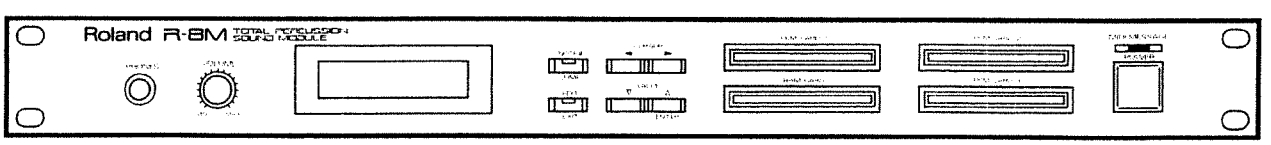
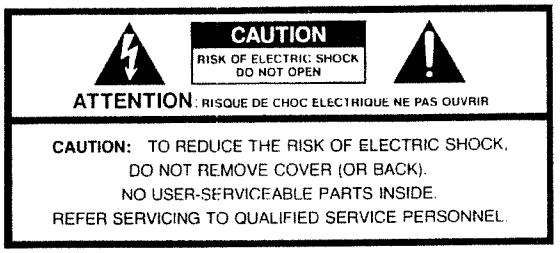
Roland

TOTAL PERCUSSION SOUND MODULE

R-8M

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:

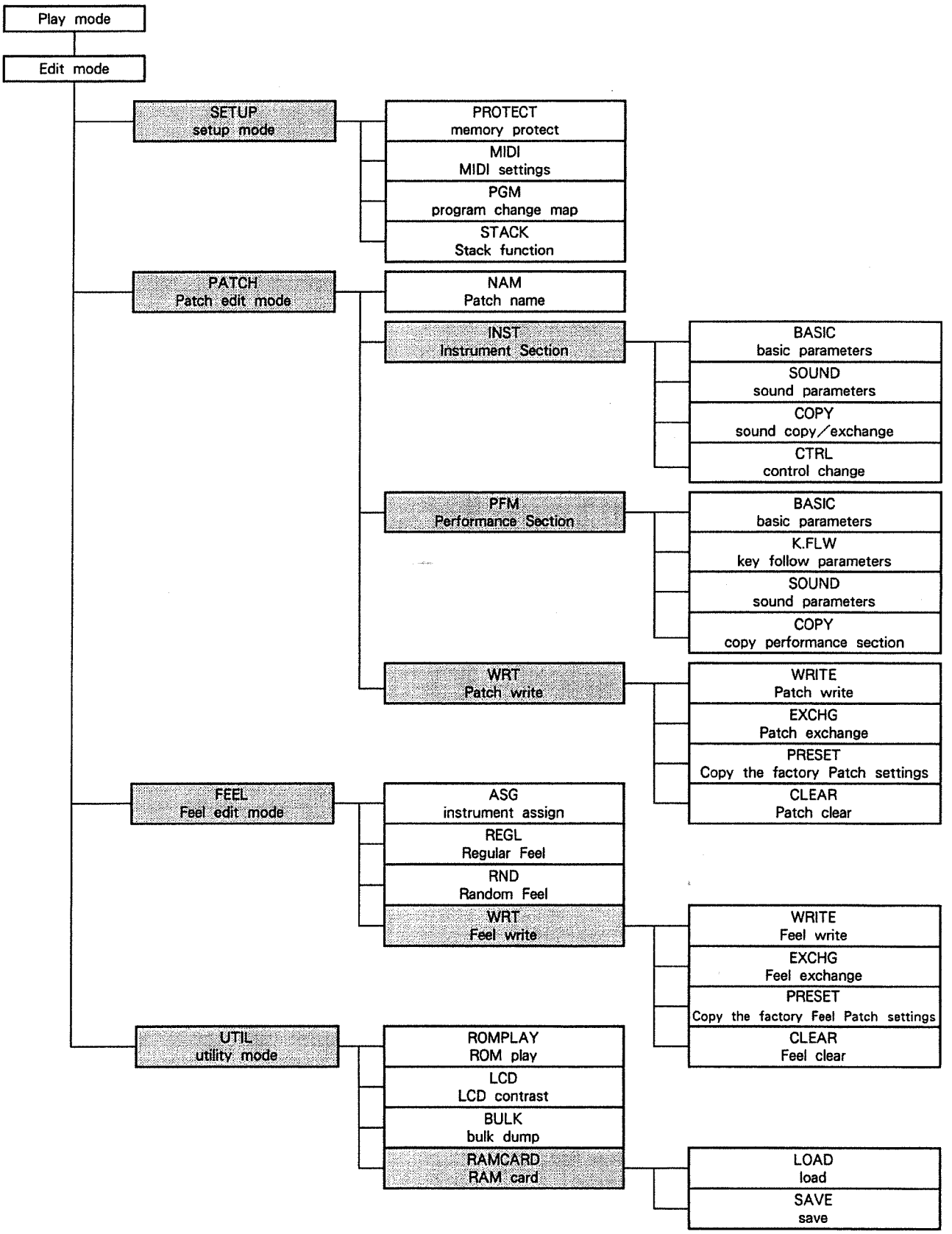
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

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.

R-8M MODE CHART



Cut off at the perforated line.

R-8M INSTRUMENTS

Instrument number	Display	Instrument name
1	* DRY_K1	DRY KICK 1
2	* DRY_K2	DRY KICK 2
3	* WOOD_K1	WOOD KICK 1
4	* DBLH_K1	DOUBLE HEAD KICK 1
5	* DBLH_K2	DOUBLE HEAD KICK 2
6	* SOLID_K	SOLID KICK
7	* ROOM_K1	ROOM AMBIENT KICK 1
8	* ROOM_K2	ROOM AMBIENT KICK 2
9	* MONDO_K	MONDO KICK
10	* WOOD_S1	WOOD SNARE 1
11	* OPEN_S1	OPEN SNARE 1
12	* TIGHT_S	TIGHT SNARE
13	* NICE_S1	NICE SNARE 1
14	* FAT_S1	FAT SNARE 1
15	* IMPCT_S	IMPACT SNARE
16	* SNAP_S1	SNAP SNARE 1
17	* OUCH_S	OUCH ! SNARE
18	* RVB_S1	REVERB SNARE 1
19	* PICL_S1	PICCOLO SNARE 1
20	* RIMSHT1	RIMSHOT SNARE 1
21	* RIMSHT2	RIMSHOT SNARE 2
22	SIDSTK1	SIDE STICK 1
23	SIDSTK2	SIDE STICK 2
24	* DRY_T1	DRY TOM 1
25	* DRY_T2	DRY TOM 2
26	* DRY_T3	DRY TOM 3
27	* DRY_T4	DRY TOM 4
28	* ROOM_T1	ROOM AMBIENT TOM 1
29	* ROOM_T2	ROOM AMBIENT TOM 2
30	* ROOM_T3	ROOM AMBIENT TOM 3
31	* ROOM_T4	ROOM AMBIENT TOM 4
32	* POWR_T1	POWER TOM 1
33	* POWR_T2	POWER TOM 2
34	* POWR_T3	POWER TOM 3

