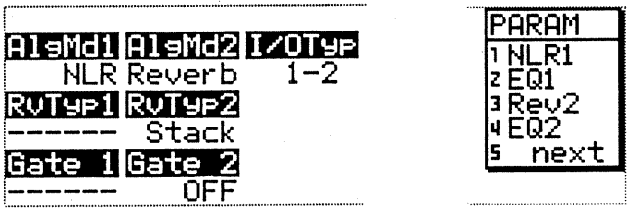
Menu Display (example)



*** You can call the next menu using "next".**

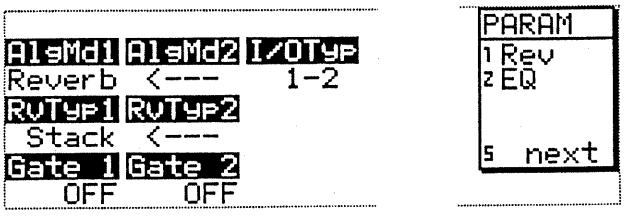
The contents of a menu change depending on the Algorithm setting.

(Ex. 1)



(ALG Display)

(Ex. 2)

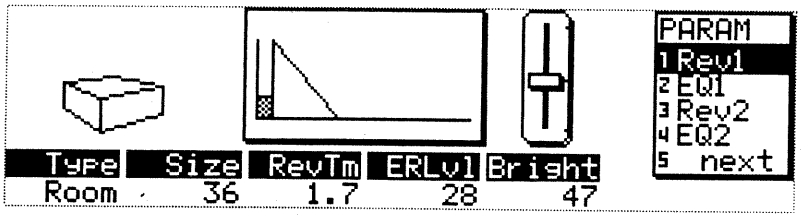


(ALG Display)

There are several levels of displays for the reverb, non-linear and equalizer.
To shift to upper displays, press [△]. To shift to lower displays, press [▽]. In the upper displays, there are fewer parameters and most of them are Auto-calculated.
Lower displays show the parameters which have been Auto-calculated in the upper display, allowing you to change the set values as you desire.

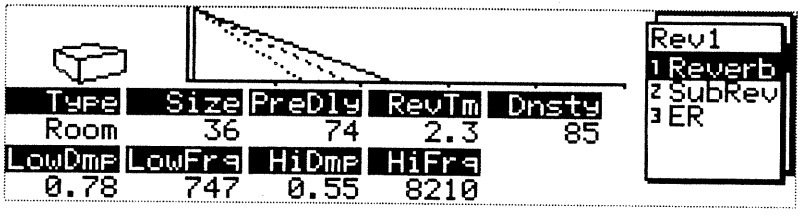
The following is the layout of the uppermost display for the reverb parameters.

1

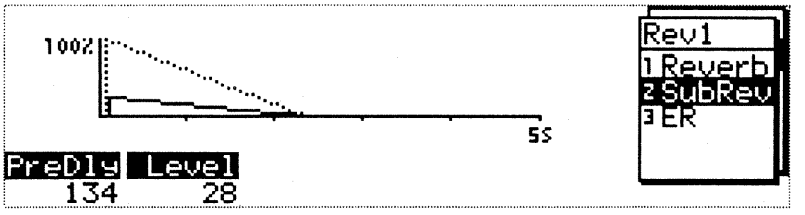


In this display, the reverb is controlled with five parameters ; Type (tone), Size (the size of the room), RevTm (reverb time), ERLvl (early reflection level) and Bright (brightness). Other parameters will be set to average values depending on how those five parameters are set. If you are not content with these standard settings, you can edit them. Press [▽], then select any of the three lower displays.

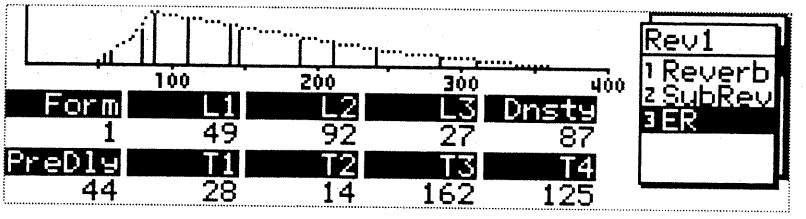
2



3



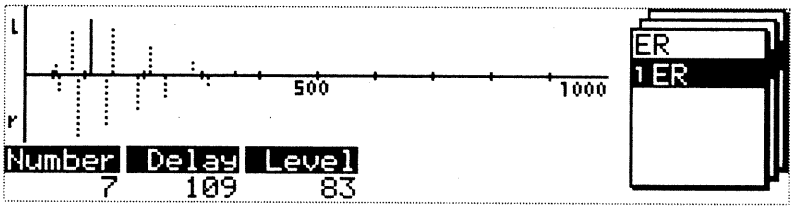
4



Display 2 shows general reverb parameters such as pre-delay and high-damp which can be individually edited.
Display 3 allows you to create more sophisticated reverberations by adding sub-reverb.
Display 4 shows the early reflection pattern which is auto-calculated. In this display, you can edit the attack of the early reflection by changing the envelope curve or editing the presence of the room by changing the density.

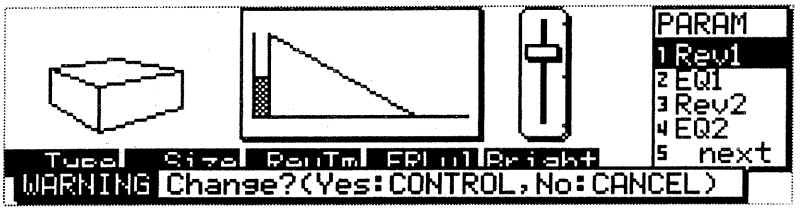
Displays 2 and 3 do not have any lower displays, while display 4 (early reflections) can be shifted to a lower display.

5



In display 4, the early reflection sound can be easily edited by using the envelope curve. In display 5, you can edit the delay time and level of each early reflection.

Depending on the reverberation parameter you wish to edit, the number of displays to be used varies.
If you move to a higher display and move a knob lower display being edited, the unit stops immediately and displays the following message.



This is for preventing the parameter set in a lower display from accidental erasure caused by the automatic calculation function.
To rewrite it, press **CONTROL** .
To retain it, press **CANCEL** .

The most efficient way for editing parameters is to start from the upper display. Then shifting to the lower ones, make the effect closer and closer to what it should be.

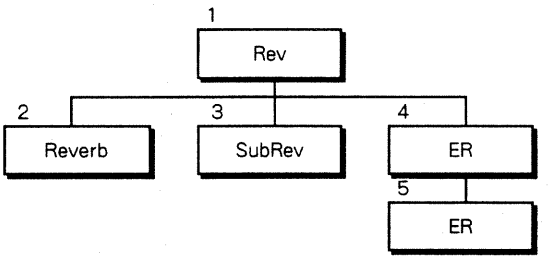
1. Reverb

a. Reverb (stack type)

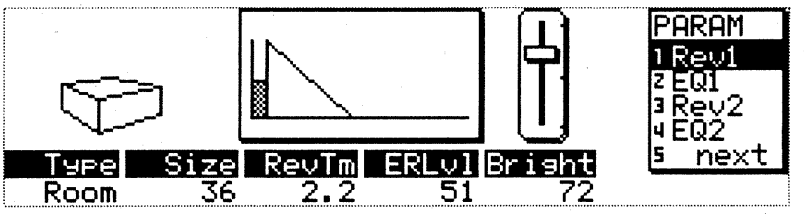
Algorithm Setting

AlgMd	Reverb
RvTyp	Stack

Structure of Parameter Displays



1



●Type
(Reverb Type)

The Reverb Type, Room or Hall, can be selected.

●Size
(Reverb Size)

One of the 16 types of the room size from 0.2 to 80m can be selected. (The length represents one side of a cube. .)

●RevTm
(Reverb Time)

This parameter allows you to set the reverberation time (time needed for a reverb sound to decay by 60dB) from 0.1 to 99.9 seconds.

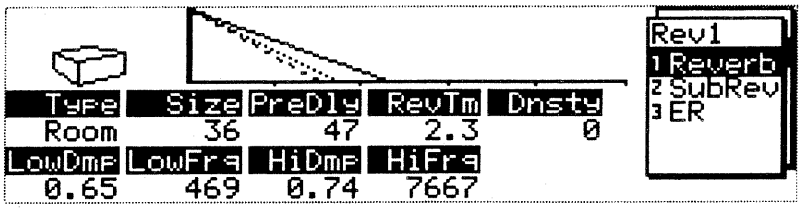
●ERLvl
(Early Reflection Level)

This sets the level of the early reflection sound from 0 to 100.

●Bright
(Brightness)

This sets the brightness of the reverb sound from 0 to 100. Higher values give brighter sound and lower values mellower sound.

2



●Type (Reverb Type)

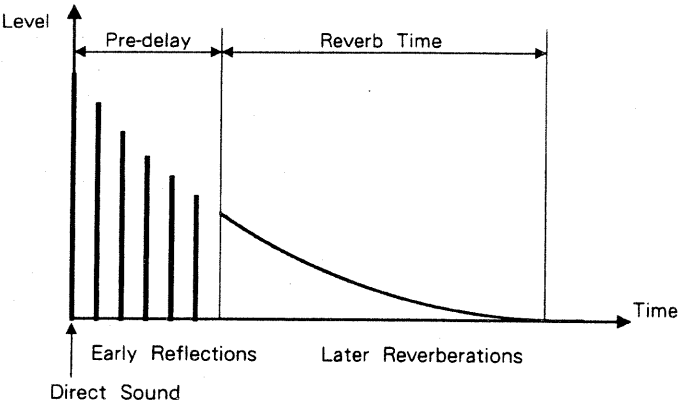
The Reverb Type, Room or Hall, can be selected.

●Size (Reverb Size)

One of the 16 types of room size, from 0.2 to 80m can be selected. (The length represents one side of a cube.)

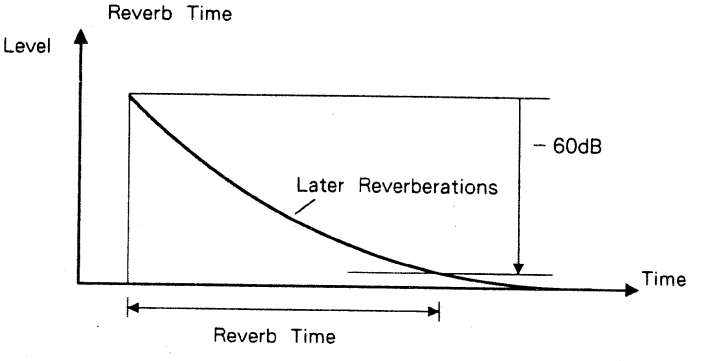
●PreDly (Pre-delay)

This parameter allows you to set the delay time (time gap between the direct and reverb sounds) from 0 to 800 ms.



●RevTm (Reverb Time)

This parameter allows you to set the reverberation time from 0.1 to 99.9 seconds.



*** Maximum Value for Reverb Time**

The longest reverb time of a Stack type reverb will vary depending on the size, as follows.

Reverb Size	Reverb Time
0.2	4.00
0.6	8.00
1.8	14.00
3.6	30.00
6.2	80.00
9.4	99.90
14	99.90
18	99.90
23	99.90
29	99.90
36	99.90
43	99.90
51	99.90
60	99.90
70	99.90
80	99.90

●Dnsty (Density)

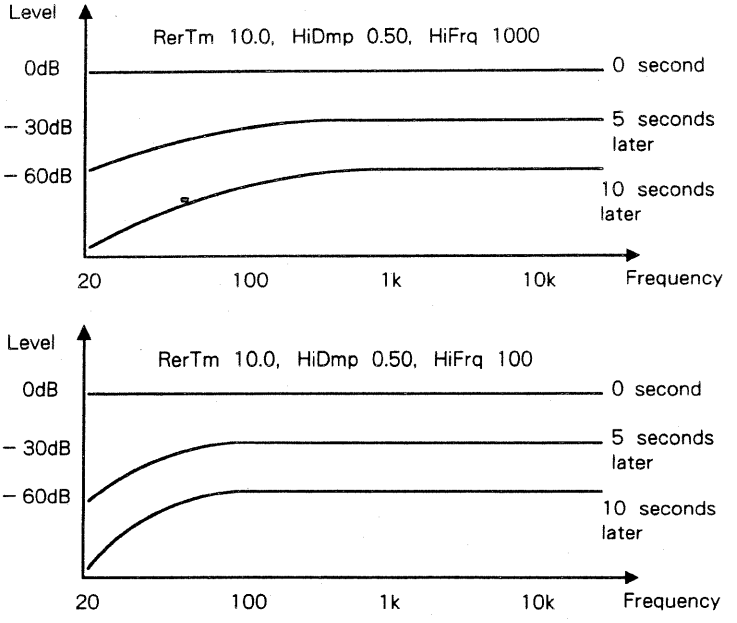
This sets the density of reverberation sound from 0 to 100. Higher values make thicker sound.

●LowDmp (Damp level of lower sounds)

This sets the damp level of lower sounds from 0.05 to 1.00. The product of the low damp value and reverb time is the reverb time of the lower frequencies. Lower values make quicker damping.

●LowFrq (Lower Damp Frequencies)

This sets the frequencies of the lower damp from 50 to 4000Hz. Higher values will widen the frequency range to be damped.

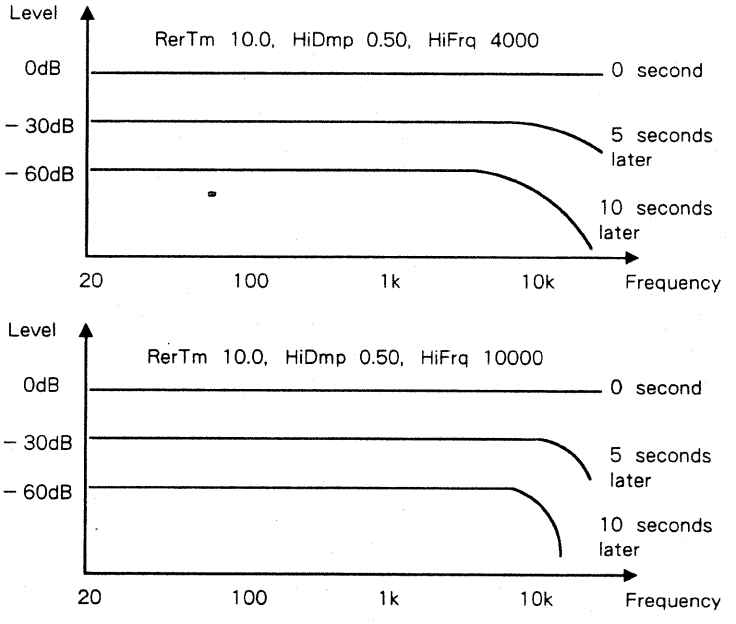


●HiDmp (Damp level of higher sounds)

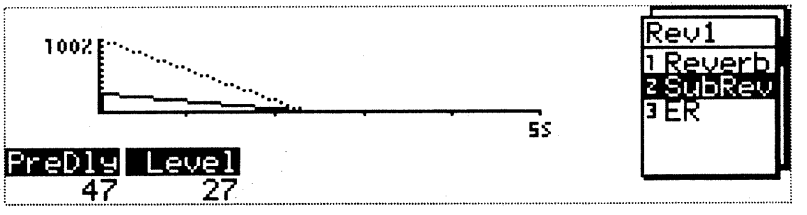
This sets the damp level of higher sounds from 0.05 to 1.00. The product of the Hi damp value and reverb time is the reverb time of the higher frequencies. Lower values make quicker damping.

●HiFrq (Higher Damp Frequencies)

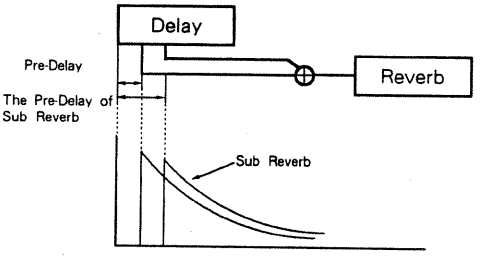
This sets the frequencies of the higher damp from 4000 to 20000Hz. Lower values will widen the frequency range to be damped.



3



A **Sub reverb** is made by adding a sound that has a different pre-delay time to the input of a reverb unit.



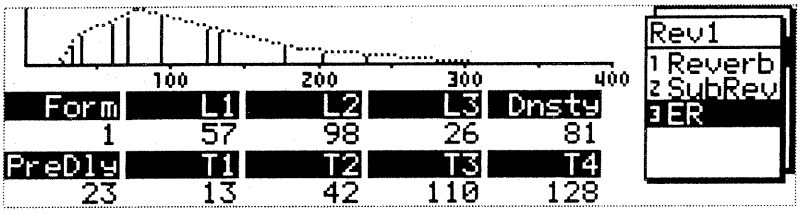
●PreDly (Pre-delay)

This parameter allows you to set the delay time of the sub-reverb from 0 to 800ms.

● Level

This sets the level of the sub-reverb from 0 to ± 100.

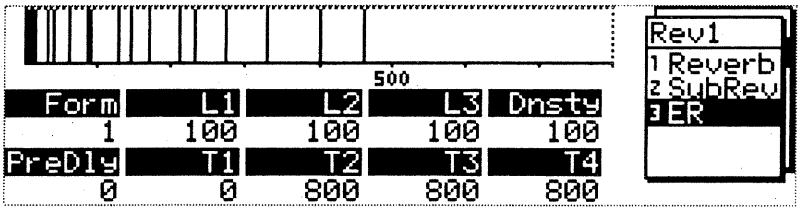
4



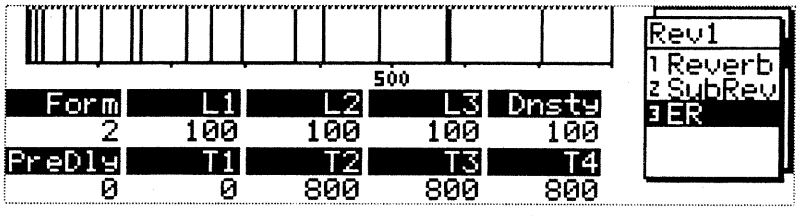
●Form (Early Reflection Pattern)

This allows you to select one of the four early reflection patterns.

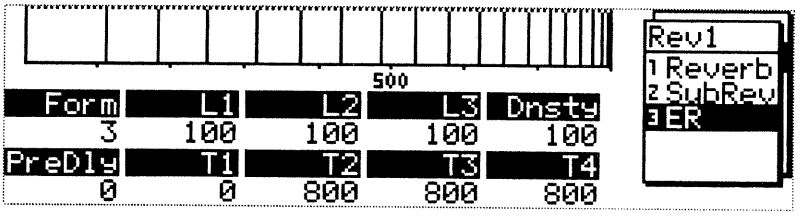
Pattern 1



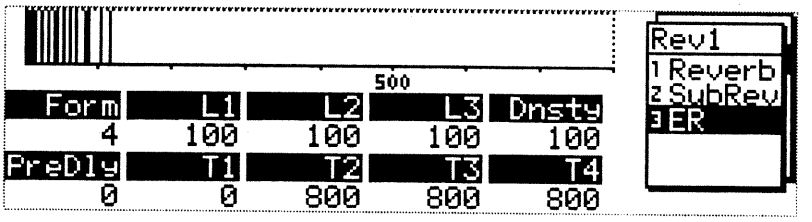
Pattern 2



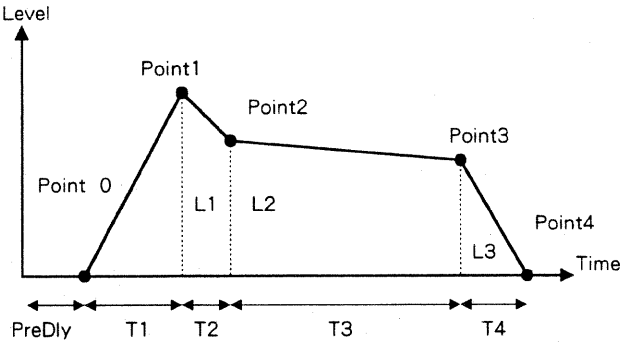
Pattern 3



Pattern 4



Early reflection sound can be edited with the envelope consisting of time and level.



●L1 (Level 1)

This sets the level of Point 1 from 0 to 100.

●L2 (Level 2)

This sets the level of Point 2 from 0 to 100.

●L3 (Level 3)

This sets the level of Point 3 from 0 to 100.

●PreDly (Pre-delay)

This sets the time needed from the direct sound to the first early reflection sound (Point 0) from 0 to 800ms.

●T1 (Time 1)

This sets the time needed from Point 0 (the first early reflection sound) to Point 1 within the range of 0 to 800ms.

●T2 (Time 2)

This sets the time needed from Point 1 to Point 2 within the range of 0 to 800ms.

●T3 (Time 3)

This sets the time needed from Point 2 to Point 3 within the range of 0 to 800ms.

●T4 (Time 4)

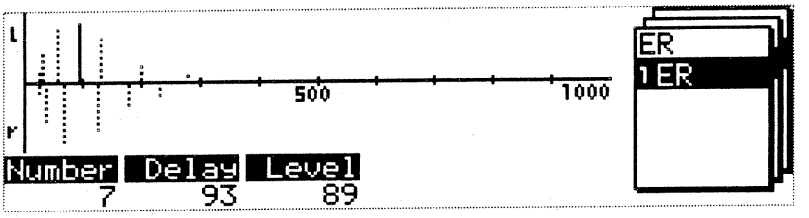
This sets the time needed from Point 3 to Point 4 within the range of 0 to 800ms.

●Dnsty (Density of the Early Reflection)

The density of the early reflection sound can be set from 0 to 100.

*** The early reflection cannot be set longer than 800ms.**

5



In this display, time and level can be set for each early reflection sound.

● **Number**

This allows you to select one of the 20 early reflection sounds to be edited. The early reflection currently edited is shown as a full line, while others are shown with dotted lines.

● **Delay (Time)**

This set the time needed from the direct sound to the early reflection within the range of 0 to 800ms.

● **Level**

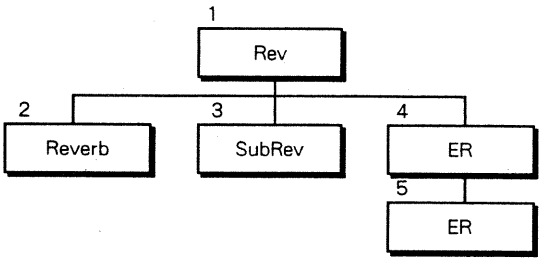
This sets the level of the early reflection sound from 0 to ± 100. "—"values indicate inverted phase.

b. Reverb (tap type)

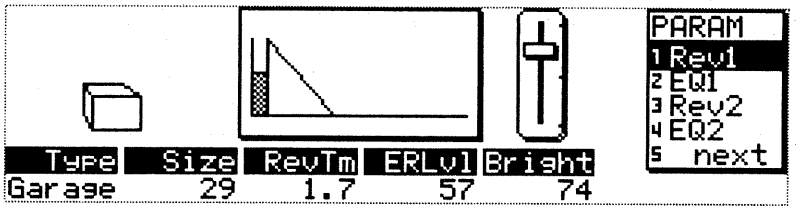
Algorithm Setting

AlgMd	Reverb
RvTyp	Tap

Structure of Parameter Displays



1



●Type (Reverb Type)

The Reverb Type, Room, Hall or Garage, can be selected.

●Size (Reverb Size)

One of the 10 types of the room size from 3.6 to 51m can be selected. (The length represents one side of a cube .)

●RevTm (Reverb Time)

This parameter allows you to set the reverberation time (time needed for a reverb sound to decay by 60dB) from 0.1 to 99.9 seconds.

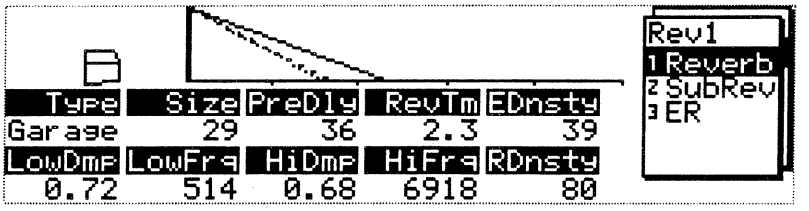
●ERLvl (Early Reflection Level)

This set the level of the early reflection sound from 0 to 100.

●Bright (Brightness)

This sets the brightness of the reverb sound from 0 to 100. Higher values make brighter sound and lower values mellower sound.

2



●Type (Reverb Type)

The Reverb Type, Room, Hall or Garage, can be selected.

●Size (Reverb Size)

One of the 10 types of the room size from 3.6 to 51m can be selected. (The length represents one side of a cube .)

●PreDly (Pre-delay)

This parameter allows you to set the delay time (time gap between the direct and reverb sounds) from 0 to 800ms.

●RevTm (Reverb Time)

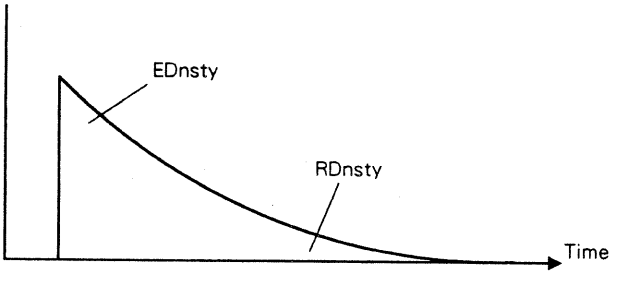
This parameter allows you to set the reverberation time from 0.1 to 99.9 seconds.

●EDensity (density of the early reverberation sound)

This sets the density of the early reverberation sound from 0 to 100. Higher values make thicker sound.

●RDensity (density of the later reverberation sound)

This sets the density of the later reverberation sound from 0 to 100. Higher values make thicker sound.



●LowDmp (Damp level of lower sounds)

This sets the damp level of lower sounds form 0.05 to 1.00. The product of the low damp value and reverb time is the reverb time of the lower frequencies. Lower values make quicker damping.

●LowFrq (Lower Damp Frequencies)

This sets the frequencies of the lower damp from 50 to 4000Hz. Higher values will widen the frequency range to be damped.

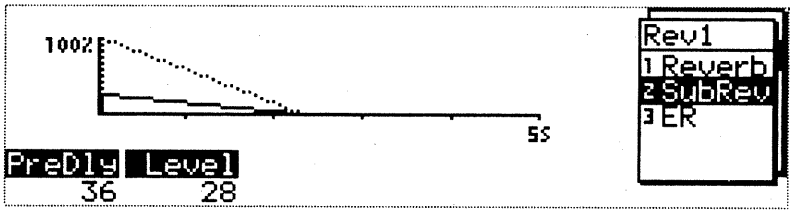
●HiDmp (Damp level of higher sounds)

This sets the damp level of higher sounds from 0.05 to 1.00. The product of the Hi damp value and reverb time is the reverb time of the higher frequencies. Lower values make quicker damping.

●HiFrq (Higher Damp Frequencies)

This sets the frequencies of the higher damp from 4000 to 20000Hz. Lower values will widen the frequency range to be damped.

3



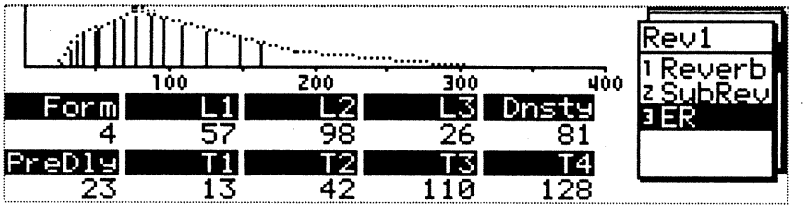
●PreDly (Pre-delay)

This parameter allows you to set the delay time of the sub-reverb from 0 to 800ms.

● Level

This sets the level of the sub-reverb from 0 to ± 100.

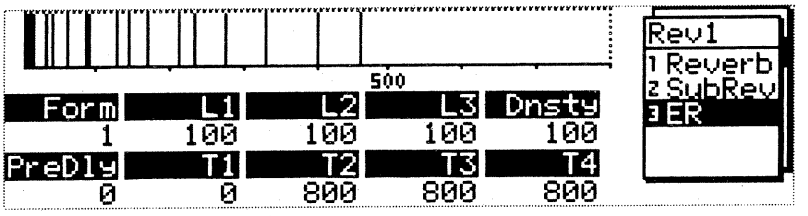
4



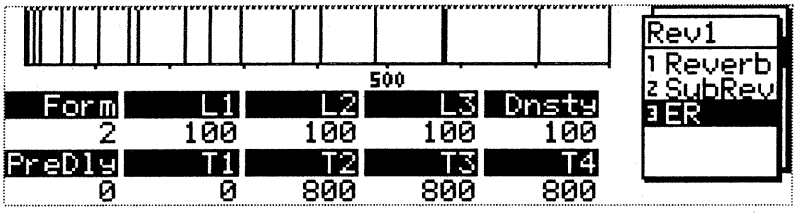
●Form (Early Reflection Pattern)

This allows you to select one of the four early reflection patterns.

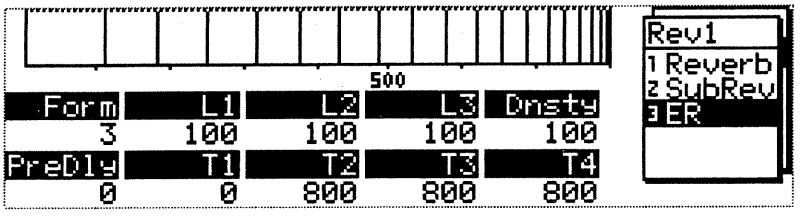
Pattern 1



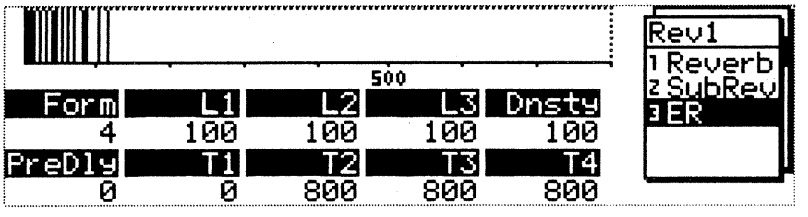
Pattern 2



Pattern 3



Pattern 4



●L1 (Level 1)

This sets the level of Point 1 from 0 to 100.

●L2 (Level 2)

This sets the level of Point 2 from 0 to 100.

●L3 (Level 3)

This sets the level of Point 3 from 0 to 100.

●PreDly (Pre-delay)

This sets the time needed from the direct sound to the first early reflection sound (Point 0) from 0 to 800ms.

● T1 (Time 1)

This sets the time needed from Point 0 (the first early reflection sound) to Point 1 within the range of 0 to 800ms.

● T2 (Time 2)

This sets the time needed from Point 1 to Point 2 within the range of 0 to 800ms.

● T3 (Time 3)

This sets the time needed from Point 2 to Point 3 within the range of 0 to 800ms.

● T4 (Time 4)

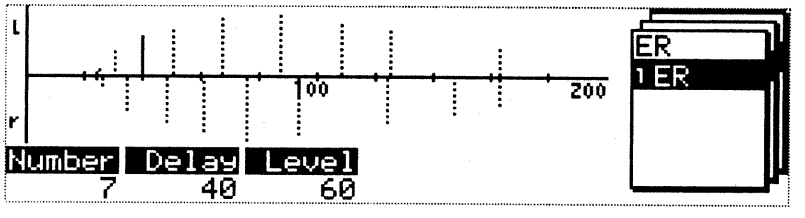
This sets the time needed from Point 3 to Point 4 within the range of 0 to 800ms.

●Dnsty (Density of the Early Reflection)

The density of the early reflection sound can be set from 0 to 100.

*** The early reflection cannot be set to longer than 800ms.**

5



● Number

This allows you to select one of the 20 early reflection sounds to be edited. The early reflection currently edited is shown as a full line, while others are shown with dotted lines.

● Delay (Time)

This set the time needed from the direct sound to the early reflection within the range of 0 to 800ms.

● Level

This sets the level of the early reflection sound from 0 to ± 100. "—"values indicate inverted phase.

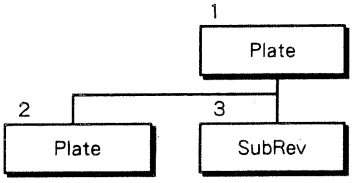
2. Plate

a. Plate (stack type)

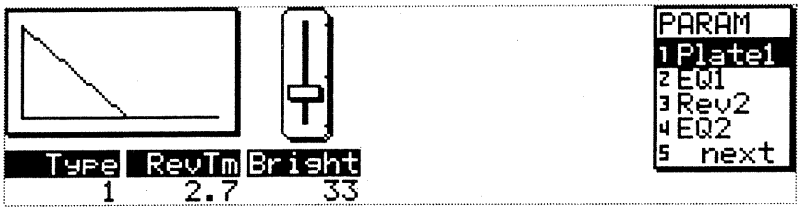
Algorithm Setting

AlgMd	Plate
RvTyp	Stack

Structure of Parameter Displays



1

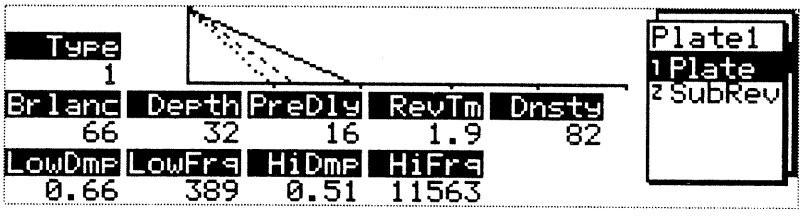


● Type This selects the type of the reverb effect.

● RevTm (Reverb Time) This parameter allows you to set the reverberation time (time needed for a reverb sound to decay by 60dB) from 0.1 to 99.9 seconds.

● Bright (Brightness) This sets the brightness of the sound from 0 to 100. Higher values make brighter sound and lower values mellower sound.

2



● Type (Reverb Type) This selects the type of the reverb effect.

●Brill (Brilliance)

This can be set from 0 to 100. Higher values make brighter sound.

● Depth

The depth of the reverb effect can be set from 0 to 100.

●PreDly (Pre-delay)

This parameter allows you to set the delay time (time gap between the direct and reverb sounds) from 0 to 300ms.

●RevTm (Reverb Time)

This parameter allows you to set the reverberation time from 0.1 to 99.9 seconds.

●Dnsty (Density)

This sets the density of reverberation sound from 0 to 100. Higher values make thicker sound.

●LowDmp (Damp level of lower sounds)

This sets the damp level of lower sounds from 0.05 to 1.00. The product of the low damp value and reverb time is the reverb time of the lower frequencies. Lower values make quicker damping.

●LowFrq (Lower Damp Frequencies)

This sets the frequencies of the lower damp from 50 to 4000Hz. Higher values will widen the frequency range to be damped.

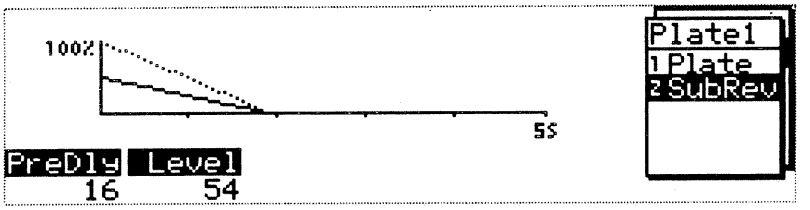
●HiDmp (Damp level of higher sounds)

This sets the damp level of higher sounds from 0.05 to 1.00. The product of the Hi damp value and reverb time is the reverb time of the higher frequencies. Lower values make quicker damping.

●HiFrq (Higher Damp Frequencies)

This sets the frequencies of the higher damp from 4000 to 20000Hz. Lower values will widen the frequency range to be damped.

3



●PreDly (Pre-delay)

This parameter allows you to set the delay time of sub-reverb from 0 to 300 ms.

