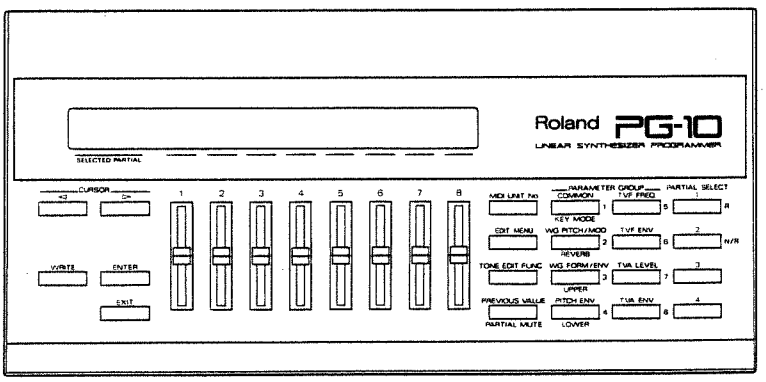
Roland

MIDI LINEAR SYNTHESIZER PROGRAMMER

PG-10

Owner's Manual



INTRODUCTION

The Roland PG−10 is a programmer specially designed for the D−10, D−20 and D−110 to make sound programming quicker and easier.

To make the best use of this unit, please read the owner's manual carefully.

CONTENTS

Bescheinigung des Herstellers /Importeurs

Hiermit wird bescheinigt, daß der/die/das

ROLAND LINEAR SYNTHESIZER PROGRAMMER PG-10

(Gerat, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046 / 1984

(Amtsblattverfugung)

funk-entstört ist.

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

Roland Corporation Osaka / Japan

Name des Herstellers/Importeurs

RADIO AND TELEVISION INTERFERENCE

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

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

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

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

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

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

- Turn the TV or radio antenna until the interferences 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.

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

IMPORTANT NOTES

POWER

- Be sure to use the supplied AC adaptor (PSA −120, 220 or 240), depending on the voltage system in your country. Using any other adaptor will cause trouble.
- Connect the AC adaptor to the AC Adaptor Socket first, then the power plug to a power socket.
- Do not use the same socket used for any noise generating device (such as a motor or variable lighting system) or large power consuming device.
- When connecting the AC adaptor to a power socket, be sure that the unit is turned off.
- When disconnecting the power plug from the socket, do not pull the cord but hold the plug to avoid damaging the cord.
- Handle the power cord gently.
- If the unit is not to be used for a long period of time, unplug the power plug from the socket.
- Before setting up this unit with other devices, turn this unit and all the other units off.

CLEANING

- Use a mild detergent for cleaning. Do not use solvents such as thinner.

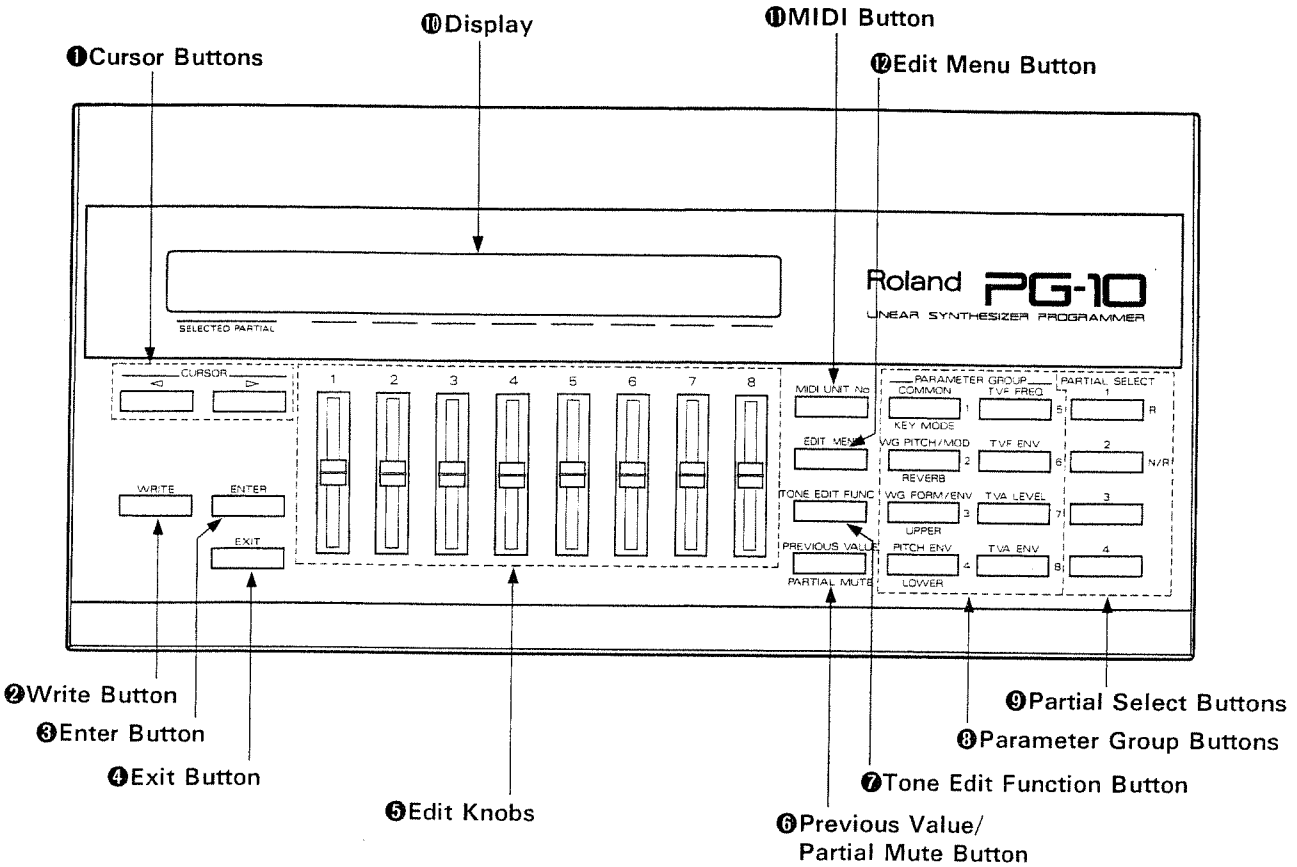
LOCATION

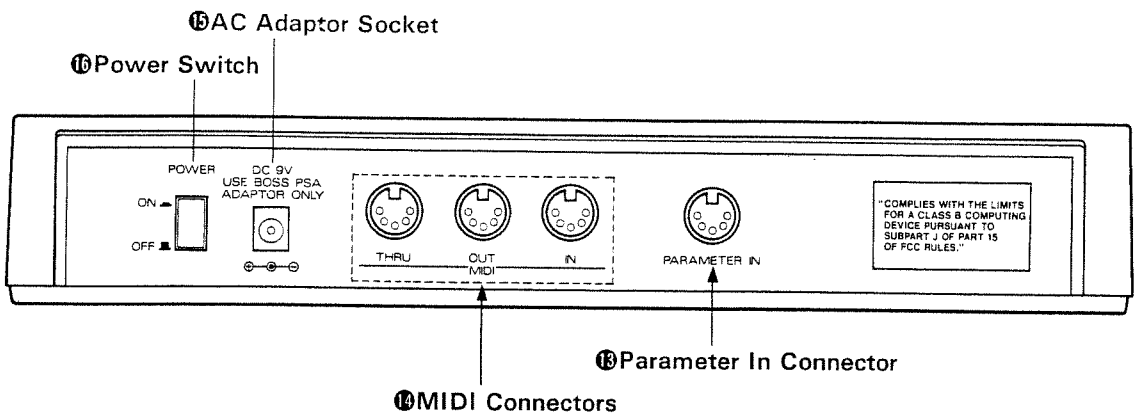
- Do not place this unit in the following conditions :
  - ○ In extreme heat (where it may be affected by direct sunlight, near a heater, etc)
  - ○ In extreme humidity
  - ○ Where it is affected by dust or vibration
- Operating this device near a neon, fluorescent lamp, TV or CRT display may cause noise interference. If so, change the angle or the position of the device.
- If you operate this unit near a TV or radio which is turned on, noise or picture trouble may occur. If this happens, move the unit away from it.
- Do not place anything heavy on this unit or the power cord.

OTHER NOTES

- Avoid applying any solid or requid stuff to this unit.
- Touching inside the unit may cause electric shock or breakdown.
- Do not give a strong shock to this unit.
- Do not move this unit while it is operating.
- If this unit is turned off while being operated, all data in memory will be erased. Make sure that you do not accidentally touch the power switch or the power plug does not come off the socket.
- If the unit does not function properly, immediately turn the unit off, then call your local Roland serveice center.

1 PANEL DESCRIPTION

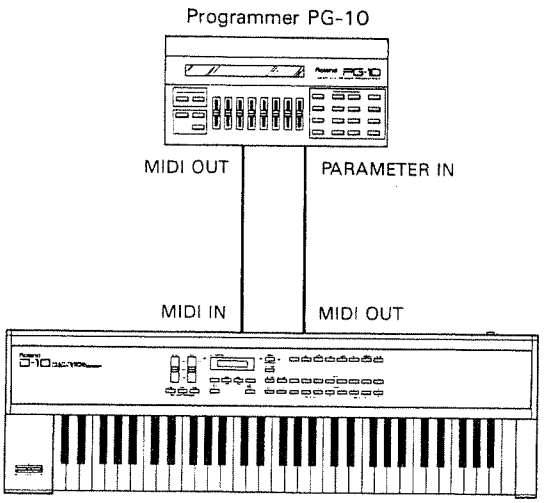




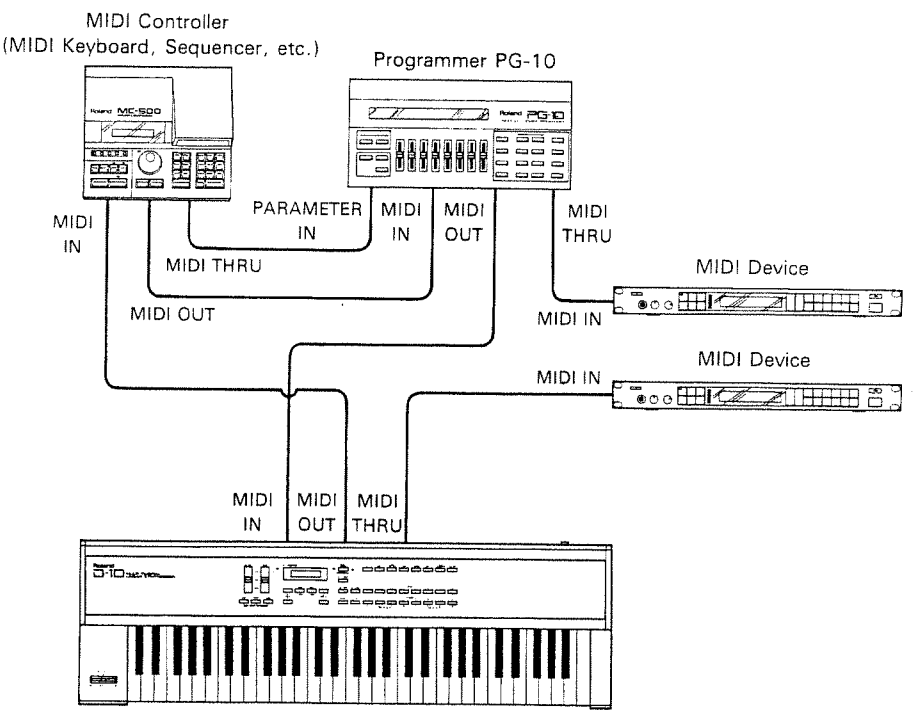
2 CONNECTIONS

Connect the units as shown below using a MIDI cable, copy the Sound data to be edited into the PG−10, then edit the data with the PG−10.