Instrument number	Display	Instrument name
35	* POWR_T4	POWER TOM 4
36	* DOOM_T1	DOOM TOM 1
37	** CLSD_H1	CLOSED HIHAT 1
38	** OPEN_H1	OPEN HIHAT 1
39	PDAL_H1	PEDAL CLOSED HIHAT 1
40	CRSH_C1	CRASH CYMBAL 1
41	** MLLT_C1	MALLET CRASH CYMBAL 1
42	** RIDE_C1	RIDE CYMBAL 1
43	** RDBL_C1	RIDE – BELL CYMBAL 1
44	BELL_C1	RIDE CYMBAL BELL 1
45	808CLAP	808 HAND CLAP
46	* OPEN_D1	OPEN DRUM 1
47	* TAIKO1	TAIKO 1
48	CLAVE1	CLAVE 1
49	CABASA1	CABASA 1
50	COWBEL1	COWBELL 1
51	TAMBRN1	TAMBOURINE 1
52	SHAKER1	SHAKER 1
53	MUTE_CG	MUTE HIGH CONGA
54	SLAP_CG	SLAP HIGH CONGA
55	LOW_CG	OPEN LOW CONGA
56	** SLID_CG	SLIDE LOW CONGA
57	AGOGO1	AGOGO 1
58	** OCT_AGG	OCTAVE AGOGO
59	WHISTL1	WHISTLE 1
60	WHISTL2	WHISTLE 2
61	** CAN1	CAN 1
62	** BACK_S1	BACK SNARE 1
63	BACK_T1	BACK TOM 1
64	BACK_C1	BACK CYMBAL 1
65	** SPARK1	SPARK 1
66	** SURF	SURF
67	** WHEEL1	WHEEL 1
68	REST	REST

* Velocity or nuance settings will modify the sound.

** Nuance settings will modify the sound.

CONTENTS

INTRODUCTION

Thank you for purchasing the Roland R - 8M Total Percussion Sound Module. The R - 8M is a digital rhythm sound module capable of producing high quality sounds.
In order to take full advantage of the R - 8M and enjoy long and trouble-free use, please read this manual carefully.

HOW TO USE THIS MANUAL

This manual is divided into the following five chapters.
If you are using MIDI for the first time, please read "About MIDI" (☞ page 68).

Chapter 1 Try out the R - 8M

This explains how to hear the demonstration song in ROM, and how to play each of the instruments in the R - 8M.

Chapter 2 Before you modify the settings

This explains the organization and basic operation of the R - 8M. Please be sure to read this section before modifying the settings.

Chapter 3 How to modify the settings

This explains the functions of the various Patch, Feel Patch, and setup parameters, and describes how to modify them.

Chapter 4 Utility mode functions

This explains how to use a RAM card, transmit exclusive messages, and use other convenient functions.

Chapter 5 Appendix

This contains basic information about MIDI, advice for trouble-shooting, parameter lists, and the MIDI implementation chart. The index included at the end can be referred to when you come across an unfamiliar word.

* This manual will refer to panel buttons by the name printed on the panel. If a single button has two names, we will use the name that applies to the function being explained.

<Example> Edit/Exit button → [EDIT]
Note number/Jump button → [NOTE #]

MAIN FEATURES

- The 68 built-in instruments (drum sounds) are sampled at 44.1kHz with 16 bit dynamic range for high quality sound.

- In addition to adjustable pitch/decay/pan for each instrument, the nuance setting can be adjusted to simulate playing strength (for drum sounds), or striking position (for cymbal sounds). This allows detailed control over the tone.

- 32 different drum-sets, each containing instrument assignments and settings for each instrument, can be stored in the R - 8M as Patches. In other words, a single R - 8M allows you to create 32 different drum-sets. You can prepare a Patch appropriate for each song, and instantly change drum-sets by selecting another Patch.

- ROM cards (SN-R8 series sold separately) provide additional instrument sounds. The R - 8M allows you to use up to 3 of the sound ROM cards at once. They can be used freely in conjunction with the internal instruments to create a wide variety of drum-sets.

- The R - 8M features the Feel Function which was highly acclaimed on the R - 8. The Feel Function allows you to combine Regular Feel and Random Feel to realistically simulate the playing of an actual drummer. The R - 8M can remember 16 different Feel Patch settings.
  Regular Feel allows you to choose from two types; Groove, which modifies the sound in a regular pattern synchronized to MIDI Clock messages from an external device, and Velocity Feel, which modifies the sound according to the velocity value.
  Random Feel adds unpredictable variation to the sound. This does not simply modify the sound in a haphazard way, but creates natural variation in tone using the "1/f Fluctuations" that appears in many aspects of the natural world.
  Simply by changing the Feel Patch settings, the same drum performance can be given a surprisingly wide range of expressive variation.

- A wide variety of MIDI functions are provided, allowing the R - 8M to be used not only as a conventional rhythm sound module, but also as a melodic synthesizer. Control change message can also be used to control the sound of a specified instrument.

- A RAM card (M-256E sold separately) can store 32 Patches and 16 Feel Patches, in addition to the internal memory of the R - 8M. RAM card Patches and Feel Patches can be selected instantly while playing.

IMPORTANT NOTES

In addition to the items listed under Safety Precautions, on page 2, we request that you please read and adhere to the following.

[Power supply]

- Whenever you make any connections with other devices, always turn off the power to all equipment first. This will help in preventing malfunction, and damage to speakers.

- Do not force the unit to share the same power outlet as one used for distortion producing devices (such as motors, variable lighting devices). Be sure to use a separate power outlet.

[Placement]

- Placing the unit near power amplifiers or other equipment containing large transformers may induce hum.

- Should the unit be operated nearby television or radio receivers, TV pictures may show signs of interference, and static might be heard on radios. In such cases, move the unit out of proximity with such devices.

- Avoid placing the unit where it may be subject to direct sunlight, or where near devices that may emanate heat. Avoid confining it within a tightly closed car or other such places. Otherwise, the unit may become deformed or discolored.

[Maintenance]

- For everyday cleaning, wipe the unit with a soft dry cloth, or one that is dampened slightly. To remove dirt that is more stubborn, wipe using a mild, neutral detergent. Afterwards, make sure to wipe thoroughly with a soft cloth.

- Never apply benzene, thinners, alcohol or any like agents, to avoid the risk of discoloration and deformation.

[Other Precautions]

- Protect the unit from strong impact.

- Never apply strong pressure to the display, or strike it in any way.

- A certain small amount of heat will be radiated from the unit, and thus should not be considered abnormal.

- Before using the unit in a foreign country, check first with your local Roland Service Station.

[Memory backup]

- Within the unit is contained a battery which serves in maintaining the contents of memory while the main power is off. The normal life of this battery is 5 years or more, but it is strongly recommended that you change it every 5 years as a rule. When it is time to change the battery, contact a Roland Service Station.

* The first time you need to change the battery could occur before 5 years have passed.

- Please be aware that the contents of memory may at times be lost; when sent for repairs or when by some chance a malfunction has occurred. Important data should be saved on RAM card, or written down on paper. During repairs, due care is taken to avoid the loss of data, however, in certain cases, such as when circuitry related to memory itself is out of order, we regret that it may be impossible to restore the data.

FRONT AND REAR PANEL

PCM Card Slot
Sound ROM cards (SN-R8 series) can be inserted into this slot. Up to 3 cards can be used at once.

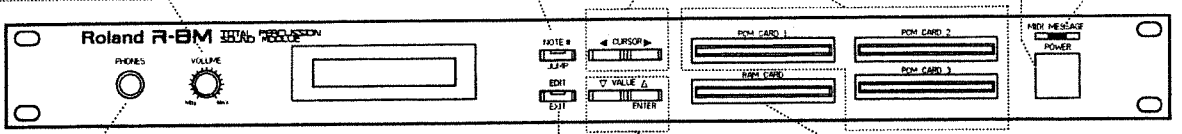
Cursor Buttons
These buttons move the cursor (blinking) in the display, or select display screens. In some modes, the function will depend on whether the [NOTE #] indicator is lit or not.