● Level

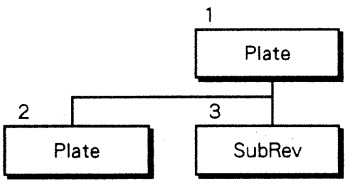
This sets the level of sub-reverb from 0 to ± 100.

b. Plate (tap type)

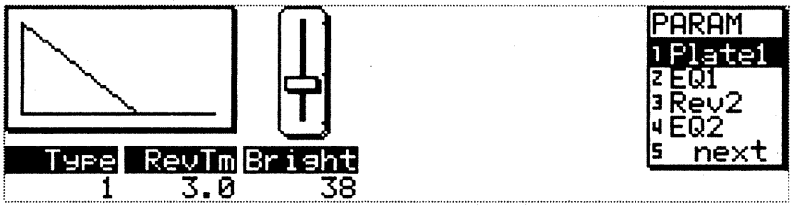
Algorithm Setting

AlgMd	Plate
RvTyp	Tap

Structure of Parameter Displays



1



● Type

This selects the type of the reverb effect.

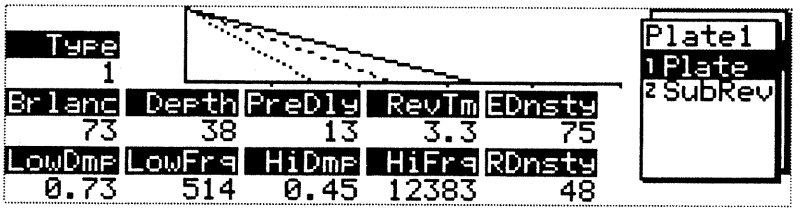
●RevTm (Reverb Time)

This parameter allows you to set the reverberation time (time needed for a reverb sound to decay by 60dB) from 0.1 to 99.9 seconds.

●Bright (Brightness)

This sets the brightness of the sound from 0 to 100. Higher values make brighter sound and lower values mellower sound.

2



● Type

This selects the type of the reverb effect.

●Brill (Brilliance)

This can be set from 0 to 100. Higher values make brighter sound.

● Depth

The depth of the reverb effect can be set from 0 to 100.

●PreDly (Pre-Delay)

This parameter allows you to set the delay time (time gap between the direct and reverb sounds) from 0 to 300ms.

●RevTm (Reverb Time)

This parameter allows you to set the reverberation time from 0.1 to 99.9 seconds.

●EDnsty (density of the early reverberation sound)

This sets the density of the early reverberation sound from 0 to 100.

●RDnsty (density of the later reverberation sound)

This sets the density of the later reverberation sound from 0 to 100.

●LowDmp (Damp level of lower sounds)

This sets the damp level of lower sounds from 0.05 to 1.00. The product of the low damp value and reverb time is the reverb time of the lower frequencies. Lower values make quicker damping.

●LowFrq (Lower Damp Frequencies)

This sets the frequencies of the lower damp from 50 to 4000Hz. Higher values will widen the frequency range to be damped.

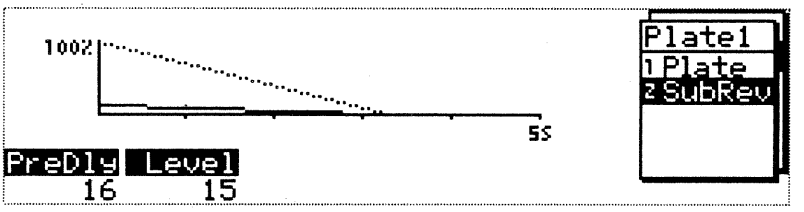
●HiDmp (Damp level of higher sounds)

This sets the damp level of higher sounds from 0.05 to 1.00. The product of the Hi damp value and reverb time is the reverb time of the higher frequencies. Lower values make quicker damping.

●HiFrq (Higher Damp Frequencies)

This sets the frequencies of the higher damp from 4000 to 20000Hz. Lower values will widen the frequency range to be damped.

3



●PreDly (Pre-delay)

This parameter allows you to set the delay time of sub-reverb from 0 to 300 ms.

● Level

This sets the level of sub-reverb from 0 to ± 100.

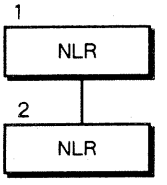
3. Non-linear

Non-linear is the effect that cuts reverb sound in the middle. It is also called Gate Reverb.

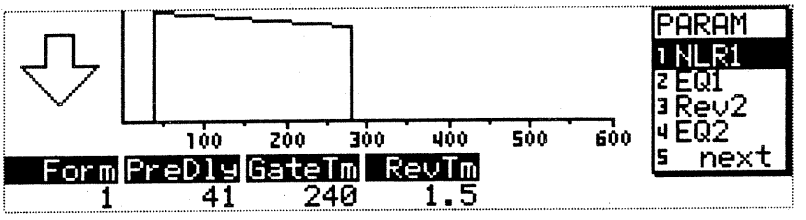
Algorithm Setting

AlgMd	NLR
RvTyp	– – – –

Structure of Parameter Displays



1



●Form (Panning Mode)

This allows you to select one of the three panning modes.

1 : Normal
2 : Panning from left to right
3 : Panning from right to left

***Depending on the Algorithm setting, the panning modes and the channels shown above will differ.**

●PreDly (Pre-delay)

This parameter allows you to set the delay time of sub-reverb from 0 to 800ms.

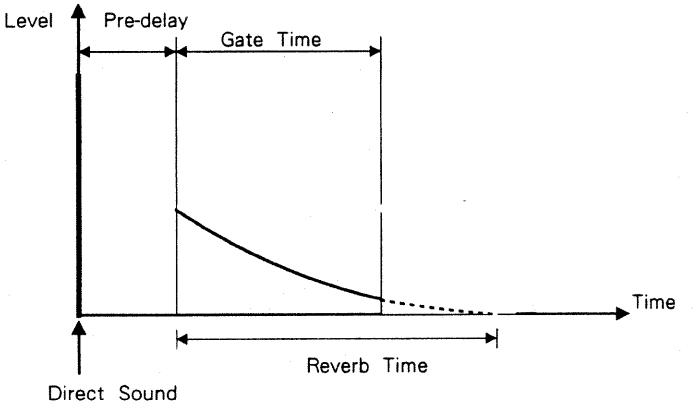
●GateTm (Gate Time)

This sets the time spent before a reverberation sound is cut, from 0 to 1200ms.

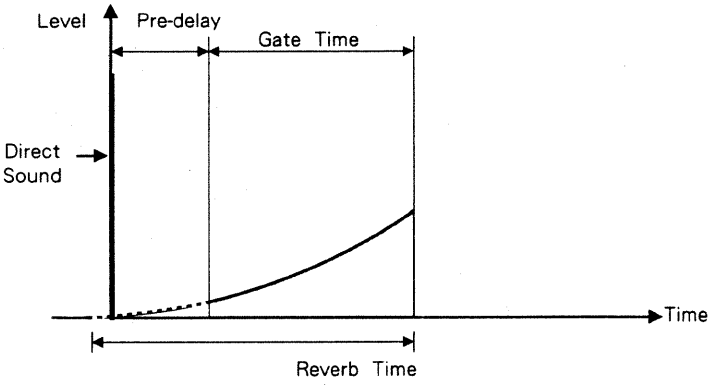
●RevTm
(Reverb Time)

This parameter allows you to set the reverberation time from −9.9 to 9.9 seconds.

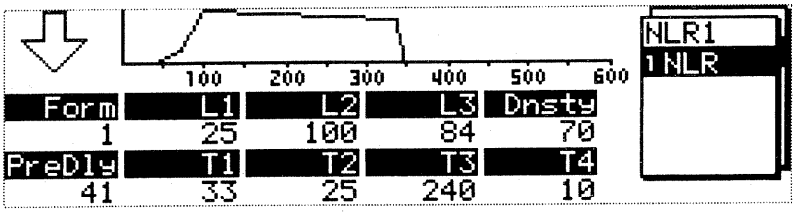
When Reverb Time is positive (+)



When Reverb Time is negative (−)



2



Lower displays allow finer editing of the non-linear output.

●Form (Panning Mode)

This allows you to select one of the three panning modes.

1 : Normal
2 : Panning from left to right
3 : Panning from right to left

● L1 (Level 1)

This sets the level of Point 1 from 0 to 100.

● L2 (Level 2)

This sets the level of Point 2 from 0 to 100.

● L3 (Level 3)

This sets the level of Point 3 from 0 to 100.

● Dnsty (Density)

This parameter sets the density of reverberation (non-linear), from 0 to 100. Higher values increase the density.

●PreDly (Pre-delay)

This sets the time gap between the direct and reverb sounds (non-linear) from 0 to 800ms.

● T1 (Time 1)

This sets the time needed from Point 0 (the first early reflection sound) to Point 1 within the range of 0 to 1200ms.

● T2 (Time 2)

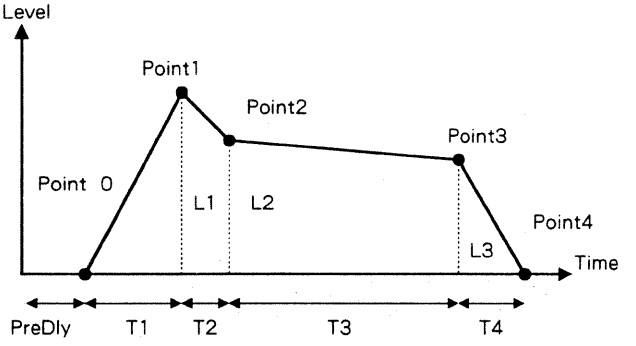
This sets the time needed from Point 1 to Point 2 within the range of 0 to 1200ms.

● T3 (Time 3)

This sets the time needed from Point 2 to Point 3 within the range of 0 to 1200ms.

● T4 (Time 4)

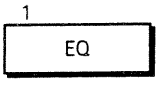
This sets the time needed from Point 3 to Point 4 within the range of 0 to 1200ms.



***If the total length of non-linear (T1 + T2 + T3 + T4) exceeds 1200ms, the exceeded portion will be cut.**

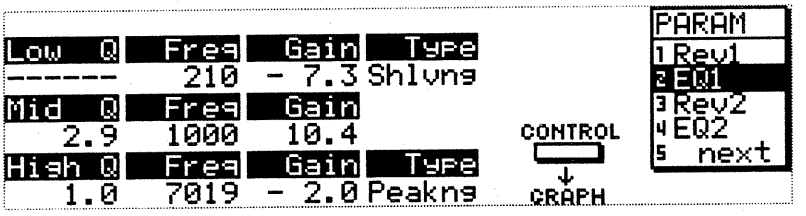
4. Equalizer

Structure of Parameter Displays



The R-880 features two equalizer units. Each of them consists of Low, Mid and Hi bands. The Mid band adopts the peaking system, and the Low and Hi bands can select the peaking or shelving system.

1



And you to set Q, frequency, gain, type (except for Mid) for all three bands.

*** The Mid band is fixed to the peaking type.**

● Low Q — This sets the Q value of the Low band from 0.3 to 9.9 (Peaking type only).

● Freq (Low Frequency) — This sets the frequency in the Low band from 20 to 2000Hz.

● Gain (Low Gain) — This sets the gain (amount of boosting/cutting) in the Low band from − 12.0 to + 12.0dB.

● Type (Low Type) — This selects the type of Low band ; Shlvng (Shelving) or Peakng (Peaking).

● Mid Q — This sets the Q value of the Mid band from 0.3 to 9.9.

●Freq (Mid Frequency)

This sets the frequency in the Mid band from 200 to 8000Hz.

● Gain (Mid Gain)

This sets the gain (amount of boosting/cutting) in the Mid band from −12.0 to +12.0dB.

● Hi Q

This sets the Q value of the High band from 0.3 to 9.9 (Peaking type only).

●Freq (High Frequency)

This sets the frequency in the High band from 1500 to 20000Hz.

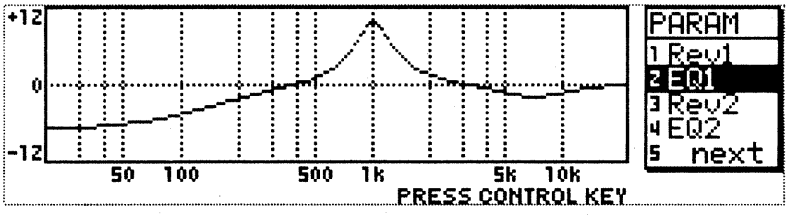
● Gain (High Gain)

This sets the gain (amount of boosting/cutting) in the High band from −12.0 to +12.0dB.

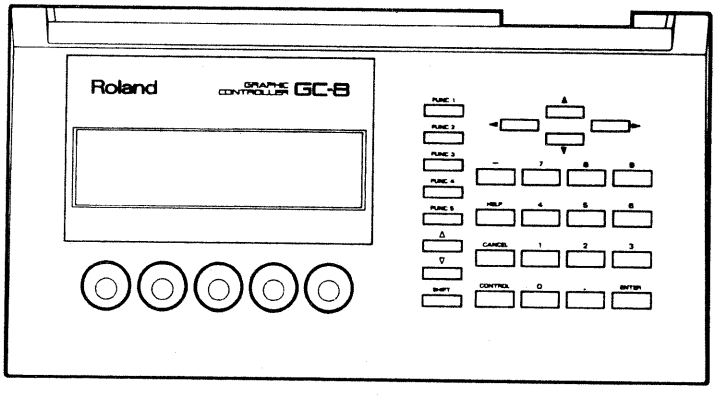
● Type (High Type)

This selects the type of High band ; Shlvng (Shelving) or Peakng (Peaking).

＊Pressing [CONTROL] causes the Display to show the characteristic curve of the equalizer.

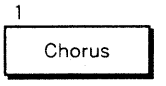


To return to the parameter display, press [CONTROL] again.

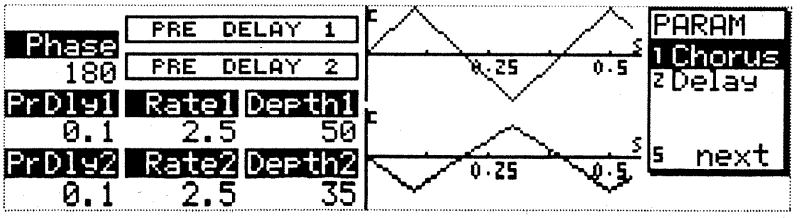

Roland
GRAPHIC CONTROLLER GC-8

5. Chorus

Structure of Parameter Displays



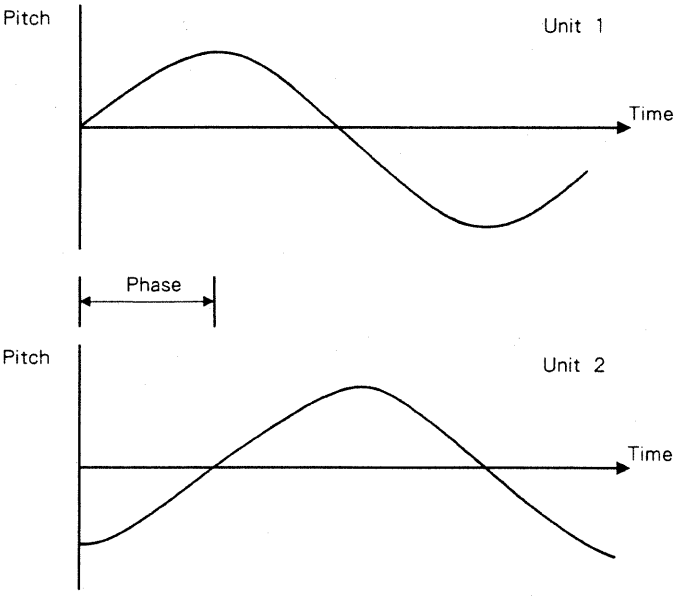
1



There are two chorus units in the R-880. Both units can be edited in the same display.

● Phase

This sets the phase of the chorus unit 1 and 2 from 0 to 360° .



*** 360° represents a full cycle of the chorus unit 1's pitch travel.**

●PrDly1
(Unit 1 Pre-delay)

This sets the delay time between the input and output of the chorus unit 1, from 0.1 to 40.0ms.

●Rate1
(Unit 1 Rate)

This sets the rate of the pitch changes from 0.3 to 10.0Hz.

●Depth1
(Unit 1 Depth)

This sets the depth of the pitch changes from 0 to 50 cents.

●PrDly2
(Unit 2 Pre-delay)

This sets the delay time between the input and output of the chorus unit 2, from 0.1 to 40.0ms.

●Rate2
(Unit 2 Rate)

This sets the rate of the pitch changes from 0.3 to 10.0Hz.

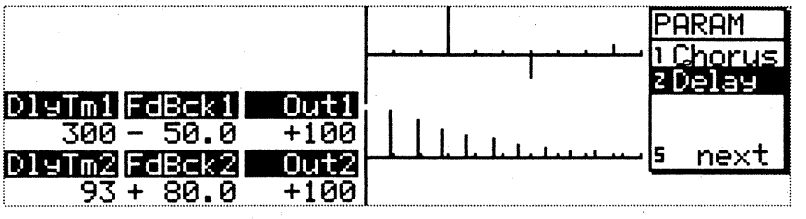
●Depth2
(Unit 2 Depth)

This sets the depth of the pitch changes from 0 to 50 cents.

6. Delay

Structure of Parameter Displays

1



●DlyTm1
(Unit 1 Delay Time)

This sets the delay time of the delay unit 1 from 0 to 400ms.

●FdBck1
(Unit 1 Feedback)

This sets the feedback level from − 100.0 to 100.0.
"−" values mean feedback in inverted phase.

*** If it is set to − 100.0 or 100.0, oscillation may occur.**

●Out1
(Unit 1 Output Level)

This sets the output level of the delay unit 1 from − 100 to 100.
"−" values are output in inverted phase.

●DlyTm2
(Unit 2 Delay Time)

This sets the delay time of the delay unit 2 from 0 to 400ms.

●FdBck2
(Unit 2 Feedback)

This sets the feedback level from − 100.0 to 100.0.
"−" values mean feedback in inverted phase.

*** If it is set to − 100.0 or 100.0, oscillation may occur.**

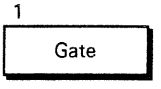
●Out2
(Unit 2 Output Level)

This sets the output level of the delay unit 2 from − 100 to 100.
"−" values are output in inverted phase.

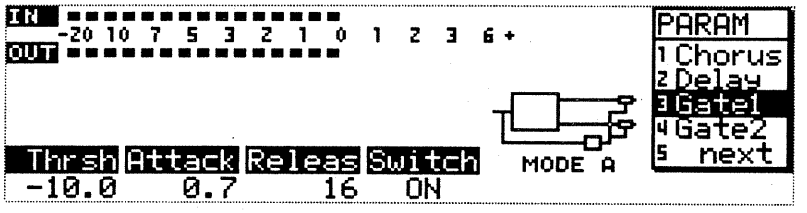
7. Gate

Gate is the effect that sets the gain level to zero (cuts the output) when the level of the input signal is lower than a certain level (threshold level). This effect may be useful for removing noise or cutting reverberation sound, to obtain an effect similar to non-linear. The difference is that non-linear cuts the output a predetermined time after the signal is input, while the gate cuts the output when it detects the level is lowered.

Structure of Parameter Displays



1



●Thrsh (Threshold)

This sets the level of the input at which the gate is released, from – 34.5 to 7.5 (dB).

●Attack

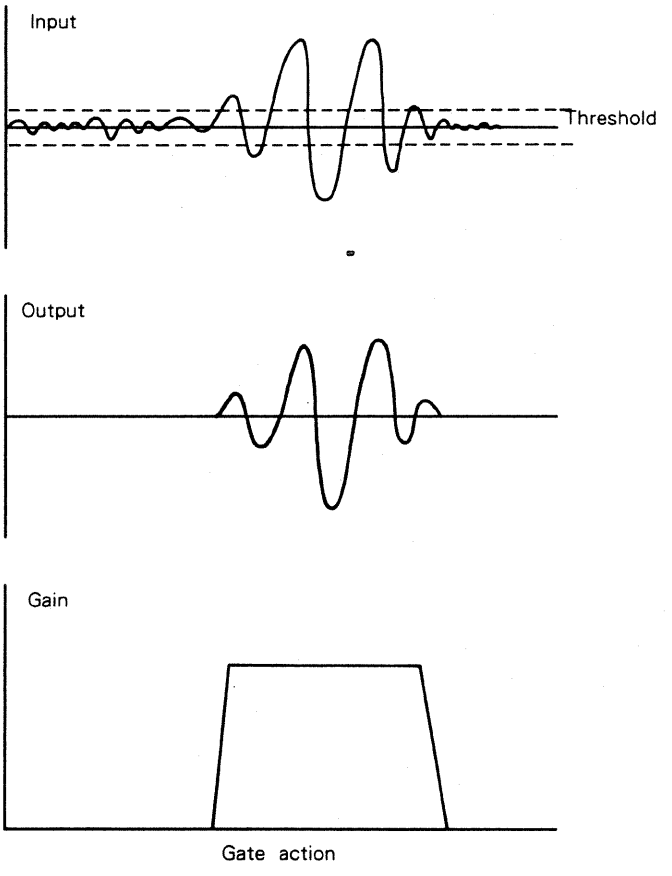
This sets the speed of the gain changes when the gate is released, from 0.7 to 75 (mS). Lower values make the changes slower.

●Releas (Release)

This sets the speed of the gain changes when the gate is being engaged, from 12 to 1200 (mS).

●Switch

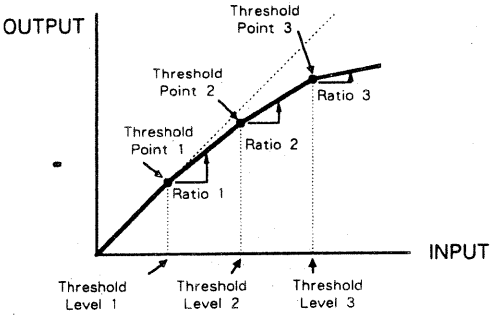
This switches on or off the Gate function. When it is set to OFF, the gate function is canceled regardless of the input level, and the indication of the Level Meter goes out.



Gate action

8. Compressor

The **compressor** is the unit that compresses the dynamic range of input signals.



The above shows the relation between the input and output levels of the compressor unit. The peak level of the signal is suppressed at the compressor.

The compressor unit of the R-880 allows you to set three threshold points.

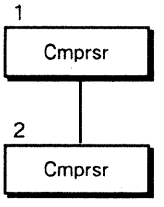
Input signals exceeding the threshold levels 1, 2 and 3 will be compressed in the ratio of 1, 2 and 3 respectively, then output.

Limit level represents the strength of the input level when the output level is the highest.

There are two parameters which adjust the response speed of the compressor to the changes in the input level, Attack and Release.

Attack represents the speed of gain changes for the compression to start on the input that exceeds the threshold level. Release represents the speed for the input gain to be recovered to the original level from the level lower than the threshold.

Structure of Parameter Displays



1

Upper displays allow you to set the compressor's parameters roughly.

●Ratio

This sets the ratio of the output change to the input, from 1.0 : 1 to 33.0 : 1.

●Thrsh (Threshold)

This sets the level of the input when the compressor starts to work, from −39.0 to 6.0 (dB).

●Attack

This sets the response speed of the compressor when the input exceeds the threshold point, from 75 to 0.7 (mS).

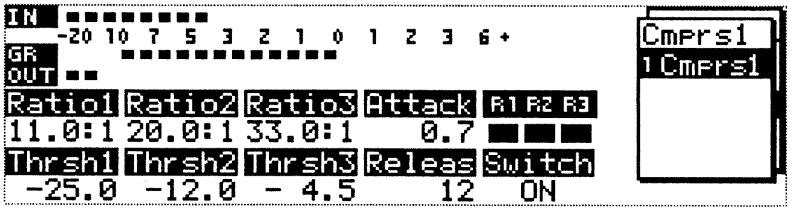
●Releas (Release)

This sets the response speed of the compressor when the input level becomes lower than the threshold point, from 1200 to 12 (mS).

●Switch

This switches on or off the compressor function.
When it is OFF, the compressor function is canceled regardless of the input level and the indication of the Level Meter goes out.

2



Lower displays allow you to set all the parameters of the compressor.

●Ratio1

This sets the ratio of the output change to the input change from threshold point 1 to 2. 1.0 : 1 to 33.0 : 1 are valid.

●Thrsh1 (Threshold 1)

This sets the level of the threshold point 1 from −39.0 to 6.5 (dB).

●Ratio2

This sets the rstio of the output change to the input change from threshold point 2 to 3. 1.0 : 1 to 33.0 : 1 are valid.

●Thrsh2 (Threshold 2)

This sets the level of the threshold point 2 from −30.0 to 7.0 (dB).

●Ratio3

This sets the ratio of the output change to the input change at threshold point 3 from 1.0 : 1 to 33.0 : 1.

●Thrsh3 (Threshold 3)

This sets the level of the threshold point 3 from −25.0 to 7.5 (dB).

●Attack

This sets the response speed of the compressor when the input exceeds the threshold point, from 75 to 0.7 (mS).

●Releas (Release)

This sets the response speed of the compressor when the input level becomes lower than the threshold point, from 1200 to 12 (mS).

●Switch

This switches on or off the compressor function. When it is OFF, the compressor function is canceled regardless of the input level and the indication of the Level Meter goes out.

●About the GR Meter

The GR (Gain Reduction) meter indicates how much the input is compressed by the compressor. the following shows how to work it out.

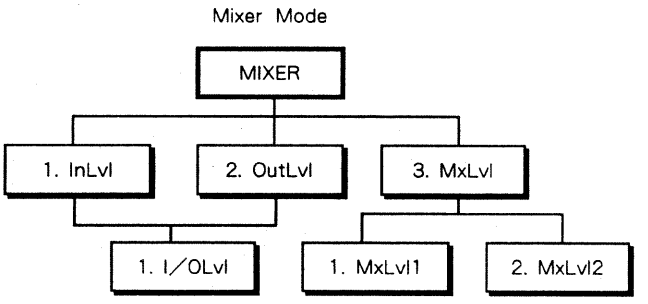
GR (the indicated value)
= IN (the indicated value) − OUT (the indicated value)

●R1R2R3 Indicators

The indicator lights up when the input exceeds the corresponding threshold point.

*** The values of the level parameters should be set as ThLvl1 < ThLvl2 < ThLvl3 .**

[7] EDITING THE MIXER



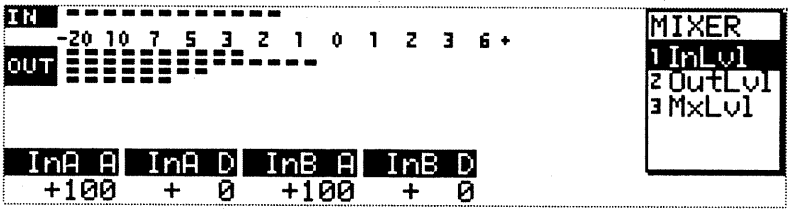
In the Mixer Mode, the input and output level and effect balance can be controlled. To turn to the Mixer Mode, press [FUNC3] while holding [SHIFT] down.

1. Input/Output Level

Procedure

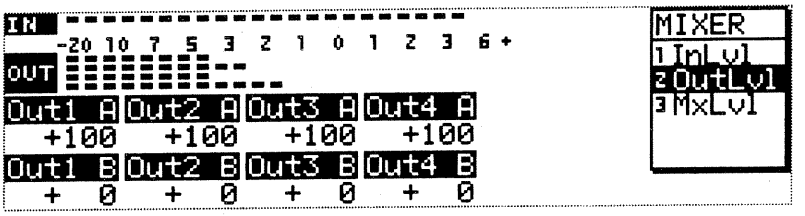
Set the input level with [FUNC1] and the output level with [FUNC2].

Level meters are shown at the upper part of the Display. This level meter works just like the Level Indicators of the R-880.



- **InA A** Channel A Analog Input
- **InA D** Channel A Digital Input
- **InB A** Channel B Analog Input
- **InB D** Channel B Digital Input

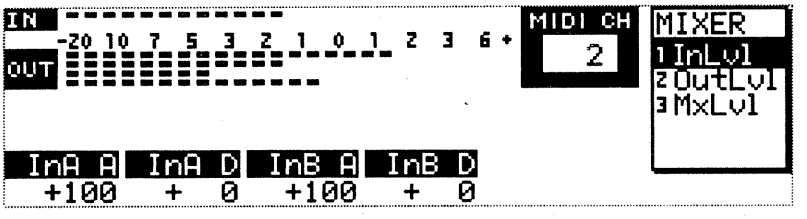
The input level can be set from 0 to ± 100. "−" values indicate an inverted phase.



- **Out1A Channel 1 Output A**
- **Out1B Channel 1 Output B**
- **Out2A Channel 2 Output A**
- **Out2B Channel 2 Output B**
- **Out3A Channel 3 Output A**
- **Out3B Channel 3 Output B**
- **Out4A Channel 4 Output A**
- **Out4B Channel 4 Output B**

The output level can be set from 0 to ± 100. "−" values indicate an inverted phase.

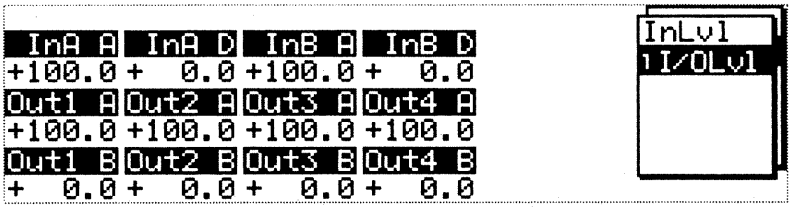
When more than one R-880 is used, you can select the level meter of any MIDI channel.(The current MIDI channel is shown in the Display of the GC-8.)



Procedure

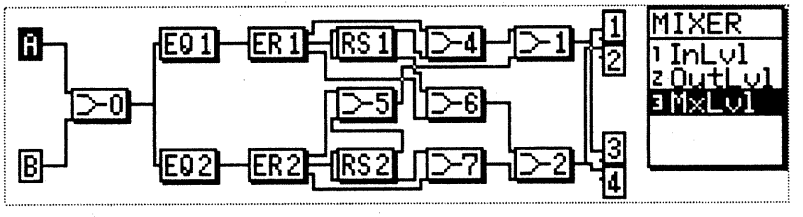
Change the MIDI channel with [CONTROL] .

In a lower display (press [▽]), the level can be set in 1/10 steps.

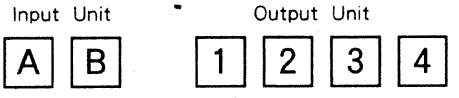


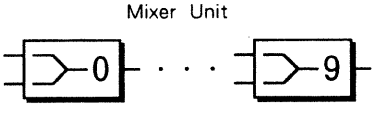
2. Internal Level

In the "MxLvl" display, you can adjust the level of each effect unit using the mixer unit connected to the output on the effect unit. Press [FUNC3] to select the "MxLvl" display, and the Algorithm settings appear as shown below.

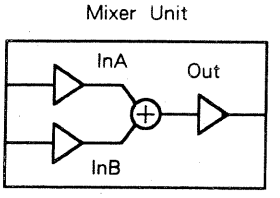


Step 1 Move the cursor to the Mixer or Input / Output Unit using [▲] [▼] [◀] [▶].

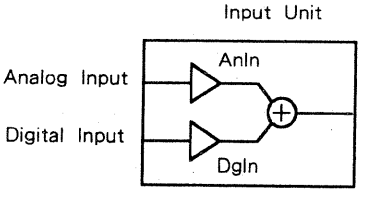




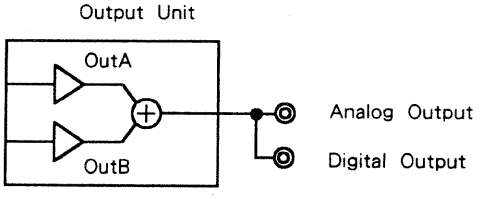
The mixer unit mixes the outputs from two units, controlling the signal level with the three parameters.



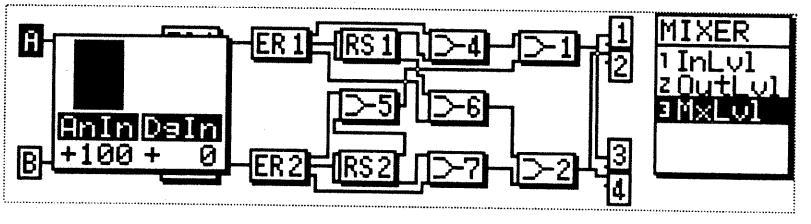
The input unit adjusts the level for analog and digital inputs.



The output unit mixes the outputs from the two units, then sends it to the analog/digital output socket.

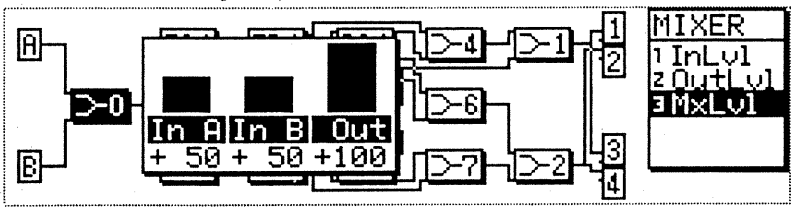


Step 2 Press [CONTROL] to open the Window.

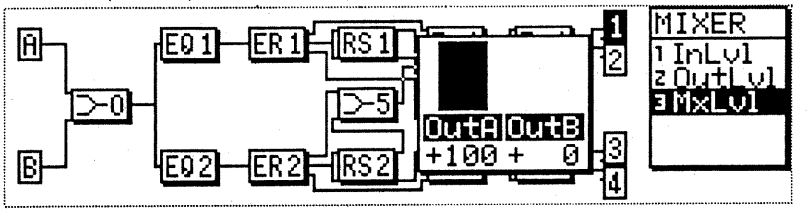


Step 3 Using the Edit Control Knobs 1 to 3, adjust the level from 0 to ±100.

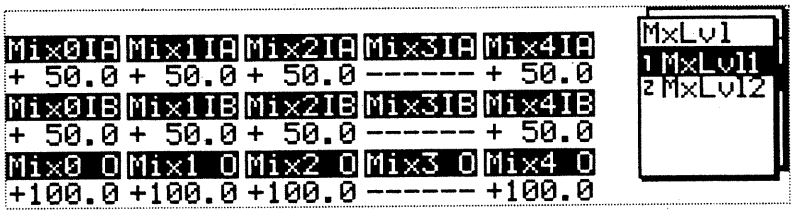
Mixer Setting Example

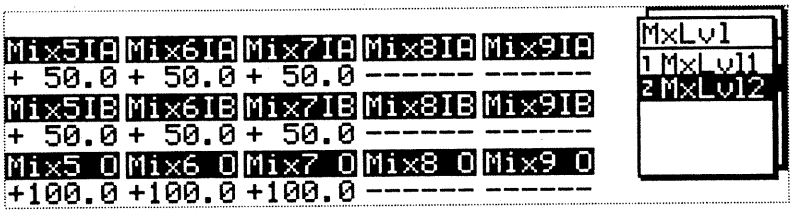


Example for Output Level Setting



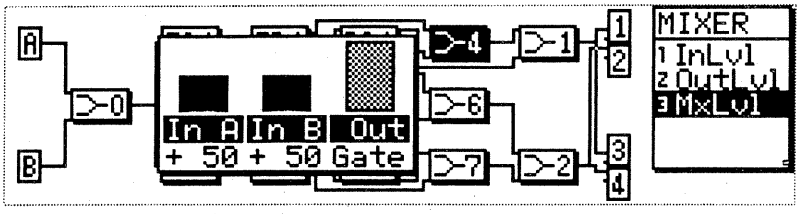
In the lower display (press [▽]), the level can be controlled in 1/10 steps.