<Basic Connection>



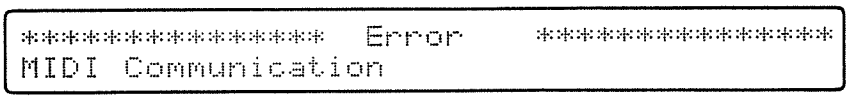
<Application>



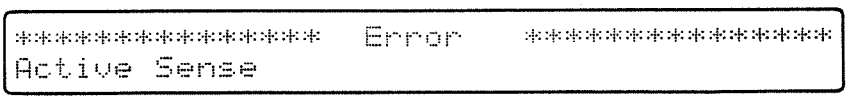
*The PG−10 transmits the messages fed into the MIDI IN to the MIDI OUT, as well as the other messages.

*From the MIDI THRU, only the messages fed into the MIDI IN will be sent out.

*When the Sound data is not correctly copied into the PG−10, the Display will responds as shown below. If this happens, check the connections and connection cables, then repeat copying.



*If the messages from an external MIDI device through the MIDI IN stops comming suddenly, the following error message will be shown. If this happpens, check if there is anything wrong with the connections or connection cables.



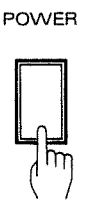
3 OPERATION

1. Power−up

<Power−up to the D−10 or D−20>

Simply turn the unit on.

The Display will respond with :



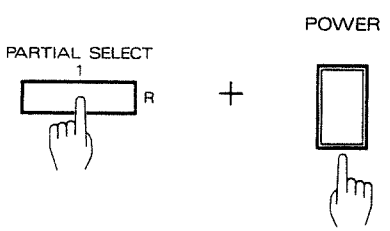

```
* Linear Synthesizer Programmer  PG-10 *
For D-10/20                 Roland Corporation
```

```
TONE EDIT:                    Select&Press Enter
▸P1  P2  P3  P4  P5  P6  P7  P8  L  U
```

<Power−up to the D−110>

Turn the unit on while holding the PARTIAL SELECT 1 down.

The Display will respond with :




```
* Linear Synthesizer Programmer  PG-10 *
For D-110                   Roland Corporation
```

```
TONE EDIT:                    Select&Press Enter
▸P1  P2  P3  P4  P5  P6  P7  P8
```

2. Preparation (Setting the Unit Numbers)

The PG−10 edits sound data using the MIDI Exclusive messages (=MIDI messages of the manufacturer's own). This means that the PG−10 cannot control a unit of a different manufacturer or a unit which cannot receive the MIDI Exclusive messages.

To send or receive the MIDI Exclusive messages,it is nencessary to set the Unit Number of the PG−10 and the sound module to the same number. All the PG−10, D−10 and D−20 default to Unit Number 17, therefore you do not need to change the Unit Numbers. If the Unit Number of a unit to be used with the PG−10 is set to other than 17, change the number of the PG−10 to that number.
(See page 39 "Changing MIDI Unit Numbers".)

3. Editing Data of the D−10 or D−20

For editing data of the D−10 or D−20 with the PG−10, do as follows.

a. Patch Editing

Step 1 **Select the Patch to be edited on the D−10 or D−20.**

Step 2 **Change to the following Menu Display using EDIT MENU.**

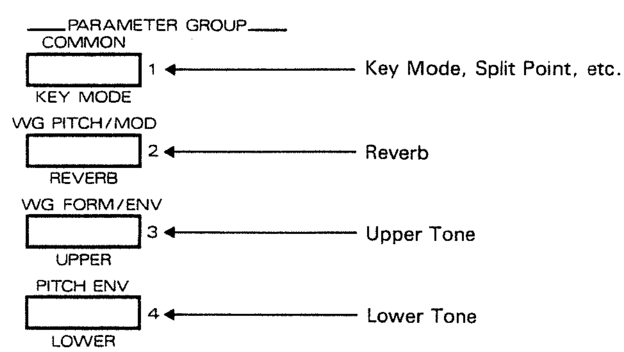
```
PATCH EDIT:                      Press Enter
```

Step 3 **Push ENTER.**

The selected Patch is now copied to the PG−10.

```
PATCH:    Name                KeyM  SP  Bal  Lvl
KeyMode  ****************     WHL   C4   50  100
```

Step 4 **Patch Edit includes four different Displays. Using PARAMETER GROUP, select the desired Display.**



Step 5 **Set the value using the Edit Knob located under the parameter to be edited.**

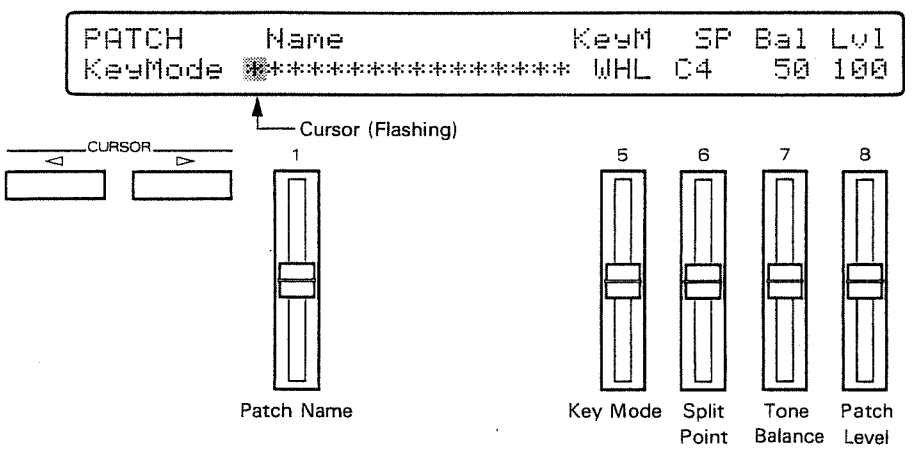
Step 6 Repeat Steps 4 and 5.

*The edited data can be written into memory with the PG−10. (See page 33 "Writing".)

*To return to the Menu Display, push EXIT.

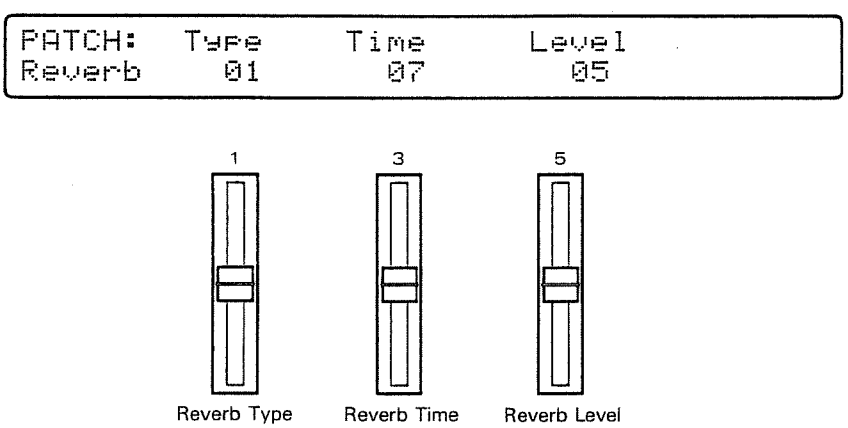
=PARAMETER DISPLAY=

● KEY MODE

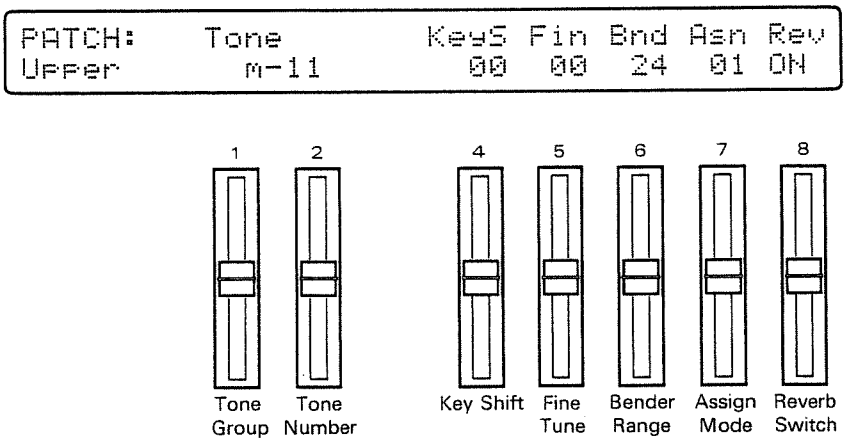


*To edit a Patch Name, move the cursor to the letter to be changed with CURSOR, then select a new letter with the Edit Knob 1.

● REVERB

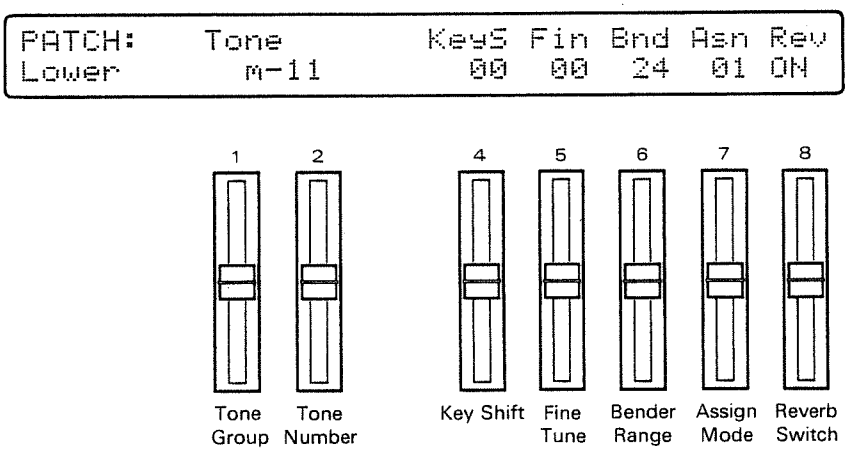


● UPPER



*The Tone Group is set to a/b/m. "m" represents "i" when an Internal Patch is selected, and represents "c" when a Memory Card Patch is selected.

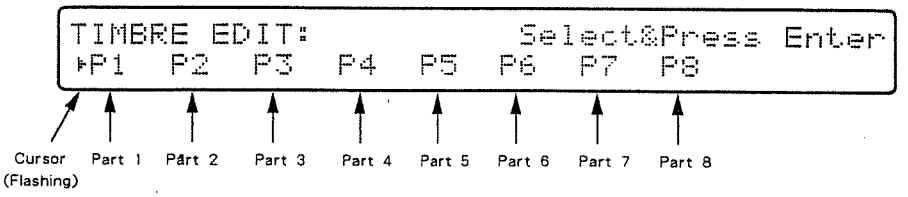
● LOWER



*The Tone Group is set to a/b/m. "m" represents "i" when an Internal Patch is selected, and represents "c" when a Memory Card Patch is selected.

b. Timbre Editing

Step 1 **Change to the following Menu Display using EDIT MENU.**

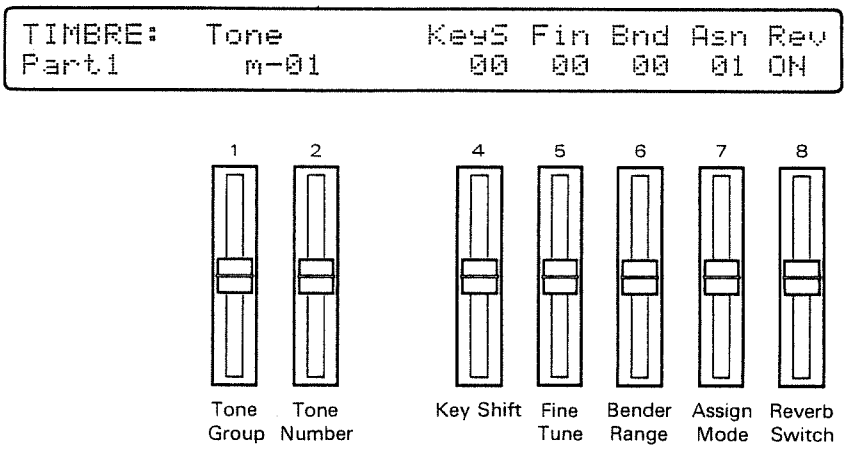


Step 2 **With CURSOR, move the cursor to the Part where the Timbre to be edited is assigned.**

Step 3 **Push ENTER.**

The selected Timbre is now copied to the PG−10.