MIDI Message Indicator
This indicator will light when a MIDI message is received.

Note Number/Jump Button
To select note numbers in the Edit mode, press this button (☞see page 22). This button is also used by the Jump function to register a display screen or to jump to another display screen (☞see page 22).

Power Switch
This button turns the power on/off.

Volume Knob
This knob adjusts the overall volume of the output jacks and the headphone jack.

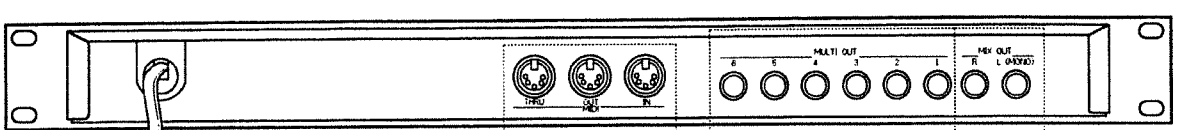


Headphone Jack
A set of headphones (RH-100 etc.) can be connected to this jack. Use headphones with impedance of 8—150 ohms. Sound will be output from the output jacks even if headphones are plugged in.

Edit/Exit Button
Press this button to enter the Edit mode. In the Edit mode, pressing this button will return you to the menu display of the previous level (☞see page 21).

Value Buttons
These buttons modify the currently selected parameter values. In the menu displays of the Edit mode, press the [ENTER] (△) button to specify parameter groups, or to execute operations such as Write.

RAM Card Slot
A RAM card (M-256E) can be inserted into this slot.



MIDI Connectors (IN, OUT, THRU)
Connect MIDI equipment to these connectors.

MULTI OUT Jacks (1—6)
These jacks can independently output the sound of the instruments as determined by the output assign settings. Instrument Section (page 28), Performance Section (page 38).

MIX OUT Jacks (L (MONO), R)
These jacks output the signal in stereo. For mono output, use the L (MONO) jack.

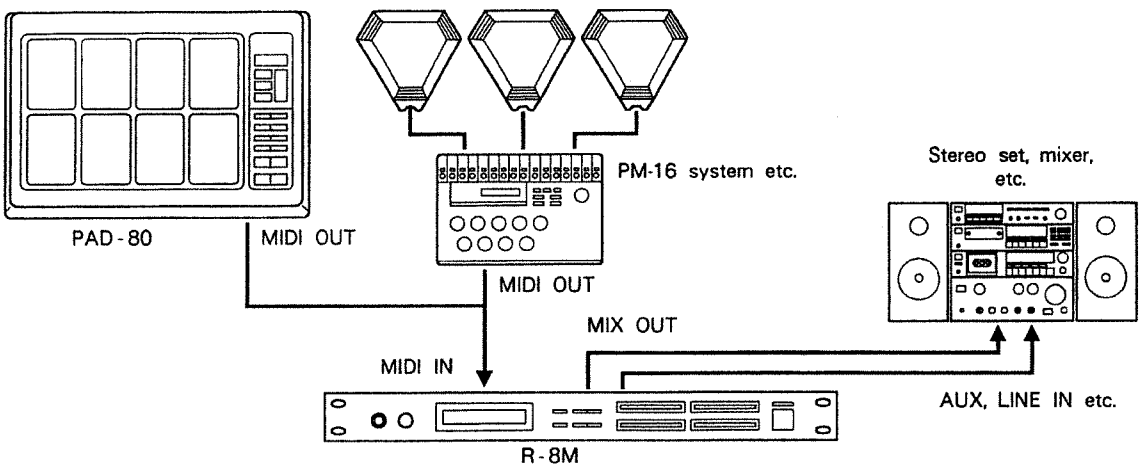
Chapter 1

Try out the R-8M

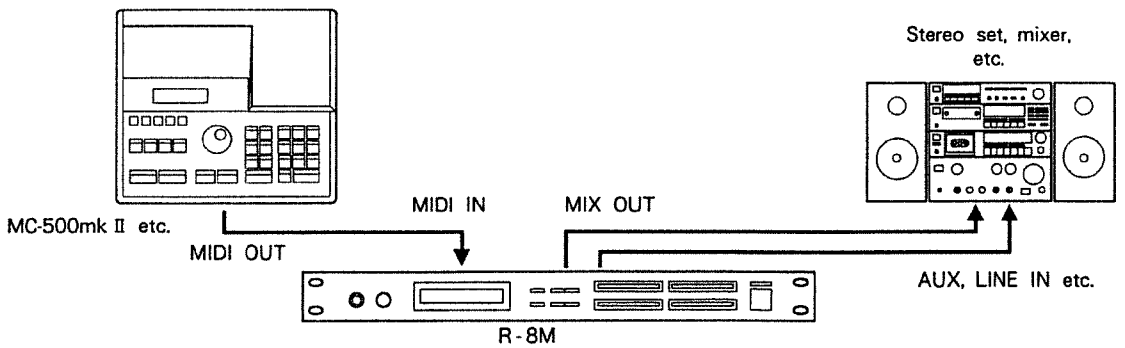
1 CONNECTIONS

Make the appropriate connections with your particular system. The following are examples of possible systems. If you are using MIDI for the first time, please read "About MIDI" (☞page 68) before continuing.

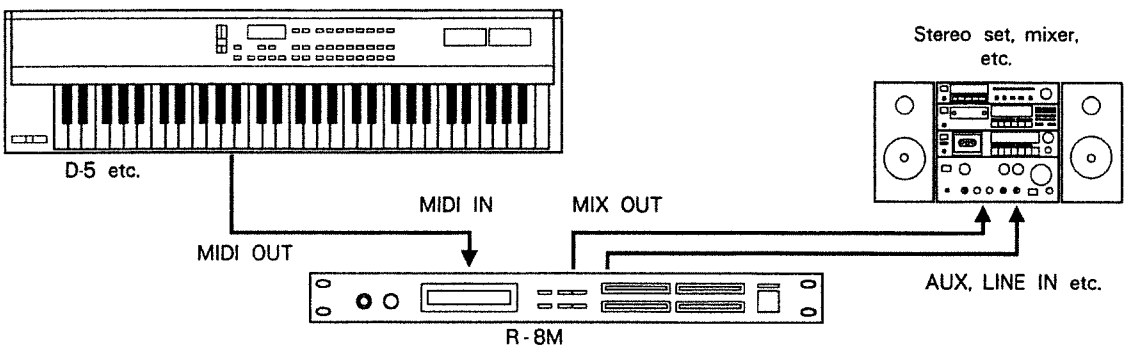
● Using MIDI pad controllers



● Using a sequencer



● Using a keyboard controller



*With the factory settings, all sounds will be output from the MIX OUT jacks.
If you want to output the sound from the MULTI OUT jacks, modify the output assign settings for each instrument (☞see page 28).

[2] HOW TO PLAY THE SOUNDS

Here's how to play the instruments that are built into the R - 8M.

1. Turn the Power On

① Make sure that all external equipment is connected correctly, and then turn the R - 8M on.
The following display will appear. This is called the PLAY MODE.

```
PLAY <Standard>
P:I-01   F:OFF
```

② Turn on the power of the connected equipment. Turn the amp power on last.

2. Listen to the ROM Play Demonstration

The R - 8M includes one preset song that demonstrates its capabilities. The ROM PLAY function automatically plays this song.
To hear the song, use the following procedure.