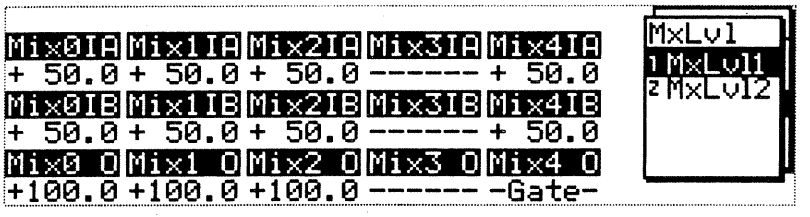




*** Unused mixer units are shown as "– – – – – – " and cannot be edited.**

*When "Gate" is shown in the display, the level is automatically controlled to create the gate effect. No editing is possible at such times.





[8] MEMORY

Up to 99 different programs can be written into the GC-8's internal memory, and another 99 onto a memory card. Each program can be named using up to 20 letters.

The GC-8 has the following Memory Functions :

1. Reading — This function reads the data from memory.

2. Copying — This function copies a program to a different location.

3. Naming — This function can name a program.

4. Writing — This writes the data into memory.

5. Deleting — This deletes unneeded data.

6. Initializing — This initializes a brand new memory card so that it can be used with the GC-8

7. Backup a Memory Card — This makes a backup.

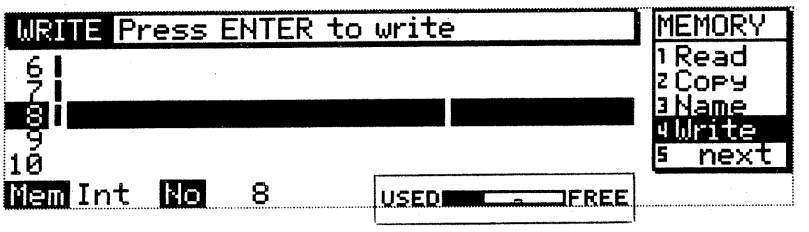
*** This function cannot make a backup of the system card, but it can copy the Factory Presets.**

8. Protecting the Internal Memory — This determines whether to protect the internal memory or to make it overwritten.

To turn to the Memory Mode (Memory Display), press the [FUNC5] while holding [SHIFT] down.

*** Depending on the Algorithm setting, the amount of memory required for a program varies drastically. If you write many programs that require a large amount of memory, the internal memory may not be able to store 99 programs.**

The amount of memory consumed so far is shown in the Write display.



***When the message "Card is not initialized" appears, initialize your memory card. (see page 89.)**

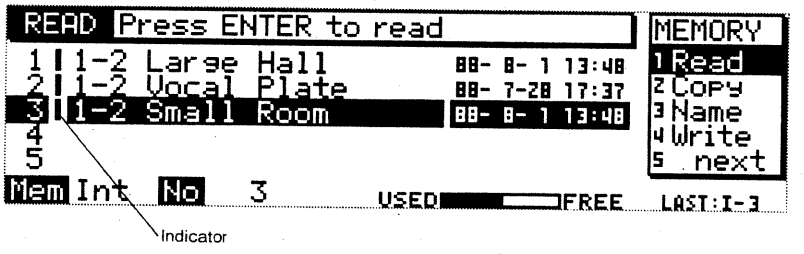
1. Reading

Step 1 Press [FUNC1] to select "Read".(Should "Read" not be displayed, press [FUNC5] (next) first.)

Step 2 Select the internal memory (Int) or memory card (Card) by rotating Edit Control Knob 1.

Step 3 Move the cursor to the program you wish to call with the Edit Control Knob 2, then press [ENTER].

*If you know the program number, you can call it by entering the number with the Numeric Keypad (then press [ENTER].)



The number where any program is stored is indicated as shown below. Numbers with no indication are empty, and therefore cannot be called.

* Reading a program will erase any current parameter settings.

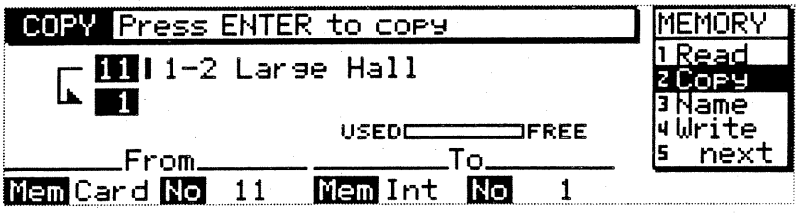
*Pressing [CANCEL] will cancel the Reading procedure you have just taken.

*In the Read display, the last memory number called is shown under the menu.
〈Ex〉 "LAST : I – 3" (Internal 3)

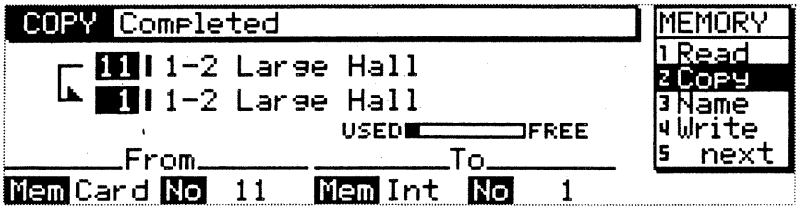
2. Copying

Step 1 Press [FUNC2] to select "Copy". (Should "Copy" not be displayed, press [FUNC5] (next) first.)

Step 2 Select the source program (memory number) with Edit Control Knobs 1 and 2, then select the destination memory number with Edit Control Knobs 3 and 4.



Step 3 Press [ENTER].



* Pressing [CANCEL] will cancel the Copying procedure you have just taken.

3. Naming

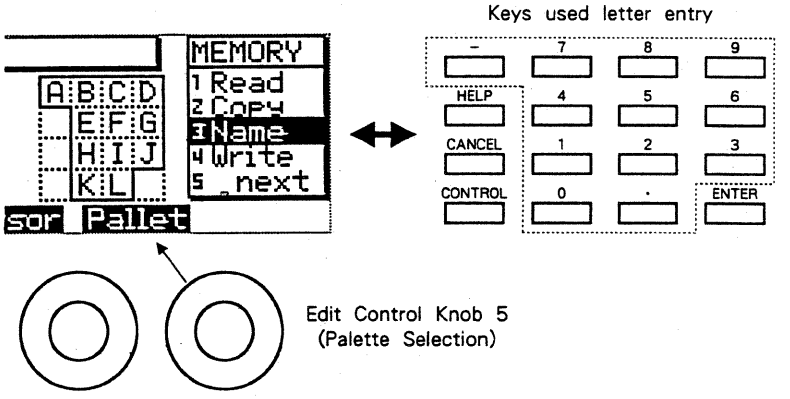
Step 1 Press [FUNC3] to select "Name". (Should "Name" not be displayed, press [FUNC5] (next) first.)

Step 2 Select the internal memory (Int) or memory card (Card) by rotating Edit Control Knob 1.

Step 3 Using the Edit Control Knob 2, move the cursor to the memory number which you wish to name, and a flashing cursor appears.

* memory Numbers with no data cannot be named.

Step 4 **Using the Numeric Keypad, enter a name. The palette shows the characters that correspond to the Numeric Keypad..**



You can use capital and small letters, number and signs by changing the palette with Edit Control Knob 5.

Step 5 **Press [ENTER] .**

*** The letter cursor (flashing) can be moved with [◀] [▶] and Edit Control Knob 4. Rotating Edit Control Knob 3 (Space) will erase a letter, moving the cursor.**

*** Pressing [CANCEL] will cancel the Naming procedure you have just taken.**

4. Writing

Step 1 Press [FUNC4] to select "Write". (If "Write" has not been displayed, press [FUNC5] (next) first).

Step 2 Select the internal memory (Int) or memory card (Card) by rotating Edit Control Knob 1.

Step 3 Using Edit Control Knob 2, move the cursor to the memory number which you wish to write, then press [ENTER].

*If you know the number of the program, you can enter the number with the Numeric keypad (then press [ENTER]).

* You cannot write new data onto the system card.

*If programs that require a large amount of memory have been already written, the message "Memory full" may appear and no more data can be written. If this happens, delete some data (see the following section), then repeat the writing procedure.

*Pressing [CANCEL] will cancel the Writing procedure you have just taken.

5. Deleting

Step 1 Press [FUNC1] to select "Delete". (If "Delete" has not been displayed, press [FUNC5] (next) first).

Step 2 Select either internal memory (Int) or memory card (Card) by rotating Edit Control Knob 1.

Step 3 Using Edit Control Knob 2, move the cursor to the memory number which you wish to delete, then press [ENTER].

*If you know the number of the program, you can enter the number with the Numeric Keypad (then press [ENTER]).

*Pressing [CANCEL] will cancel the Deleting procedure you have just taken.

6. Initializing a Memory Card

To use a brand new memory card with the GC-8, you must initialize it.

Step 1 Press [FUNC2] to select "Init". (Should "Init" not be displayed, press [FUNC5] (next) first).

Step 2 Insert a memory card into the Card Slot, then set the protect switch to the OFF position.

Step 3 Press [ENTER].

7. Backup a Memory Card

This copies data on a memory card onto another card.

Step 1 Press [FUNC3] to select "Backup". (If "Backup" has not been displayed, press [FUNC5] (next) first).

Step 2 As the message on the display tells you, insert the source memory card for backup, then press [ENTER].

Step 3 Replace the memory card with a different card (destination), then press [ENTER].

Step 4 As the message on the display tells you, repeat steps 2 and 3. When the backup is completed, the message "Completed" appears.

* If you have the system card, only the Factory Preset data will be copied.
* To protect data from accidental erasure, be sure to set the protect switch on the source card to ON.
* As the memory capacity of the M-128D is smaller than the M-256D (E)'s, the entire data on the M-256D (E) card may not be copied to the M-128D.

8. Protecting the Internal Memory

This determines whether to forbit or allow the internal memory to be overwritten.

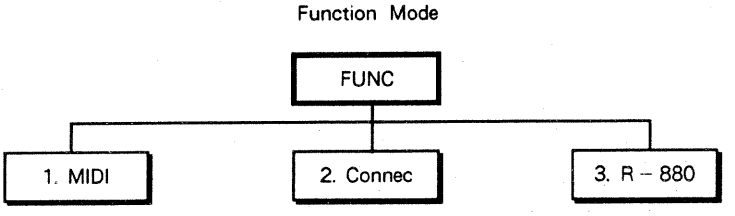
Step 1 Press the [FUNC4] to call "Protect".(If "Protect" does not appear, press [FUNC5] (next) first.)

Step 2 Rotate the Edit Knob to select Protect ON or OFF.

* When the Protect is set to ON, no data can be written into the internal memory in the "Write", "Copy", "Name" or "Delete" mode.

[9] OTHER USEFUL FUNCTIONS

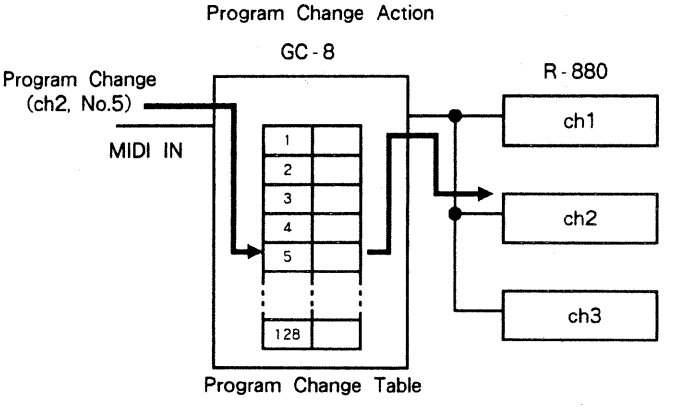
The Function Mode allows you to set MIDI settings, operational conditions, etc.
To turn to the Function Mode, press [FUNC4] while holding [SHIFT] down.



1. Program Change

The programs (memory numbers) on the R-880 can be selected with the Program Changes sent to the GC-8.

Consider the following example.



When three R-880's are setup with the GC-8 and "Channel 2, Program Change Number 5" is sent to the GC-8 :

1. Using the GC-8's program number table, find the memory number that corresponds to the Program Change number 5.

2. Read the relevant program from memory and send it to the R-880 of channel 2. (The display changes to the Read Display in the Memory mode.)

The program number table of the GC-8 shows how the 1 to 128 program changes correspond to the memory numbers. You can use any memory number in the internal or card memory. However, a memory number with no data cannot be read.
If you assign a memory number on a memory card without the card connected, it will not be read either.

Set the program number table as follows :

Step 1 **Press [FUNC4] while holding [SHIFT] down to select the Function display.**

Step 2 **Press [FUNC1] to select "MIDI".**

Step 3 **Using Edit Control Knob 1, select a program change number, then select the memory number that is to go in tandem with the program change, with Edit Control Knobs 2 and 3.**

The Program Change Table can also be set using the Exclusive messages. However, when more than one GC-8 is connected, it is necessary to set the Device ID (Code numbers to distinguish the connected devices from each other) for specifying which GC-8 should receive the Exclusive messages.

Step 4 **Set the Device ID 1 to 32, using Edit Control Knob 4.**

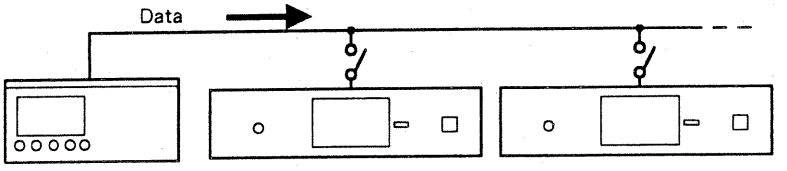
***The GC-8 can receive only Program Change and Exclusive messages. Any other message will be ignored.**

*** The GC-8 is always set to OMNI OFF.**

2. Controlling more than one R-880

Up to 16 R-880's can be connected to the GC-8. Normally, the same data is sent to all the R-880's, but it is also possible to change the settings of a particular R-880, or change all the R-880's settings.

The GC-8 can select whether or not to send data to each of the R-880's independently.



For instance, to set all the R-880's parameters to different settings :

- ○ **Connect only the R-880 of channel 1**
- ○ **Read memory number 1**
- ○ **Connect only the R-880 of channel 2**
- ○ **Read memory number 2**

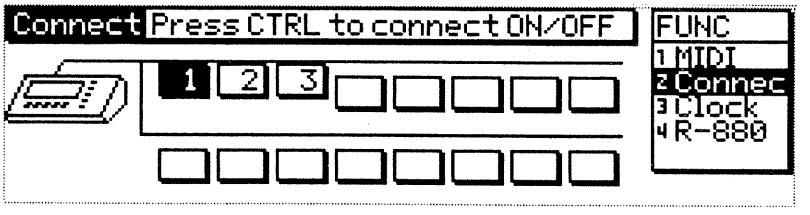
How to make connections

Step 1 Press [FUNC4] while holding [SHIFT] down to select the Function Mode.

Step 2 Press [FUNC2] to select "Connec".

The Display shows the current connections graphically.

Display Example (When three unit, ch's 1, 2, and 3, are Connected)



16 [ ] represent the R-880's. The R-880's that are currently connected have the actual numbers in [ ].
Data of the MIDI channel which resides in [ ] that touches the horizontal line will be transferred. In the above display, three R-880's are being used and data has already been transferred.

Step 3 **Using [▲] [▼] [◀] [▶], move the cursor to the MIDI channel you wish to change.**

Step 4 **Press [CONTROL] to change the connections.**

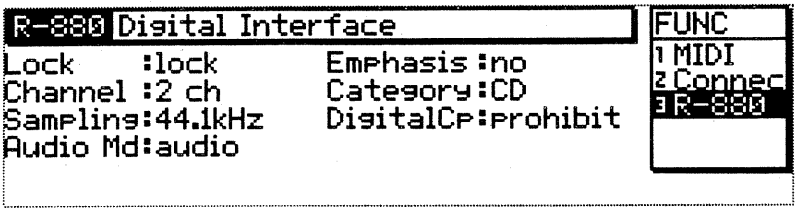
3. Displaying the R-880's condition

You can make the Display show the current condition of the R-880's digital interface and set the Emphasis.

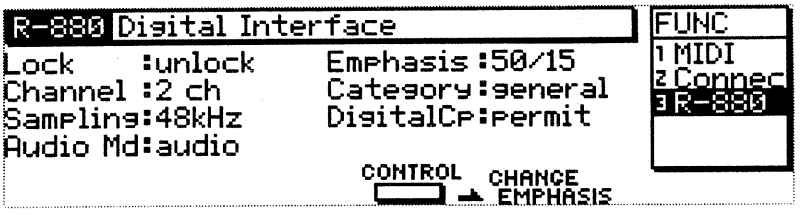
Step 1 **Press [FUNC4] while holding [SHIFT] down, to select the Function Mode.**

Step 2 **Press [FUNC4] to select "R-880".**

Sample (When a CD player is connected to the Digital Input)



Sample (When no unit is connected to the Digital Input)



Step 3 **When there is no digital input, the Emphasis can be switched with [CONTROL]. Each time you press [CONTROL], ON (displayed as 50/15) and OFF (displayed as no) are alternately selected. Normally, you may set it to ON (50/15).**

* Emphasis

Emphasis is the element used for analog/digital signal conversion. It improves S/N ratio by controlling frequencies. When you use the Analog Input/Output Sockets, set the Emphasis to ON (50/15). However, when the Digital Input Socket is connected to a device such as a CD player, the Emphasis set in the digital signal is automatically selected. In this case, the set value cannot be changed with the [CONTROL] . Also, when the R-880 is being used for analog input and digital output, set the Emphasis according to the condition of the device connected to the Digital Output.

Parameter	Display	Description
Lock (Locked)	unlock	No Digital Input
	lock	Digital Input
Channel (Channel Mode)	2 ch	2-ch Mode
	4 ch	4-ch Mode
Sampling (Sampling Frequency)	44.1kHz	44.1kHz
	48kHz	48kHz
Audio Md (Audio Mode)	non-audio	Non-audio Mode
	audio	Audio Mode
Emphasis (Emphasis)	no	No Emphasis
	50/15	50/15 μ S Emphasis
Category (Category Code)	general	General Format
	CD	CD Format
	PCM	PCM Format
	DAT	DAT Format
DigitalCp (Digital Copy)	prohibit	Prohibited
	permit	Permitted

■ ERROR MESSAGES

Error Messages shown at Power-up

Load error

The system program cannot be loaded. Switch the unit off, check the System Card, then switch the unit on again.

No System Program

The System Card you used is not appropriate for the GC-8.

Check MIDI channel again

Check the MIDI channel setting. When using more than one R-880's, make sure that all the units are set to different MIDI channels.

Change the memory backup battery

The battery for memory backup is exhausted. Call your local Roland service center.

Error Messages shown during operation

Cannot communicate with R-880

The R-880 doesn't respond. Check the cables, R-880's power, etc.

Turn off the R-880 and turn on again

Switch the R-880 off, then switch it on again.

Error Messages shown in the Memory Mode

Memory full

There is no space left in memory.

Card is protected

The protect switch on the card is set to ON, set it to OFF.

Card is not ready

The memory card is not connected. Insert the card correctly.

Card is not initialized

The memory card is not initialized. Initialize the card.

No parameter to read

There is no data written in that memory number.

Illegal Card ! Can't initialize

The connected card cannot be used with the GC-8. Use the specified card.

Warning : Insert the card again

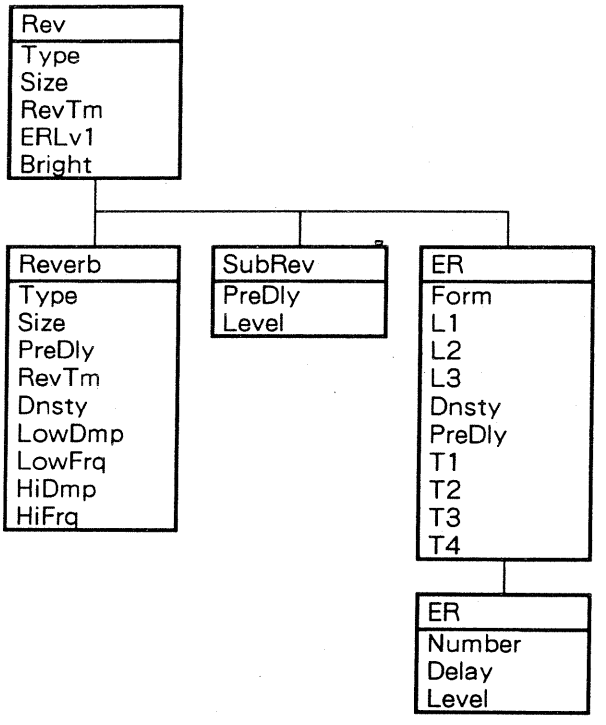
Follow the message shown in the display.

INT – Memory is protected

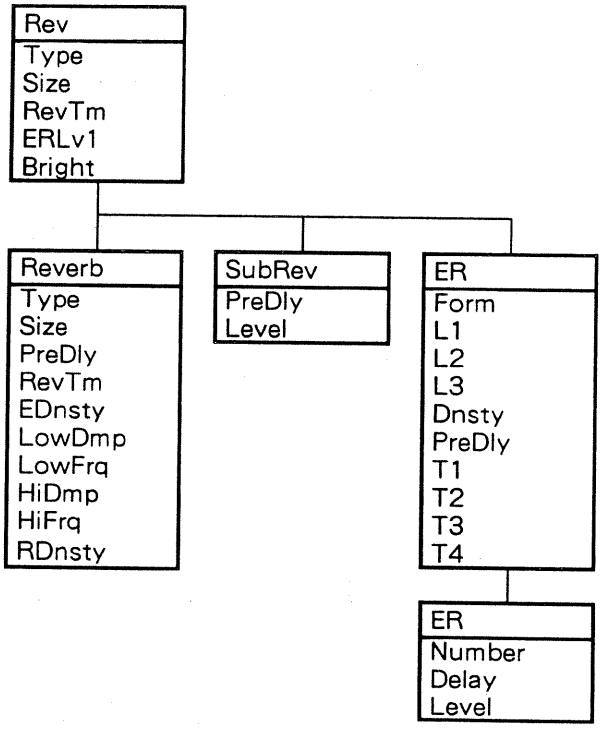
The internal memory is set to Protect ON. If you wish to write new data into the internal memory, release the Protect (Protect OFF).

■ GC-8 Parameter Map

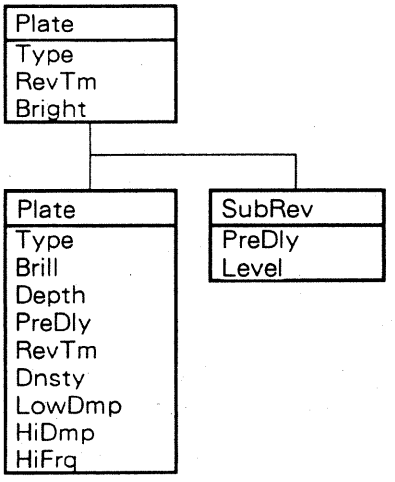
● Reverb (Stack Type)



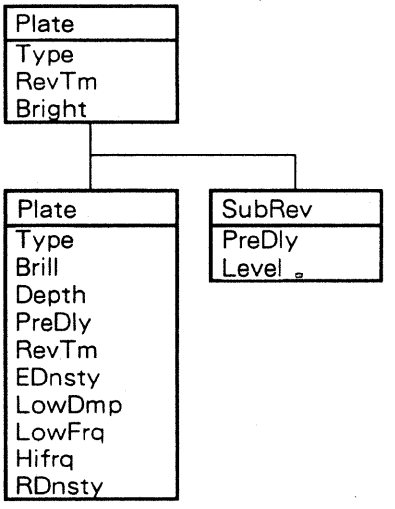
● Reverb (Tap Type)



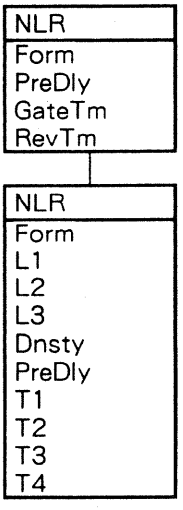
● Plate (Stack Type)



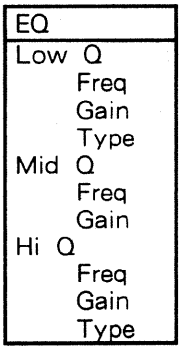
● Plate (Tap Type)



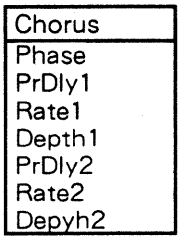
● Non-linear



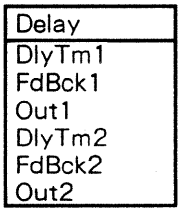
● Equalizer



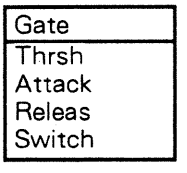
● Chorus



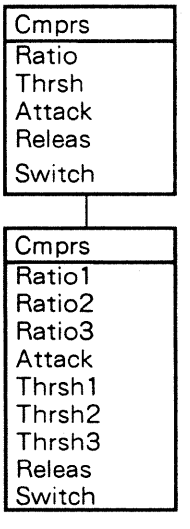
● Delay



● Gate



● Compressor



■ SPECIFICATIONS

● Front Panel
Edit Control Knobs × 5
Function Buttons (FUNC1/2/3/4/5)
Up Button (△)
Down Button (▽)
SHIFT Button
Cursor Buttons (▲/▼/◀/▶)
Numeric Keypad
ENTER Button
HELP Button
CANCEL Button
CONTROL Button

● Rear Panel
Power Switch
AC Adapter Socket
RRC Out Socket
MIDI IN Socket
MIDI OUT Socket
MIDI THRU Socket
Contrast Control Knob

● Power Consumption
90mA (9V)

● Weight
1.2kg (on its own) /2 lb 10 oz

● Dimensions
333 (W) × 176 (D) × 51 (H) mm
13 – 1/8" × 6 – 15/16" × 2

● Accessories
System Card (R88-GC8-I)
Owner's Manual
GC-8 Preset Data
Guide Book for MIDI

● Options
AC Adapter (ACF-120/220/240)
MIDI/SYNC Cable (MSC-07/15/25/50/100)

Roland Exclusive Messages

1. Data Format for Exclusive Messages

Roland's MIDI implementation uses the following data format for all exclusive messages (type IV) :

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[BODY]	Main data
F7H	End of exclusive

MIDI status : F0H, F7H

An exclusive message must be flanked by a pair of status codes, starting with a Manufacturer-ID immediately after F0H (MIDI version1.0).

Manufacturer-ID : 41H

The Manufacturer-ID identifies the manufacturer of a MIDI instrument that triggeres an exclusive message. Value 41H represents Roland's Manufacturer-ID.

Device-ID : DEV

The Device-ID contains a unique value that identifies the individual device in the multiple implementation of MIDI instruments. It is usually set to 00H - 0FH, a value smaller by one than that of a basic channel, but value 00H - 1FH may be used for a device with multiple basic channels.

Model-ID : MDL

The Model-ID contains a value that uniquely identifies one model from another. Different models, however, may share an identical Model-ID if they handle similar data.

The Model-ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Model-IDs, each representing a unique model :

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

Command-ID : CMD

The Command-ID indicates the function of an exclusive message. The Command-ID format may contain 00H in one or more places to provide an extended data field. The following are examples of valid Command-IDs, each representing a unique function :

01H
02H
03H
00H, 01H
00H, 02H
00H, 00H, 01H

Main data : BODY

This field contains a message to be exchanged across an interface. The exact data size and contents will vary with the Model-ID and Command-ID.

2. Address-mapped Data Transfer

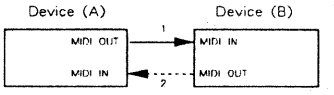
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records--waveform and tone data, switch status, and parameters, for example--to specific locations in a machine-dependent address space, thereby allowing access to data residing at the address a message specifies.

Address-mapped data transfer is therefore independent of models and data categories. This technique allows use of two different transfer procedures : one-way transfer and handshake transfer.

One way transfer procedure (See Section3 for details.)

This procedure is suited for the transfer of a small amount of data. It sends out an exclusive message completely independent of a receiving device status.

Connection Diagram

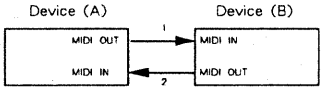


Connectionat point2 is essential for "Request data" procedures. (See Section3.)

Handshake-transfer procedure (See Section4 for details.)

This procedure initiates a predetermined transfer sequence (handshaking) across the interface before data transfer takes place. Handshaking ensures that reliability and transfer speed are high enough to handle a large amount of data.

Connection Diagram



Connectionat points1 and 2 is essential.

Notes on the above two procedures

* There are separate Command-IDs for different transfer procedures.
* DevicesA and B cannot exchange data unless they use the same transfer procedure, share identical Device-ID and Model ID, and are ready for communication.

3. One-way Transfer Procedure

This procedure sends out data all the way until it stops when the messages are so short that answerbacks need not be checked.
For long messages, however, the receiving device must acquire each message in time with the transfer sequence, which inserts intervals of at least 20milliseconds in between.

Types of Messages

Message	Command ID
Request data 1	RQ1 (11H)
Data set 1	DT1 (12H)

Request data # 1 : RQ1 (11H)

This message is sent out when there is a need to acquire data from a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of data required.
On receiving an RQ1 message, the remote device checks its memory for the data address and size that satisfy the request.

If it finds them and is ready for communication, the device will transmit a "Data set 1 (DT1)" message, which contains the requested data. Otherwise, the device will send out nothing.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
11H	Command ID
aaH	Address MSB
⋮	⋮
	LSB
ssH	Size MSB
⋮	⋮
	LSB
sum	Check sum
F7H	End of exclusive

*The size of the requested data does not indicate the number of bytes that will make up a DT1 message, but represents the address fields where the requested data resides.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.
*The same number of bytes comprises address and size data, which, however, vary with the Model-ID.
*The error checking process uses a checksum that provides a bit pattern where the least significant 7 bits are zero when values for an address, size, and that checksum are summed.

Data set 1 : DT1 (12H)

This message corresponds to the actual data transfer process. Because every byte in the data is assigned a unique address, a DT1 message can convey the starting address of one or more data as well as a series of data formatted in an address - dependent order.

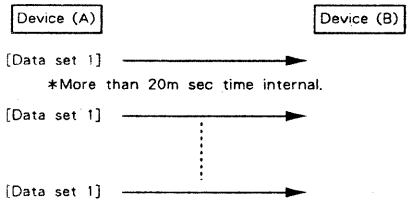
The MIDI standards inhibit non-real time messages from interrupting an exclusive one. This fact is inconvenient for the devices that support a "soft-through" mechanism. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out in separate segments.

Byte	Description
F0H	Exclusive
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
12H	Command ID
aaH	Address MSB
⋮	⋮
	LSB
ddH	Data
⋮	⋮
sum	Check sum
F7H	End of exclusive

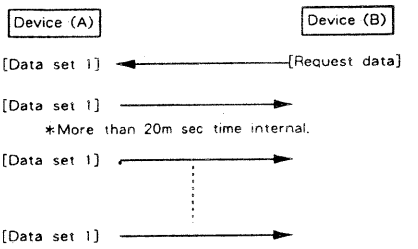
*A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.
*The number of bytes comprising address data varies from one Model-ID to another.
*The error checking process uses a checksum that provides a bit pattern where the least significant 7 bits are zero when values for an address, size, and that checksum are summed.

Example of Message Transactions

● Device A sending data to Device B
Transfer of a DT1 message is all that takes place.



● Device B requesting data from Device A
Device B sends an RQ1 message to Device A. Checking the message, Device A sends a DT1 message back to Device B.



4. Handshake-Transfer Procedure

Handshaking is an interactive process where two devices exchange error checking signals before a message transaction takes place, thereby increasing data reliability. Unlike one-way transfer that inserts a pause between message transactions, handshake transfer allows much speedier transactions because data transfer starts once the receiving device returns a ready signal.

When it comes to handling large amounts of data--sampler waveforms and synthesizer tones over the entire range, for example--across a MIDI interface, handshaking transfer is more efficient than one-way transfer.

Types of Messages

Message	Command ID
Want to send data	WSD (40H)
Request data	RQD (41H)
Data set	DAT (42H)
Acknowledge	ACK (43H)
End of data	EOD (45H)
Communication error	ERR (4EH)
Rejection	RJC (4FH)

Want to send data : WSD (40H)

This message is sent out when data must be sent to a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of the data to be sent.

On receiving a WSD message, the remote device checks its memory for the specified data address and size which will satisfy the request. If it finds them and is ready for communication, the device will return an "Acknowledge (ACK)" message.
Otherwise, it will return a "Rejection (RJC)" message.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
40H	Command ID
aaH	Address MSB
⋮	⋮
	LSB
ssH	Size MSB
⋮	⋮
	LSB
sum	Check sum
F7H	End of exclusive

*The size of the data to be sent does not indicate the number of bytes that make up a "Data set (DAT)" message, but represents the address fields where the data should reside.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.
*The same number of bytes comprises address and size data, which, however, vary with the Model-ID.
*The error checking process uses a checksum that provides a bit pattern where the least significant 7 bits are zero when values for an address, size, and that checksum are summed.

Request data : RQD (41H)

This message is sent out when there is a need to acquire data from a device at the other end of the interface. It contains data for the address and size that specify designation and length, respectively, of data required.

On receiving an RQD message, the remote device checks its memory for the data address and size which satisfy the request. If it finds them and is ready for communication, the device will transmit a "Data set (DAT)" message, which contains the requested data. Otherwise, it will return a "Rejection (RJC)" message.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
41H	Command ID
aaH	Address MSB
⋮	⋮
	LSB
ssH	Size MSB
⋮	⋮
	LSB
sum	Check sum
F7H	End of exclusive

*The size of the requested data does not indicate the number of bytes that make up a "Data set (DAT)" message, but represents the address fields where the requested data resides.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.
*The same number of bytes comprises address and size data, which, however, vary with the Model-ID.
*The error checking process uses a checksum that provides a bit pattern where the least significant 7 bits are zero when values for an address, size, and that checksum are summed.

Data set : DAT (42H)

This message corresponds to the actual data transfer process. Because every byte in the data is assigned a unique address, the message can convey the starting address of one or more data as well as a series of data formatted in an address-dependent order.

Although the MIDI standards inhibit non-real time messages from interrupting an exclusive one, some devices support a "soft-through" mechanism for such interrupts. To maintaincompatibility with such devices, Roland has limited the DAT to 256bytes so that an excessively long message is sent out in separate segments.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
42H	Command ID
aaH	Address MSB
⋮	⋮
	LSB
ddH	Data
⋮	⋮
sum	Check sum
F7H	End of exclusive

*A DAT message is capable of providing only the valid data among those specified by an RQD or WSD message.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before it is exchanged across the interface.
*The number of bytes comprising address data varies from one model ID to another.
*The error checking process uses a checksum that provides a bit pattern where the least significant 7 bits are zero when values for an address, size, and that checksum are summed.

Acknowledge : ACK (43H)

This message is sent out when no error was detected on reception of a WSD, DAT, "End of data (EOD)", or some other message and a requested setup or action is complete. Unless it receives an ACK message, the device at the other end will not proceed to the next operation.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
43H	Command ID
F7H	End of exclusive

End of data : EOD (45H)

This message is sent out to inform a remote device of the end of a message. Communication, however, will not come to an end unless the remote device returns an ACK message even though an EOD message was transmitted.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
45H	Command ID
F7H	End of exclusive

Communications error : ERR (4EH)

This message warns the remote device of a communications fault encountered during message transmission due, for example, to a checksum error. An ERR message may be replaced with a "Rejection (RJC)" one, which terminates the current message transaction in midstream.

When it receives an ERR message, the sending device may either attempt to send out the last message a second time or terminate communication by sending out an RJC message.

Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
4EH	Command ID
F7H	End of exclusive

Rejection : RJC (4FH)

This message is sent out when there is a need to terminate communication by overriding the current message. An RJC message will be triggered when :

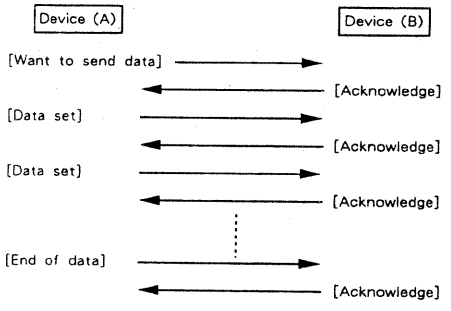
- a WSD or RQD message has specified an illegal data address or size.
- the device is not ready for communication.
- an illegal number of addresses or data has been detected.
- data transfer has been terminated by an operator.
- a communications error has occurred.