Step 4 **Set the value using the Edit Knob located under the parameter to be edited.**



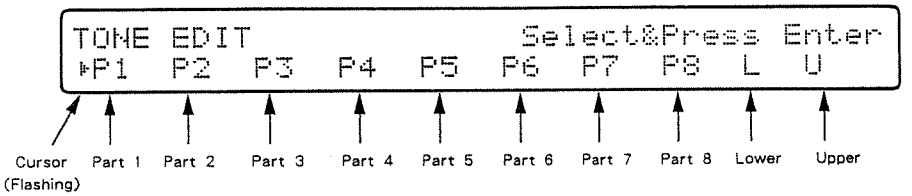
*The Tone Group is set to a/b/m. "m" represents "i" when an Internal Patch is selected, and represents "c" when a Memory Card Patch is selected.

*The edited data can be written into memory either with the PG−10. (See page 33 "Writing".)

*To return to the Menu Display, push EXIT.

c. Tone Editing

Step 1 Change to the following Menu Display with EDIT MENU.



Step 2 Select a Tone to be edited as follows :

[Selecting a Tone in the Performance Mode]

①Call the Patch which includes the Tone to be edited on the D−20 or D−10.

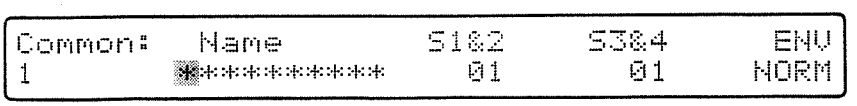
②Using CURSOR, move the cursor to the Tone to be edited (to Upper or Lower).

[Selecting a Tone in the Multi Timbral Mode]

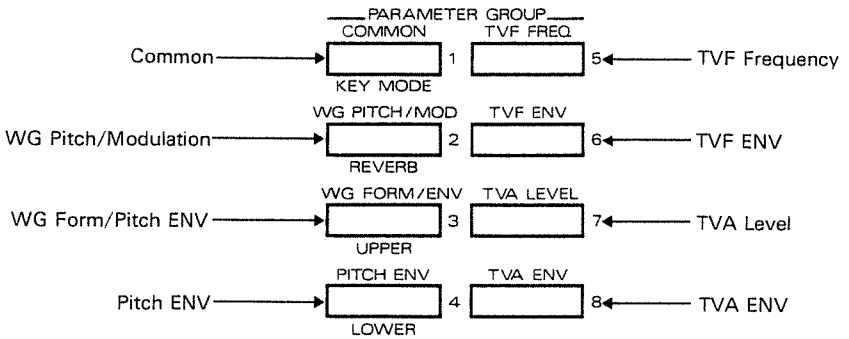
①Move the cursor to the Part where the Tone (Timbre) to be edited is assigned using CURSOR.

Step 3 Push ENTER.

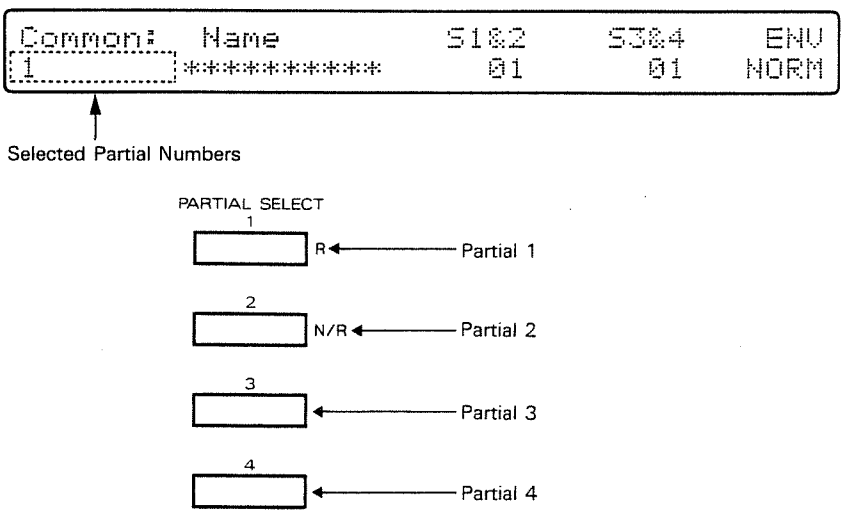
The selected Tone is now copied to the PG−10.



Step 4 Tone Edit consists of 8 different Displays. Select the Parameter Display to be used for editing using PARAMETER GROUP.



Step 5 Select the Partial to be edited with PARTIAL SELECT.



Each time the button is pressed, ON or OFF is selected. By turning more than one Partial ON, the same Parameters in the relevant Partials can be all edited at the same time.

*When more than one Partial is selected, the Display shows the value of the Partial which has the youngest Partial number.

Step 6 **Change the value using the Edit Knob situated under the parameter to be edited.**

Step 7 **Repeat Steps 4 to 6.**

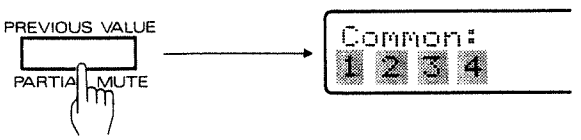
***The edited data can be written into memory with the PG−10. (See page 33 "Writing".)**

***To return to the Menu Display, push EXIT.**

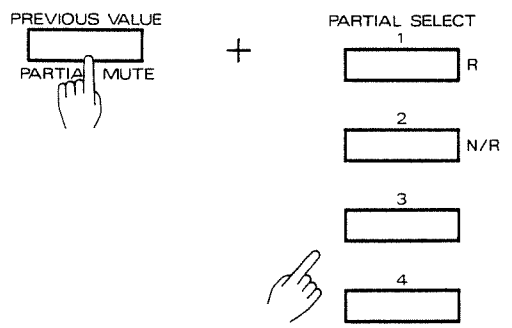
[Partial Mute]

You can mute any Partial.

Push PARTIAL MUTE. While you are holding PARTIAL MUTE down, you can see that heard Partials flash and muted Partials remain dark.



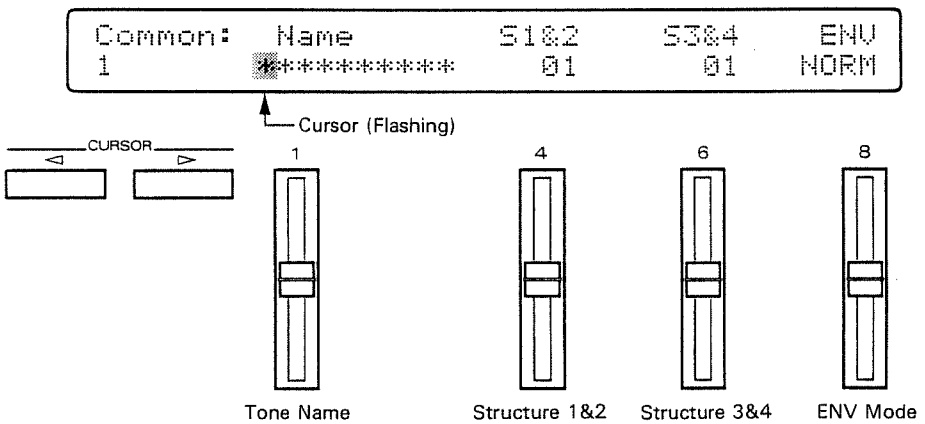
While still holding PARTIAL MUTE, mute the Partials you want by pressing the relevant PARTIAL SELECT. Each time a button is pressed, the corresponding Partial is muted (the indicator goes out) or sounded (the indicator flashing).



***Even the muted Partails can be edited.**

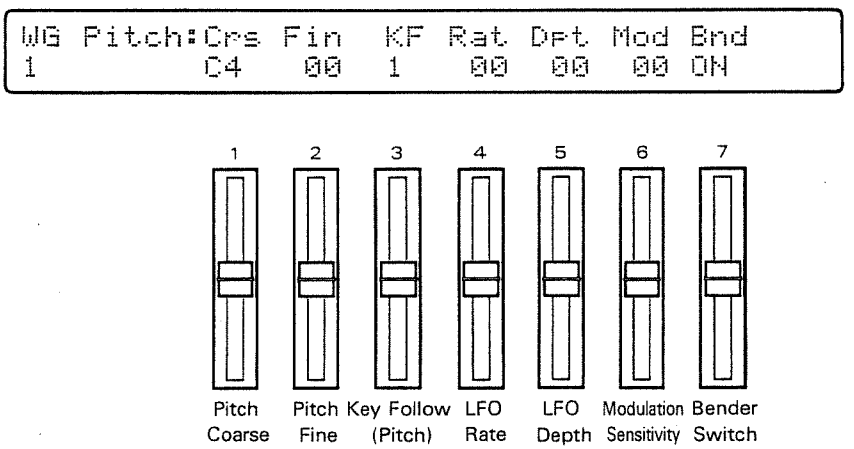
=PARAMETER DISPLAY=

● COMMON



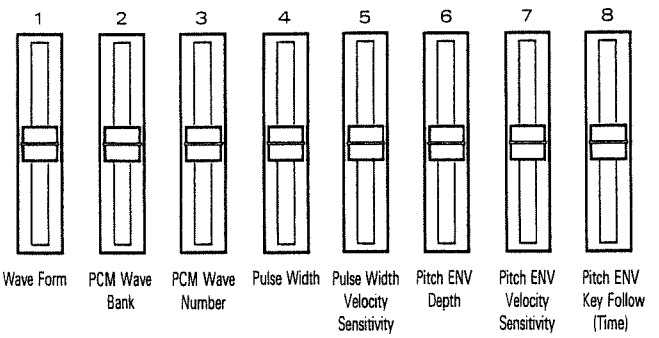
*To edit a Tone Name, move the cursor to the letter to be changed with CURSOR, then select a new letter with the Edit Knob 1.

● WG PITCH/MOD



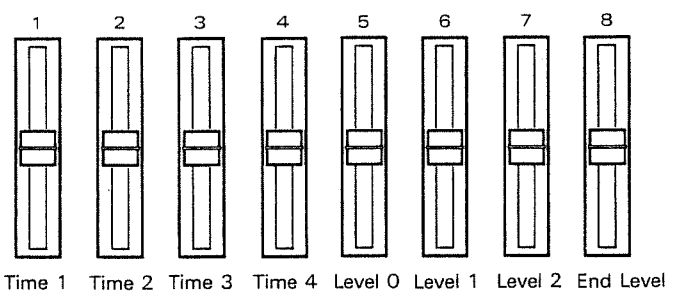
● WG FORM/ENV

```
WG Form: Wave PCM      PW PWV Dpt Vel TKF
1        SQU   1- 01   00  00  00  00  00
```