① Select the ROM play display.
Press [EDIT] (the indicator lights).
Use the **CURSOR** [◀][▶] to select "UTIL" (blinks), and press [ENTER].
Use the **CURSOR** [◀][▶] to select "ROMPLAY", and press [ENTER].

```
ROM PLAY <Stop>
#1  INT:ESCAPE
```

Song number — Song name

ESCAPE (Copyright © 1989, Roland Corporation)

② Use the volume knob to set the volume.

③ Use the **CURSOR** [◀][▶] to select a song and press **VALUE** [△] to start playback.

* Each Sound ROM card (sold separately) also contains a song which uses the instruments in that card. #2—4 indicates the song numbers of the sound ROM card. If a card is not inserted, the display will read "????????". To playback a song from a sound ROM card, see page 13.

④ To stop during playback, press **VALUE** [▽].
If you press **VALUE** [▽], play starts again from where you last stopped.

⑤ To return to the Play mode hold [JUMP] and press [EXIT] (the indicator goes out).

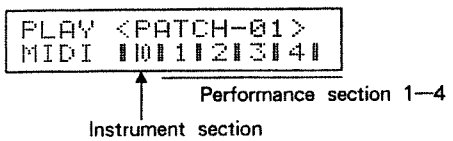
* During ROM play, the R - 8M will not produce sound in response to incoming MIDI message. Nor will the ROM play data be transmitted from MIDI OUT.

*When you playback a ROM play song, the Patches in the temporary area (☞see page 17) will be restored to their unmodified settings. If you have modified Patch settings, your changes will be lost.

3. How to Play Each Instrument

Here's how to play each of the 68 internal instruments (drum sounds). Before you do so, set the transmit channel of the controller to match the receive channel of the R - 8M. With the factory settings, the R - 8M receive channel is set to 10, so set the controller to transmit channel 10.

● Check the receive channel



To check the receive channel of the R - 8M, use the **CURSOR** [◀][▶] to select the left display in the Play mode. The display will show the receive channel for each section, but for now, check only the receive channel of the Instrument Section.

■Play the internal instruments

● Play the sounds

When you play a note on the keyboard controller, the instrument corresponding to each key (note number) will sound.

If you are playing the sounds using a pad controller, play each sound by changing the note number transmitted by the controller.

If you are playing the sounds from a sequencer, the musical data in the sequencer must match the instrument assignments of the R - 8M, or the wrong sounds will be played back. Before you playback the sequencer data, set the Instrument Section of the R - 8M to the rhythm note assignments of your sequencer. (☞see page 25).

● How to select Patches

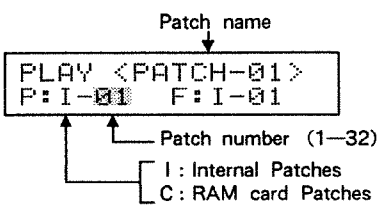
The R - 8M can store 32 drum-sets as Patches. A RAM card (M-256E) can store 32 more Patches. While playing, you can instantly select either internal or RAM card Patches.

Here's how to select Patches and play the drum sounds of each Patch. To select a Patch, use the following procedure while in the Play mode.

*For the factory Patch settings, refer to "Patch List" on page 84.

*In the factory set Patches, the stereo positions of the sounds (pan) are placed as seen from the viewpoint of a drummer. When playing these Patches, reverse the connections of the MIX OUT jacks L and R.

① Use the **CURSOR** [◀][▶] to move to the Patch number display.



② Use **VALUE** [△][▽] to select an internal Patch (I-01—I-32), and play the sounds.

When using Patches from a RAM card, insert the RAM card firmly into the RAM card slot. Use the **CURSOR** [◀][▶] to move to "I" (internal), and use **VALUE** [△][▽] to change this to "C" (card).

* Newly purchased RAM cards cannot be used as they are. When using a RAM card with the R - 8M for the first time, refer to "Using a RAM Card" (☞ page 60).
* Patches can also be selected by incoming program change messages. Program numbers are user assignable (☞ see page 57).

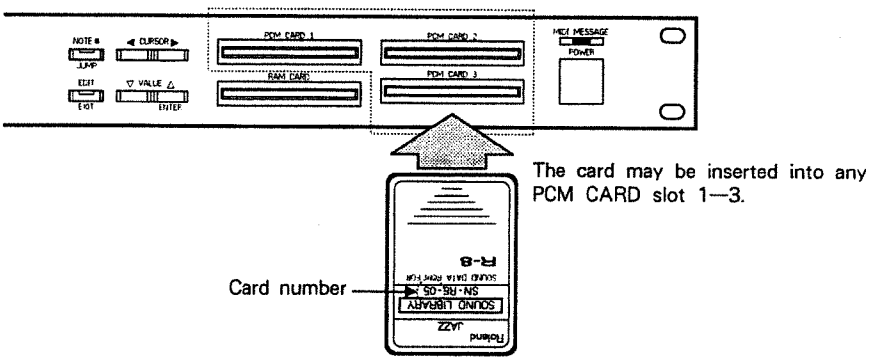
■Play the instruments of a sound ROM card

A ROM card (SN-R8 series) can increase the available number of instruments. Up to three cards can be used at once. Internal instruments and card instruments can be freely combined to create a Patch.

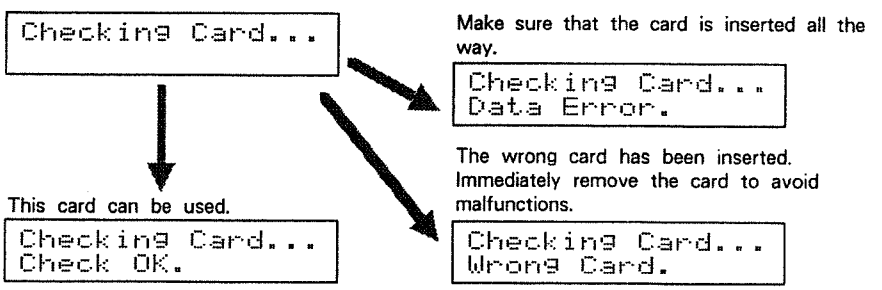
● How to select instruments

To select instruments from a sound ROM card, use the following procedure.

① Make sure that the sound ROM card is inserted correctly and firmly into one of the PCM CARD slots.



When a card is inserted, the R - 8M will check both the validity of the card and whether or not it has been inserted correctly.



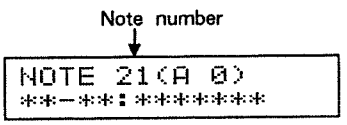
② Move to the instrument assign setting display.

Press [EDIT] (the indicator lights).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "SOUND" and press [ENTER].



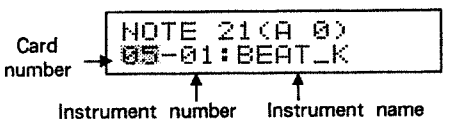
③ To select the note number, use the following procedure.

Press [NOTE #] (the indicator lights).

Use the **CURSOR** [◀][▶] to select a note number (21—108).

Press [NOTE #] (the indicator goes off).

④ Use **VALUE** [△][▽] to select the number of the inserted card.



*When "I" is selected, internal instruments will be selected.

⑤ Use the **CURSOR** [◀][▶] to move to the instrument number, and use **VALUE** [△][▽] to select the instrument.

⑥ When the external controlling device transmits note messages for the displayed note number, the selected instrument will sound. Select the various instruments to hear how they sound.

⑦ When you have finished listening to the instruments, return to the Play mode by holding [JUMP] and pressing [EXIT] (the indicator goes off).