An ERR message may be sent out by a device on either side of the interface. Communication must be terminated immediately when either side triggers an ERR message.

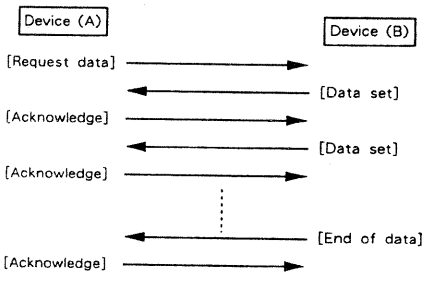
Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
4FH	Command ID
F7H	End of exclusive

Example of Message Transactions

● Data transfer from device (A) to device (B).

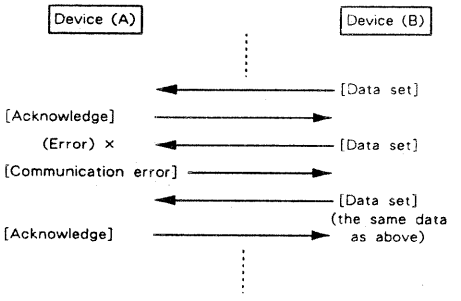


● Device (A) requests and receives data from device (B).

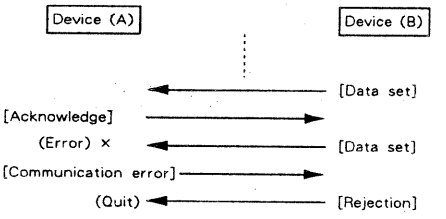


● Error occurs while device (A) is receiving data from device (B).

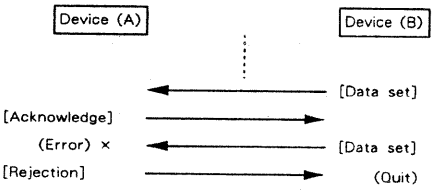
1) Data transfer from device (A) to device (B).



2) Device (B) rejects the data re-transmitied, and quits data transfer.



3) Device (A) immediately quits data transfer.



R-880 Controller
Model R88-GC8-1

MIDI Implementation

Date : Aug. 25 1988
Version : 1.00

1. RECOGNIZED DATA

■ Program change

Status	Second
CnH	ppH

nH : MIDI channel 0H – FH (1 – 16)
ppH : Program number 0H – 7FH (1 – 128)

Parameters in the R – 880 whose MIDI channel is set to "n" can be switched over. Set the memory number corresponding to the program number into the GC – 8 program change table. The GC – 8, upon receiving the program change, converts the program number to that memory number and sends the parameters of the memory to the R – 880.

■ System exclusive

The GC – 8's internal calender clock or the program change table can be set by using the exclusive message.

Status	
F0H	: System Exclusive
F7H	: EOX (End of System Exclusive)

2. EXCLUSIVE COMMUNICATIONS

■ Data set

Byte	Description	
F0H	Exclusive status	
41H	Roland ID #	
DEV	Device – ID #	*2 – 1
1CH	Model – ID # (GC – 8)	
12H	Command – ID (DT1)	
aaH	Address MSB	*2 – 2
bbH	Address LSB	
ddH	Data	
:	:	
sum	Checksum	
F7H	End of System Exclusive	

Notes :

*2 – 1 Device ID can beset to a number anywhere from 1 to 32. Only the devices whose device ID number is the same as that of the exclusive message can recognize the message. Note that the exclusive message caries a device number with value 1 subtracted, i.e. device ID "1" is sent as "0".

*2 – 2 Addresses must be within the range shown below.

MSB	LSB	
00	00	Calender Clock
:		
00	04	
01	00	Program Change Table 1 – 64
:		
01	7F	
02	00	Program Change Table 65 – 128
:		
02	7F	

3. ADDRESS MAPPING OF PARAMETERS

● Calender clock

MSB	LSB	Description	
00	00	Year (0 – 99)	*3 – 1
00	01	Month (0 – 11)	*3 – 2
00	02	Day (0 – 30)	*3 – 3
00	03	Hour (0 – 23)	
00	04	Minute (0 – 59)	

● Program change table

MSB	LSB	Description	
01	00	Program # 1 (Memory # 0 – 98)	*3 – 4
01	01	# 1 (Int/Card 0 – 1)	
:			
01	7F	# 64 (Int/Card 0 – 1)	
02	00	# 65 (Memory # 0 – 98)	
:			
02	7F	# 128 (Int/Card 0 – 1)	

Notes :

*3 – 1 Read "0" as 1988, "1" as 1989, "2" as 1990, etc.

*3 – 2 Read "0" as January, "1" as February, etc.

*3 – 3 Read "0" as the first day of a month, "1" as the second, etc.

*3 – 4 Assign a program number to a memory location with a set of 2 bytes. Even address data designates memory number (actual value less "1") and odd address data selects memory type (0 = internal, 1 = IC card).

R-880 Controller

Model R88-GC8-1

MIDI Implementation Chart

Date : Aug. 25 1988

Version : 1.00

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	×	1 – 16	*1
	Changed	×	1 – 16	
Mode	Default	×	3	
	Messages	×	×	
	Alterd	*********		
Note Number		×	×	
	True Voice	*********	×	
Velocity	Note ON	×	×	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Ch's	×	×	
Pitch Bender		×	×	
Control Change		×	×	
Prog Change		×	○	
	True #	*********		
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		*1 The basic channel is the MIDI channel to which the connected R-880 is being set.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

○ : Yes
× : No

For Nordic Countries

Apparatus containing Lithium batteries

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 eksplotion.
Må bare skiftes av kvalifisert tekniker som beskrevet i servicemanualen.

VAROITUS!

Lithiumparisto. Räjähdysvaara.
Pariston saa vaihtaa ainoastaan alan ammottimies.

For West Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das
ROLAND GRAPHIC CONTROLLER GC-8
(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

For the USA

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 a interference in a rasidential 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. 004-000-00345-4.

For Canada

CLASS B **NOTICE**

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

CLASSE B **AVIS**

Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Réglement des signaux parasites par le ministère canadien des Communications.

Roland

2701029200 '90-5-H2-21Y

Roland

GC-8 Preset Data

for R-880

本書は、GC-8内部と付属のシステム・カードに記憶されているファクトリー・プリセットの内容を、ディスプレイ画面を使って説明したものです。
ファクトリー・プリセットを使用する場合や、オリジナル・データを作成する場合の参考用としてご覧ください。

This explains the contents of the factory presets stored on the supplied system card and in the GC-8 using displays.
It may help you use factory presets or create original data.

■CONTENTS（目次）

● **System Card Memory** 3

1	1－2	Vocal Room	4
2	1－2	Vocal Brit Room	6
3	1－2	Vocal Warm Plate	8
4	1－2	Vocal Brit Plate	10
5	1－2	Vocal Hall	12
6	1－2	Brass Room	14
7	1－2	Brass Hall	16
8	1－2	Brass Plate	18
9	2－2	EP Room 1	20
10	1－2	EP Room 2	22
11	2－2	Piano Hall	24
12	1－2	Strings Room 1	26
13	1－2	Strings Room 2	28
14	1－2	Strings Hall	30
15	2－2	Drums Garage	32
16	1－2	Perc ambience	34
17	1－2	Snare Drum	36
18	1－2	Kick ambience	38
19	1－2	Kick Room	40
20	1－2	Drums Clear	42
21	1－2	RS coloration	44
22	2－2	Compression Rev	46
23	2－2	Stereo Delay	48
24	1－2	Reverse Gate	50

● **Internal Memory** 53

1	1－2	Large Hall 1	54
2	1－2	Large Hall 2	56
3	1－2	Middle Hall 1	58
4	1－2	Middle Hall 2	60
5	1－2	Middle Hall 3	62
6	1－2	Middle Room 1	64
7	1－2	Middle Room 2	66
8	1－2	Small Room 1	68
9	1－2	Small Room 2	70
10	1－2	Small Room 3	72
11	1－2	Concert Hall	74
12	1－2	Garage	76
13	1－2	Warehouse	78
14	1－2	Kitchen	80
15	1－2	Cathedral	82
16	1－2	Chorus & Reverb 1	84
17	2－2	Chorus & Reverb 2	86
18	1－2	Delay & Reverb 1	88
19	2－2	Delay & Reverb 2	90
20	2－2	Independent Rev	92
21	1－2	Gated Reverb	94
22	2－2	Non Linear	96
23	1－2	INSANE	98

Copyright © 1988 by ROLAND CORPORATION

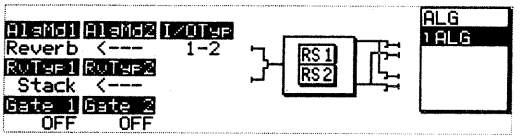
All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.

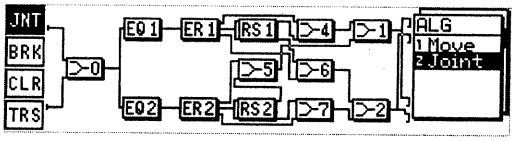
本書の一部、もしくは全部を無断で複写・転載することを禁じます。

System Card Memory

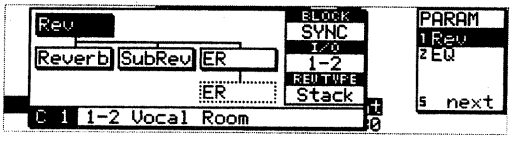
Memory No.	Card 1
Name	1 – 2 Vocal Room

ALG (ALGORITHM)



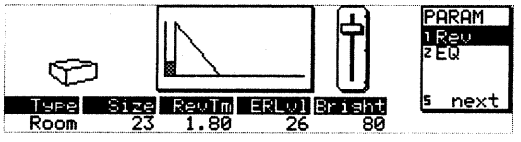


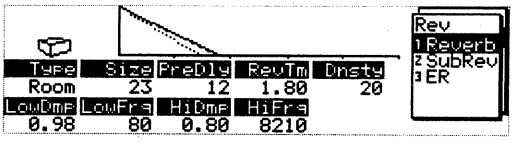
HELP

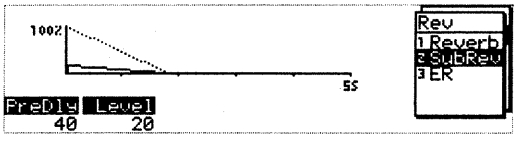


PARAM (PARAMETER)

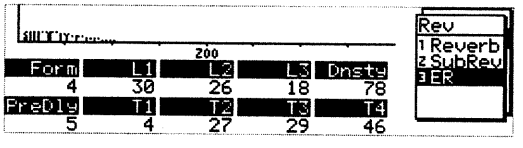
Rev



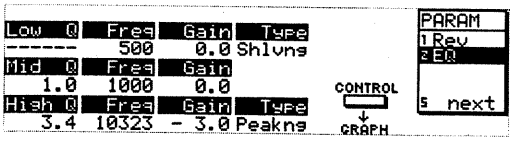


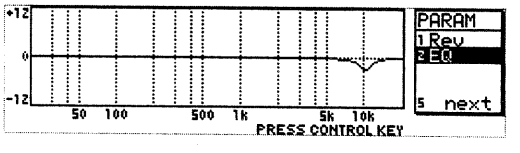


ER



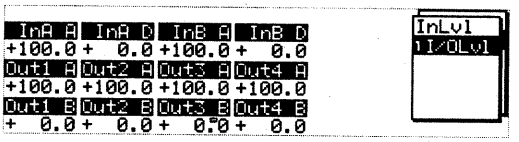
EQ



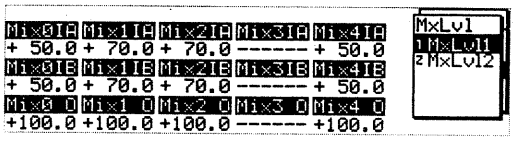


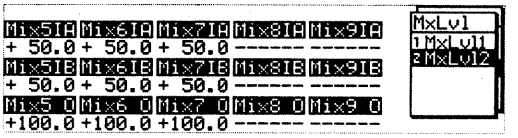
MIXER

I/OLvl



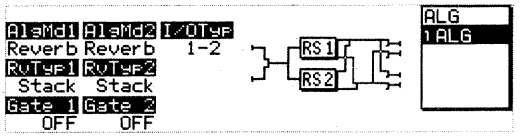
MXLvl

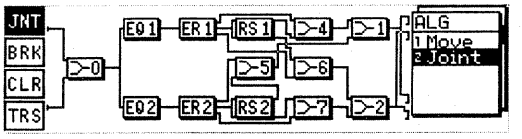




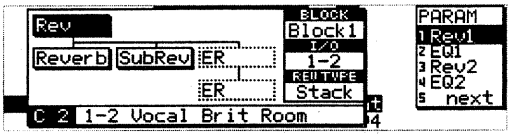
Memory No.	Card 2
Name	1 – 2 Vocal Brit Room

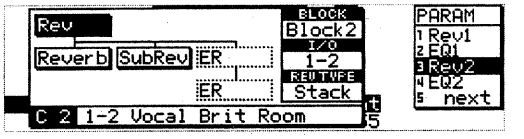
ALG (ALGORITHM)





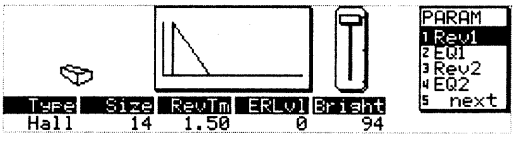
HELP

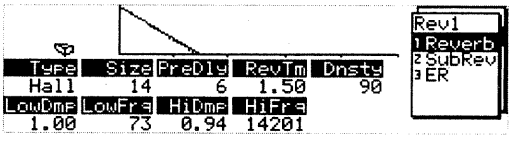


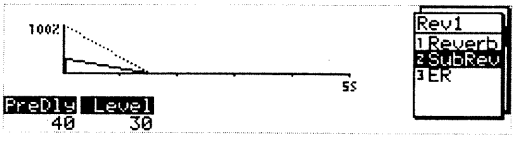


PARAM (PARAMETER)

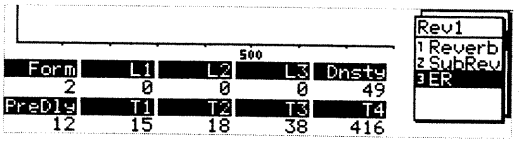
Rev1



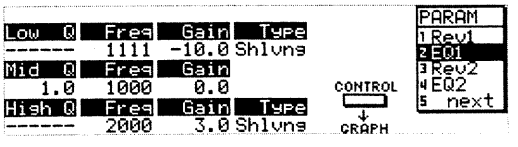


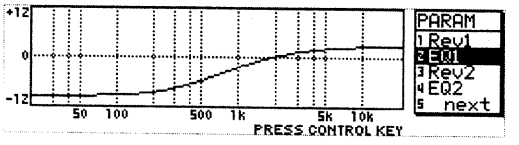


ER

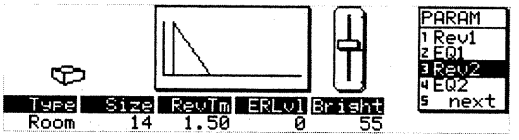


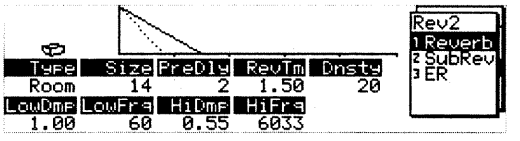
EQ1

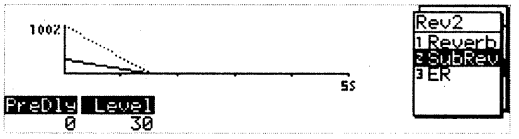




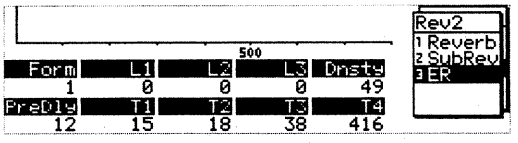
Rev2



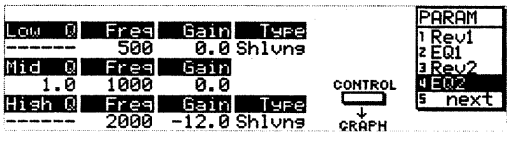


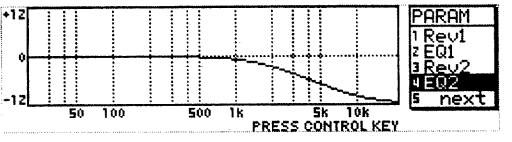


ER



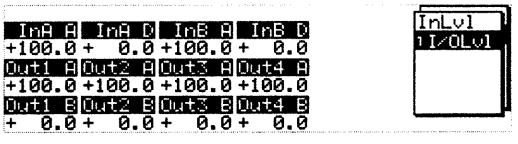
EQ2



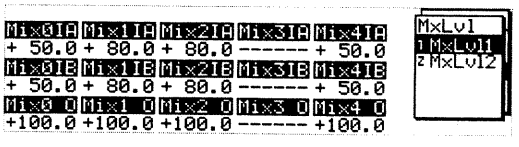


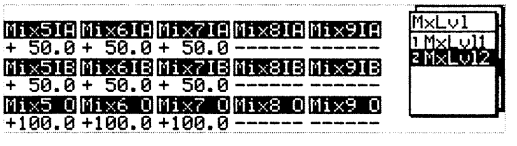
MIXER

I/OLvl



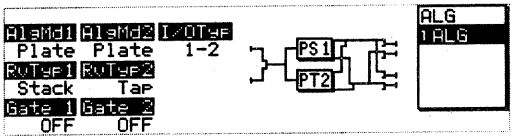
MXLvl

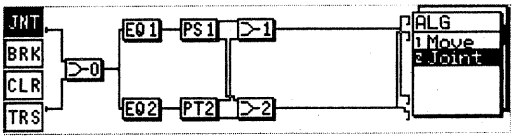




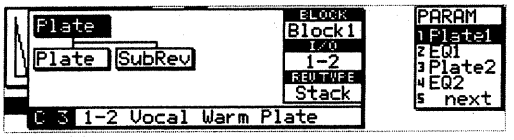
Memory No.	Card 3
Name	1 – 2 Vocal Warm Plate

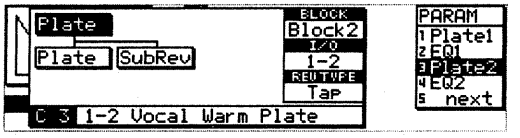
ALG (ALGORITHM)





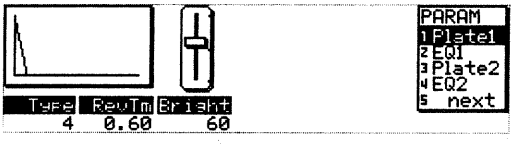
HELP

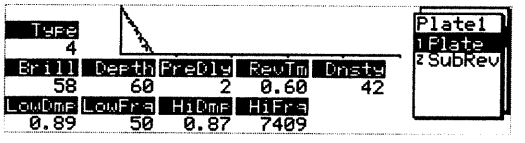


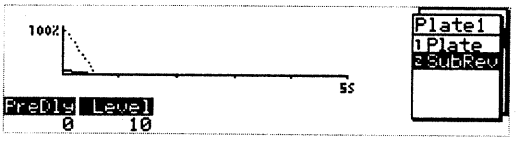


PARM (PARAMETER)

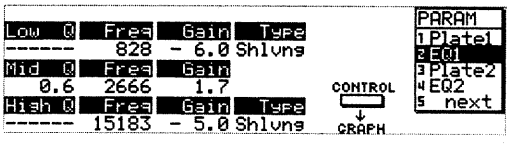
Plate1







EQ1



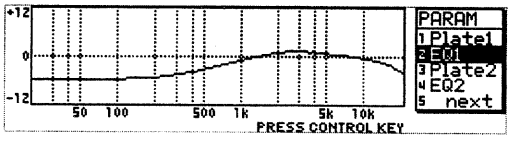
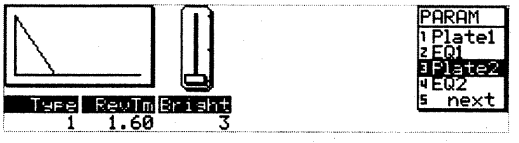
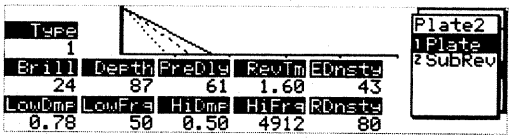
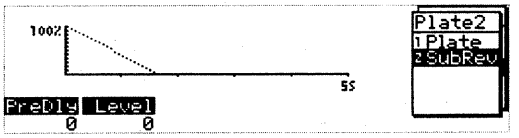


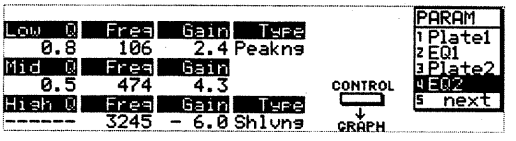
Plate2

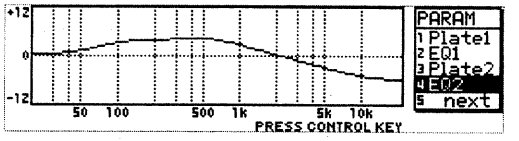






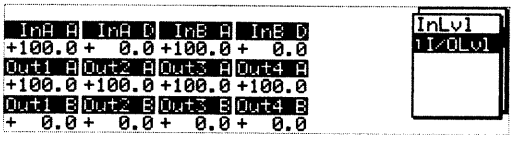
EQ2



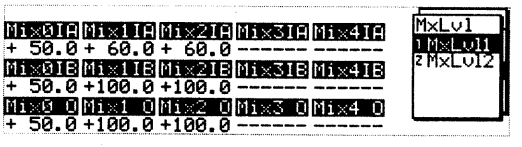


MIXER

I/OLvl

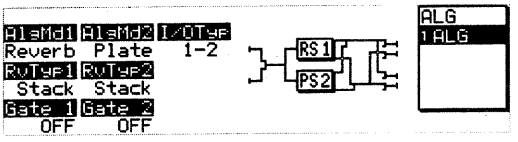


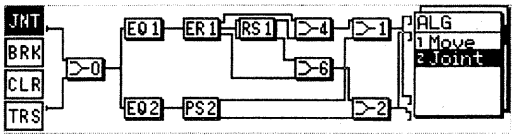
MIXLvl



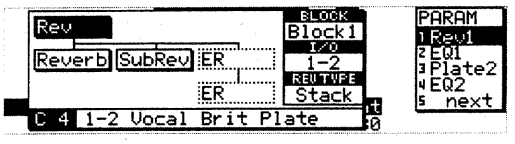
Memory No.	Card 4
Name	1 – 2 Vocal Brit Plate

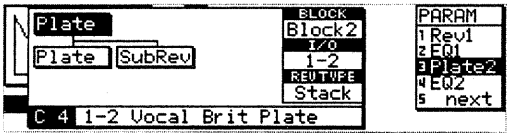
ALG (ALGORITHM)





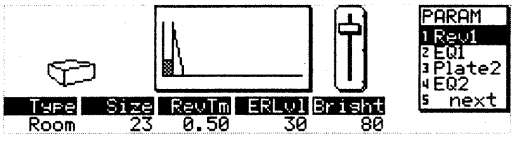
HELP

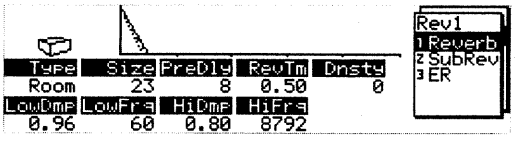


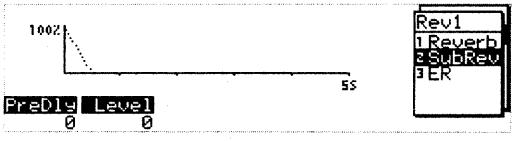


PARAM (PARAMETER)

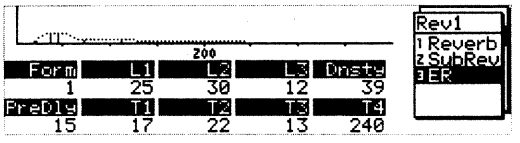
Rev1



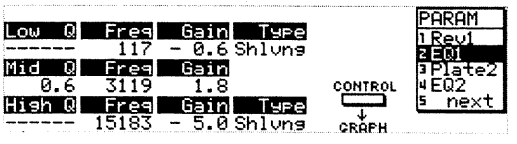




ER



EQ1



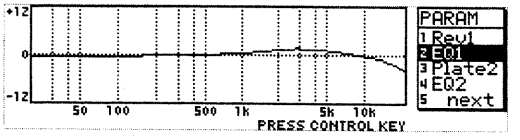
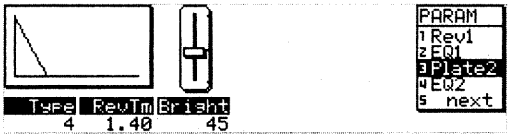
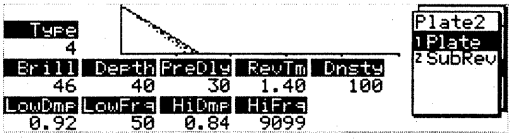
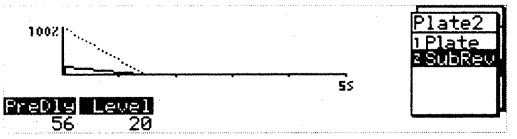


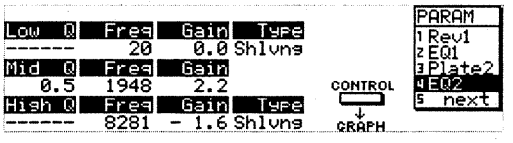
Plate2

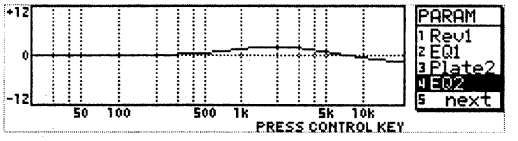






EQ2





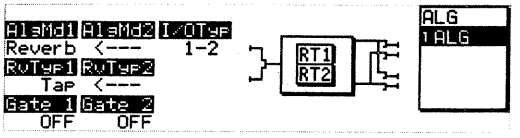
MIXER

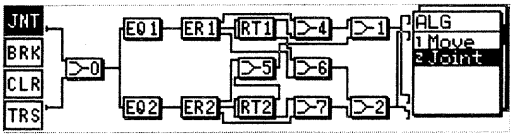
I/OLvl

MXLvl

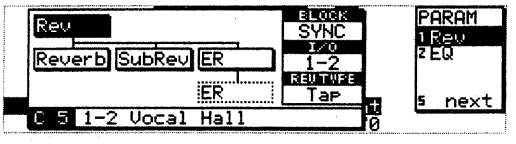
Memory No.	Card 5
Name	1 – 2 Vocal Hall

ALG (ALGORITHM)



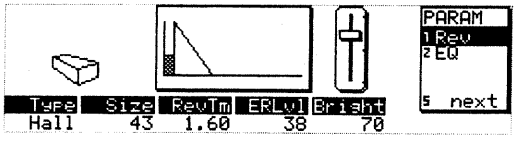


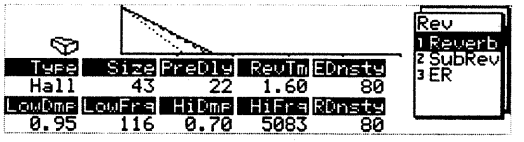
HELP

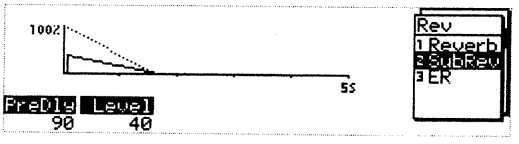


PARAM (PARAMETER)

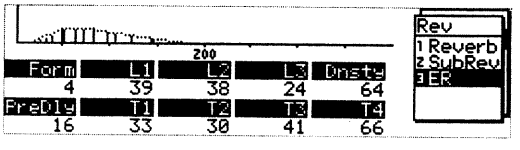
Rev



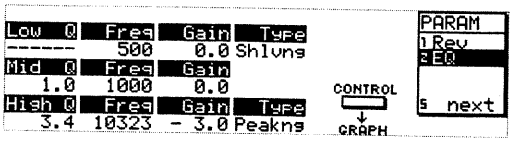


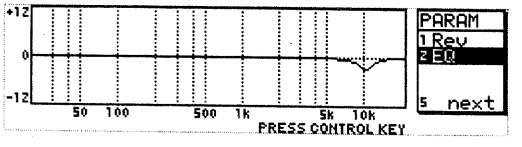


ER



EQ

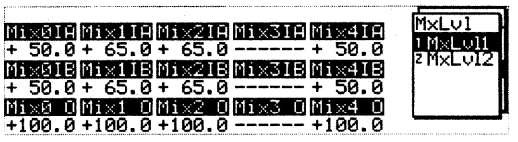




MIXER

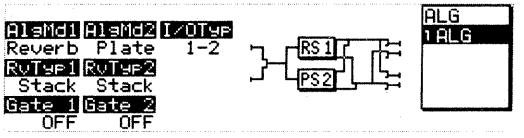
I/OLvl

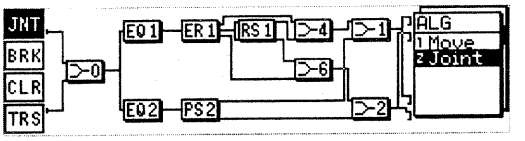
MXLvl



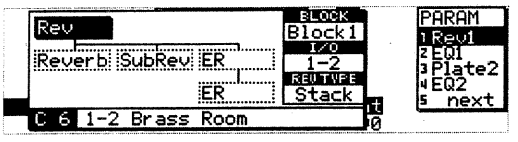
Memory No.	Card 6
Name	1 – 2 Brass Room

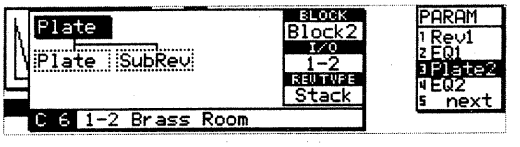
ALG (ALGORITHM)





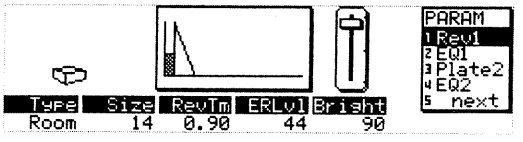
HELP

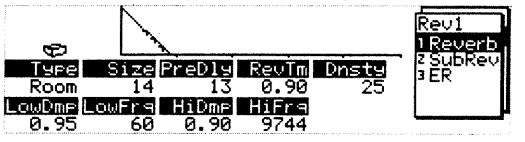


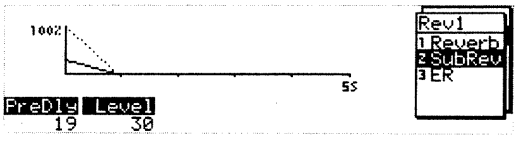


PARAM (PARAMETER)

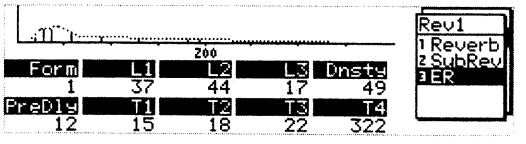
Rev1



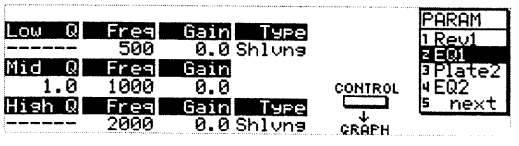




ER



EQ1



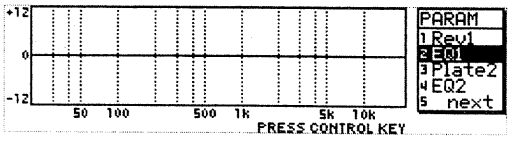
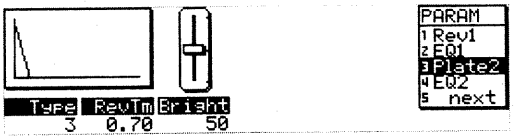
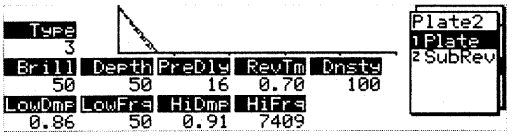
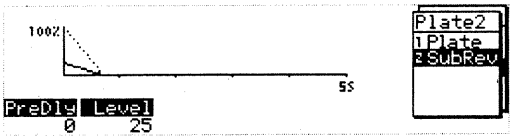


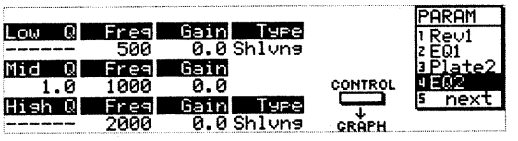
Plate2

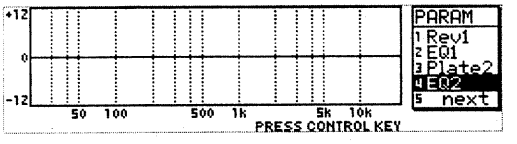






EQ2

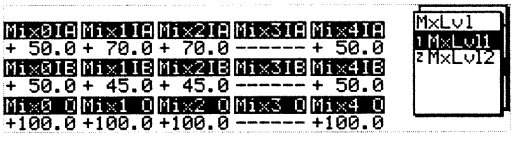




MIXER

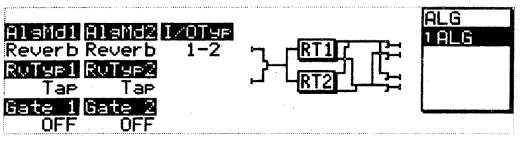
I/OLvl

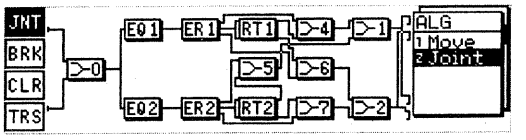
MXLvl



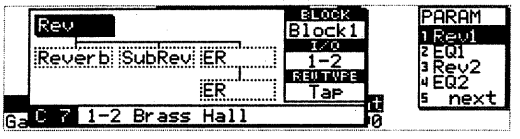
Memory No.	Card 7
Name	1 – 2 Brass Hall

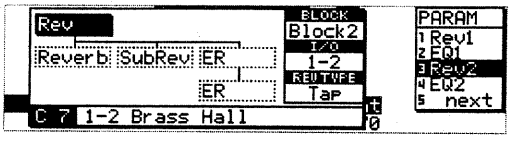
ALG (ALGORITHM)





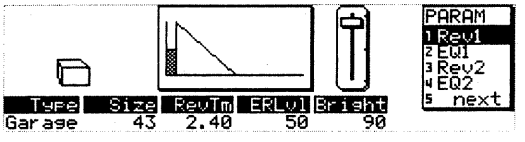
HELP

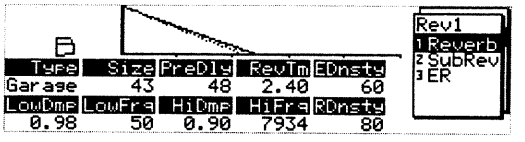


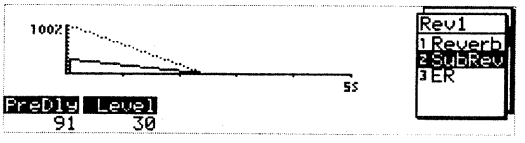


PARAM (PARAMETER)