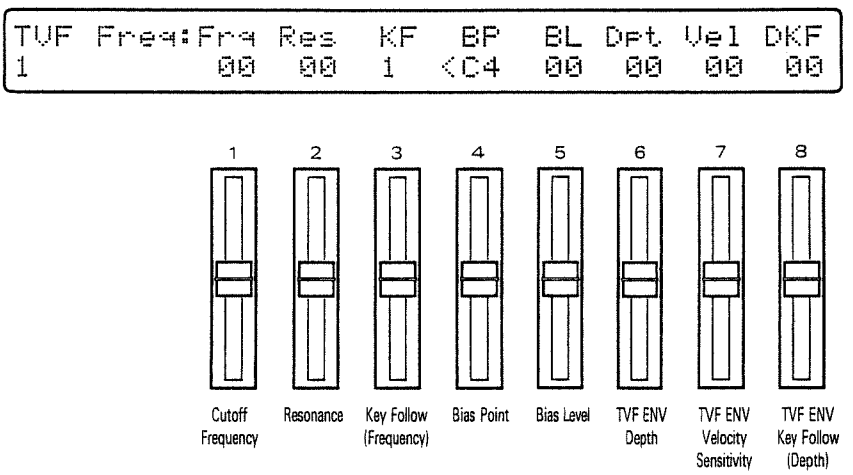


● PITCH ENV

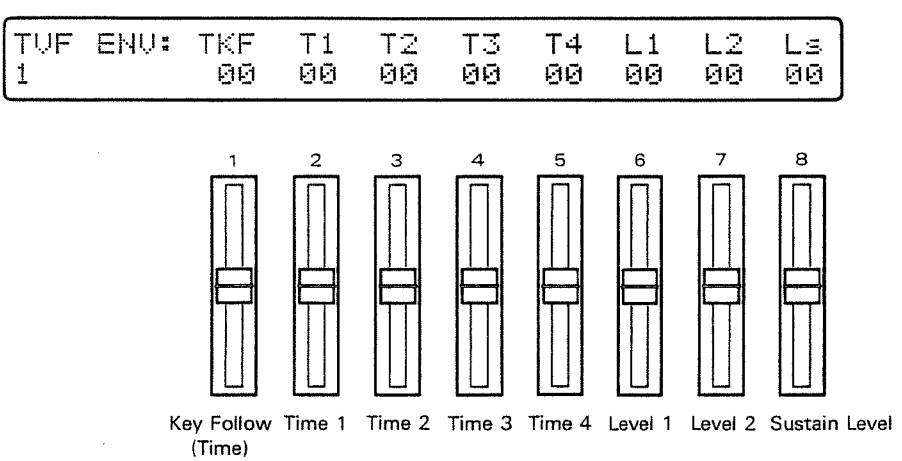
```
PitchENV: T1  T2  T3  T4  L0  L1  L2  Le
1         00  00  00  00  00  00  00  00
```



●TVF FREQ

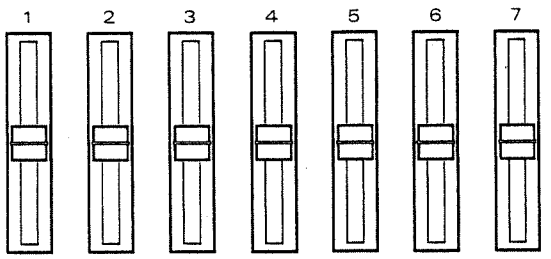


●TVF ENV



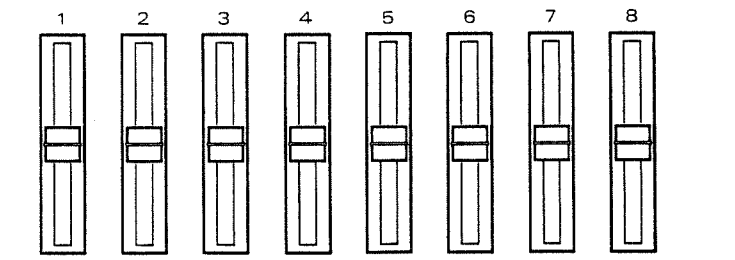
● TVA LEVEL

```
TVA Levl:Lvl Vel BP1 BL1 BP2 BL2 EVF
1        100  00 <C4  00 <C4  00  00
```



● TVA ENV

```
TVA ENV: TKF  T1  T2  T3  T4  L1  L2  Ls
1         00  00  00  00  00  00  00  00
```



4. Editing Data of the D–110

For editing data of the D–110 with the PG–10, do as follows.

a. Patch Editing

Step 1 **Select the Patch to be edited on the D–110.**

Step 2 **Change to the following Menu Display using EDIT MENU.**

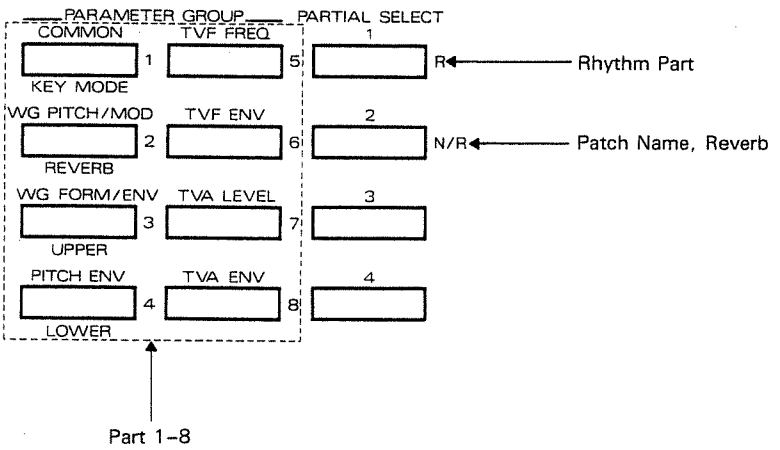
```
PATCH EDIT:                          Press Enter
```

Step 3 **Push ENTER.**

The selected Patch is now copied to the PG–10.

```
PATCH: Level Pan    RangL   RangU CH Rsv
Part1     50  ><     C2      C6  01  00
```

Step 4 **Patch Edit includes ten different Displays. Using PARAMETER GROUP, select the desired Display.**



Step 5 **Set the value using the Edit Knob located under the parameter to be edited.**

Step 6 Repeat Steps 4 and 5.

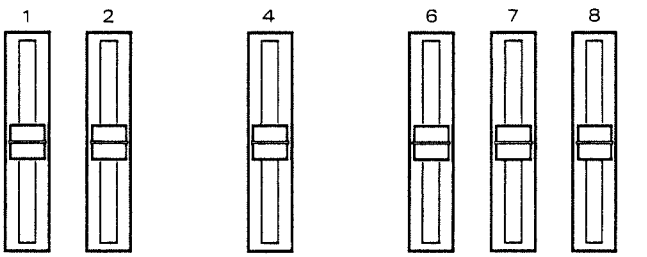
*The edited data can be written into memory with the PG−10. (See page 33 "Writing".)

*To return to the Menu Display, push EXIT.

=PARAMETER DISPLAY=

● 1–8 (Part)

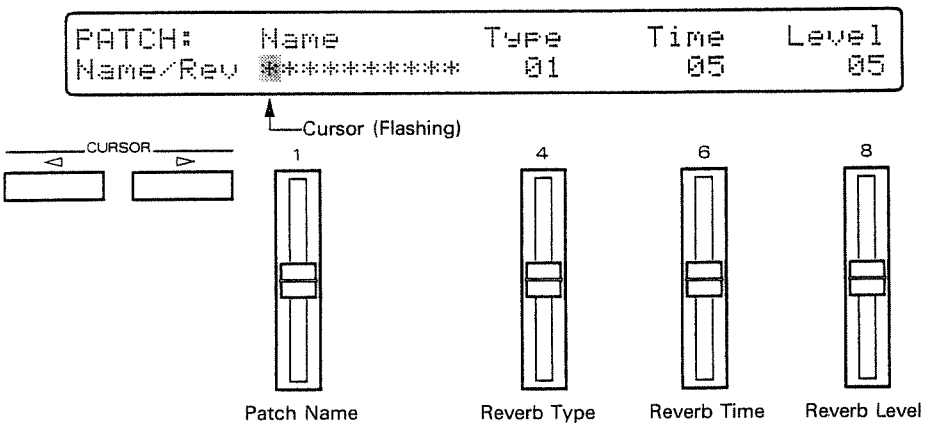
```
PATCH: Level Pan    RangL   RangU CH Rsv
Part1     50  ><     C2      C6  01  00
```



● R (Rhythm Part)

```
PATCH: Level                    CH Rsv
Rhythm    50                    10  00
```

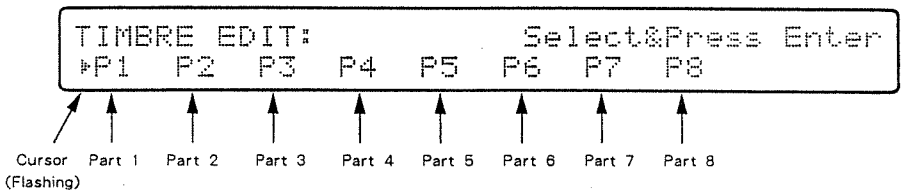
● N／R (Name／Reverb)



＊To edit a Patch Name, move the cursor to the letter to be changed with CURSOR, then select a new letter with the Edit Knob 1.

b. Timbre Editing

Step 1 **Change to the following Menu Display using EDIT MENU.**

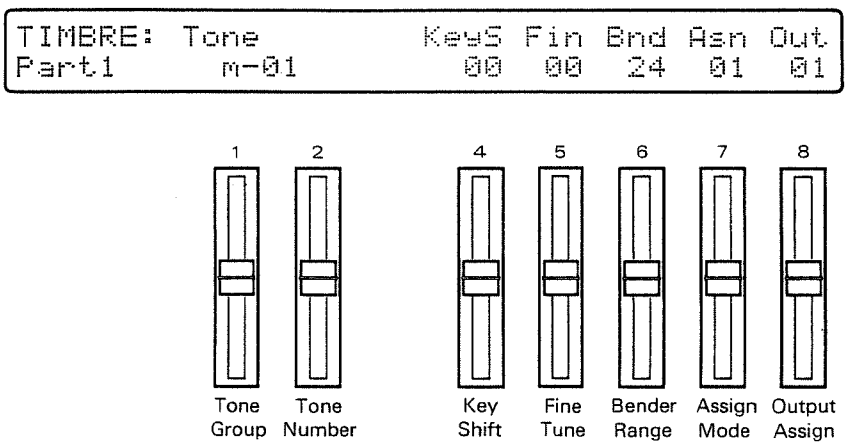


Step 2 **With CURSOR, move the cursor to the part where the Timbre to be edited is assigned.**

Step 3 **Push ENTER.**

The selected Timbre is now copied to the PG−10.

Step 4 **Set the value using the Edit Knob located under the parameter to be edited.**



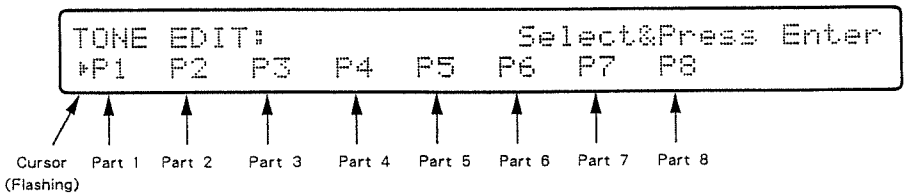
*The Tone Group is set to a/b/m. "m" represents "i" when an Internal Patch is selected, and represents "c" when a Memory Card Patch is selected.

*The edited data can be written into memory with the PG−10. (See page 33 "Writing".)

*To return to the Menu Display, push EXIT.

c. Tone Editing

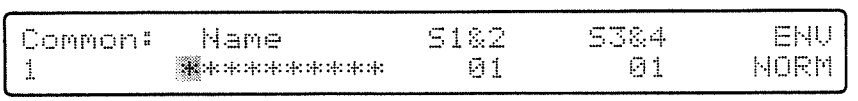
Step 1 Change to the following Menu Display with EDIT MENU.



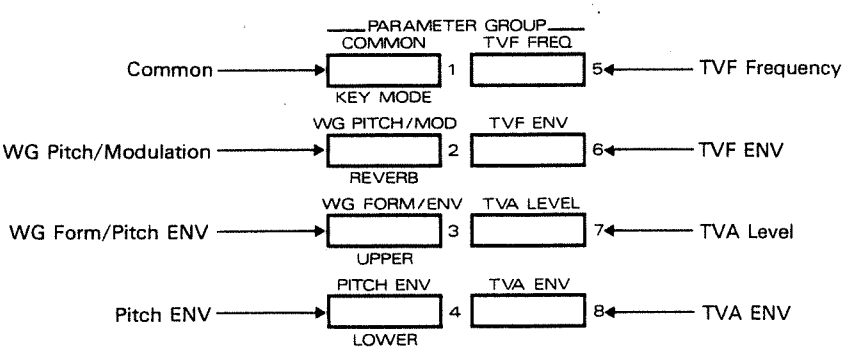
Step 2 Using CURSOR, move the cursor to the Part to which the Tone (Timbre) to be edited is assigned.

Step 3 Push ENTER.

The selected Tone is now copied to the PG−10.