*While the display reads "Checking Card", the R-8M will not sound even when a MIDI message is received. If you insert a sound ROM card while a note is sounding, the sound will stop.

● Checking a sound ROM card

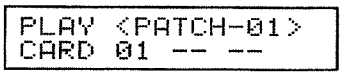
If instruments from a sound ROM card are assigned to any of the sections, you can check whether the necessary card is inserted by using the **CURSOR**[◄][►] in the Play mode to select the following display.

The display will show up to 3 card numbers of the ROM cards used by the Patch. If a sound ROM card used by the Patch is not inserted, that card number will blink.

< Example > When the card number 2 is not inserted

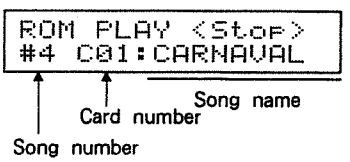
If fewer than 3 sound ROM cards are specified by the Patch, " – – " will be displayed.

< Example > When only card number 1 is used



If more than 3 sound ROM cards are specified by the Patch, this will be displayed as follows.

● ROM play



Each sound ROM card contains one ROM play song which uses the instruments of that card. To hear the ROM play song, insert the sound ROM card into a PCM CARD slot, and use step ③ of "Listen to the ROM Play Demonstration" (☞ see page 9) to select the song. (The numbers will change in the order of the PCM CARD slot number.) The rest of the procedure is the same.

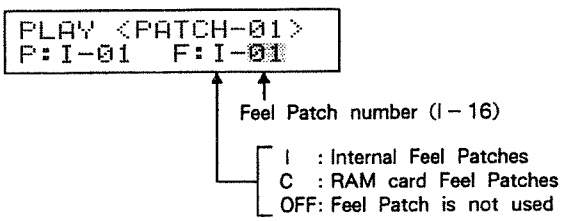
■Selecting the Feel Patches

The Feel function changes the tone of the specified instruments to simulate the timbral changes that would naturally occur if a drummer were actually playing.

*For the factory Feel Patch settings, refer to "Feel Patch List" on page 115.
*The way in which the Feel Function works and the setting procedure is explained in detail in "Feel Function" (☞see page 45).

● Selecting a Feel Patch

① Use the **CURSOR** [◀][▶] to move to the Feel Patch number.



② Use **VALUE** [△][▽] to select an internal Feel Patch number (I-01—I-16).

To use a RAM card Feel Patch, insert the RAM card firmly into the RAM card slot. Use the **CURSOR** [◀][▶] to move to "I", and use **VALUE** [△][▽] to change it to "C". If you don't want to use a Feel Patch, set "I" to "OFF".

*Newly purchased RAM cards cannot be used as they are. If you are using a RAM card for the first time, refer to "Using a RAM Card" (☞see page 60).
*Program change messages can be used to select Feel Patches from an external device. Program numbers are user assignable (☞see page 57).

Chapter 2

Before you modify the settings

[1] ABOUT THE R-8M

This section explains how the sound source of the R - 8M is organized, as well as basic operation. Please read this section carefully before you actually modify any settings.

1. Basic Principles of the R-8M

When using the R - 8M, it is important to understand the relationship between the three basic functions; Section, Patch, and Feel Patch.

● Section

A Section is a unit which can be used as an independent sound module. The R - 8M consists of 1 Instrument Section, and 4 Performance Sections. MIDI settings and settings specifying how the sounds will be produced can also be made independently for each section.
Normally it will be sufficient to use only the Instrument Section, but by using the Performance Sections as well, the R - 8M's possibilities can be expanded even further.

Instrument Section

This section is used for normal drum playing. You will specify one receive channel, and assign instruments to each note number to create a drum-set. It is also possible to modify the sound for each note number.

Performance Sections 1—4

Each of the four Performance Sections has its own receive channel setting, and can be used independently. You can specify instruments for each Performance Section, and specify how sound parameters (pitch/decay/nuance/pan) will change according to the note number.
For example, by using instruments such as bass, marimba, and/or vibraphone (when using a sound ROM card) and setting the pitch difference chromatically, you can play a melody from the keyboard. In addition, by using hi-hat or ride cymbals with different nuance or decay settings for each note number, you can play variations of the same instrument using different note numbers.

● Patch

The combination of the Instrument Section and Performance Sections 1—4 is called a **Patch**. Internal memory can store 32 Patches. A RAM card can store 32 more Patches which can be selected during performance in the same way as internal Patches.
By preparing appropriate Patches for each instrument or song, you can select Patches during your performance to instantly change the R - 8M's drum-sets.

● Feel Patch

The Feel Function modifies the instrument tone specified for each section, simulating the natural variations in sound that occur when a real drummer performs.
There are two types of Feel Functions; **Regular Feel**, which modifies the tone according to velocity or by periodically modifying the tone in synchronization with the MIDI clock, and **Random Feel**, which randomly modifies the tone. By using the two in combination you can create the natural effects of tonal change. Internal memory can contain 16 Feel Patches, and a RAM card can contain 16 additional Feel Patches. Even for the same drum performance, simply changing the Feel Patches can result in a great difference.

2. Memory Structure

The way in which the R - 8M operates will depend on the settings of various parameters. Settings for these parameters are stored in memory. The memory of the R - 8M is divided into the following areas; setup area, memory area, temporary area, and instrument area.

● Setup area

The setup area contains parameters that affect the overall operation of the R - 8M, such as MIDI message handling, memory protect, and program change map. Settings in the setup area are preserved even when the power is turned off.

● Memory area

The internal memory area contains settings for 32 Patches and 16 Feel Patches. Settings in the memory area are preserved even when the power is turned off. Data in a RAM card is also treated as memory area data.

● Temporary area

The temporary area is where Patch and Feel Patch setting are modified. When you select a Patch, the settings from the memory area will be read into the temporary area. Settings in the temporary area are preserved even when the power is turned off. However, when you select another Patch or Feel Patch, the settings will change and the previous settings will be lost.