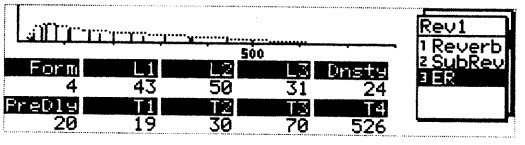
Rev1



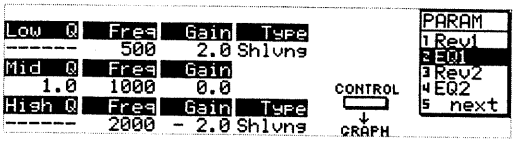


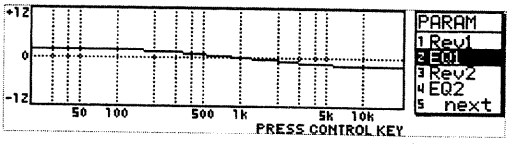


ER

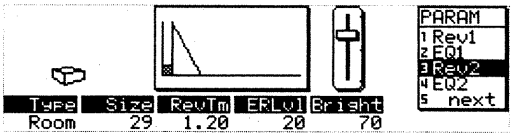


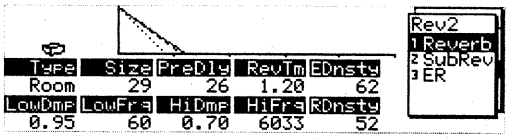
EQ1

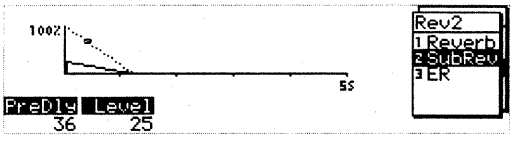




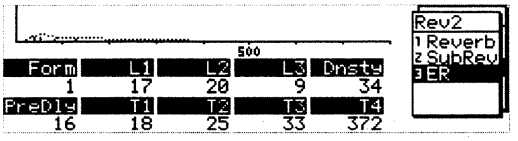
Rev2



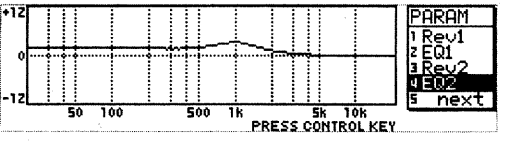




ER



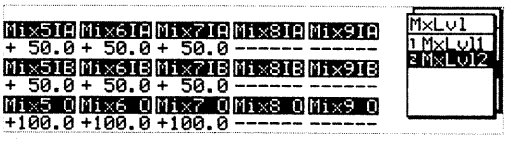
EQ2



MIXER

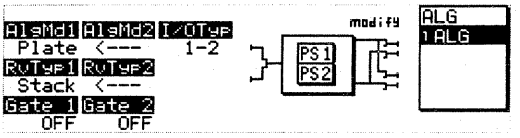
I/OLvl

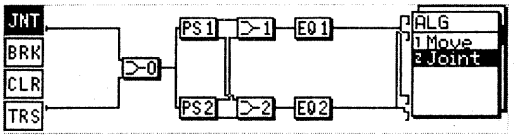
MXLvl



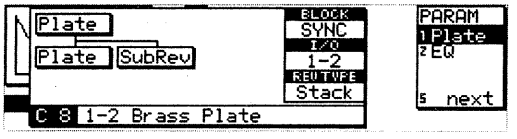
Memory No.	Card 8
Name	1 – 2 Brass Plate

ALG (ALGORITHM)



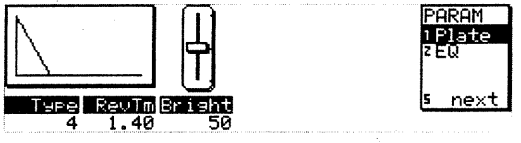


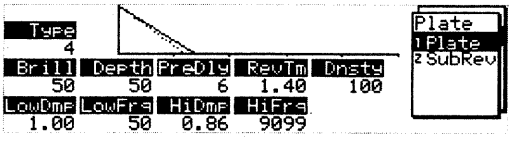
HELP

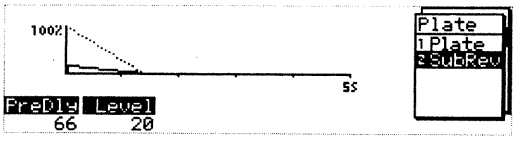


PARAM (PARAMATER)

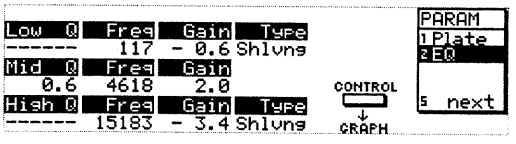
Plate

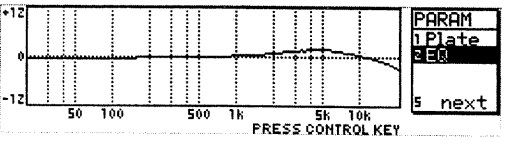






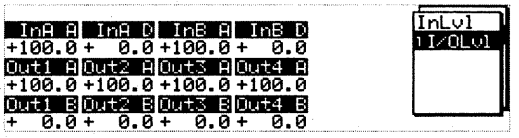
EQ



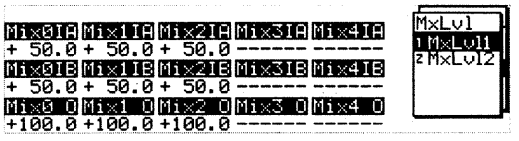


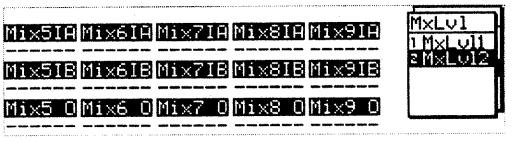
MIXER

I/OLvl



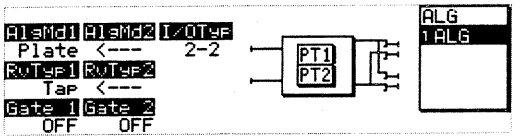
MXLvl

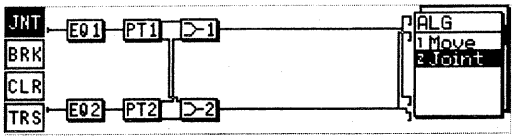




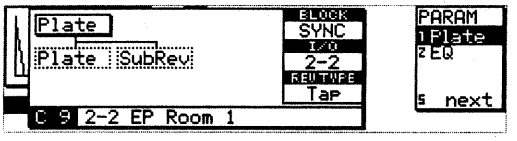
Memory No.	Card 9
Name	2 – 2 EP Room 1

ALG (ALGORITHM)



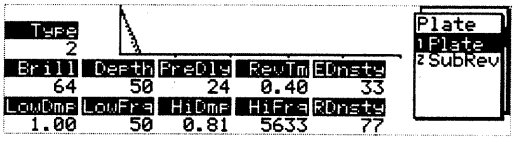


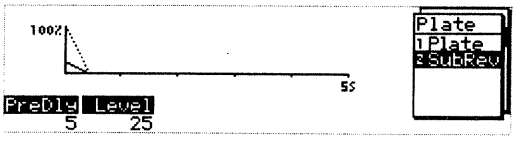
HELP



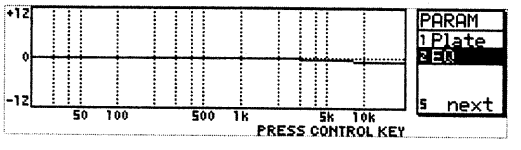
PARAM (PARAMETER)

Plate





EQ



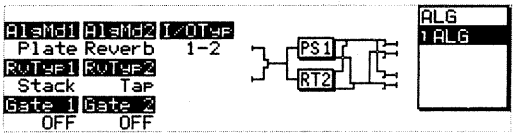
MIXER

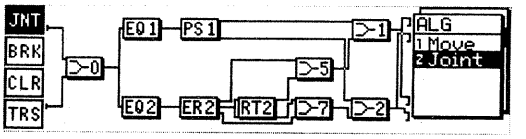
I/OLvl

MXLvl

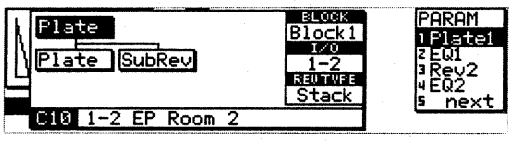
Memory No.	Card 10
Name	1 – 2 EP Room 2

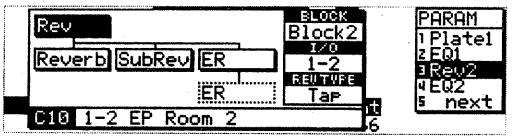
ALG (ALGORITHM)





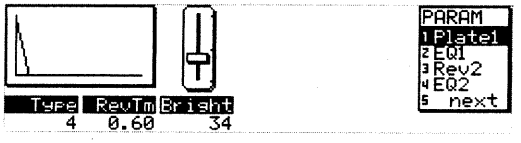
HELP

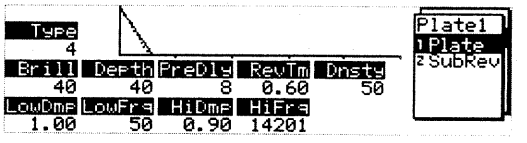


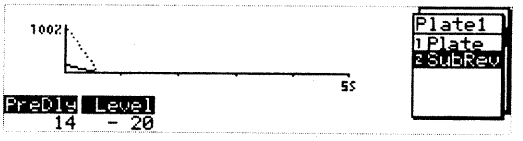


PARAM (PARAMETER)

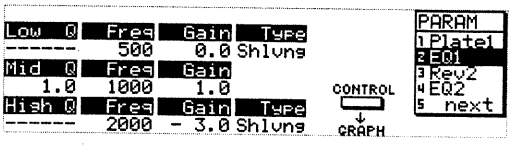
Plate1

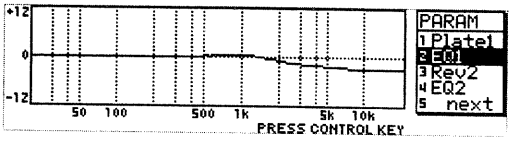




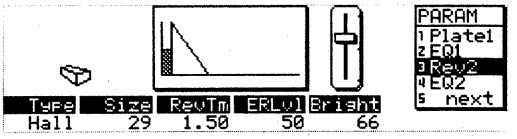


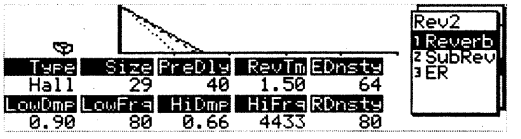
EQ1

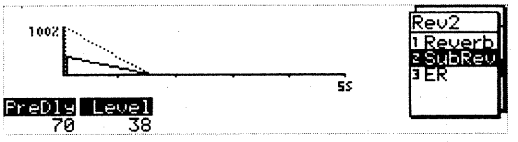




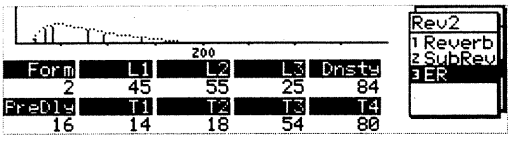
Rev2



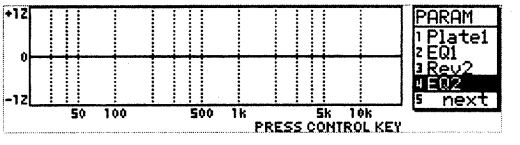




ER

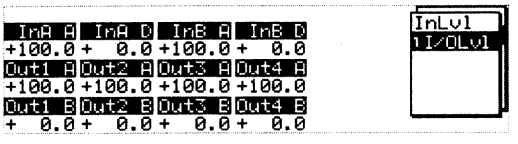


EQ2



MIXER

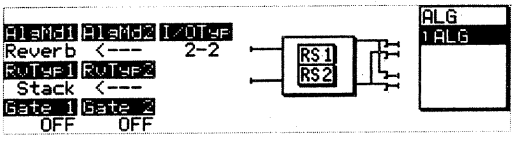
I/OLvl

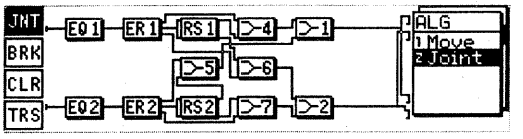


MXLvl

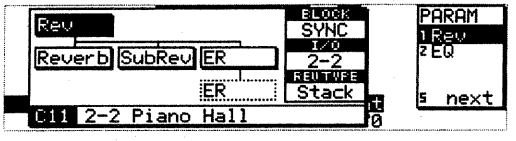
Memory No.	Card 11
Name	2 – 2 Piano Hall

ALG (ALGORITHM)



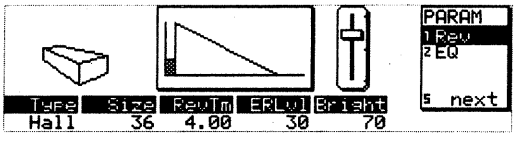


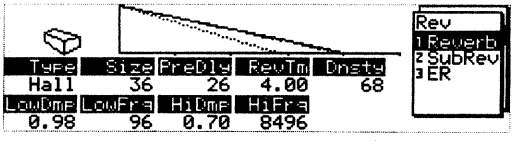
HELP

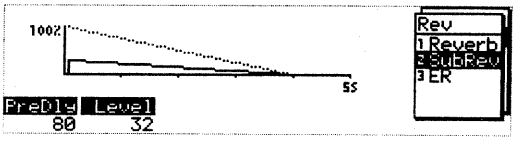


PARAM (PARAMETER)

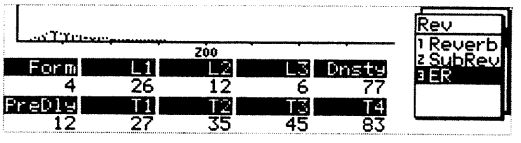
Rev



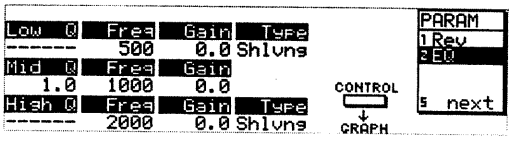


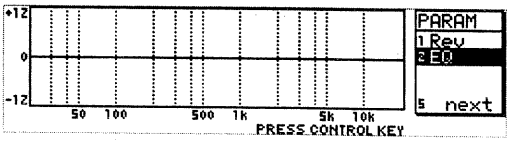


ER



EQ





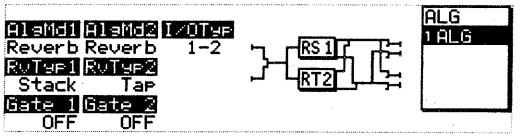
MIXER

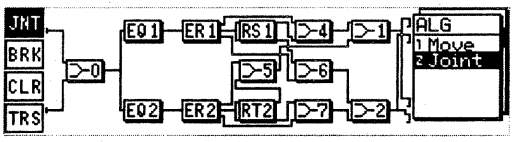
I/OLvl

MXLvl

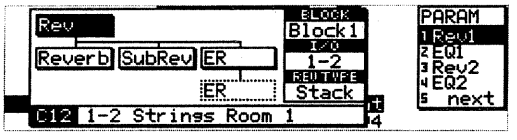
Memory No.	Card 12
Name	1 – 2 Strings Room 1

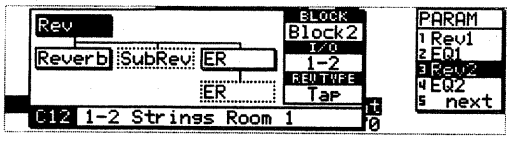
ALG (ALGORITHM)





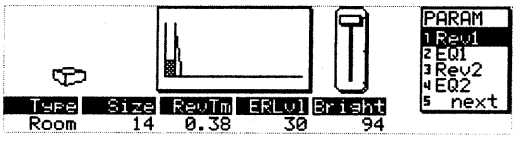
HELP

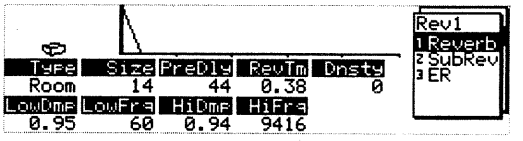


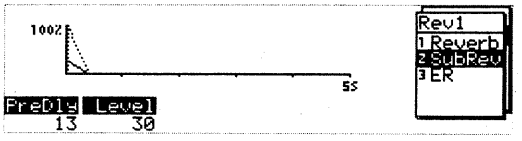


PARAM (PARAMETER)

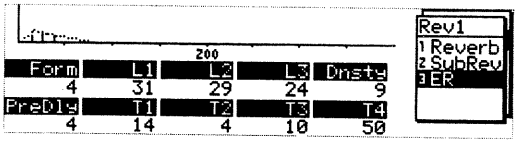
Rev1



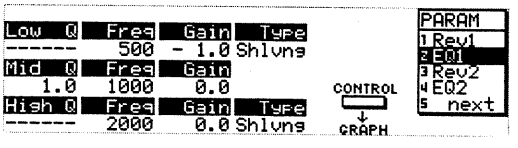


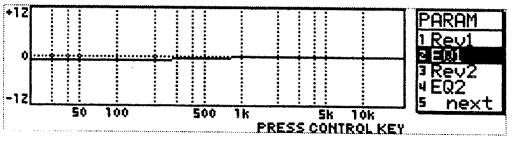


ER

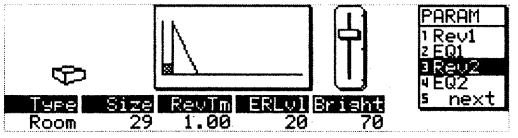


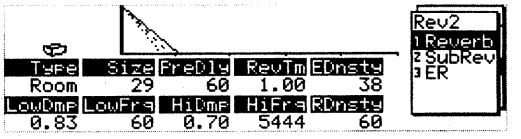
EQ1

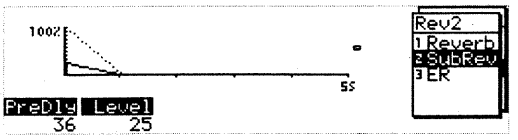




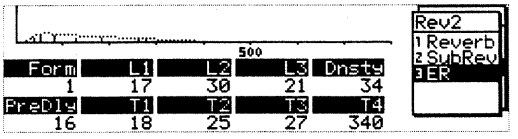
Rev2



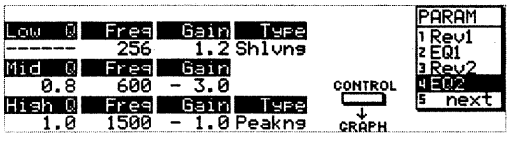


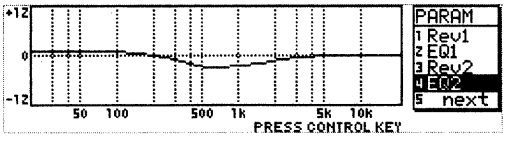


ER



EQ2

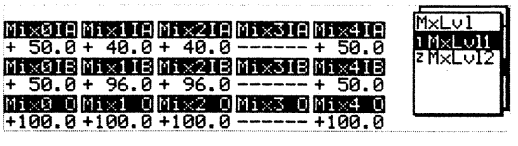




MIXER

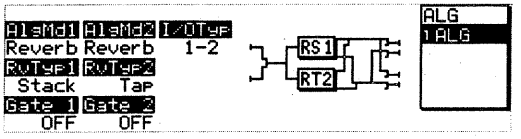
I/OLvl

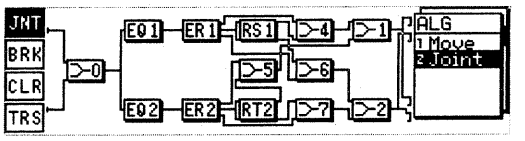
MXLvl



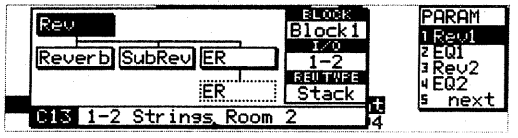
Memory No.	Card 13
Name	1 – 2 Strings Room 2

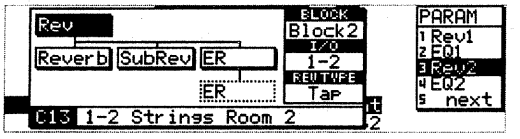
ALG (ALGORITHM)





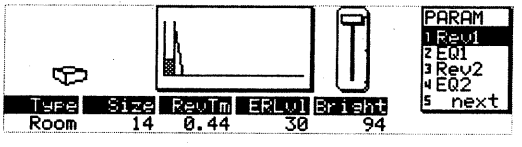
HELP

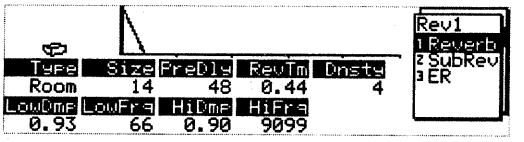


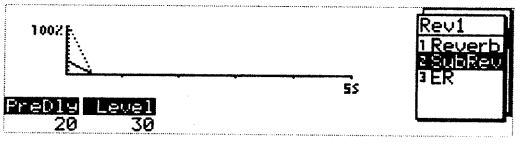


PARAM (PARAMETER)

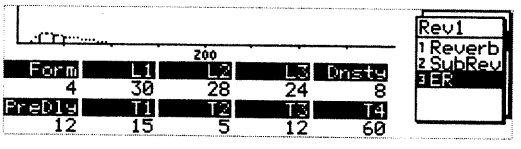
Rev1



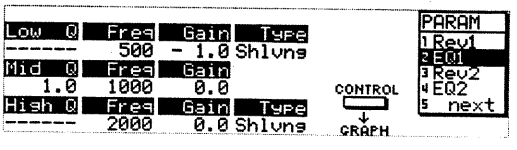


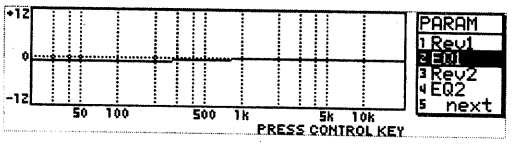


ER

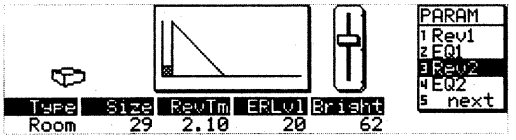


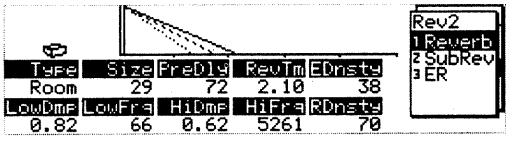
EQ1

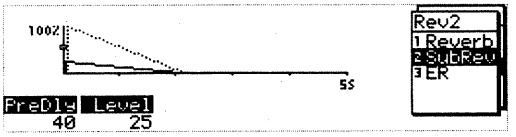




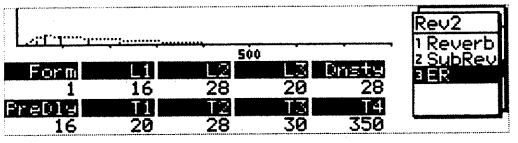
Rev2



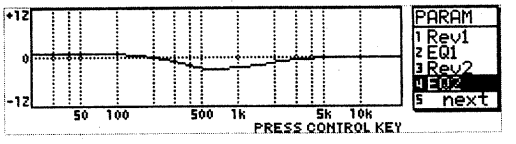




ER



EQ2



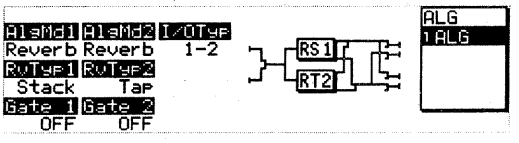
MIXER

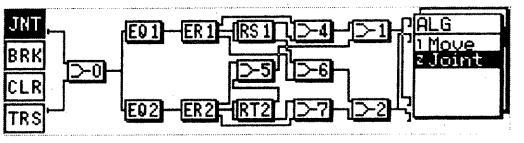
I/OLvl

MXLvl

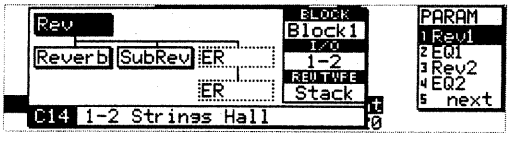
Memory No.	Card 14
Name	1 – 2 Strings Hall

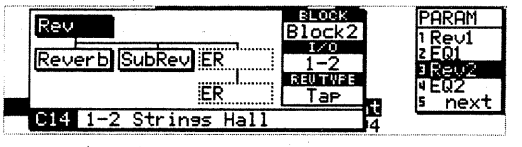
ALG (ALGORITHM)





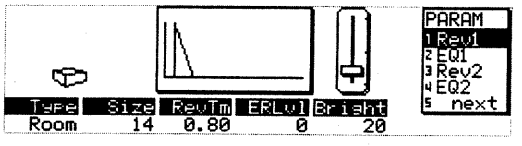
HELP

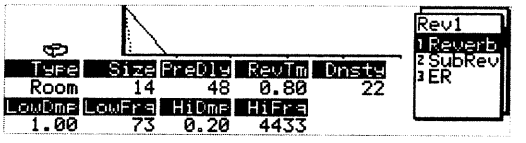


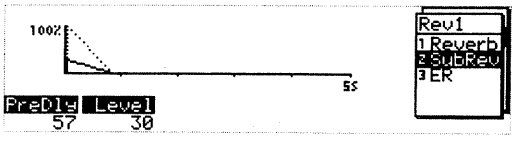


PARAM (PARAMETER)

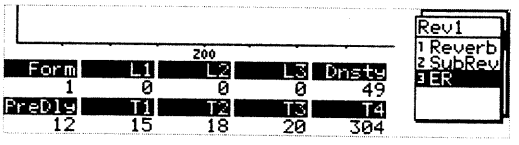
Rev1



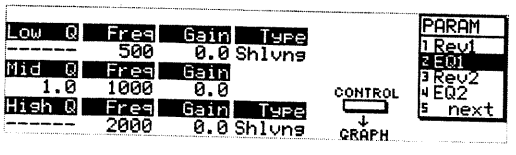


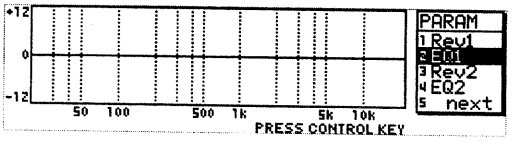


ER

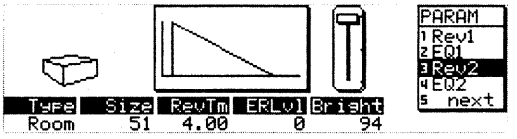


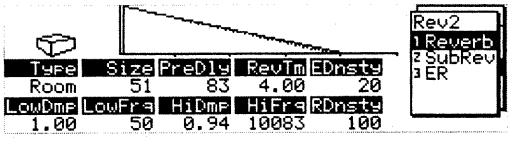
EQ1

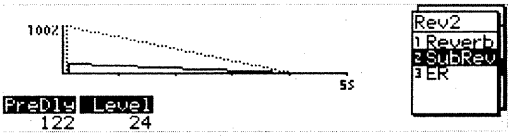




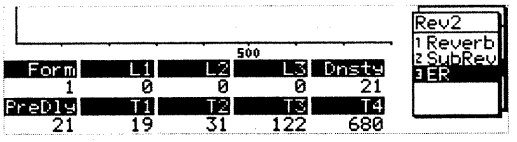
Rev2



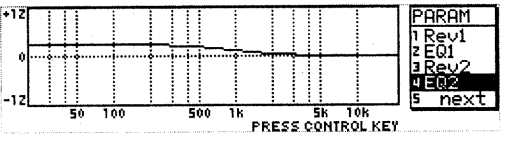




ER

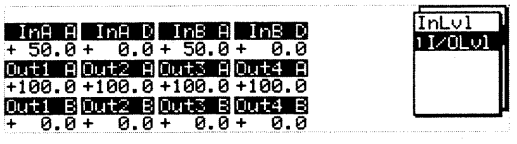


EQ2



MIXER

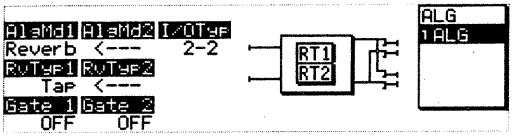
I/OLvl

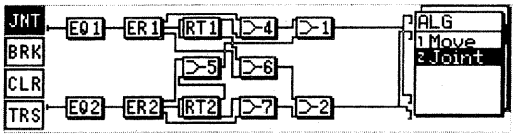


MXLvl

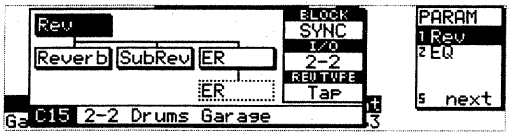
Memory No.	Card 15
Name	2 – 2 Drums Garage

ALG (ALGORITHM)



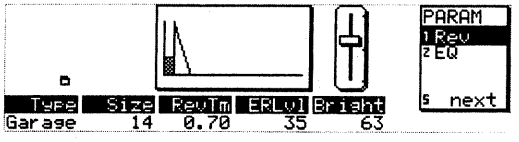


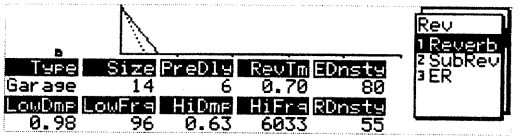
HELP

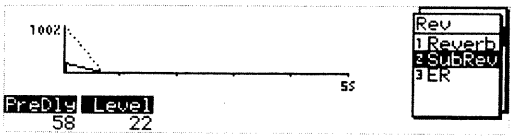


PARAM (PARAMETER)

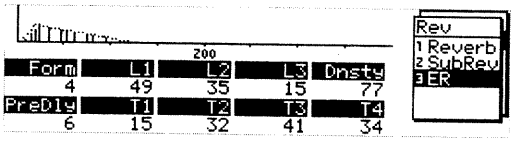
Rev



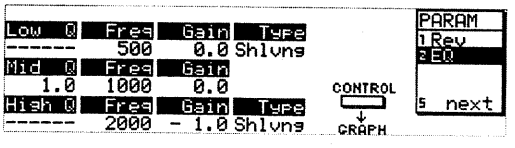


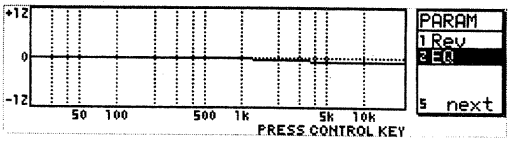


ER



EQ

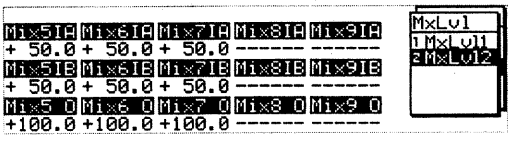




MIXER

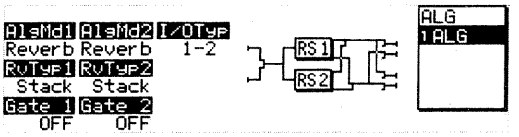
I/OLvl

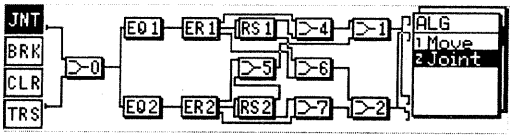
MXLvl



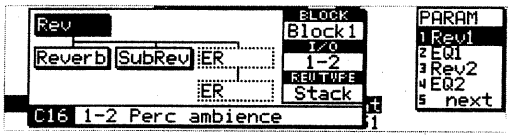
Memory No.	Card 16
Name	1 – 2 Perc ambience

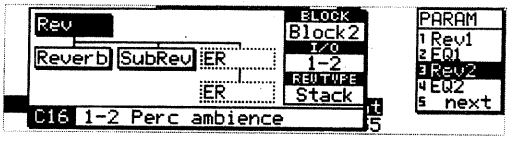
ALG (ALGORITHM)





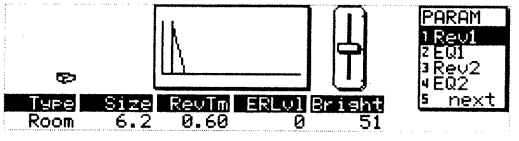
HELP

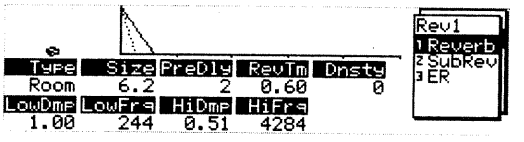


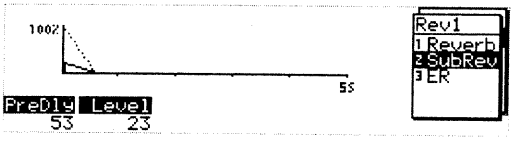


PARAM (PARAMETER)

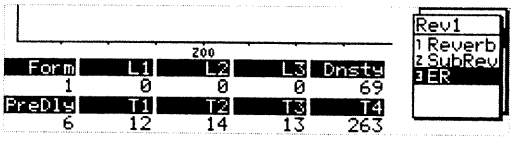
Rev1



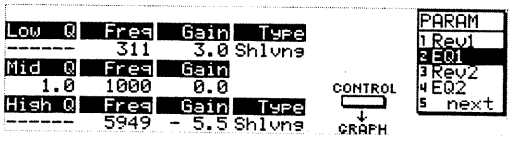


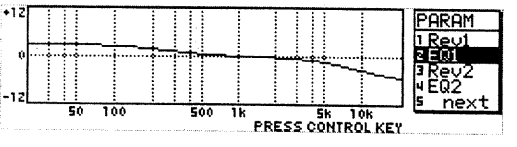


ER

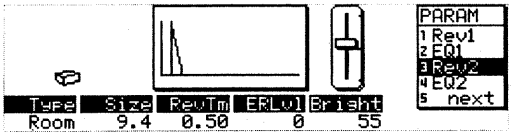


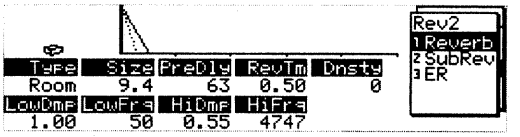
EQ1

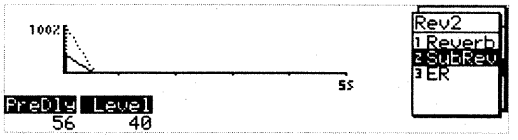




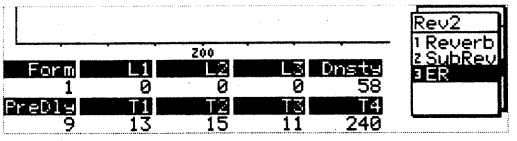
Rev2



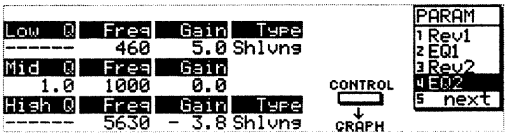


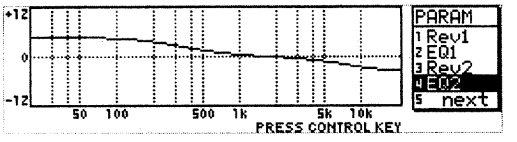


ER



EQ2

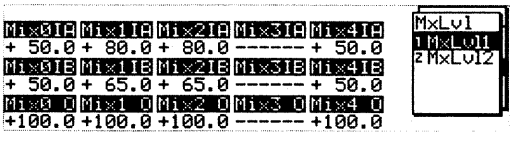


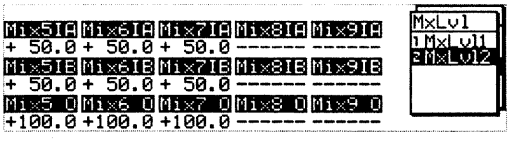


MIXER

I/OLvl

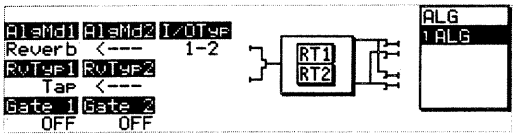
MXLvl

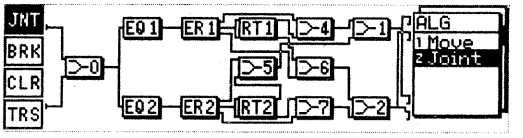




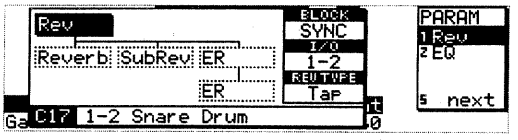
Memory No.	Card 17
Name	1 – 2 Snare Drum