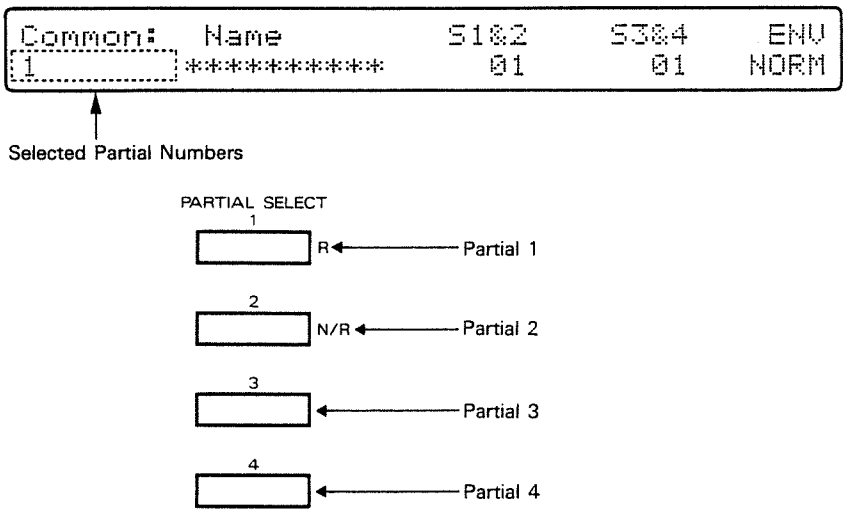


Step 4 Tone Edit consists of 8 different Displays. Select the Parameter Display to be used for editing using PARAMETER GROUP.



*Parameter Displays are exactly the same as the D−10 or D−20's. (See page 15−18.)

Step 5 Select the Partial to be edited with PARTIAL SELECT.



Each time the button is pressed, ON or OFF is selected. By turning more than one Partial ON, the same Parameters in the relevant Partials can be all edited at the same time.

*When more than one Partial is selected, the Display shows the value of the Partial which has the youngest Partial number.

Step 6 Change the value using the Edit Knob situated under the parameter to be edited.

Step 7 Repeat Steps 4 to 6.

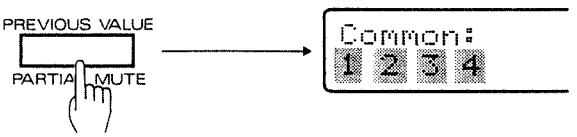
*The edited data can be written into memory with the PG—10. (See page 33 "Writing".)

*To return to the Menu Display, push EXIT.

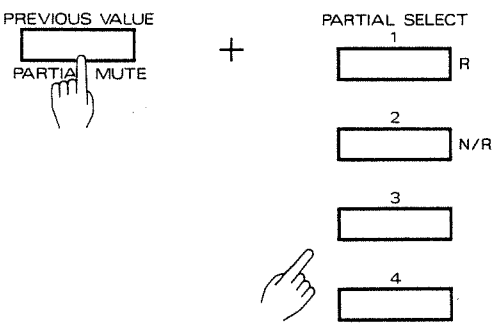
[Partial Mute]

You can mute any Partial.

Push PARTIAL MUTE. While you are holding PARTIAL MUTE down, you can see that heard Partials flash and muted Partials remain dark.



While still holding PARTIAL MUTE, mute the Partials you want by pressing the relevant PARTIAL SELECT. Each time a button is pressed, the corresponding Partial is muted (the indicator goes out) or sounded (the indicator flashing).



*Even the muted Partails can be edited.

[Notes on Editing]

Tone parameters included in the D−10 or D−20 differs from those of the D−110. The Programmer PG−10 has exactly the same parameters as the D−10 or D−20. When using the PG−10 with the D−110, please be careful about the following points.

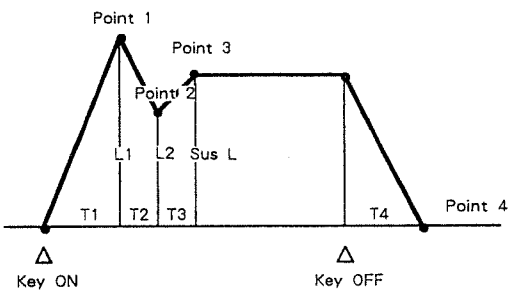
◎PITCH ENV

Changing the PG−10's Time 3 will set the D−110's Sustain Level to zero (=standard pitch).

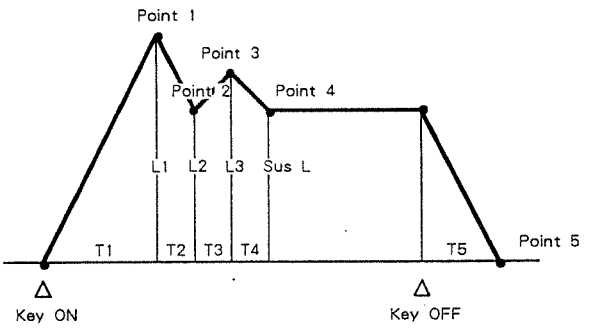
◎TVF ENV/TVA ENV

Changing the Sustain Level of the PG−10 will set the D−110's Level 3 to the same value as the PG−10's Sustain Level. Also, the PG−10's Time 4 corresponds to the D−110's Time 5.

D−10/20



D−110



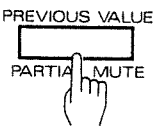
5. Functions for Editing

There are various useful function for editing.

a. Previous Value

The Previous Value function cause the Display to show the value which was set before being edited, in other words, the initial (default) value of the Parameter Display currently selected. This function, therefore will be effectively used for comparing the current value with the value before being edited.

Push PREVIOUS VALUE. While it is being pressed, the Display shows the initial value of the current Display.



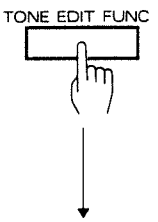
***The Previous Value function applies only to the Partials selected with the Partial Select function.**

b. Undo

The Undo function returns the current value of the parameter to the inital value of the current Display. This function may be useful for cancelling the edited settings.

***The Undo function is valid only in the Tone Edit mode.**

Step 1 **Push TONE EIDT FUNC.**




```
TONE EDIT FUNCTION:   Select&Press Enter
▸COPY  UNDO  INITIALIZE
```

Step 2 **Using CURSOR, move the cursor to UNDO.**

Step 3 **Push ENTER.**

When the Undo function is completed, the Display shows as below for a while, then returns to the Common Display.

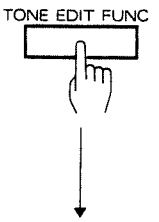
```
UNDO:
                    ... Complete
```

***The Undo function only applies to the Partials selected in the Partial Select function.**

c. Partial Copy

Any Partial (=source Partial) can be copied to a different location (=destinaiton Partial).

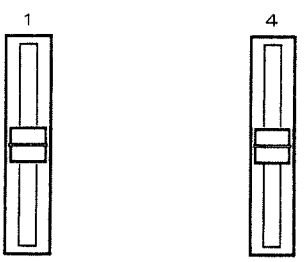
Step 1 **Push TONE EDIT FUNC.**




```
TONE EDIT FUNCTION:   Select&Press Enter
*COPY  UNDO  INITIALIZE
```

Step 2 **Push ENTER.**

```
PARTIAL COPY:              Are you sure?...
  Partial-1 → Partial-1       (Enter/Exit)
```



Step 3 **Select the Partial to be copied (=source Partial) with the Edit Knob 1, then the new location (=destination Partial) with the Edit Knob 4.**

Step 4 **Push ENTER.**

When the source Partial is copied to a destinaiton Partial, the Display responds as shown below for a while then returns to the Common Display.

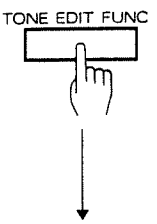
```
PARTIAL COPY:
                  ... Complete
```

*When the destinaiton Partial is muted, taking the above Partial Copy procedure will release the Partial mute status.

d. Partial Initialize

The Partial Initialize function initializes any Partial you select. This function may be used for creating a sound from scratch.

Step 1 **Push TONE EDIT FUNC.**




```
TONE EDIT FUNCTION:   Select&Press Enter
▸COPY  UNDO  INITIALIZE
```

Step 2 **Using CURSOR, move the corsor to INITIALIZE.**

Step 3 **Push ENTER.**

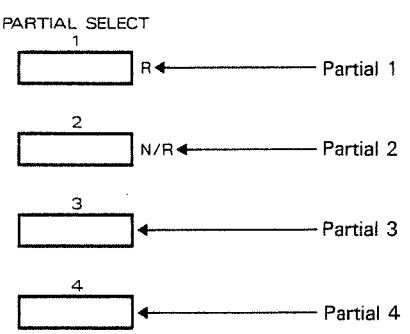
```
PARTIAL INITIALIZE:        Are you sure?...
                                (Enter/Exit)
```

Step 4 **Select the Partial to be initialized with PARTIAL SELECT.**

The Display shows the selected Partial's number.

```
PARTIAL INITIALIZE:        Are you sure?...
[ ]                             (Enter/Exit)
```

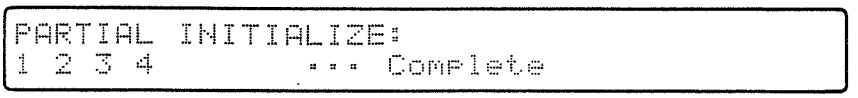
Selected Partial Numbers



Each time the PARTIAL SELECT is pressed, the Partial Initialize function is turned on or off. It is possible to select more than one Partial, initializing all the relevant Partials at the same time.

Step 5 **Push ENTER.**

When the initialization is completed, the Display responds as shown below for a while then returns to the Common Display.



***When the muted Partial is initialized, taking the above Partial Initialize procedure will cancel the Partial Mute status.**

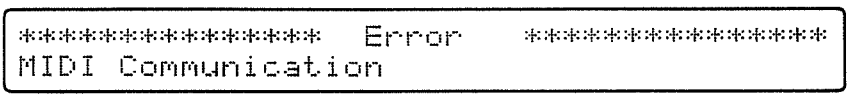
6. Writing

Your edited version can be written into memory by taking an appropriate writing procedure on the PG−10.

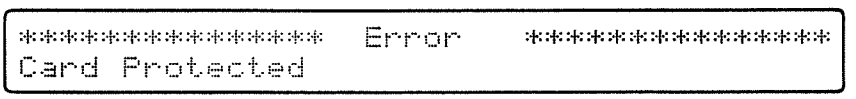
***The Tone writing procedure to be taken on the PG−10 is the same for the D−10, D−20 or D−110, while Patch/Timbre writing differs slightly for each unit.**

[Error Messages]

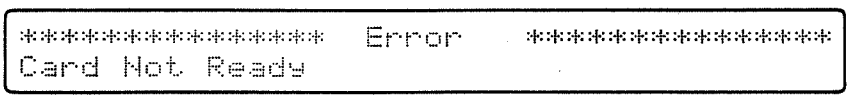
When a correct writing procedure is not taken, the following Error Message will be shown in the Display, returning to the editing mode.



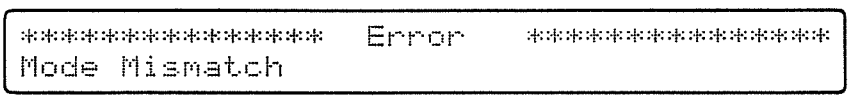
This appears when the connections are not correctly made. Check if there is something wrong with the connections or connection cables.



This appears when the Protect Switch on the memory card is set to the ON position. Set it to the OFF position, then repeat writing.



The memory card is not correctly connected. Insert the card properly, then repeat writing.



This appears when you write the Timbre data with the D−10/20 in the Performance Mode, or when writing the Patch data with the D−10/20 in the Multi Timbral Mode. Set the D−10/20 to the correct mode, then repeat the writing procedure.

a. Patch/Timbre Writing (→D−10/D−20)

After you have edited a Patch or Timbre, do as follows.