● Instrument area

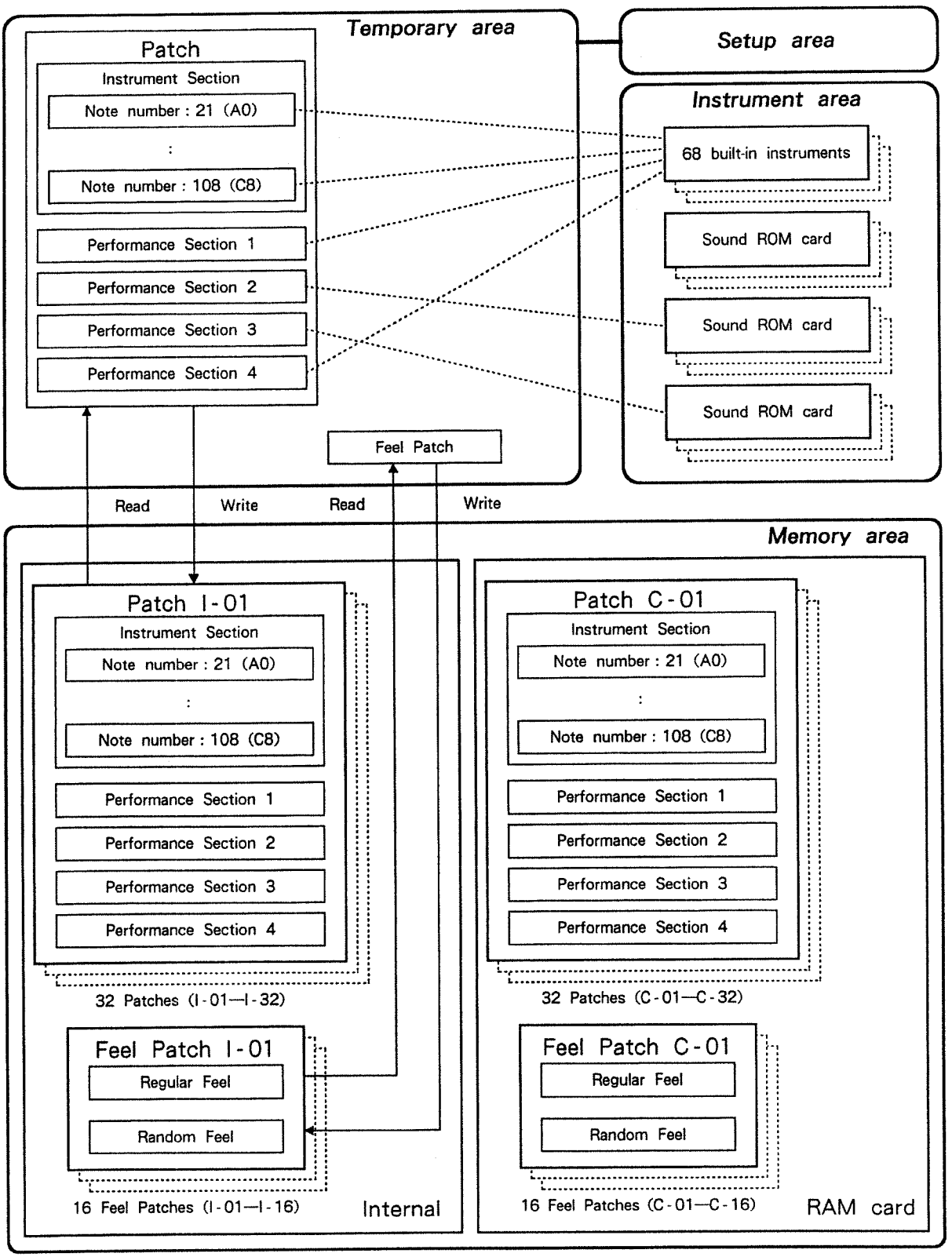
An instrument is the basic waveform data for a drum sound. The R - 8M contains 68 different instruments in the instrument area. Instruments in a sound ROM card are also treated as instrument area data. The tone of each instrument can be modified by sound parameter settings, but this will not affect the waveform data itself.

When you play the R - 8M, the sound will be produced according to the settings of the setup area and the current settings of the temporary area. When you select a Patch, the settings of that Patch will be read into the temporary area. The same applies to Feel Patch.

*When we say that the settings of the memory area are read into the temporary area, we mean that the settings of the memory area are copied into the temporary area.

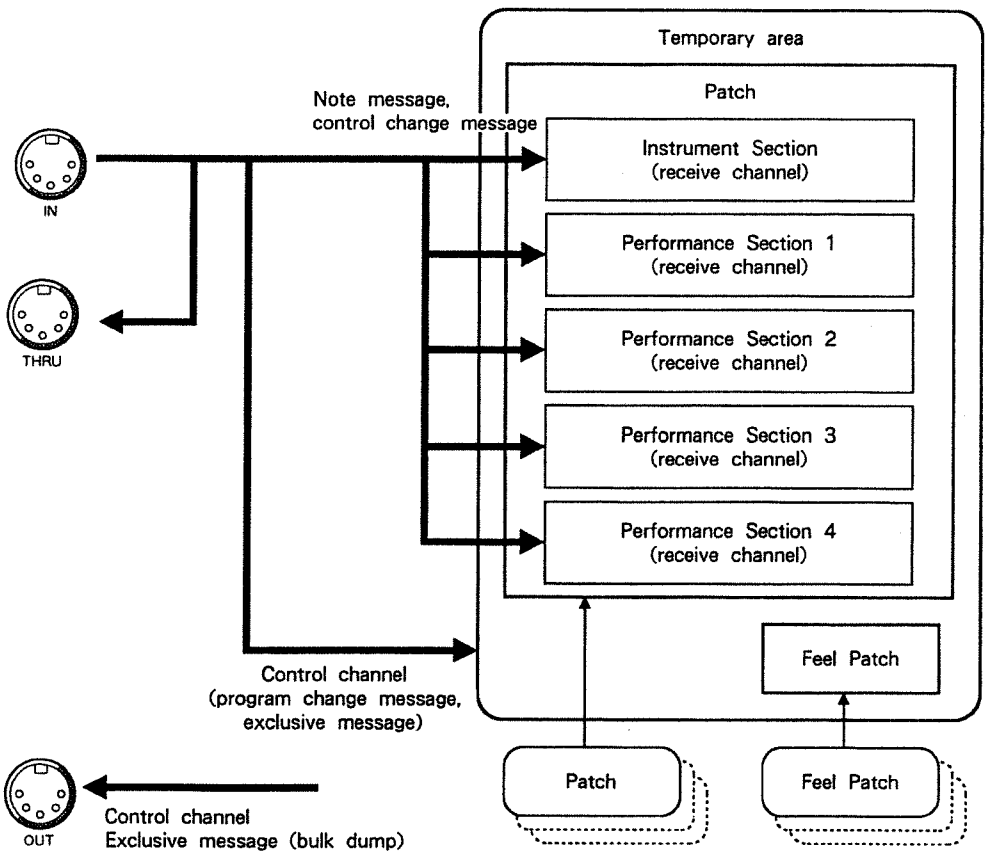
It is important to remember that when you modify Patch or Feel Patch settings, you are modifying the settings of the temporary area, not of the memory area. Settings of the temporary area are stored only temporarily, and will change when another Patch or Feel Patch is selected, so the previous settings will be lost. If you want to keep the settings of the temporary area, you must use the Write operation to store them into the memory area (internal or RAM card).

The internal data organization of the R - 8M can be summarized as follows.



3. MIDI Message Flow

The R - 8M uses the following types of MIDI message.



Each section has its own MIDI channel on which MIDI messages will be independently received. The receive channel of each section (☞ see page 25, 35) receives mainly note message and control change message. In addition, the Instrument Section receives control change message to control the sound of up to 9 specified instruments. In this way, each section can be used as an independent sound source.

In addition to the receive channel of each section, there is also a control channel (☞ see page 55). The control channel receives program change message to select Patches or Feel Patches. You can use the program change map (☞ see page 57) to specify which Feel Patch or Patch will be selected by each incoming program number. The control channel is also used for reception and transmission of exclusive message.

[2] BASIC OPERATION

1. Mode Structure

The R - 8M operates in two modes; the Play mode, where you will normally perform, and the Edit mode, where you modify Patch and Feel Patch settings. The Edit mode is broadly divided into the following four modes according to the function of each parameter, and subdivided further into several groups.