ALG (ALGORITHM)



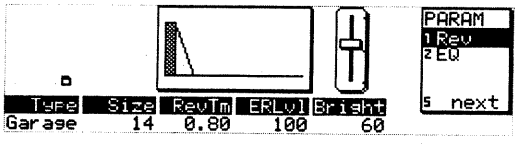


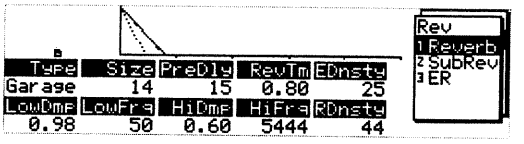
HELP

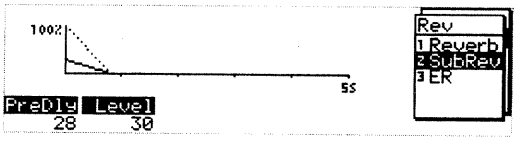


PARAM (PARAMETER)

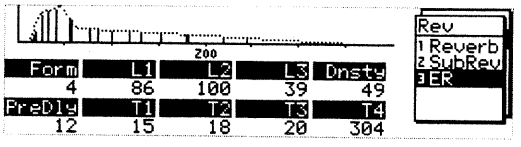
Rev



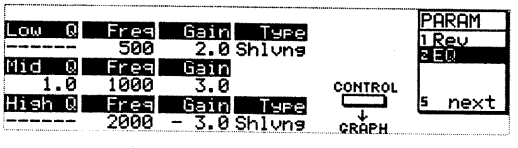


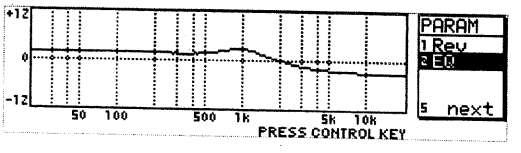


ER



EQ

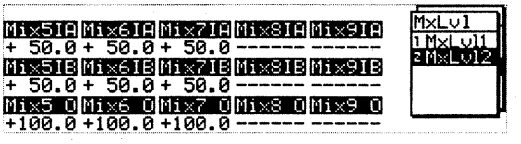




MIXER

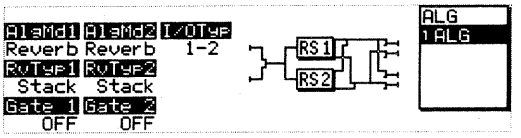
I/OLvl

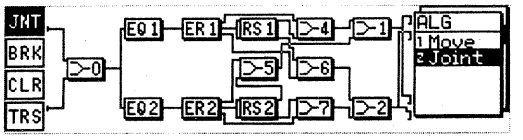
MXLvl



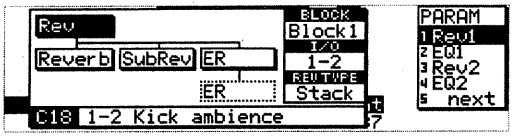
Memory No.	Card 18
Name	1 – 2 Kick ambience

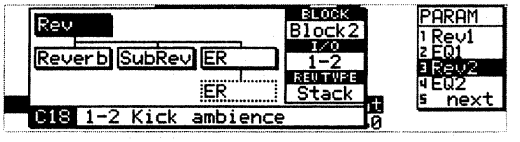
ALG (ALGORITHM)





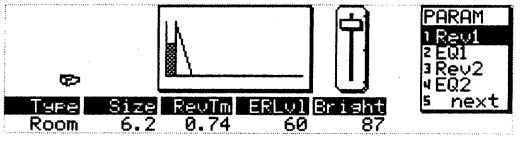
HELP

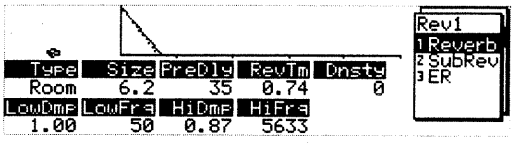


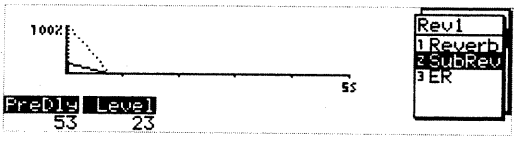


PARAM (PARAMETER)

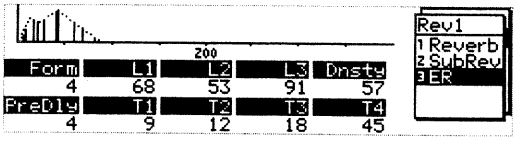
Rev1



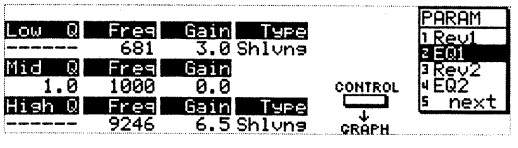


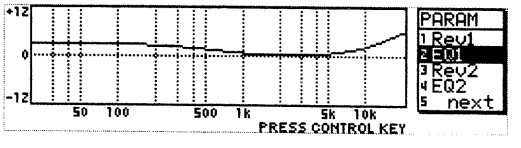


ER

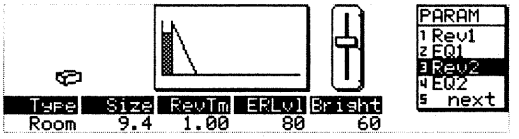


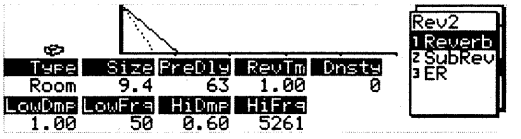
EQ1

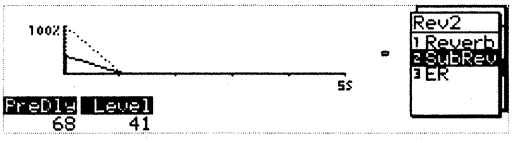




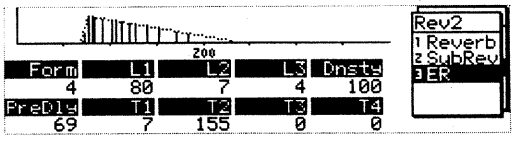
Rev2



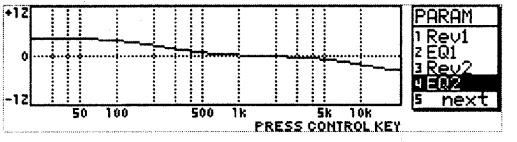




ER

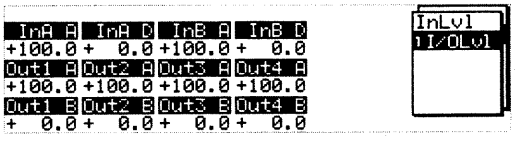


EQ2

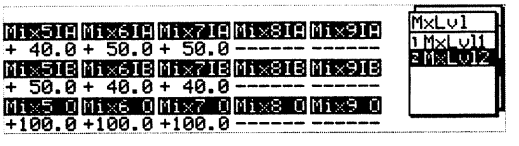


MIXER

I/OLvl

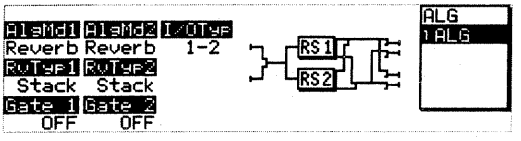


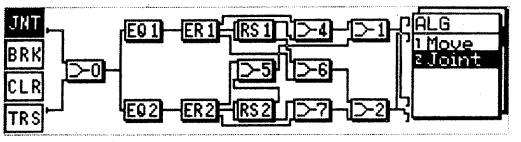
MXLvl



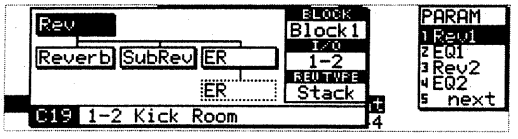
Memory No.	Card 19
Name	1 – 2 Kick Room

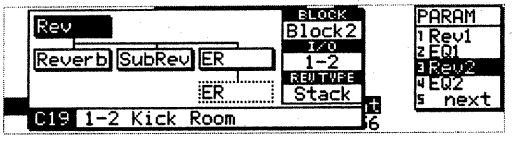
ALG (ALGORITHM)





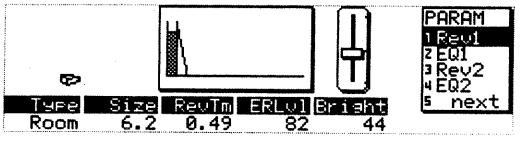
HELP

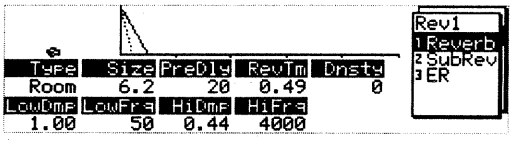


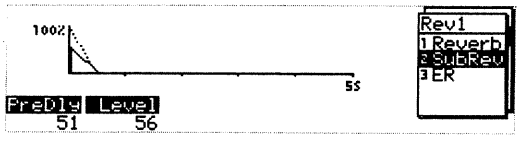


PARAM (PARAMETER)

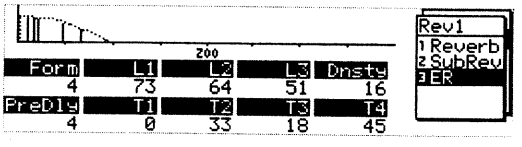
Rev1



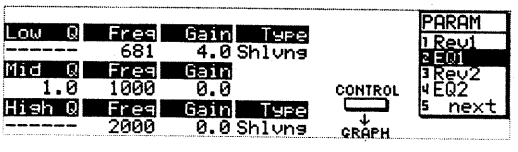


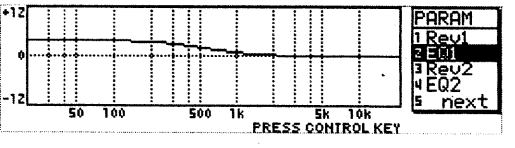


ER

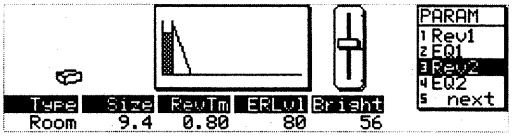


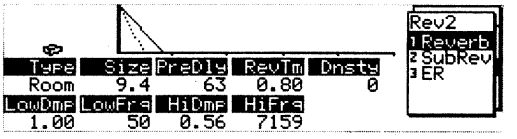
EQ1

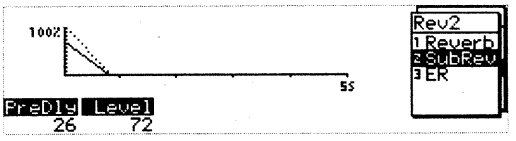




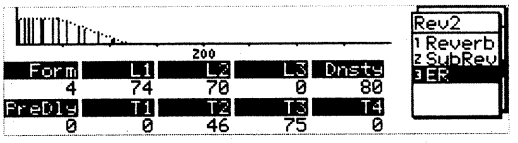
Rev2



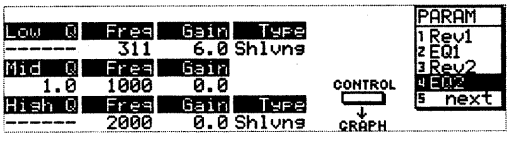


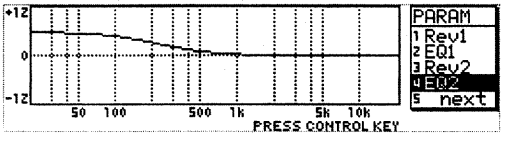


ER



EQ2





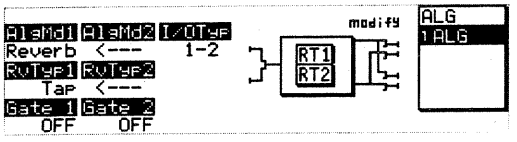
MIXER

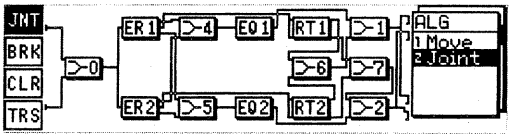
I/OLvl

MXLvl

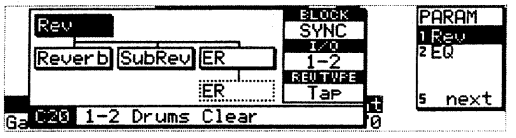
Memory No.	Card 20
Name	1 – 2 Drums Clear

ALG (ALGORUTHM)



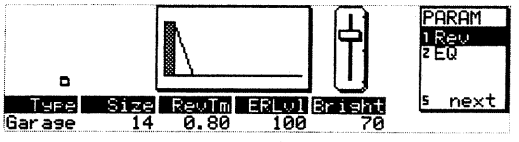


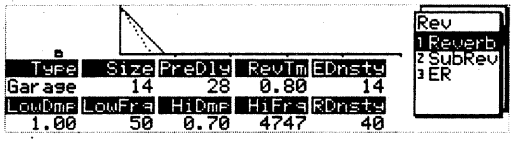
HELP

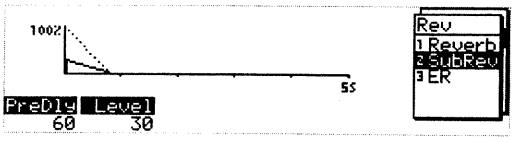


PARAM (PARAMETER)

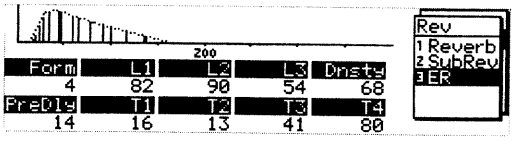
Rev



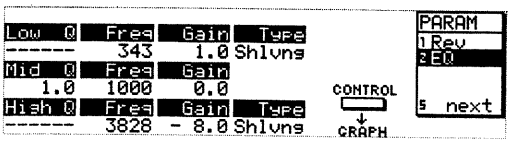


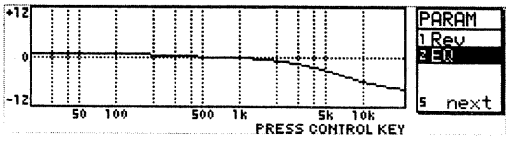


ER



EQ

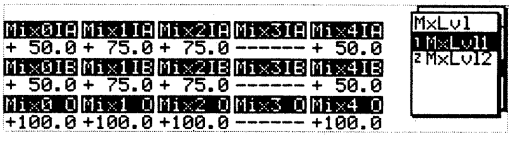


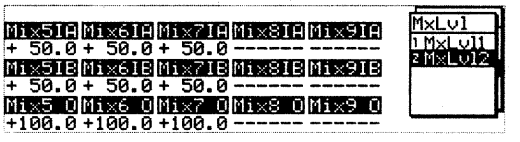


MIXER

I/OLvl

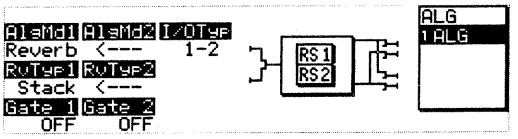
MXLvl

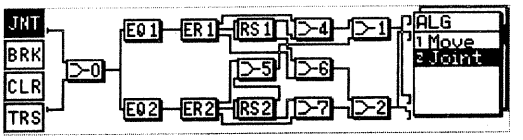




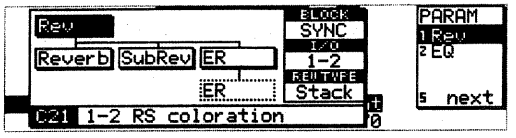
Memory No.	Card 21
Name	1 – 2 RS coloration

ALG (ALGORITHM)



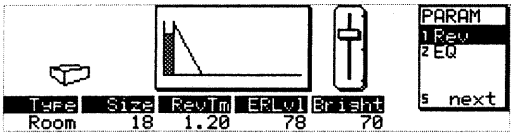


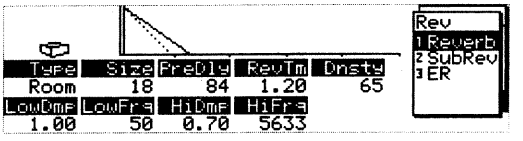
HELP

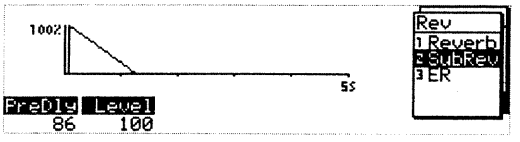


PARAM (PARAMETER)

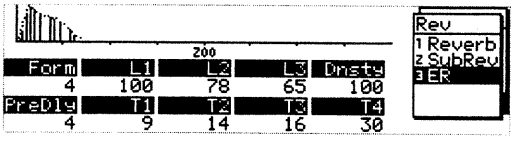
Rev



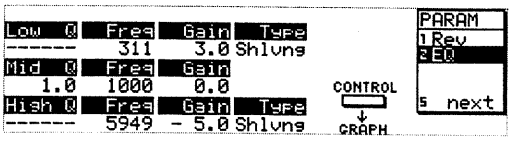


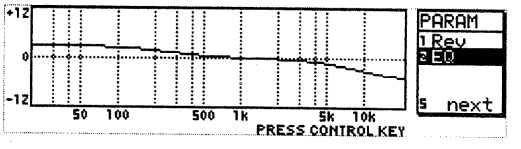


ER



EQ

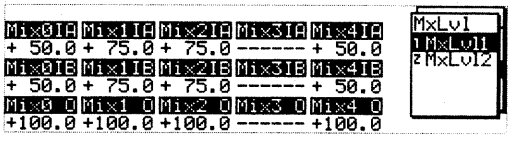


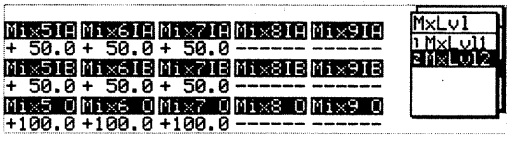


MIXER

I/OLvl

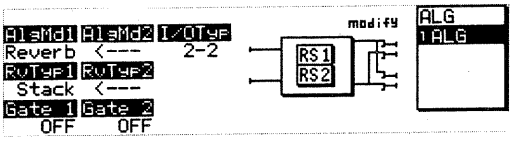
MXLvl

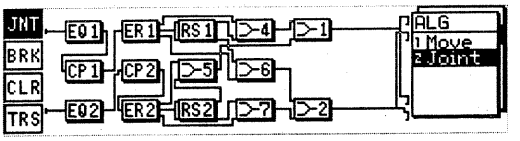




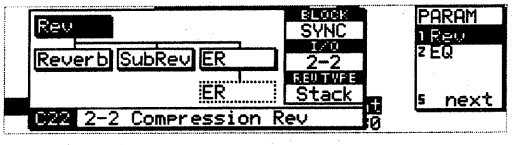
Memory No.	Card 22
Name	2 – 2 Compression Rev

ALG (ALGORITHM)



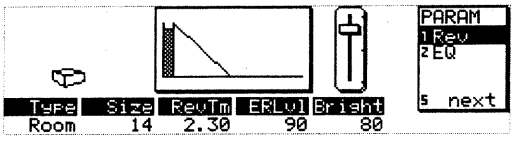


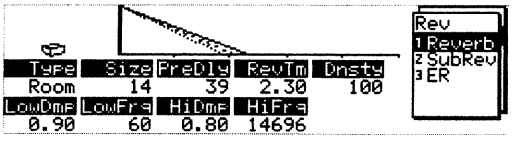
HELP

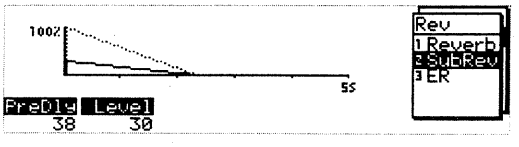


PARAM (PARAMETER)

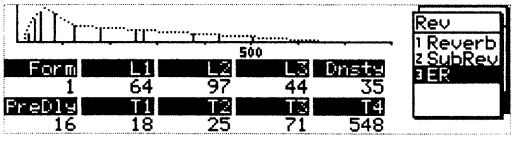
Rev



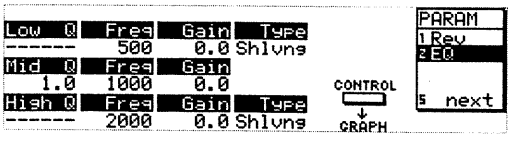


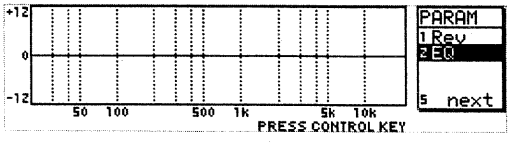


ER

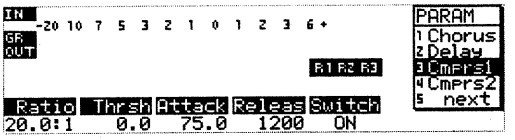


EQ





CmPrs1



CmPrs2

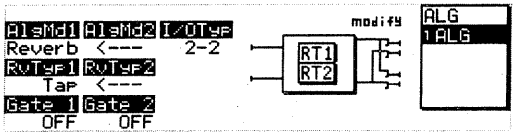
MIXER

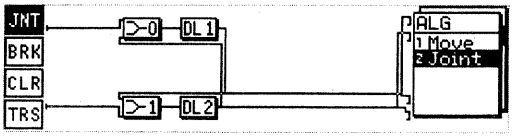
I/OLvl

MXLvl

Memory No.	Card 23
Name	2 – 2 Stereo Delay

ALG (ALGORITHM)



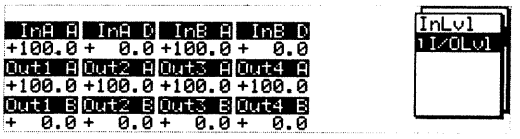


PARAM (PARAMETER)

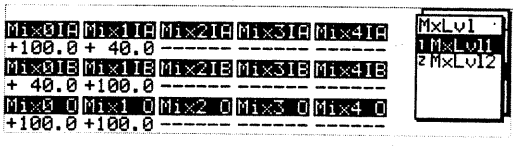
Delay

MIXER

I/OLvl

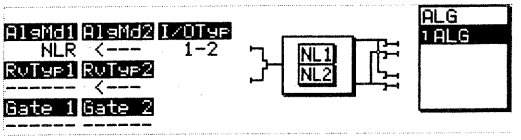


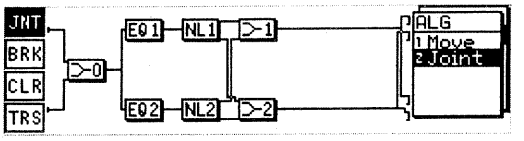
MXLvl



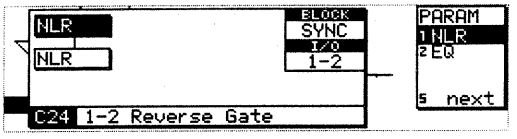
Memory No.	Card 24
Name	1 – 2 Reverse Gate

ALG (ALGORITHM)



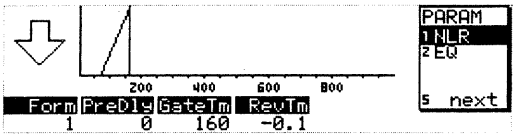


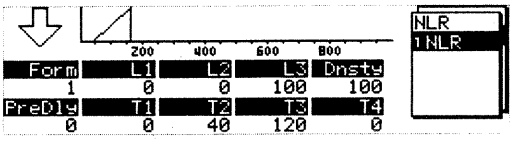
HELP



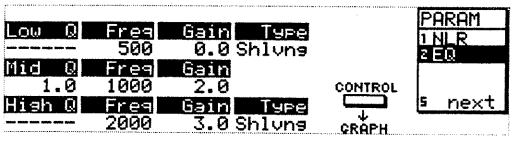
PARAM (PARAMETER)

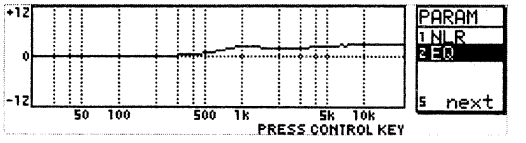
NLR





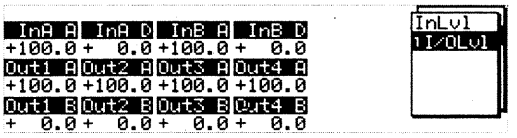
EQ



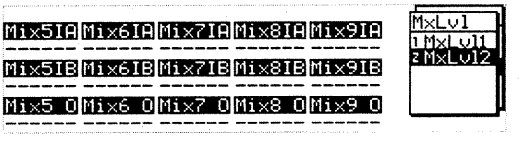


MIXER

I/OLvl



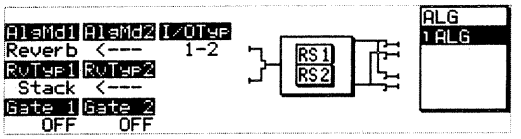
MXLvl

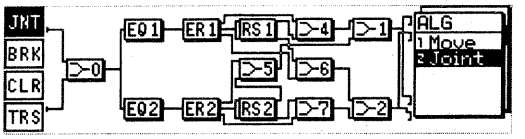


Internal Memory

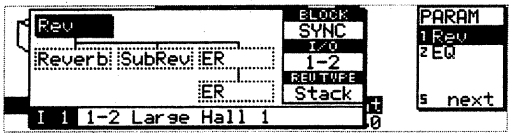
Memory No.	Int 1
Name	1 – 2 Large Hall 1

ALG (ALGORITHM)



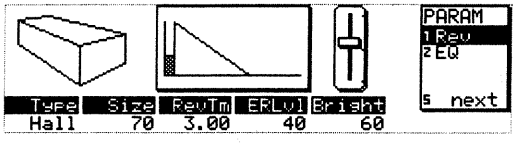


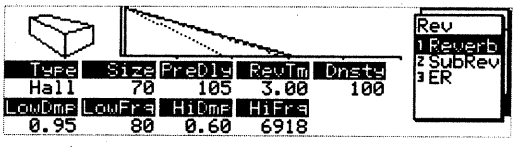
HELP

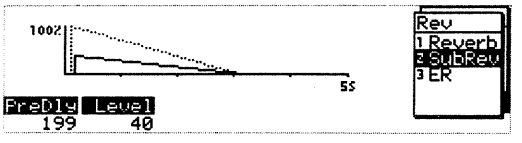


PARAM (PARAMETER)

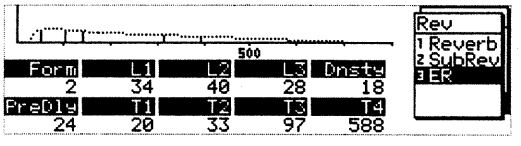
Rev



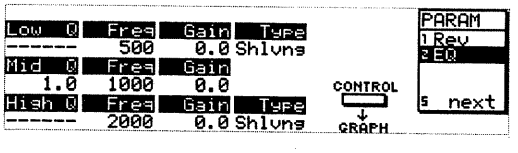


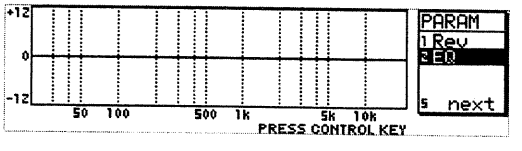


ER



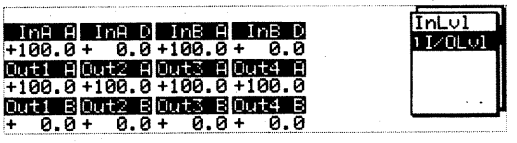
EQ





MIXER

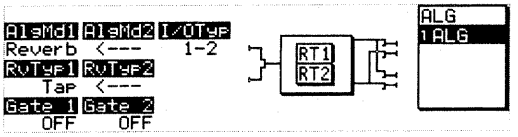
I/OLvl

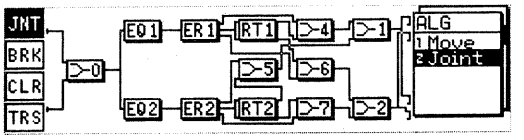


MXLvl

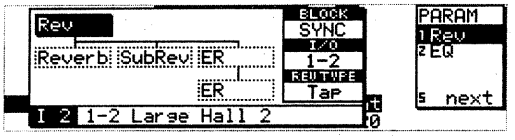
Memory No.	Int 2
Name	1 – 2 Large Hall 2

ALG (ALGORITHM)



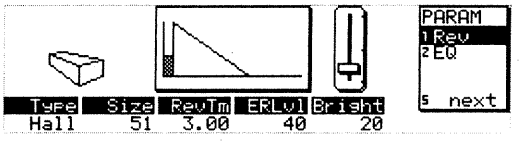


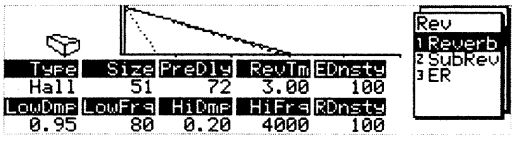
HELP

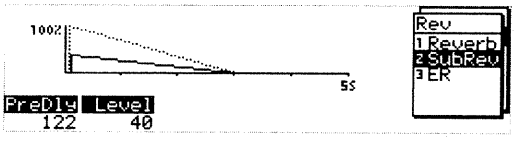


PARAM (PARAMETER)

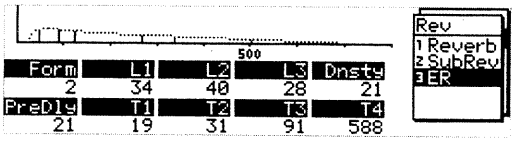
Rev



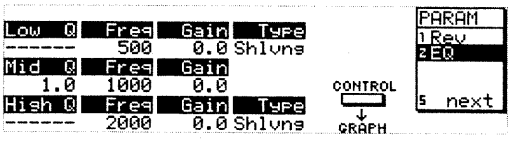


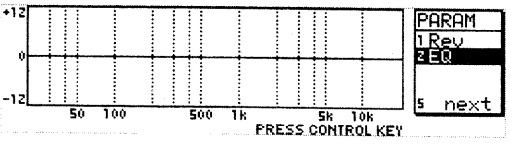


ER



EQ

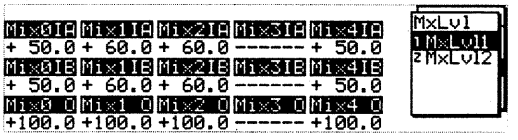


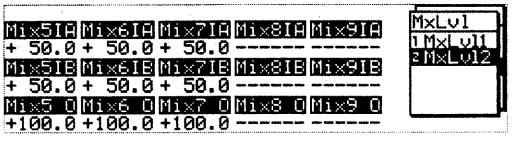


MIXER

I/OLvl

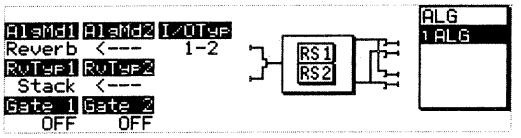
MXLvl

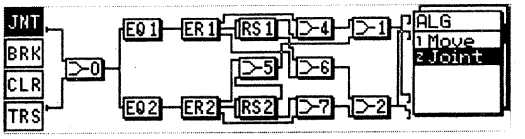




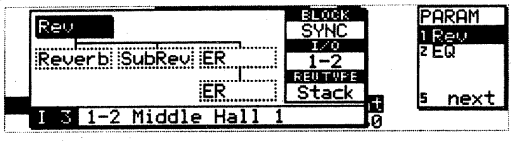
Memory No.	Int 3
Name	1 – 2 Middle Hall 1

ALG (ALGORITHM)



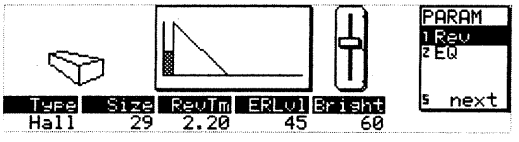


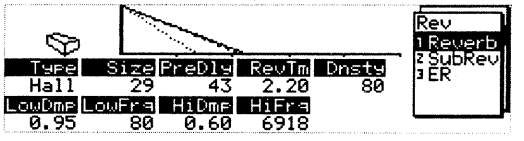
HELP

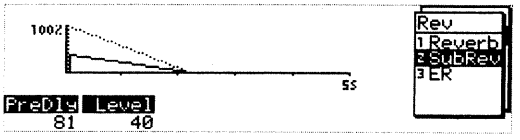


PARAM (PARAMETER)

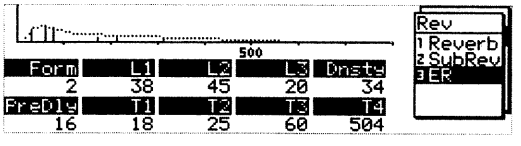
Rev



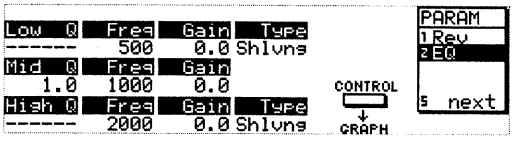


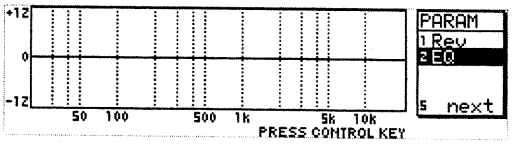


ER



EQ

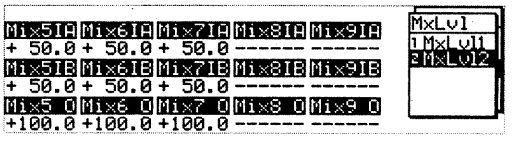




MIXER

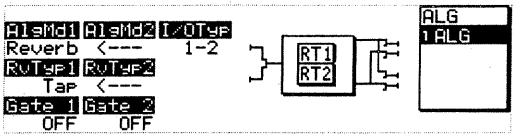
I/OLvl

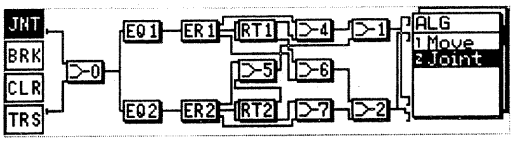
MXLvl



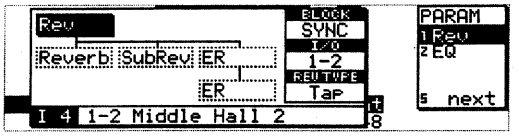
Memory No.	Int 4
Name	1 – 2 Middle Hall 2

ALG (ALGORITHM)



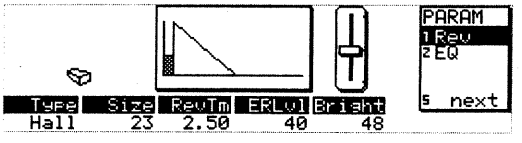


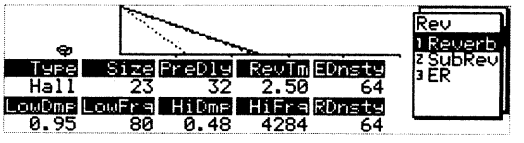
HELP

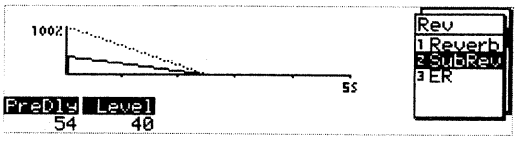


PARAM (PARAMETER)