***If you write a Patch or Timbre which uses a Tone in i (or c) group onto a memory card (or into the internal memory), a Tone of the same number in c (or i) group will be selected. This fact means, unless the Tones in the internal memory and on the card are exactly the same, the produced sound will change.**

Step 1 **Push WRITE.**

〈Patch〉

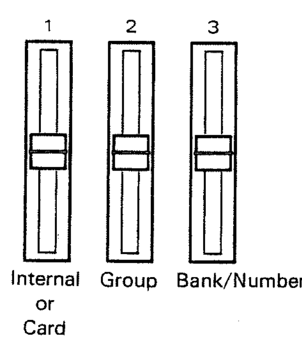
```
WRITE:****************   Are you sure?...
Patch    →INT  A   11       (Enter/Exit)
```

〈Timbre〉

```
WRITE:****************   Are you sure?...
Timbre   →INT  A   11       (Enter/Exit)
```

Step 2 **Select a destination Patch or Timbre with the corresponding Edit Knob.**

```
WRITE:****************   Are you sure?...
Timbre   →INT  A   11       (Enter/Exit)
```



Step 3 **When writing onto a memory card, set the Protect Switch on the memory card to the OFF position.**

When writing into the internal memory, you do not set the switch to OFF.

Step 4 **Push ENTER.**

When the writing is properly done, the Display responds as shown below for a while then returns to the Menu Display.

```
WRITE:
Timbre          ••• Complete
```

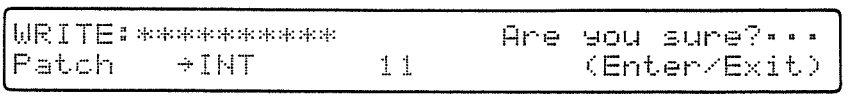
b. Patch/Timbre Writing (→D−110)

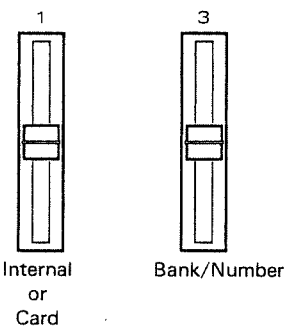
[Patch Writing]

After a Patch or Timbre is edited, do as follows.

Step 1 **Push WRITE.**

Step 2 **Select a destination Patch with the corresponding Edit Knob.**



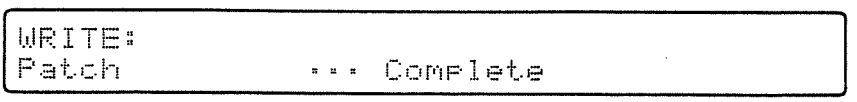


Step 3 **When writing onto a memory card, set the Protect Switch on the memory card to the OFF position.**

When writing into the internal memory, you do not set the switch to OFF.

Step 4 **Push ENTER.**

When the Patch is properly written, the Display responds as shown below for a while then returns to the Menu Display.



[Timbre Writing]

After you have edited a Timbre, do as follows.

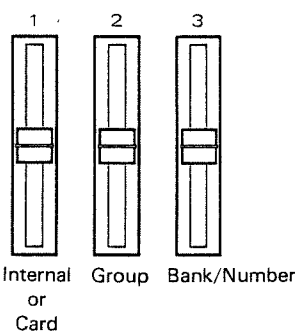
*If you write a Timbre which uses a Tone in i (or c) group onto a memory card (or into the internal memory), a Tone of the same number in c (or i) group will be selected. This fact means, unless the Tones in the internal memory and on the card are exactly the same, the produced sound will change.

Step 1 **Push WRITE.**

```
WRITE:                          Are you sure?...
Timbre  →INT  A   11              (Enter/Exit)
```

Step 2 **Select a destination Timbre with the corresponding Edit Knob.**

```
WRITE:                          Are you sure?...
Timbre  →INT  A   11              (Enter/Exit)
```



Step 3 **When writing onto a memory card, set the Protect Switch on the memory card to the OFF position.**

When writing into the internal memory, you do not set the switch to OFF.

Step 4 **Push ENTER.**

When the writing is properly done, the Display responds as shown below for a while then returns to the Menu Display.

```
WRITE:
Timbre              ... Complete
```

c. Tone Writing (→D−10/D−20, D−110)

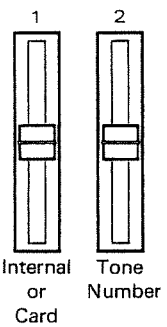
After you have edited a Tone, do as follows.

Step 1 **Push WRITE.**

```
WRITE:**********          Are you sure?...
Tone     →INT  01              (Enter/Exit)
```

Step 2 **Select a destination Tone with the corresponding Edit Knob.**

```
WRITE:**********          Are you sure?...
Tone     →INT  01              (Enter/Exit)
```



Step 3 **When writing onto a memory card, set the Protect Switch on the memory card to the OFF position.**

When writing into the internal memory, you do not set the switch to OFF.

Step 4 **Push ENTER.**

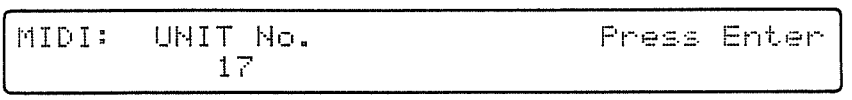
When the writing is properly done, the Display responds as shown below for a while then returns to the Menu Display.

```
WRITE:
Tone                ... Complete
```

7. Changing MIDI Unit Numbers

The PG−10 defaults to MIDI Unit Number 17. If you need to change it, do as follows.

Step 1 **Push MIDI UNIT No.**



Step 2 **Change the MIDI Unit Number with the Edit Knob 1.**

Step 3 **Push ENTER.**

A new Unit Number is now set, the Display returned to normal.

***When the PG−10 is switched off once, then swiched on again, the Unit Number will be set back to 17.**

4 SAMPLE NOTES

Patch/Timbre (D-10/20)

Patch No.__________

Patch Name________________________

Key Mode	
Split Point	
Reverb Type	
Reverb Time	
Reverb Level	
Tone Balance	
Patch Level	

	Lower	Upper
Tone Select		
Key Shift		
Fine Tune		
Bender Range		
Assign Mode		
Reverb Switch		

Patch No.__________

Patch Name________________________

Key Mode	
Split Point	
Reverb Type	
Reverb Time	
Reverb Level	
Tone Balance	
Patch Level	

	Lower	Upper
Tone Select		
Key Shift		
Fine Tune		
Bender Range		
Assign Mode		
Reverb Switch		

Patch No.__________

Patch Name________________________

Key Mode	
Split Point	
Reverb Type	
Reverb Time	
Reverb Level	
Tone Balance	
Patch Level	

	Lower	Upper
Tone Select		
Key Shift		
Fine Tune		
Bender Range		
Assign Mode		
Reverb Switch		

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Timbre No.__________

Tone Select	
Key Shift	
Fine Tune	
Bender Range	
Assign Mode	
Reverb Switch	

Patch/Timbre (D-110)

Patch No.		Patch Name			
Reverb Type		Reverb Time		Reverb Level	

	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part R
Output Level									
Pan									
Key Range (L)									
Key Range (U)									
MIDI Channel									
Partial Reserve									
Tone Select									
Key Shift									
Fine Tune									
Bender Range									
Assign Mode									
Output Assign									

Patch No.		Patch Name			
Reverb Type		Reverb Time		Reverb Level	

	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part R
Output Level									
Pan									
Key Range (L)									
Key Range (U)									
MIDI Channel									
Partial Reserve									
Tone Select									
Key Shift									
Fine Tune									
Bender Range									
Assign Mode									
Output Assign									

Tone (D−10/20/110)

Tone No._____

Tone Name _____

Used Patch No._____ Used Timbre No._____

Structure 1&2		Structure 3&4		ENV Mode	

WG		1	2	3	4
Pitch	Coarse				
	Fine				
	KF				
LFO	Rate				
	Depth				
	Mod				
	Bend				
Waveform	Form				
	PCM B				
	PCM No				
PW	PW				
	Velo				
Pitch ENV	Depth				
	Velo				
	TKF				
	T 1				
	T 2				
	T 3				
	T 4				
	L 0				
	L 1				
	L 2				
	End L				

TVF		1	2	3	4
TVF Frequency	Freq				
	Reso				
	KF				
	BP				
	BL				
TVF ENV	Depth				
	DVelo				
	DKF				
	TKF				
	T 1				
	T 2				
	T 3				
	T 4				
	L 1				
	L 2				
	Sus L				

TVA		1	2	3	4
TVA Level	Level				
	Velo				
	BP 1				
	BL 1				
	BP 2				
	BL 2				
TVA ENV	Velo T 1				
	TKF				
	T 1				
	T 2				
	T 3				
	T 4				
	L 1				
	L 2				
	Sus L				

5 SPECIFICATIONS

● **Front Panel**
Edit Knob × 8
Cursor Button × 2
Write Button
Enter Button
Exit Button
MIDI Button
Edit Menu Button
Tone Edit Function Button
Previous Value/Partial Mute Button
Parameter Group Button × 8
Partial Select Button × 4

● **Rear Panel**
Power Switch
AC Adaptor Socket
MIDI IN Connector
MIDI OUT Connector
MIDI THRU Connector
Parameter IN Connector

● **Current Draw** : 200mA (DC 9V)

● **Weight** : 800g/ 1 lb 2 oz

● **Demensions** : 278 (W) ×142 (D) ×46 (H) mm / 10−15/16"×5−9/16"×1−13/16"

● **Accessories** :
Owner's Manual
Guide Book for MIDI
AC Adaptor (PSA−120, PSA−220, PSA−240)
MIDI/SYNC Cable × 2

● **Options** :
MIDI/Sync Cables (MSC−07, MSC−15, MSC−25, MSC−50, MSC−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	Manufactures ID (Roland)
DEV	Device ID
MDL	Model ID
CMD	Command ID
[BODY]	Maindata
F7H	End of exclusive

MIDI status : F0H, F7H

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

Manufactures- ID : 41H

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

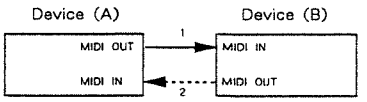
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records--waveform and tone data, switch status, and parameters, for example--to specific locations in a machine-dependent address space, thereby allowing access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

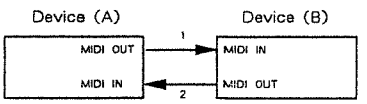


Connectionat point2 is essential for "Request data" procedures. (See Section3.)

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	Manufactures 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.

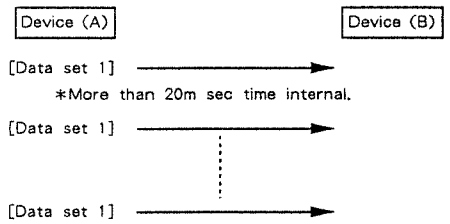
The MIDI standards inhibit non-real time messages from interrupting an exclusive one. This fact is inconvenient for the devices that support a "soft-through" mechanism. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out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

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

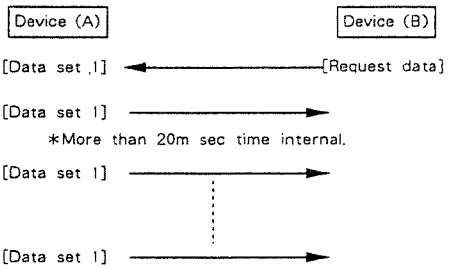
*A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before 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	Manufactures 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	Manufactures 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	Manufactures 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	Manufactures 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	Manufactures 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	Manufactures 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 :

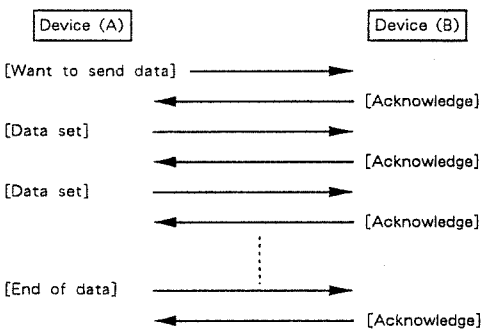
- a WSD or RQD message has specified an illegal data address or size,
- the device is not ready for communication.
- an illegal number of addresses or data has been detected.
- data transfer has been terminated by an operator.
- a communications error has occurred.