● Setup mode

Memory protect	Set the memory protect switch that protects the Patch and Feel Patch settings stored in internal memory.	P.56
MIDI	Makes MIDI settings that affect the entire R-8M.	P.55
Program change map	Specifies how incoming program numbers will select Patch or Feel Patch numbers.	P.57
Stack	Set this mode when you have connected two or more R-8M's to increase the number of simultaneously playable notes.	P.58

● Patch Edit mode

Patch name	Specifies a name for a Patch.	P.40
Instrument section	Makes settings for the Instrument Section.	P.25
Performance section	Makes settings for the Performance Section.	P.35
Patch write	Uses the Write operation to store Patch settings.	P.40

● Feel Edit mode

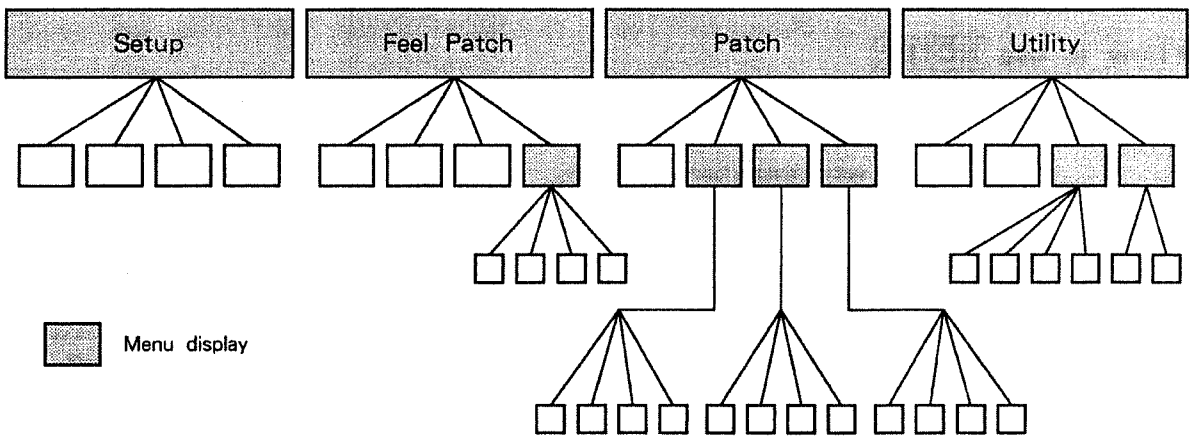
Instrument assign	Selects instruments and parameters for which you wish to modify using the Feel Patch.	P.47
Regular Feel	Specifies Regular Feel.	P.48
Random Feel	Specifies Random Feel.	P.50
Feel write	Uses the Write operation to store Feel Patch settings.	P.51

● Utility mode

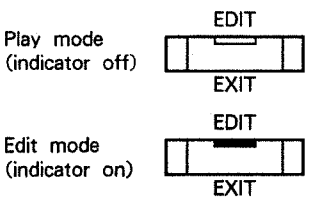
ROM play	Playback of the ROM play songs.	P.9
LCD contrast	Adjust the contrast of the display.	P.65
Bulk dump	Use this operation to transmit exclusive message to another MIDI device.	P.63
RAM card	Use these operations to save internal Patch or Feel Patch data to a RAM card.	P.60

2. Basic Operation of the R-8M

The Edit mode is organized in a branching structure by parameter groups, as shown in the following diagram. In the Edit mode, you will select a group from a menu display to move to the desired parameter display, and then modify the parameter. However, for displays other than parameter settings, the procedure will be different. For details, refer to the explanation of each item.



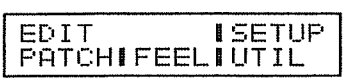
● How to move between the Play mode and the Edit mode



When in the Play mode, press **EDIT**. The indicator will light and the R - 8M will be in the Edit mode.

To return to the Play mode, press **EXIT** several times until the indicator goes out. Or you can hold **JUMP** and press **EXIT** to instantly return from any display to the Play mode.

● How to move to another display



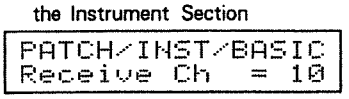
When you enter the Edit mode, the display shown at left will appear. This is the menu display showing the (abbreviated) names of the four modes explained earlier.

Use the **CURSOR** ◀ ▶ to move to the mode name for which you wish to make changes, and press **ENTER**. When you press **ENTER** the display will change to the menu display for the next level. Repeat this procedure to select the desired parameter group.

In the Edit mode, each time you press **EXIT** you will return to the previous menu display. Pressing **EXIT** several more times will return you to the Play mode.

● How to modify parameter values

Example display :
the receive channel setting for the Instrument Section



The various parameter setting displays will be as shown to the left. The upper line of the display will show the group selected in the menu displays. This lets you see which parameter group you are now working on.

● If a parameter group contains two or more parameters, use the **CURSOR** ◀ ▶ to move between parameters or displays.

● If a single display contains two or more parameters, use the **CURSOR** [◀][▶] to move to the value you wish to modify.

● Use **VALUE** [△][▽] to modify the parameter values. When you press [▽] the value will decrease, and when you press [△] the value will increase. If you continue pressing either button, the value will change continuously. If you press [△] (or [▽]) while holding [▽] (or [△]), the value will change more rapidly.

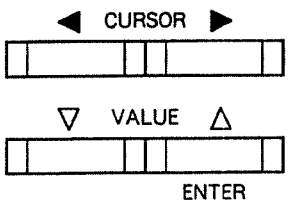
● How to use [NOTE#]

Normally the **CURSOR** [◀][▶] buttons are used to select parameters. When editing the parameter groups shown in the following table, however, you must press [NOTE #] (the indicator will light) so that the buttons function differently.

Press [NOTE #] once again (the indicator will go off), and operation will return to normal.

Parameter group	Button function
Feel (instrument assign, regular feel, random feel)	Select set numbers in the Feel Patch
Patch/Instrument Section (control change)	Select control change types
Patch/Instrument Section (sound parameters)	Select note numbers
Patch/Performance Section (basic parameters, key follow parameters, sound parameters)	Select Performance Sections

■The Jump function



This function allows you to instantly move to a display which has previously been assigned to a specific button.

A display can be assigned to each of the **CURSOR** [◀][▶] and **VALUE** [△][▽] buttons. You can jump to the assigned display at any time. By assigning these buttons to jump to the displays for frequently-used functions, you can speed up editing operations.

● How to assign a display to a button

① Move to the display you wish to assign.

② Press and hold [JUMP] until the [JUMP] indicator begins blinking.

③ Press the button (**CURSOR** [◀][▶] or **VALUE** [△][▽]) you wish to assign this display to.

＊To quit without assigning, press [JUMP] once again.

● How to jump to an assigned display

While holding [JUMP] press the button to which the display has been assigned, and you will move to that display.