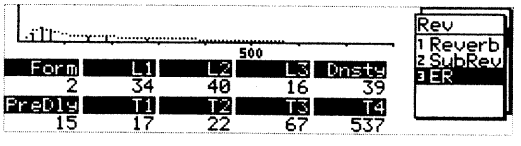
Rev



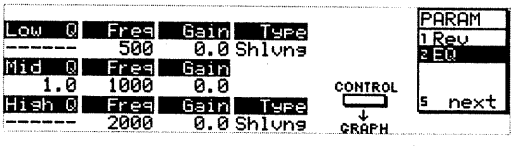


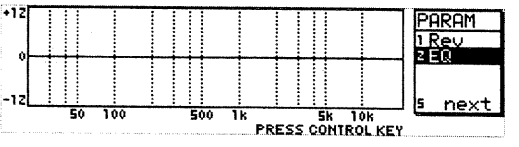


ER



EQ

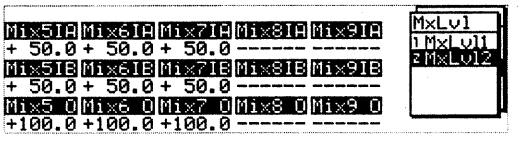




·MIXER

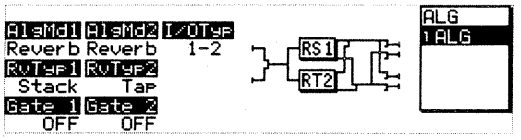
I/OLvl

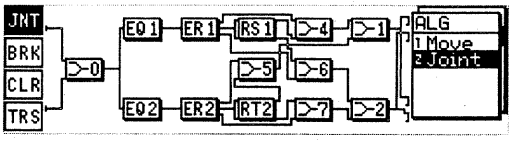
MXLvl



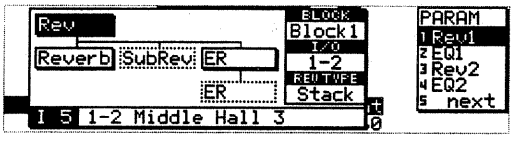
Memory No.	Int 5
Name	1 – 2 Middle Hall 3

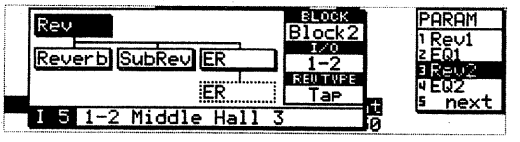
ALG (ALGORITHM)





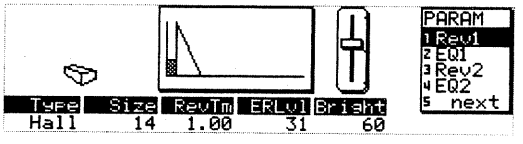
HELP

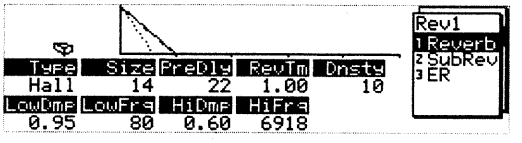


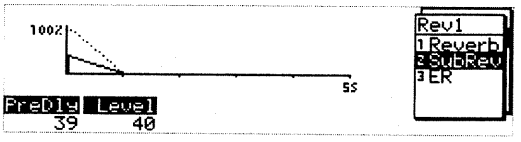


PARAM (PARAMETER)

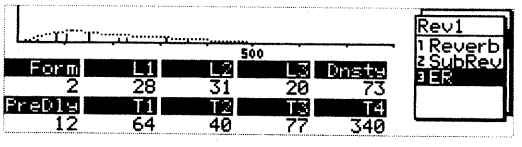
Rev1



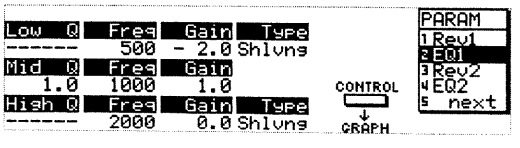


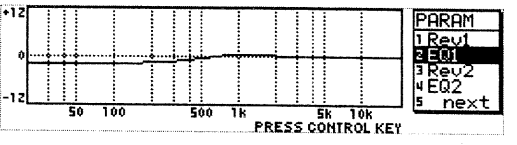


ER

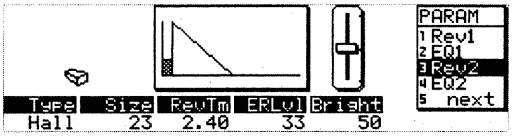


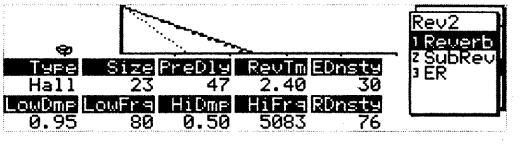
EQ1

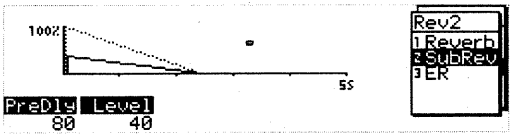




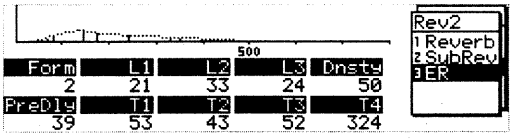
Rev2



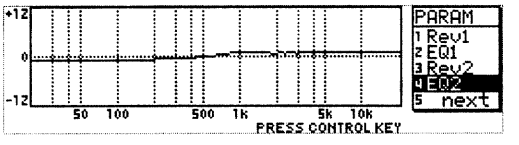




ER



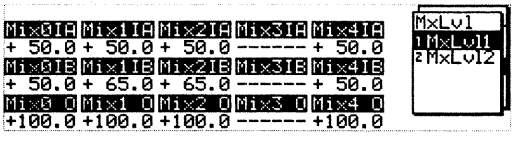
EQ2

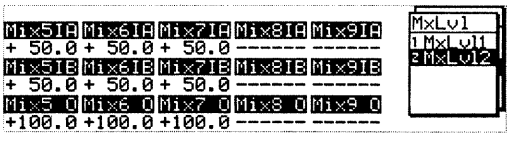


MIXER

I/OLvl

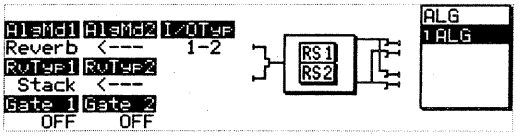
MXLvl

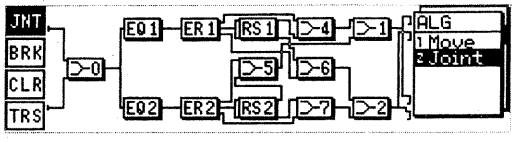




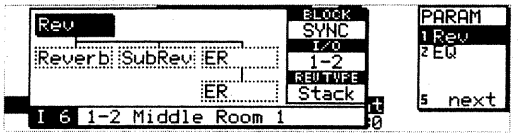
Memory No.	Int 6
Name	1 – 2 Middle Room 1

ALG (ALGORITHM)



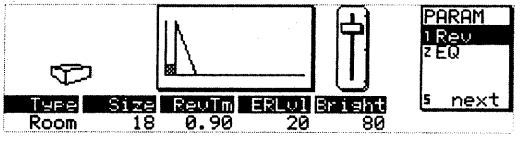


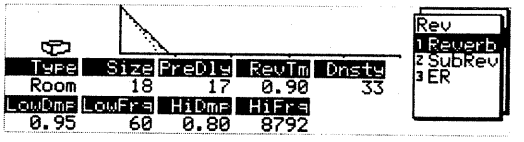
HELP

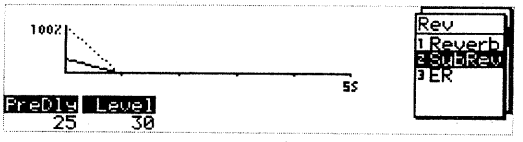


PARAM (PARAMETER)

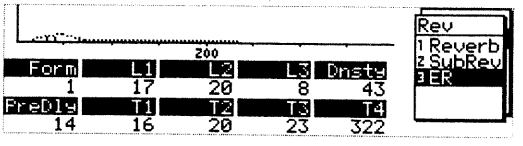
Rev



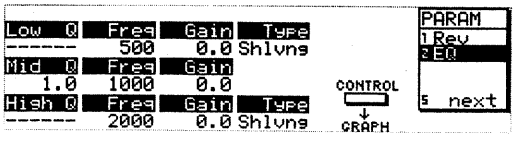


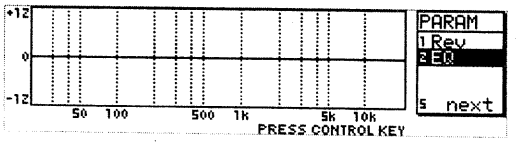


ER



EQ

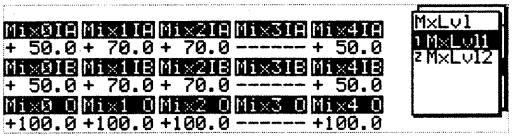


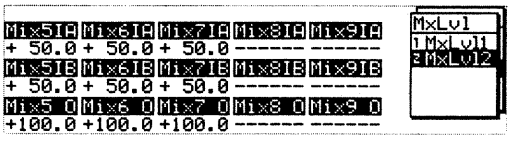


MIXER

I/OLvl

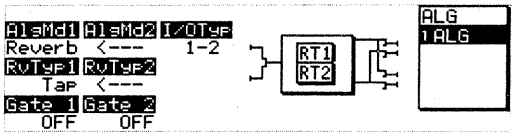
MXLvl

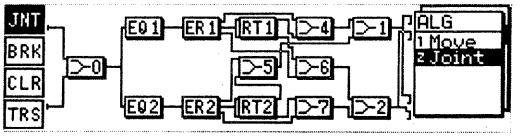




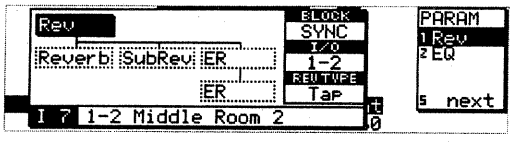
Memory No.	Int 7
Name	1 – 2 Middle Room 2

ALG (ALGORITHM)



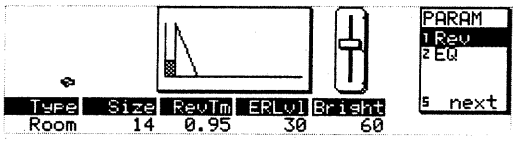


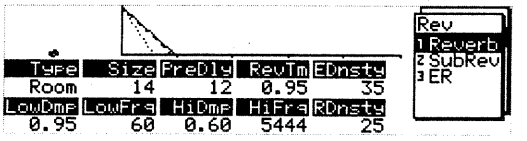
HELP

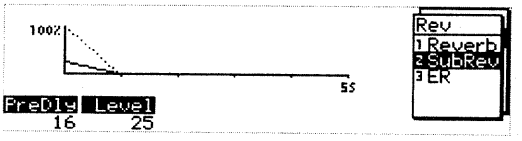


PARAM (PARAMETER)

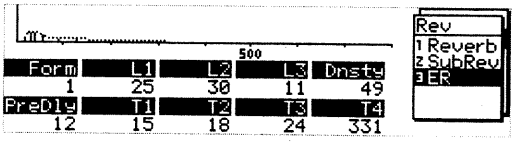
Rev



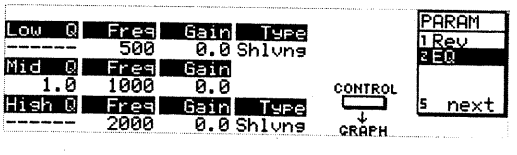


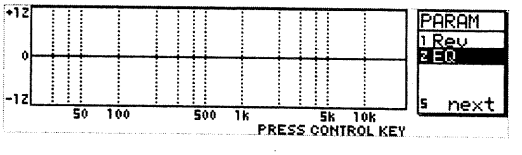


ER



EQ





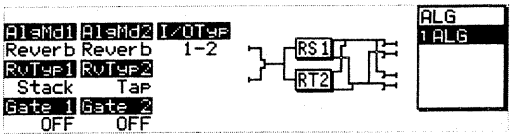
MIXER

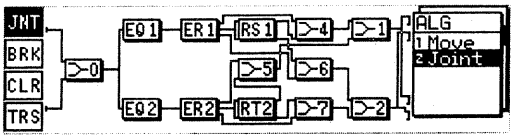
I/OLvl

MXLvl

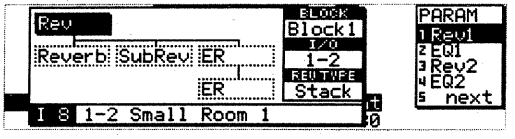
Memory No.	Int 8
Name	1 – 2 Small Room 1

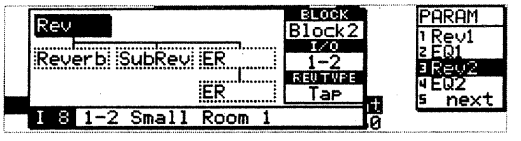
ALG (ALGORITHM)





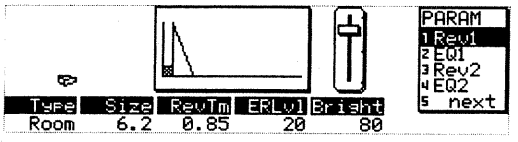
HELP

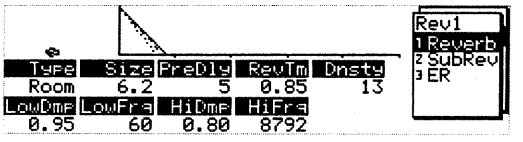


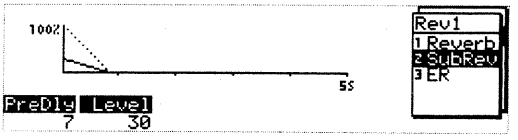


PARAM (PARAMETER)

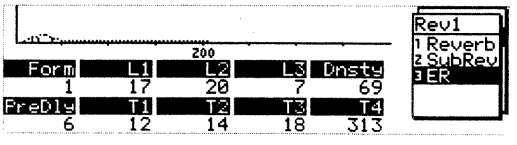
Rev1



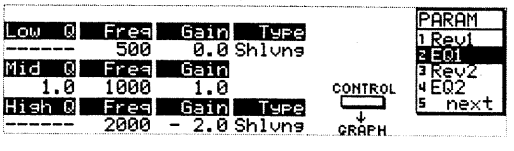


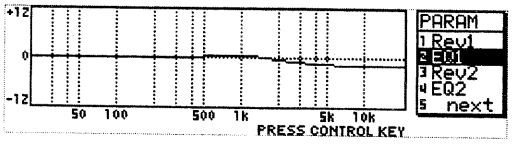


ER

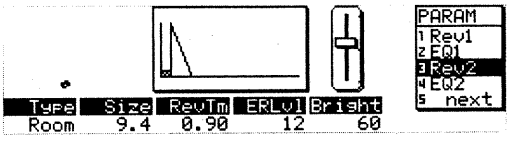


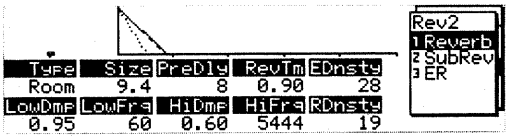
EQ1

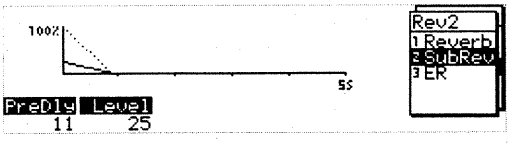




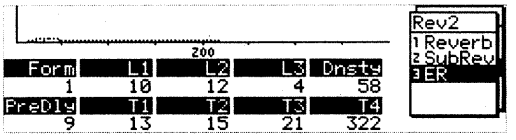
Rev2



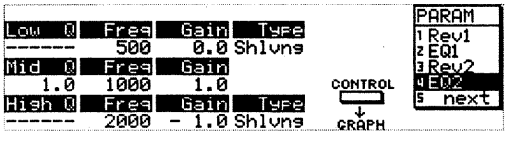


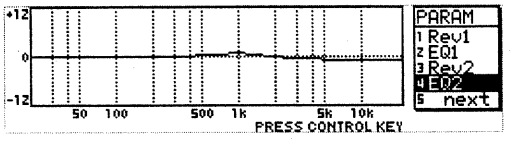


ER



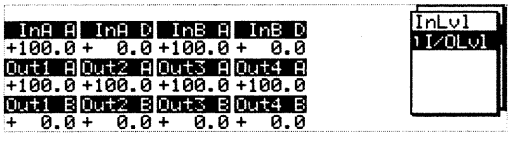
EQ2



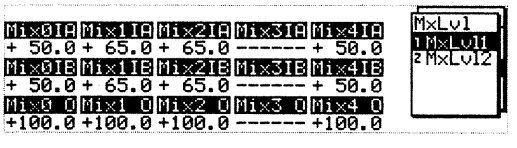


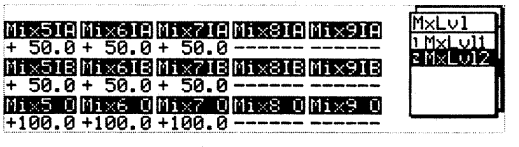
MIXER

I/OLvl



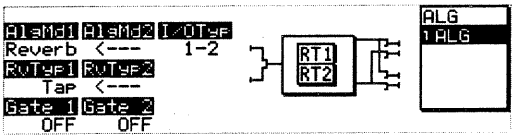
MXLvl

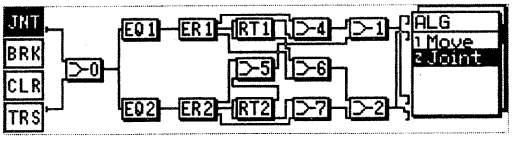




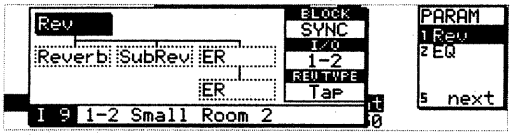
Memory No.	Int 9
Name	1 – 2 Small Room 2

ALG (ALGORITHM)



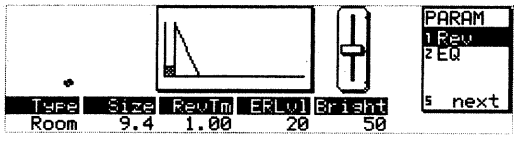


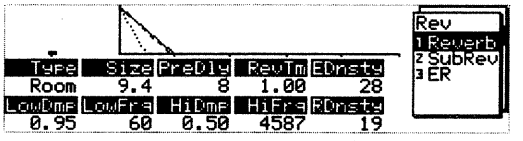
HELP

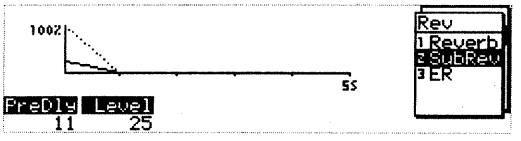


PARAM (PARAMETER)

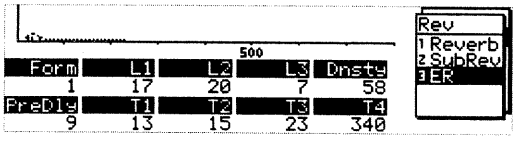
Rev



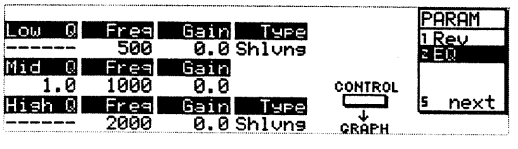


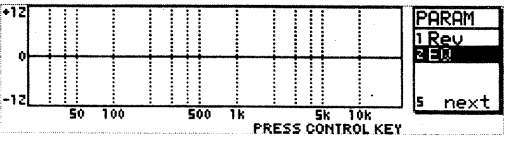


ER



EQ

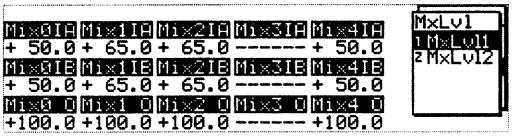




MIXER

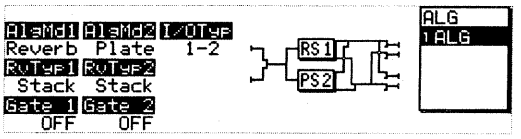
I/OLvl

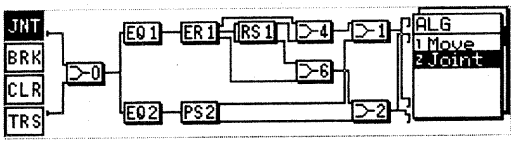
MXLvl



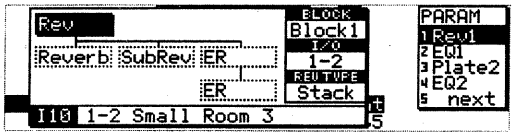
Memory No.	Int 10
Name	1 – 2 Small Room 3

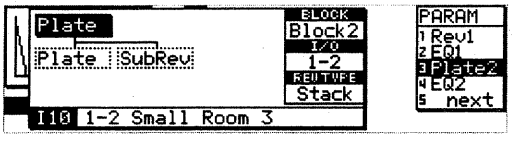
ALG (ALGORITHM)





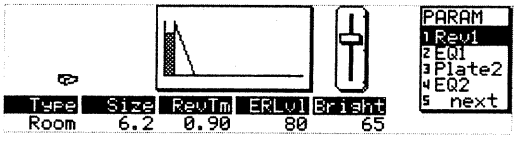
HELP

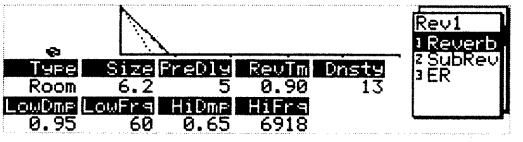


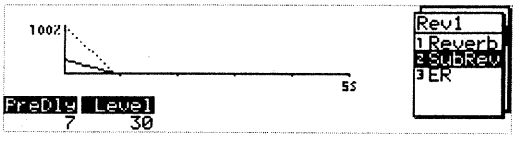


PARAM (PARAMETER)

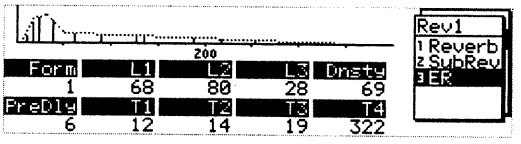
Rev1



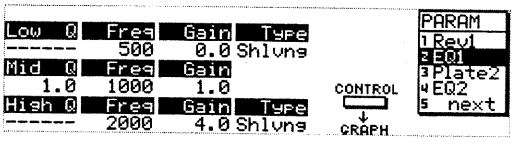




ER



EQ1



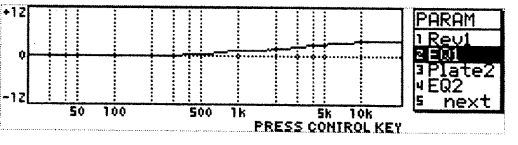
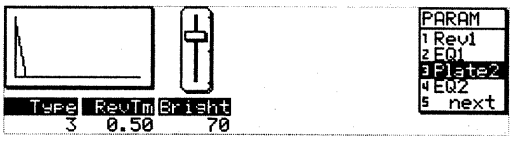
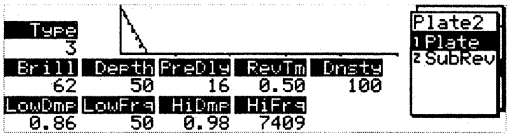
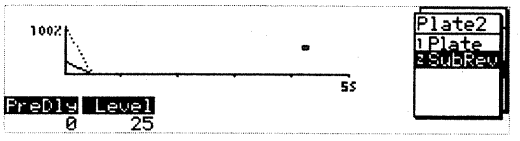


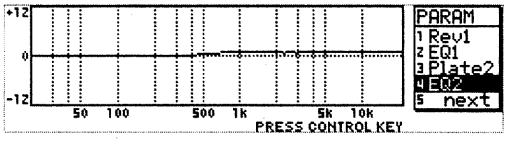
Plate2





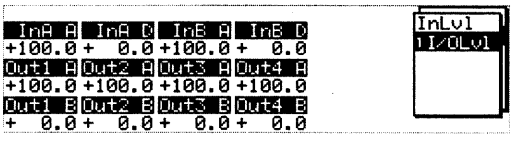


EQ2



MIXER

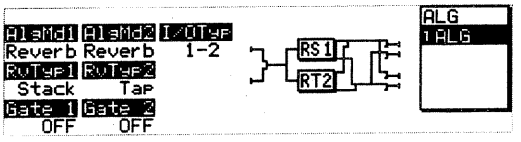
I/OLvl

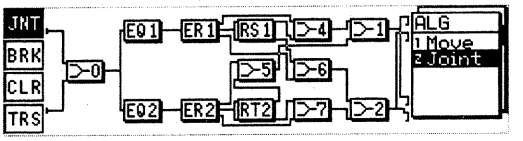


MXLvl

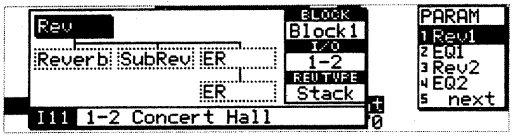
Memory No.	Int 11
Name	1 – 2 Concert Hall

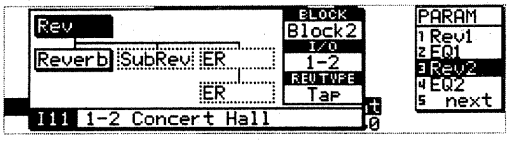
ALG (ALGORITHM)





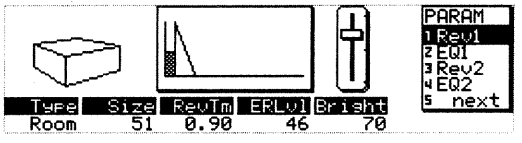
HELP

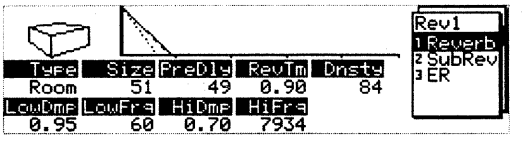


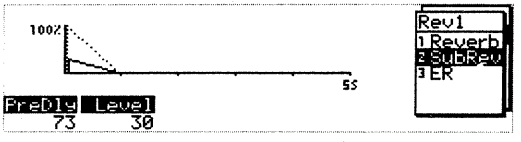


PARAM (PARAMETER)

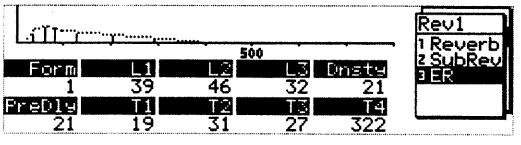
Rev1



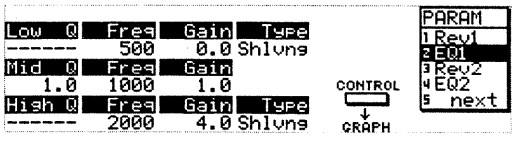


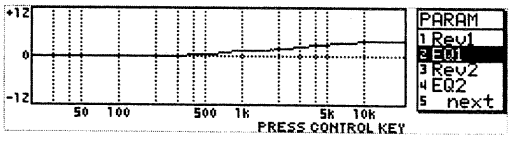


ER

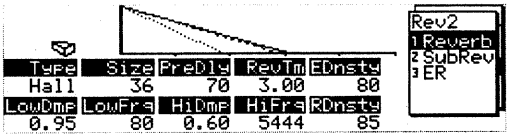


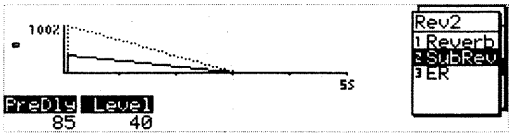
EQ1



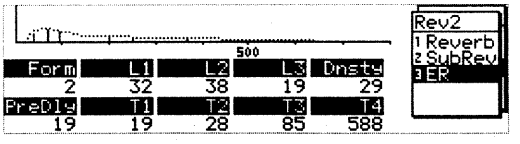


Rev2

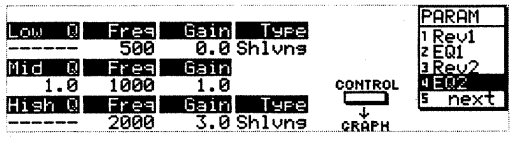


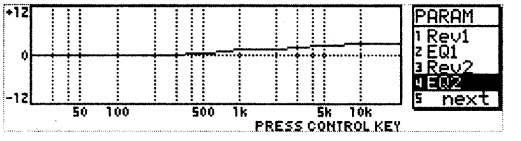


ER



EQ2

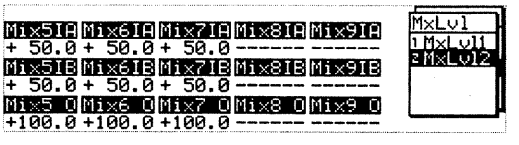




MIXER

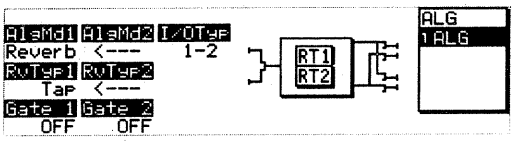
I/OLvl

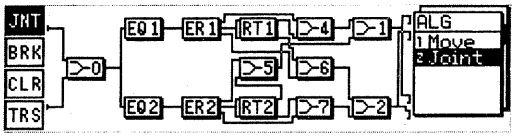
MXLvl



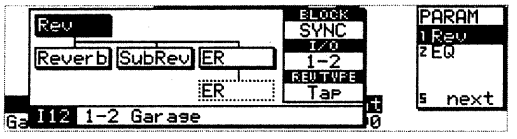
Memory No.	Int 12
Name	1 – 2 Garage

ALG (ALGORITHM)



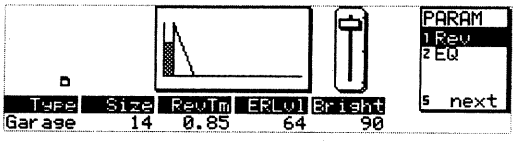


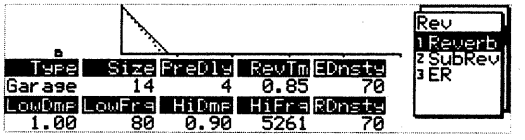
HELP

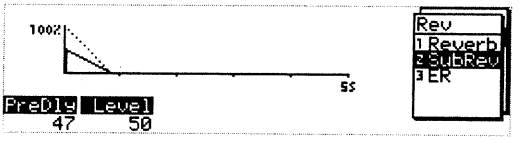


PARAM (PARAMETER)

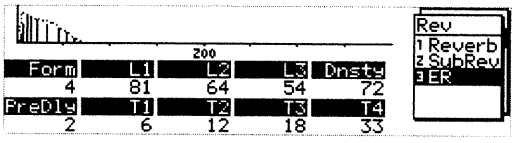
Rev



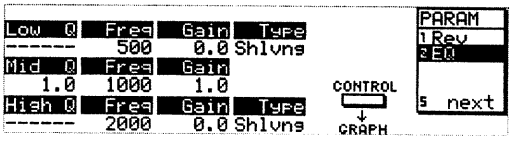


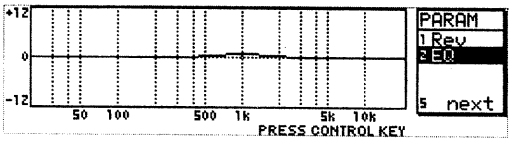


ER



EQ

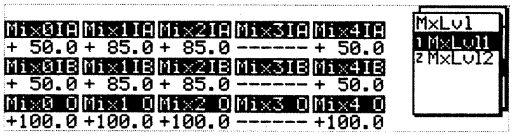


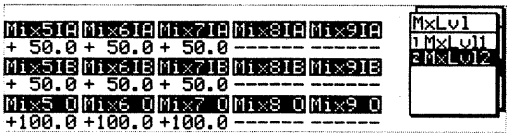


MIXER

I/OLvl

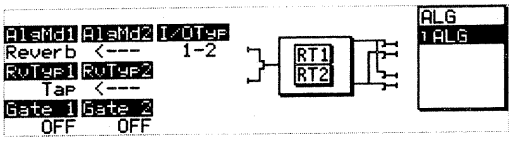
MXLvl

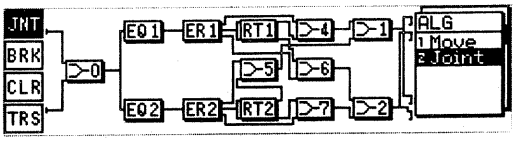




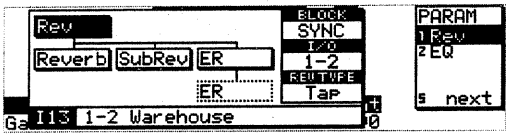
Memory No.	Int 13
Name	1 – 2 Warehouse

ALG (ALGORITHM)



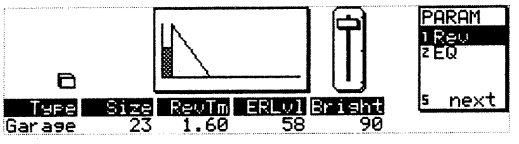


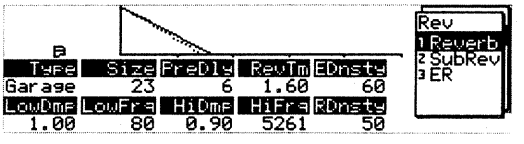
HELP

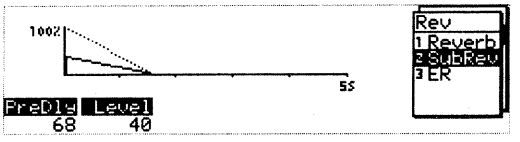


PARAM (PARAMETER)

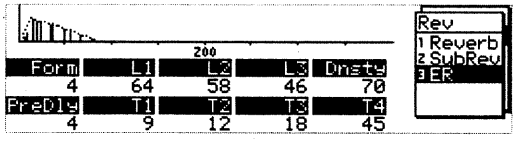
Rev



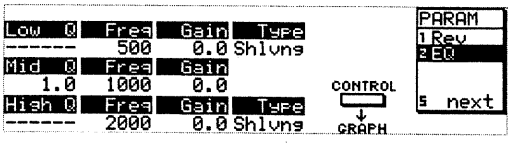


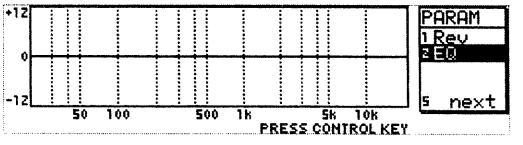


ER



EQ

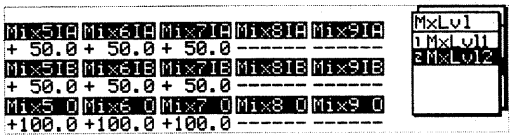




MIXER

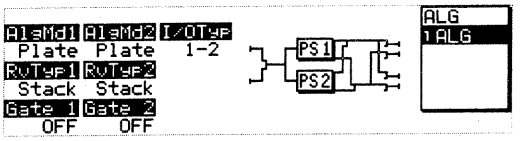
I/OLvl

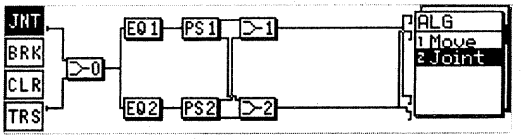
MXLvl



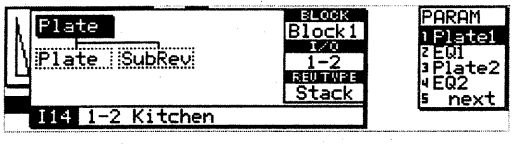
Memory No.	Int 14
Name	1 – 2 Kitchen

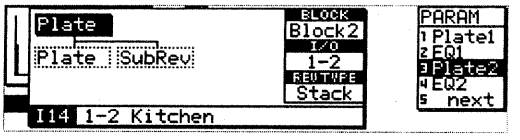
ALG (ALGORITHM)