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.

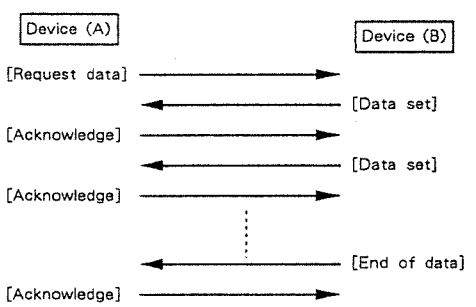
Byte	Description
F0H	Exclusive status
41H	Manufactures ID (Roland)
DEV	Device ID
MDL	Model ID
4FH	Command ID
F7H	End of exclusive

Example of Message Transactions

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

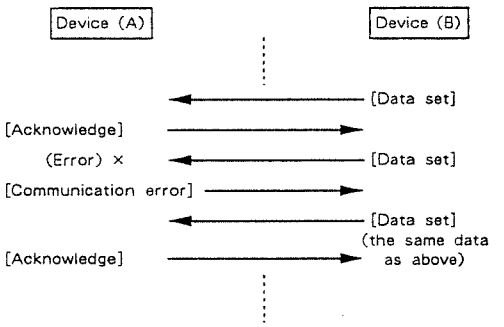


● Device (A) requests and receives data from device (B).

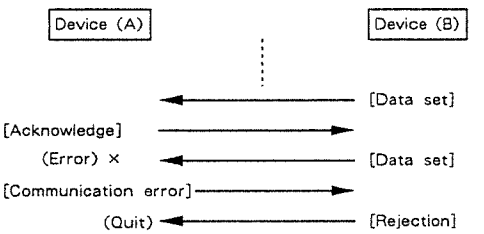


● Error occurs while device (A) is receiving data from device (B).

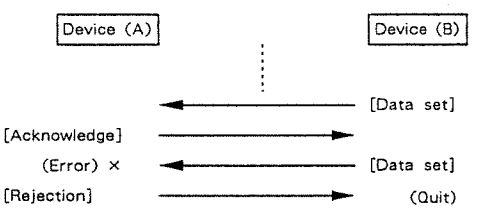
1) Data transfer from device (A) to device (B).



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



3) Device (A) immediately quits data transfer.



LINEAR SYNTHESIZER PROGRAMMER
MODEL PG−10

MIDI Implementation

Date : Feb. 12. 1988
Version : 1.00

1. TRANSMITTED DATA

■ Bypassed Message

PG−10 retransmits all MIDI IN messages except :

○Active sensing (FEH)
○Reset (FFH)

■ Note event

Note off

Status	Second	Third
9nH	kkH	00H

kk=Note No. 00H−7FH (0−127)
n =MIDI ch. 0H − FH (1−16)

When PG−10 is directed (from panel operation) to send Parameter Requestor Write command, it temporarily changes input source from MIDI IN to PARAMETER IN. This would cause PG−10 to miss coming MIDI messages.
Among missed MIDI IN messages, Note off will have crucial effect because the corresponding voice will remain on. To overcome this disadvantage PG−10 sends Note off on all channels, upon switching to PARAMETER IN toturn off all notes. Also sends Note off on all channels upon encountering interruption of Active sensing message or message of any type that is expected to come should MIDI connection from the transmitting device is intact. (Provided that PG−10 has received Active sensing message, FEH.)

■ Mode message

All notes off

Status	Second	Third
BnH	7BH	00H

n =MIDI channel 0H−FH (1−16)

After sending Note off message upon changing input sources or upon detecting failure in the MIDI passage (see Note off above), PG−10 sends All notes off.

■ Exclusive

Status
F0H : Sysytem Exclesive
F7H : EOX (End of Exclusive)

Fiddling button or control on the PG−10 will cause transmission of related MIDI exclusive message from PG−10.
See Section 3 Exclusive message.

■ Active Sensing

Status
FEH : Active Sensing

Optional transmission of this message enables the receiving unit to check MIDI connection from PG−10 MIDI OUT to its MIDI IN.
PG−10 will stop transmitting of Active sensing for about 500 ms if PG−10 itself fails to receive the active sensing sequence.

2. RECOGNIZED RECEIVE DATA

■ Exclusive

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

PG−10 will take recognizable contents in the received exclusive message.
See Section 3 Exclusive Communication for details.

■ Active Sensing

Status
FEH : Active Sensing

Having received this message, PG−10 will expect to receive information of any status or data every 300ms (max). If a 300ms passes with no information received, PG−10 assumes that there is a failure somewhere on the MIDI upperstream. And will transmit Note off on all channels to turn off the notes and will return to normal operation (will not check interval of incoming MIDI information).

3. EXCLUSIVE COMMUNICATION

The model ID number of PG−10 is 16H.
Each Device−ID# of PG−10 is Unit# specified by MIDI UNIT No. (17−32).
Note that each Unit# 17−32 corresponds to each actual Device−ID 16−31, respectively. Use of Unit# makes a part of any MIDI channel accessible with no channel barier.

■ ONE− WAY COMMUNICATION

Request Data RQ1 11H

PG−10 transmits Parameter Request when Menu screen is to be changed to Edit screen ; then changes input source from MIDI IN to PARAMETER IN.
This message can be transmitted only when PARAMETER IN (switched−socket) is being engaged with MIDI cable.

Byte	Description	
F0H	Exclusive status	
41H	Manufactures ID (Roland)	
DEV	Device ID	
16H	Model ID	
11H	Command ID	
aaH	Address MSB	*3−1
aaH	Address	
aaH	Address LSB	
ssH	Size MSB	
ssH	Size	
ssH	Size LSB	
sum	Checksum	
F7H	End of System Exclusive	

A summation of the address, data and checksum must result in "0" at lower 7 bits.

Byte	Description	
Byte	Description	
F0H	Exclusive status	
41H	Manufucture ID (Roland)	
DEV	Device ID	
16H	Model ID	
12H	Command ID	
aaH	Address MSB	*3−1
aaH	Address	
aaH	Address LSB	
ddH	Data	*3−2
:		
sum	Checksum	
F7H	End of System Exclusive	*3−3

Notes :

*3−1	Addresses and size must cover the area in which data exist.
*3−2	See Section 4.
*3−3	Upon receiving this message, PG−10 changes input source from PARAMETER IN to MIDI IN.

4. PARAMETER ADDRESS MAP

Address are shown in 7−bit hexadecimal.

Address	MSB		LSB
Binary	0aaa aaaa	0bbb bbbb	0ccc cccc
7−bit hex	AA	BB	CC

The actual address of a parameter in a block is the sum start address of each block and one or more offset addresses.

An address in Tone Temporary Area marked by *4−3 is a sum of the start address, offset address in Table *4−3 and one of the offset addresses listed in Common Parameter table or Partial Parameter table.
The data in the address marked by *4−4 can be transmitted only when PG−10 is set in D−110 mode.

■ Parameter base address

Whole part (Accessible on Unit #)

Start address	Description	
03 00 00	Timbre Temporary Area (Part1)	*4−1
03 00 10	Timbre Temporary Area (Part2)	
:		
03 00 60	Timbre Temporary Area (Part7)	
03 00 70	Timbre Temporary Area (Part8)	
03 01 00	Timbre Temporary Area (Rhythm Part)	
03 04 00	Patch Temporary Area	*4−2
04 00 00	Tone Temporary Area (Part1/UPPER)	*4−3
04 01 76	Tone Temporary Area (Part2/LOWER)	
:		
04 0B 44	Tone Temporary Area (Part7)	
04 0D 3A	Tone Temporary Area (Part8)	
10 00 00	System Area	*4−4
40 00 00	Write Request	*4−5

Notes :

*4−1 Timbre temporary area

Offset address	Description		
00 00H	0000 00aa	TONE GROUP	0−3 (a, b, m, r)
00 01H	00aa aaaa	TONE NUMBER	0−63 (1−64)
00 02H	00aa aaaa	KEY SHIFT	0−48 (−24−+24)
00 03H	0aaa aaaa	FINE TUNE	0−100 (−50−+50)
00 04H	000a aaaa	BENDER RANGE	0−24
00 05H	0000 00aa	ASSIGN MODE	0−3 (POLY 1, POLY 2, POLY 3, POLY 4)
00 06H	0000 000a	REVERB SWITCH	0−1 (OFF, ON)
00 07H	0000 0000	dummy	
00 08H	0aaa aaaa	OUTPUT LEVEL	0−100
00 09H	0000 aaaa	PANPOT	0−14 (L−R)
00 0AH	0aaa aaaa	Key Range Low	
00 0BH	0aaa aaaa	Keu Range High	
00 0CH	0000 0000	dummy	
:	:		
00 0FH	0000 0000	dummy	

Total size = 00 00 10H

*4−2 Patch Temporary area

Offset address	Description		
00 00H	0000 00aa	KEY MODE	0−2 (whole, dual, split)
00 01H	00aa aaaa	SPLIT POINT	0−61 (C2−C#7)
00 02H	0000 00aa	LOWER TONE GROUP	0−3 (a, b, m, r)
00 03H	00aa aaaa	LOWER TONE NUMBER	0−63 (1−64)
00 04H	0000 00aa	UPPER TONE GROUP	0−3 (a, b, m, r)
00 05H	00aa aaaa	UPPER TONE NUMBER	0−63 (1−64)
00 06H	00aa aaaa	LOWER KEY SHIFT	0−48 (−24−+24)
00 07H	00aa aaaa	UPPER KEY SHIFT	(0−48) (−24−+24)
00 08H	0aaa aaaa	LOWER FINE TUNE	0−100 (−50−+50)
00 09H	0aaa aaaa	UPPER FINE TUNE	0−100 (−50−+50)
00 0AH	000a aaaa	LOWER BENDER RANGE	0−24
00 0BH	000a aaaa	UPPER BENDER RANGE	0−24
00 0CH	0000 00aa	LOWER ASSIGN MODE	0−3 (1−4)
00 0DH	0000 00aa	UPPER ASSIGN MODE	0−3 (1−4)
00 0EH	0000 000a	LOWER REVERB SWITCH	0−1 (OFF, ON)
00 0FH	0000 000a	UPPER REVERB SWITCH	0−1 (OFF, ON)
00 10H	0000 aaaa	REVERB MODE	0−8 (1−8, OFF)
00 11H	0000 0aaa	REVERB TIME	0−7 (1−8)
00 12H	0000 0aaa	REVERB LEVEL	0−7
00 13H	0aaa aaaa	U/L BALANCE	0−100
00 14H	0aaa aaaa	PATCH LEVEL	0−100
00 15H	0aaa aaaa	PATCH NAME CHAR.1	32−127 (ASCII CODE)
:			
00 24H	0aaa aaaa	PATCH NAME CHAR.16	
00 25H	0000 0000	dummy	

Total size = 00 00 26H

*4−3 Tone Temporary area / Tone Memory

Offset address	Description	
00 00 00	Common parameter	*4−3−1
00 00 0E	Partial parameter (for Partial# 1)	*4−3−2
00 00 48	Partial parameter (for Partial# 2)	
00 01 02	Partial parameter (for Partial# 3)	
00 01 3C	Partial parameter (for Partial# 4)	

Total size = 00 01 76H

*4-3-1 Common parameter

Offset address		Description	
00H	0aaa aaaa	TONE NAME 1	32-127
:			(ASCII)
09H	0aaa aaaa	TONE NAME 10	
0AH	0000 aaaa	Structure of Partial# 1&2	0-12
			(1-13)
0BH	0000 aaaa	Structure of Partial# 3&4	0-12
			(1-13)
0CH	0000 aaaa	PARTIAL MUTE	0-15
			(0000-1111)
0DH	0000 000a	ENV MODE	0-1
			(Normal, No sustain)

Total size = 00 00 0EH

*4-3-2 Partial parameter

Offset address		Description		
00 00H	0aaa aaaa	WG PITCH COARSE	0-96	
			(C1, C#1, -C9)	
00 01H	0aaa aaaa	WG PITCH FINE	0-100	
			(-50-+50)	
00 02H	000a aaaa	WG PITCH KEYFOLLOW	0-16	
			(-1, -1/2, -1/4, 0, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 5/4, 3/2, 2, s1, s2)	
00 03H	0000 000a	WG PITCH BENDER SW	0-1	
			(OFF, ON)	
00 04H	0000 00aa	WG WAVEFORM/PCM BANK	0-3	
			(SQU/1, SAW/1, SQU/2, SAW/2)	
00 05H	0aaa aaaa	WG PCM WAVE #	0-127	
			(1-128)	
00 06H	0aaa aaaa	WG PULSE WIDT	0-100	
00 07H	0000 aaaa	WG PW VELO SENS	0-14	
			(-7-+7)	
00 08H	0000 aaaa	P-ENV DEPTH	0-10	
00 09H	0aaa aaaa	P-ENV VELO SENS	0-3	
00 0AH	0000 0aaa	P-ENV TIME KEYF	0-4	
00 0BH	0aaa aaaa	P-ENV TIME 1	0-100	
00 0CH	0aaa aaaa	P-ENV TIME 2	0-100	
00 0DH	0aaa aaaa	P-ENV TIME 3	0-100	*4-3-3
00 0EH	0aaa aaaa	P-ENV TIME 4	0-100	
00 0FH	0aaa aaaa	P-ENV LEVEL 0	0-100	
			(-50-+50)	
00 10H	0aaa aaaa	P-ENV LEVEL 1	0-100	
			(-50-+50)	
00 11H	0aaa aaaa	P-ENV LEVEL 2	0-100	
			(-50-+50)	
00 12H	0aaa aaaa	P-ENV SUSTAIN LEVEL	50	*4-3-3
00 13H	0aaa aaaa	END LEVEL	0-100	
			(-50-+50)	
00 14H	0aaa aaaa	P-LFO RATE	0-100	
00 15H	0aaa aaaa	P-LFO DEPTH	0-100	
00 16H	0aaa aaaa	P-LFO MOD SENS	0-100	
00 17H	0aaa aaaa	TVF CUTOFF FREQ	0-100	
00 18H	000a aaaa	TVF RESONANCE	0-30	
00 19H	0000 aaaa	TVF KEYFOLLOW	0-14	
			(-1, -1/2, -1/4, 0, 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 5/4, 3/2, 2)	
00 1AH	0aaa aaaa	TVF BIAS POINT	0-127	
			(<1A-<7C >1A->7C)	
00 1BH	0000 aaaa	TVF BIAS LEVEL	0-14	
			(-7-+7)	
00 1CH	0aaa aaaa	TVF ENV DEPTH	0-100	
00 1DH	0aaa aaaa	TVF ENV VELO SENS	0-100	
00 1EH	0000 0aaa	TVF ENV DEPTH KEYF	0-4	
00 1FH	0000 0aaa	TVF ENV TIME KEYF	0-4	
00 20H	0aaa aaaa	TVF ENV TIME 1	0-100	
00 21H	0aaa aaaa	TVF ENV TIME 2	0-100	
00 22H	0aaa aaaa	TVF ENV TIME 3	0-100	
00 23H	0aaa aaaa	dummy (for MT-32)		
00 24H	0aaa aaaa	TVF ENV TIME 4	0-100	
00 25H	0aaa aaaa	TVF ENV LEVEL 1	0-100	
00 26H	0aaa aaaa	TVF ENV LEVEL 2	0-100	
00 27H	0aaa aaaa	TVF ENV LEVEL 3	0-100	*4-3-4
00 28H	0aaa aaaa	TVF ENV SUSTAIN LEVEL	0-100	*4-3-4
00 29H	0aaa aaaa	TVA LEVEL	0-100	
00 2AH	0aaa aaaa	TVA VELO SENS	0-100	
00 2BH	0aaa aaaa	TVA BIAS POINT 1	0-127	
			(<1A-<7C >1A->7C)	
00 2CH	0000 aaaa	TVA BIAS LEVEL 1	0-12	
			(-12-0)	
00 2DH	0aaa aaaa	TVA BIAS POINT 2	0-127	
			(<1A-<7C >1A->7C)	
00 2EH	0000 aaaa	TVA BIAS LEVEL 2	0-12	
			(-12-0)	
00 2FH	0000 0aaa	TVA ENV TIME KEYF	0-4	
00 30H	0000 0aaa	TVA ENV TIME V-FOLLOW	0-4	
00 31H	0aaa aaaa	TVA ENV TIME 1	0-100	
00 32H	0aaa aaaa	TVA ENV TIME 2	0-100	
00 33H	0aaa aaaa	TVA ENV TIME 3	0-100	
00 34H	0aaa aaaa	dummy (for MT-32)		
00 35H	0aaa aaaa	TVA ENV TIME 4	0-100	
00 36H	0aaa aaaa	TVA ENV LEVEL 1	0-100	
00 37H	0aaa aaaa	TVA ENV LEVEL 2	0-100	
00 38H	0aaa aaaa	TVA ENV LEVEL 3	0-100	*4-3-4
00 39H	0aaa aaaa	TVA ENV SUSTAIN LEVEL	0-100	*4-3-4

Total size = 00 00 3AH

*4-3-3 TIME 3 is usually transmitted together with SUSTAIN LEVEL=50. Single transmission of SUSTAIN LEVEL is illegal.

*4-3-4 Transmission of SUSTAIN LEVEL, in turn, is followed by transmission of LEVEL 3 of the same value. Single transmission of LEVEL 3 is illegal.

*4-4 System Area

Offset address		Description		
00 00H	0aaa aaaa	dummy		
00 01H	0000 00aa	Reverb Mode	0-8	
			(1-8, OFF)	
00 02H	0000 0aaa	Reverb Time	0-7	
			(1-8)	
00 03H	0000 0aaa	Reverb Level	0-7	
00 04H	00aa aaaa	Partial Reserve (Part 1)	0-32	
00 05H	00aa aaaa	Partial Reserve (Part 2)	0-32	
00 06H	00aa aaaa	Partial Reserve (Part 3)	0-32	
00 07H	00aa aaaa	Partial Reserve (Part 4)	0-32	
00 08H	00aa aaaa	Partial Reserve (Part 5)	0-32	
00 09H	00aa aaaa	Partial Reserve (Part 6)	0-32	
00 0AH	00aa aaaa	Partial Reserve (Part 7)	0-32	
00 0BH	00aa aaaa	Partial Reserve (Part 8)	0-32	
00 0CH	00aa aaaa	Partial Reserve (Part R)	0-32	*4-4-1
00 0DH	000a aaaa	MIDI Channel (Part 1)	0-16	
			(1-16, OFF)	
00 0EH	000a aaaa	MIDI Channel (Part 2)	0-16	
			(1-16, OFF)	
00 0FH	000a aaaa	MIDI Channel (Part 3)	0-16	
			(1-16, OFF)	
00 10H	000a aaaa	MIDI Channel (Part 4)	0-16	
			(1-16, OFF)	
00 11H	000a aaaa	MIDI Channel (Part 5)	0-16	
			(1-16, OFF)	
00 12H	000a aaaa	MIDI Channel (Part 6)	0-16	
			(1-16, OFF)	

00 13H	000a aaaa	MIDI Channel (Part 7)	0−16 (1−16, OFF)
00 14H	000a aaaa	MIDI Channel (Part 8)	0−16 (1−16, OFF)
00 15H	000a aaaa	MIDI Channel (Part R)	0−16 (1−16, OFF)
00 16H	dummy		
00 17H	0aaa aaaa	PATCH NAME 1	32−127 (ASCII)
:			
00 20H	0aaa aaaa	PATCH NAME 10	

Total size = 00 00 17H

*4−4−1 Partial reserves must be sent for 9 parts; the total number of reserves must be less than 32.

*4−5 Write Request *4−5−1

Offset address	Description		
00 00H	00aa aaaa	Tone Write (part 1/upper)	0−63 (01−64)
00 01H	0000 000a		0, 1 (Internal, Card)
00 02H	00aa aaaa	Tone Write	
00 03H	0000 000a	(part 2/lower)	
:	:		
00 0EH	00aa aaaa	Tone Write	
00 0FH	0000 000a	(part 8)	
01 00H	0aaa aaaa	Timbre Write	0−127 (A11−B88)
01 01H	0000 000a		0, 1 (Internal, Card)
01 02H	0aaa aaaa	Timbre Write	
01 03H	0000 000a	(part 2)	
:	:		
01 0EH	0aaa aaaa	Timbre Write	
01 0FH	0000 000a	(part 8)	
02 00H	00aa aaaa	Patch Write	0−63 *4−5−2 (11−88)
02 01H	0000 000a		0, 1 (Internal, Card)
03 00H	0aaa aaaa	Patch Write	0−127 *4−5−3 (A11−B88)
03 01H	0000 000a		0, 1 (Internal, Card)
10 00H	0000 00aa	Result	0−3 *4−5−4 0=Function Completed 1=Card Not Ready 2=Write Protected 3=Incorrect Mod

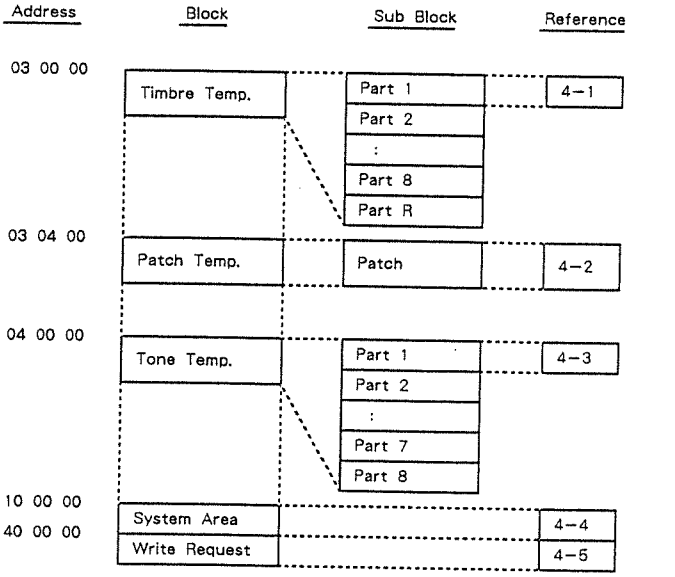
*4−5−1 (With PARAMETER IN connected to MIDI cable) Once enters into Write screen, PG−10 changes input from MIDI IN to PARAMETER IN.

*4−5−2 Sends when PG−10 is D−110 mode.

*4−5−3 Sends when PG−10 is D−10/20 mode.

*4−5−4 (With PARAMETER IN connected to MIDI cable) Upon receiving this message, PG−10 returns input source to MIDI IN.
(With PARAMETER IN disconnected) PG−10 cannot receive this message even it has sent Write Request and will remain receiving information from MIDI IN.

Address Map



LINEAR SYNTHESIZER PROGRAMMER
MODEL PG−10

MIDI Implementation Chart

Date : Feb. 12. 1988
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	×	×	
	Changed	×	×	
Mode	Default	×	×	
	Messages	×	×	
	Altered	*********		
Note Number		*	×	
	True Voice	*********		
Velocity	Note ON	*	×	
	Note OFF	*	×	
After Touch	Key's	*	×	
	Ch's	*	×	
Pitch Bender		*	×	
Control Change		*	×	
Prog Change		*	×	
	True #	*********	×	
System Exclusive		○	○	Tone Parameter
System Common	Song Pos	*	×	
	Song Sel	*	×	
	Tune	*	×	
System Real Time	Clock	*	×	
	Commands	*	×	
Aux Message	Local ON/OFF	*	×	
	All Notes OFF	*	×	
	Active Sense	○	○	
	Reset	×	×	
Notes		* This unit transmits all received MIDI messages except Active Sence and Reset. This unit uses Unit Number for Device ID of System Exclusive message.		

Mode 1 : OMNI ON, POLY　　Mode 2 : OMNI ON, MONO　　○ : Yes　× : No

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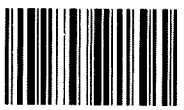

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PG-10

'88-3-CE2-2S