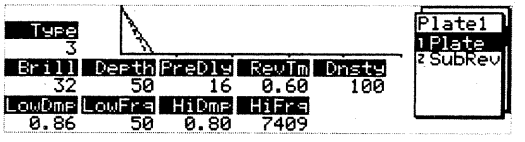
HELP

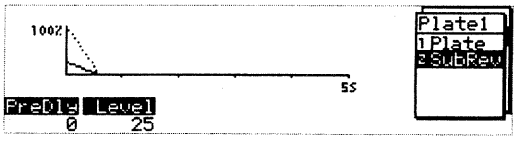




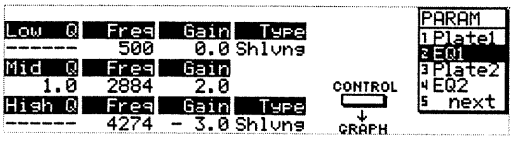
PARAM (PARAMETER)

Plate1





EQ1



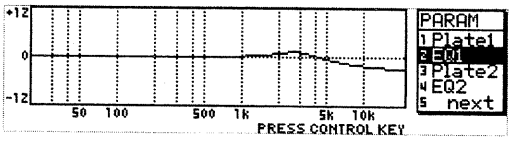
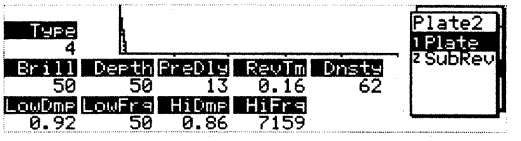
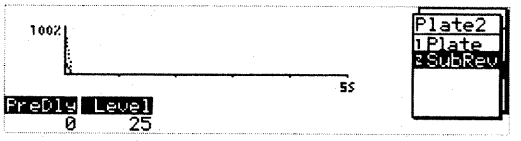
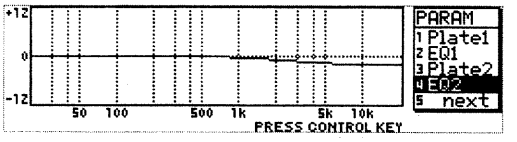


Plate2





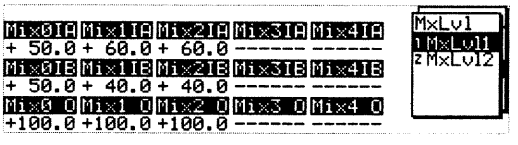
EQ2



MIXER

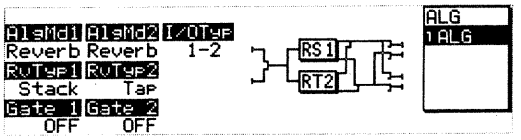
I/OLvl

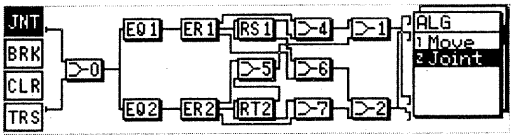
MXLvl



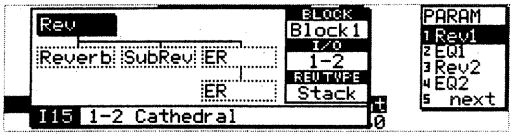
Memory No.	Int 15
Name	1 – 2 Cathedral

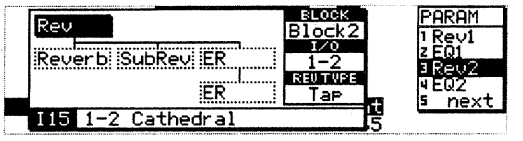
ALG (ALGORITHM)





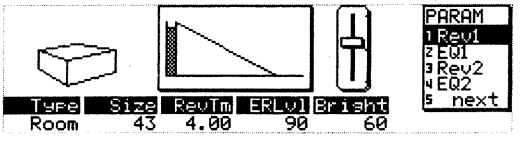
HELP

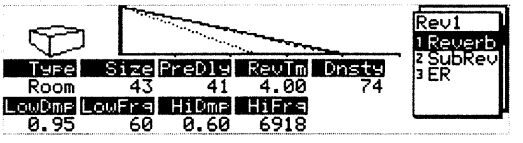


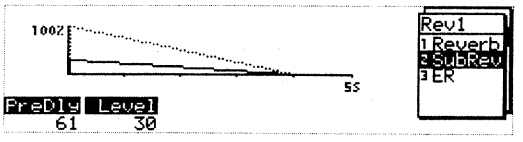


PARAM (PARAMETER)

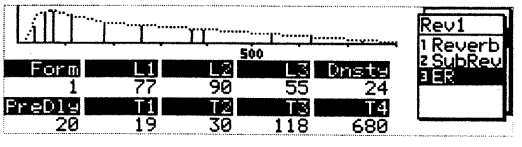
Rev1



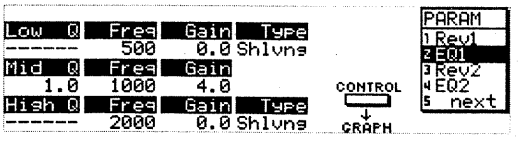


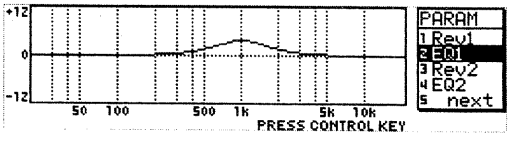


ER

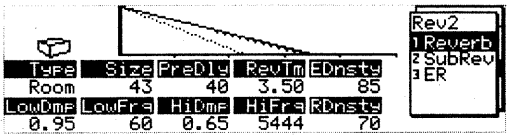


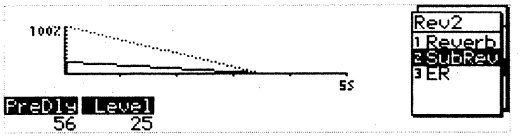
EQ1



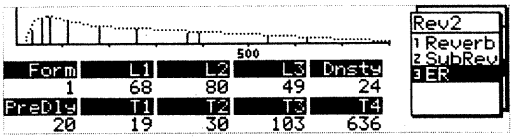


Rev2

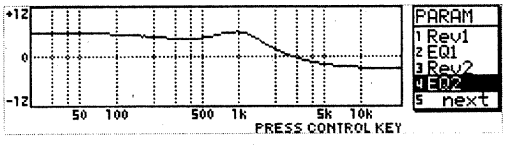




ER

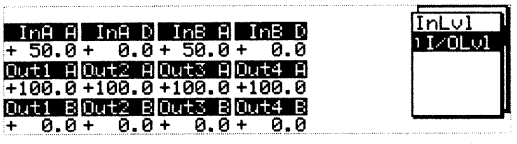


EQ2



MIXER

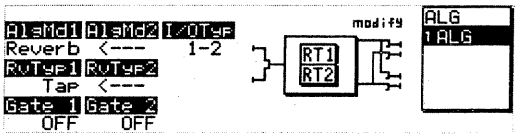
I/OLvl

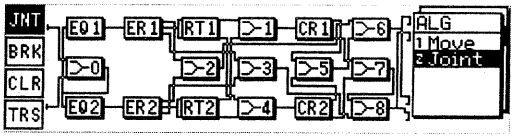


MXLvl

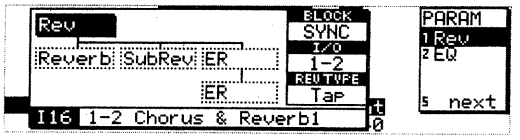
Memory No.	Int 16
Name	1 – 2 Chorus & Reverb 1

ALG (ALGORITHM)



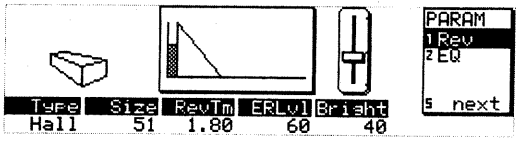


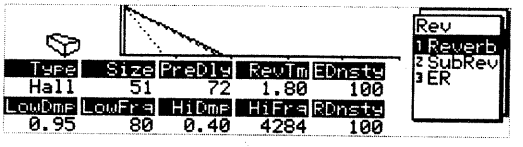
HELP

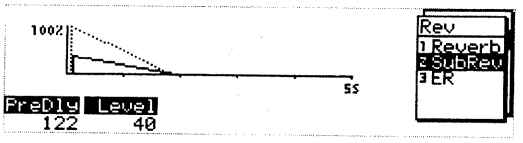


PARAM (PARAMETER)

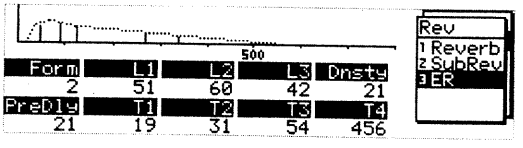
Rev



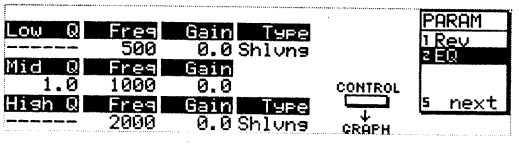


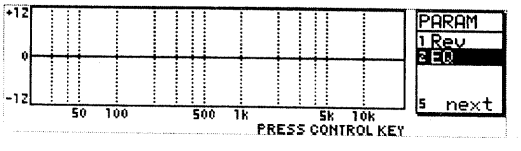


ER

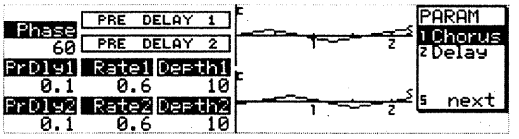


EQ





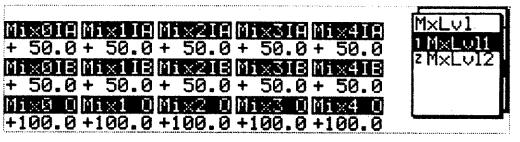
Chorus



MIXER

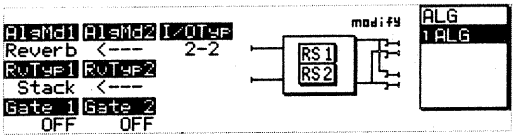
I/OLvl

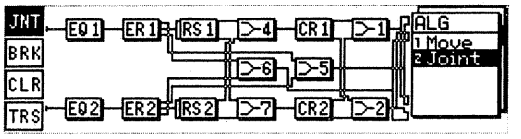
MXLvl



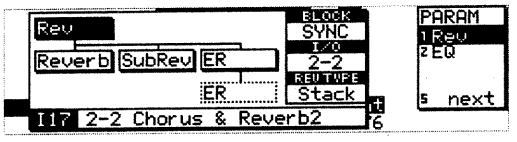
Memory No.	Int 17
Name	2 – 2 Chorus & Reverb 2

ALG (ALGORITHM)



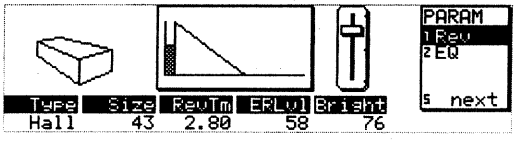


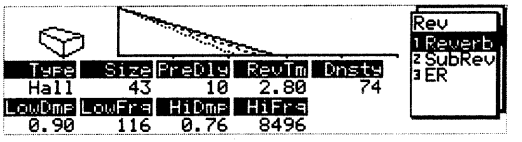
HELP

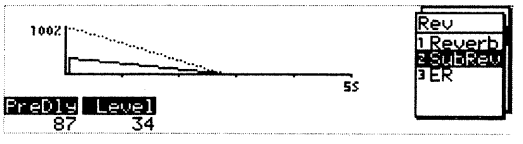


PARAM (PARAMETER)

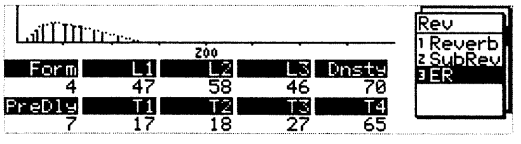
Rev



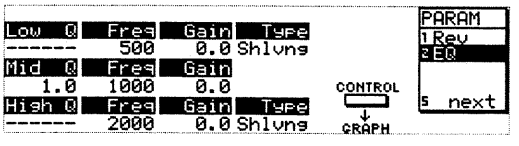


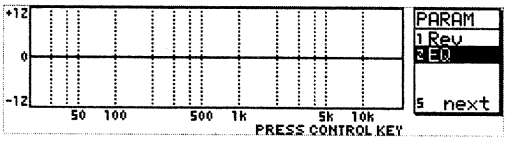


ER

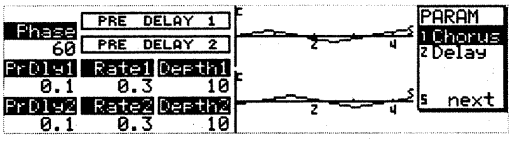


EQ





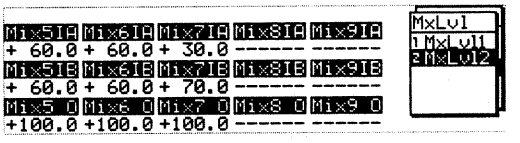
Chorus



MIXER

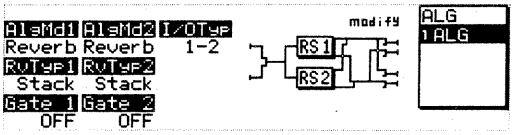
I/OLvl

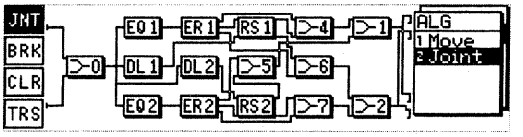
MXLvl



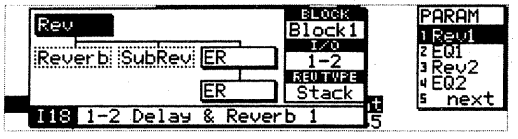
Memory No.	Int 18
Name	1 – 2 Delay & Reverb 1

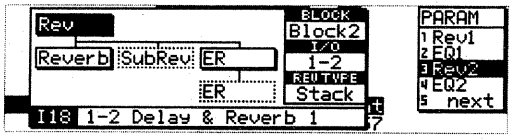
ALG (ALGORITHM)





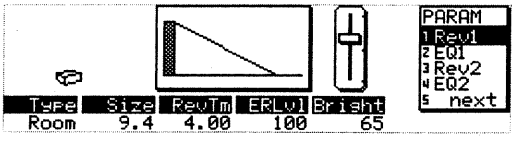
HELP

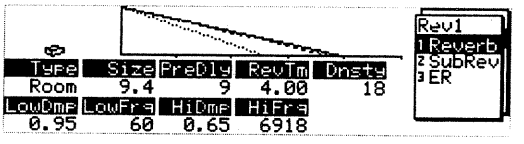


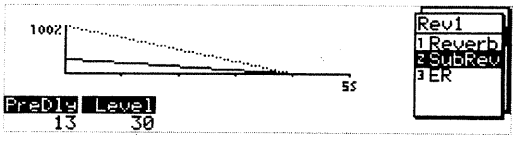


PARAM (PARAMETER)

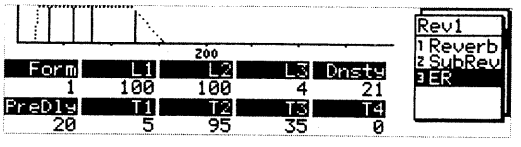
Rev1

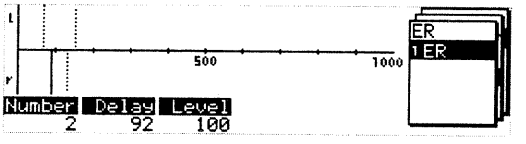


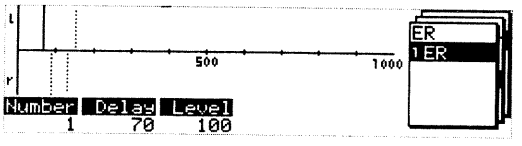


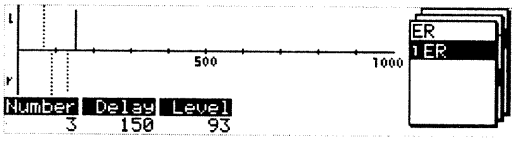


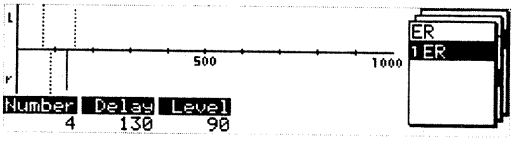
ER



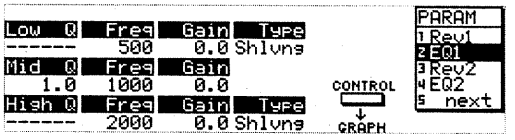


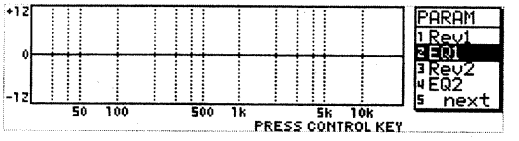




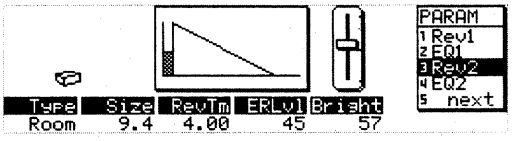


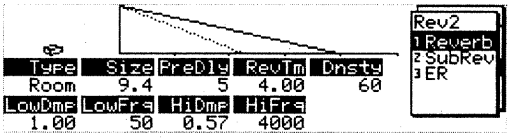
EQ1

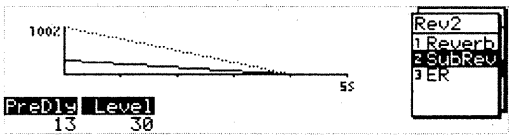




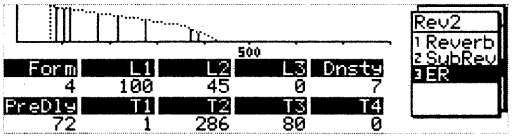
Rev2



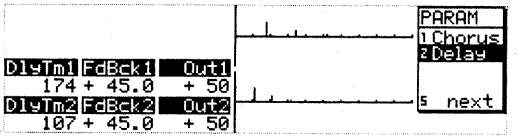




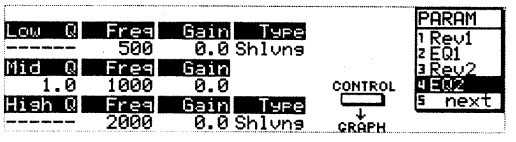
ER

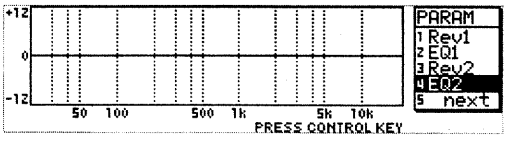


Delay



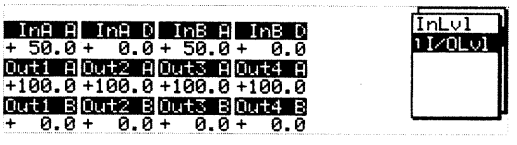
EQ2





MIXER

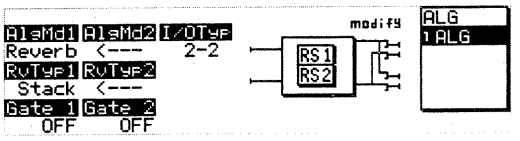
I/OLvl

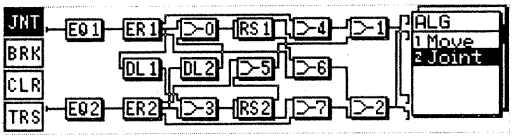


MXLvl

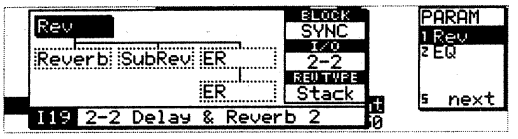
Memory No.	Int 19
Name	2 – 2 Delay & Reverb 2

ALG (ALGORITHM)



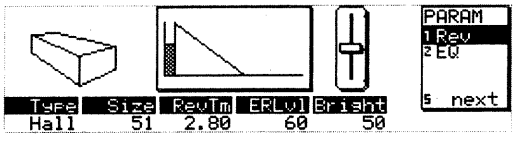


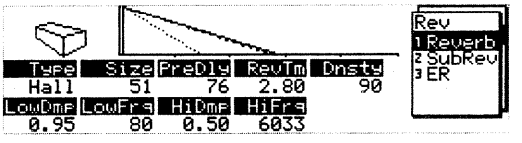
HELP

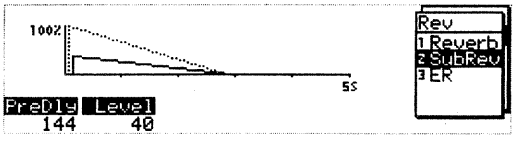


PARAM (PARAMETER)

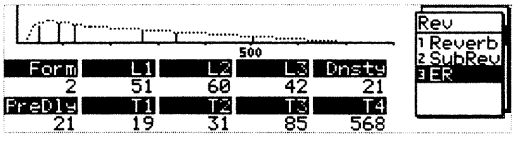
Rev



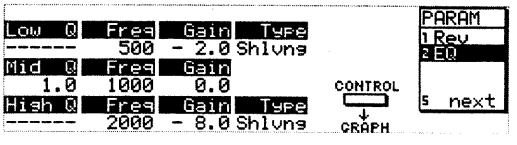


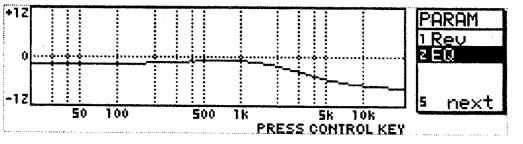


ER

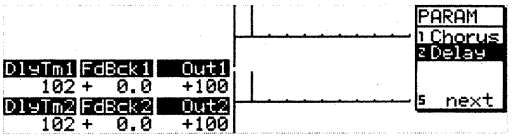


EQ





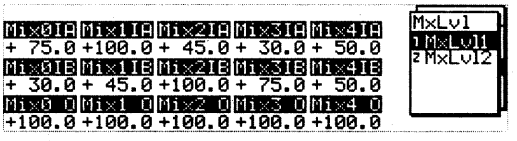
Delay



MIXER

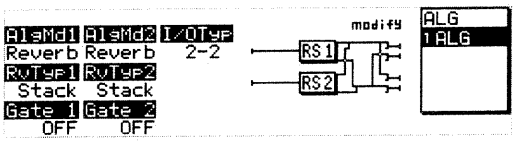
I/OLvl

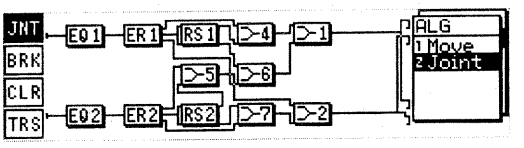
MXLvl



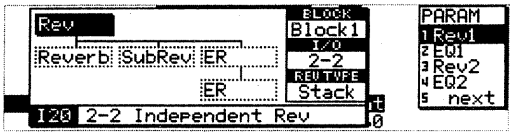
Memory No.	Int 20
Name	2 – 2 Independent Rev

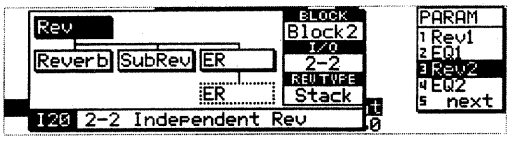
ALG (ALGORITHM)





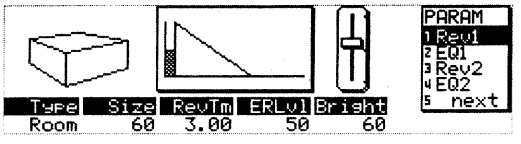
HELP

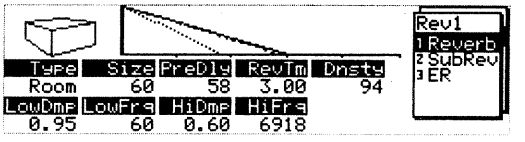


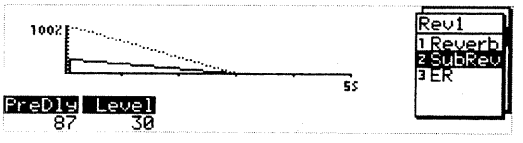


PARAM (PARAMETER)

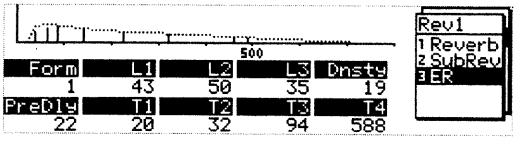
Rev1



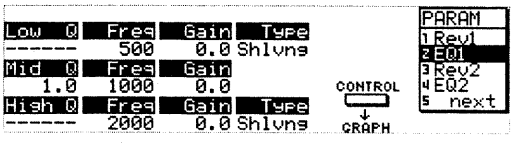


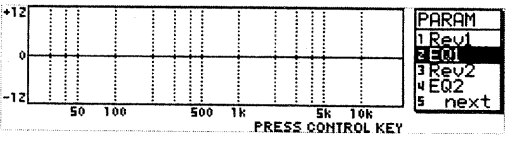


ER

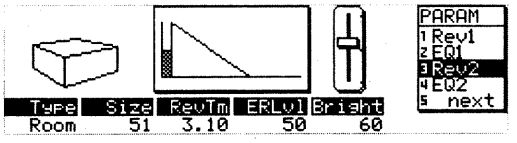


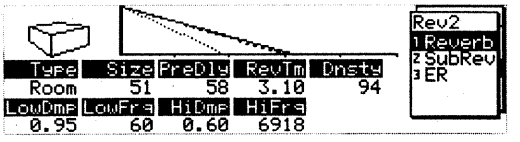
EQ1

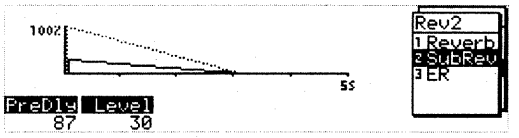




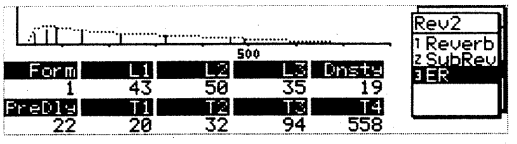
Rev2



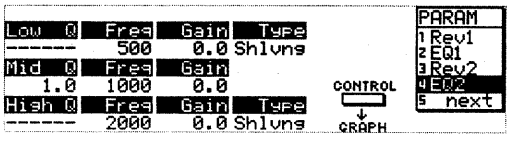


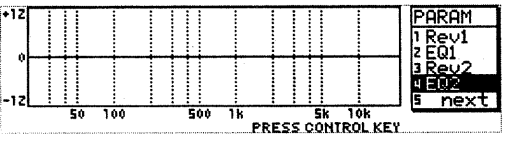


ER



EQ2

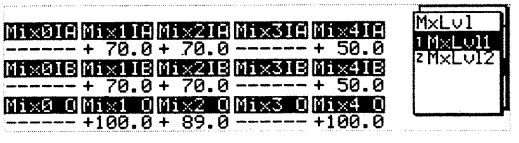


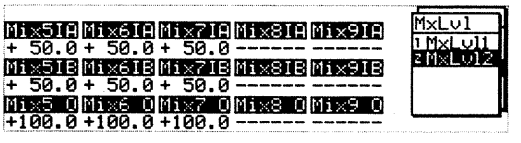


MIXER

I/OLvl

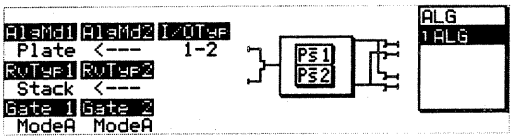
MxLvl

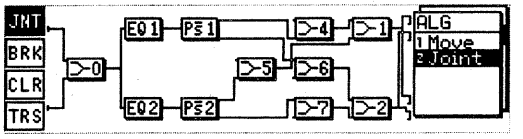




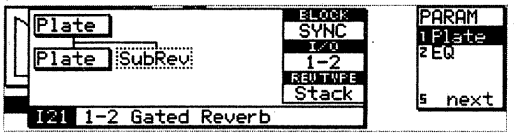
Memory No.	Int 21
Name	1 – 2 Gated Reverb

ALG (ALGORITHM)



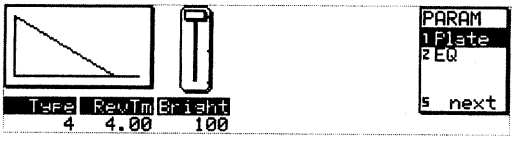


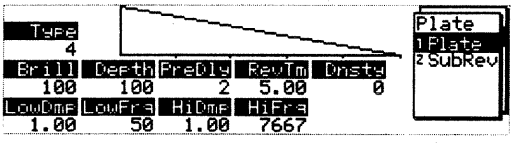
HELP

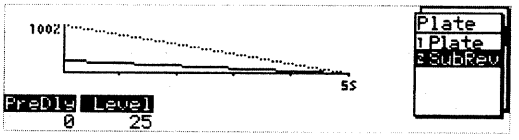


PARAM (PARAMETER)

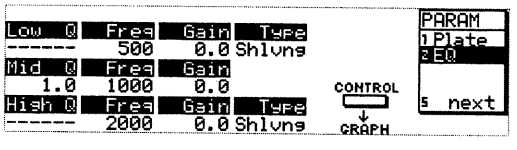
Plate

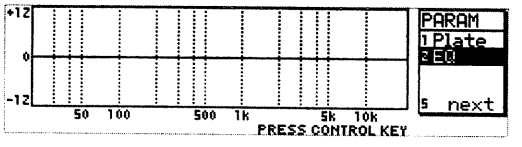




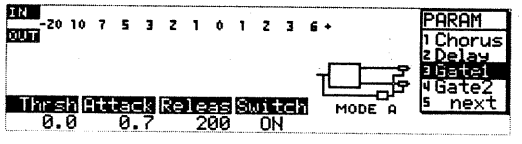


EQ

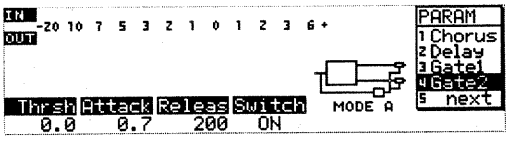




Gate1



Gate2



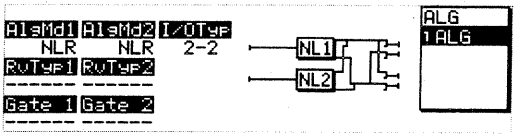
MIXER

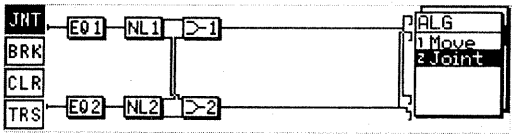
I/OLvl

MXLvl

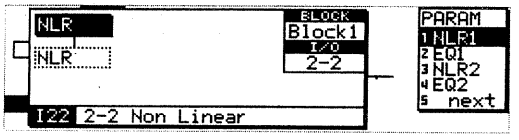
Memory No.	Int 22
Name	2 – 2 Non Linear

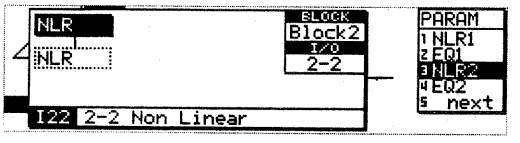
ALG (ALGORITHM)





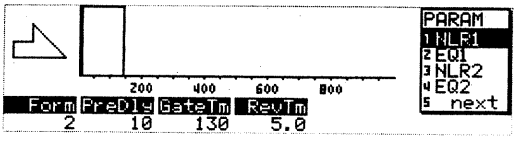
HELP

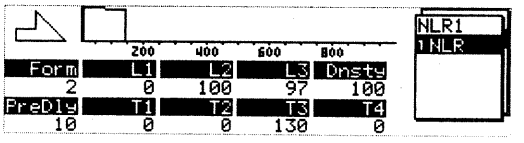




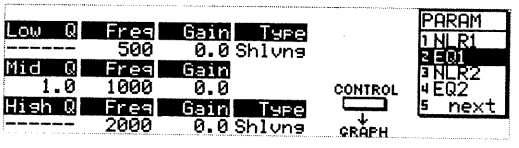
PARAM (PARAMETER)

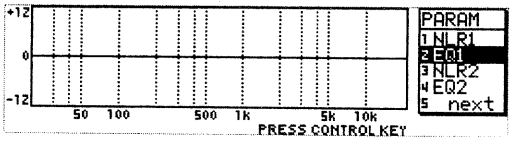
NLR1



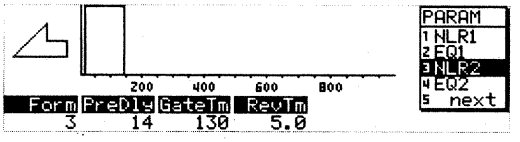


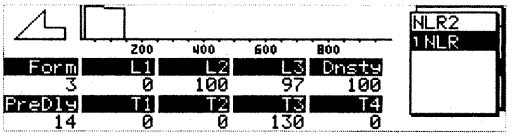
EQ1



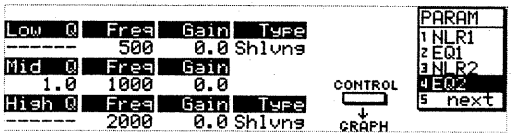


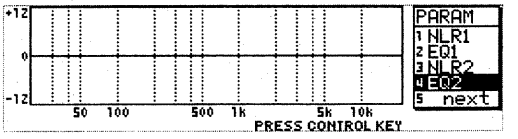
NLR2





EQ2





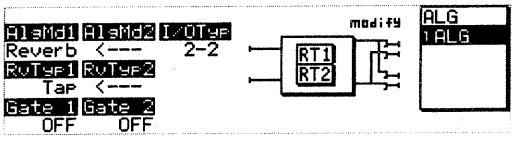
MIXER

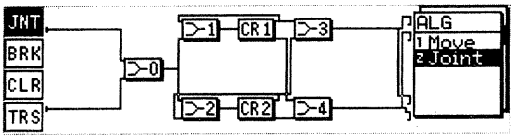
I/OLvl

MXLvl

Memory No.	Int 23
Name	1 – 2 INSANE

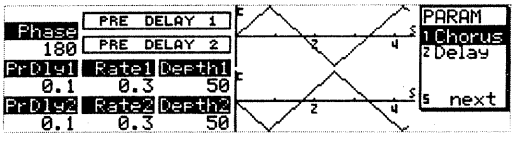
ALG (ALGORITHM)





PARAM (PARAMETER)

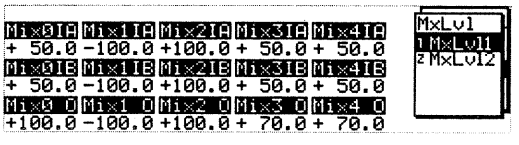
Chorus

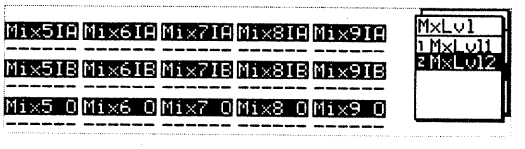


MIXER

I/OLvl

MXLvl





Roland®

74148229

UPC 74148229

Roland

2602071100 '90-5-A3-21Y