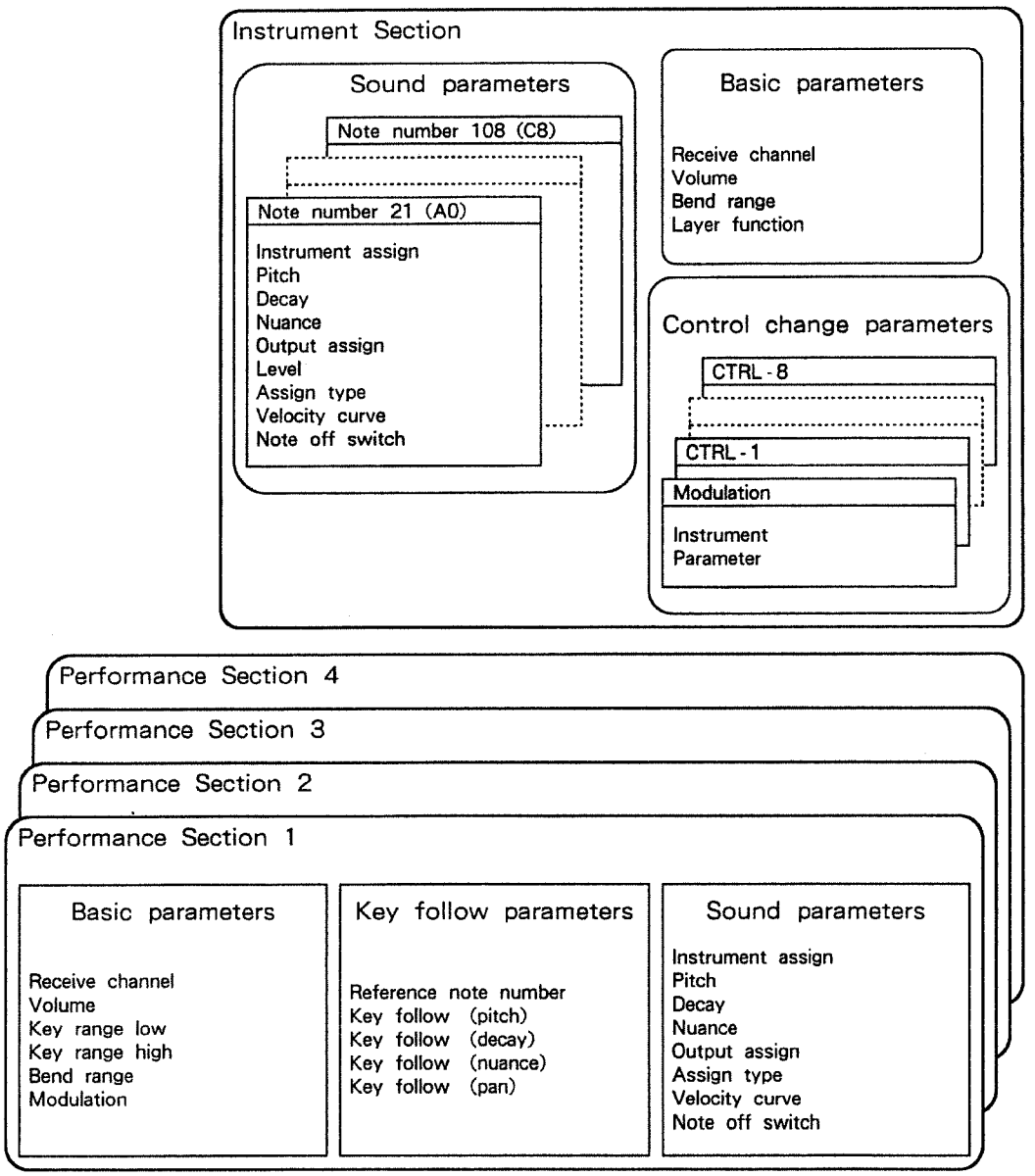
＊Press the assigned button before the [JUMP] indicator begins blinking.

Chapter 3

How to modify the settings

1 PATCH

Each Patch contains the following parameter settings. Set the parameters of each section according to the MIDI equipment you are using and your musical situation.



Select a Patch (☞ see page 10) and modify its settings to create an original Patch. When you modify the settings of a Patch, an "✻" will be displayed when you return to the Play mode display.

✻If you want to keep your modified Patch settings, you must use the Patch Write operation (☞ see page 41).

✻If you want to create a Patch from scratch, you can use the Clear operation. This initializes all settings in the temporary area (☞ see page 44).

1. Instrument Section

In the Instrument Section you can assign instruments to each note number (21—108) and edit them as shown below.

■Basic parameters

These parameters will affect the entire Instrument Section. The following basic parameters are provided.

●Receive channel : 1—16

```
PATCH/INST/BASIC
Receive Ch   = 10
```

This determines the MIDI Receive channel. Note message, pitch bender message, and control change message will be received on this channel.

●Volume : 0—127

```
PATCH/INST/BASIC
Volume       = 127
```

This determines the overall volume of the entire Instrument Section. As you increase the value, the volume will become louder. At a setting of 0 there will be no sound.

*This value can be modified by incoming MIDI volume message (control number 7) (☞see page 55).

●Bend range : 0—12 (1 octave in units of a semitone step)

```
PATCH/INST/BASIC
Bend Range   = 12
```

This determines the range over which pitch bend message will control the pitch of an instrument. This value specifies the change in pitch that will occur when the bender lever is moved all the way. When this is set to 0, the bender lever will have no effect.

*The bender switch determines whether or not pitch bender message will be received (☞see page 55).

●Layer function : ON, OFF

```
PATCH/INST/BASIC
Layer        =OFF
```

The Layer function allows the two instruments to be simultaneously sounded by a single note message. When you turn the Layer function ON, note message for note numbers 29(F1)—60(C4) will simultaneously sound the two instruments. The R - 8M will not sound when note message for 77(F5)—108(C8) is received.
For example you might assign the same instrument to one note numbers, and slightly detune the pitch of the two instruments so that they will be played together to create a richer sound. Other interesting effects can be obtained by layering instruments.

Layer function : OFF

21—108

Layer function : ON

21—28	29—60 (sounded together with instruments 77—108)	61~76	77—108 (not sounded)
	77—108		

If you turn the Layer function ON, displays for layers 1 and 2 will appear when you edit sound parameters for note numbers 29—60.

Layer 1

```
LAYER60(C 4)-1
Pitch     =     0
```

Layer 2

```
LAYER60(C 4)-2
Pitch     =     0
```

*When the Layer function is turned off, the parameter value in Layer 2 will be copied to that of the corresponding note number 77—108, for example above, Layer 60-2 to note number 108.

【Setting procedure】

① Move to the display for setting the basic parameters (Instrument Section).

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "BASIC" and press [ENTER].

```
PATCH/INST/BASIC
Receive Ch  = 10
```

② Use the **CURSOR** [◀][▶] to select the parameters and use **VALUE** [△][▽] to set the values.

③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Sound parameters

These parameters assign an instrument to each note number (21—108), and modify the sound of each assigned instrument.

●Instrument assign

Internal instruments

```
NOTE 21(A 0)
 I-01:DRY_K1
```

Instrument name

Instrument number (01—68)

Internal instruments

Instruments from a sound ROM card

```
NOTE 21(A 0)
05-01:BEAT_K
```

Instrument name

Instrument number (01—26)

Card number (01—30)

No instrument assigned

```
NOTE 21(A 0)
**-**:********
```

These settings assign an instrument to each note number. After selecting either I, or 01—30 (card number), select the number for the desired instrument (☞ see page 76). If the instrument is not assigned, set the left value (I, 01—30) of the display to " * * ".

*The sound chart included with the card will list the instruments in that card. If you specify an instrument number which is not listed in the sound chart, there will be no sound.

If you specify a card instrument when there is no sound ROM card, the following display will appear, but you will be able to set sound parameters. If you insert the specified sound ROM card when playing, the R - 8M will sound as specified.

```
NOTE 21(A 0)
03-01:??????
```

* If you change instrument assignments, the sound parameters of that note number will be set to the initial settings (☞ see page 78).

●Pitch : −4800—+4800 cents (in 10 cent steps)

```
NOTE 21(A 0)
Pitch    =     0
```

This adjusts the pitch of the instrument. As you increase the value of the setting the pitch will become higher.

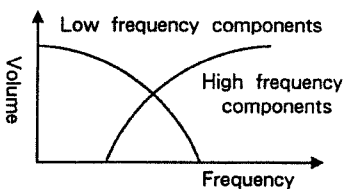
* For some instruments, settings higher than a certain value may have no effect.

●Decay : 0—127

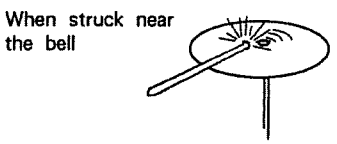
```
NOTE 21(A 0)
Decay  =   4: 19
```

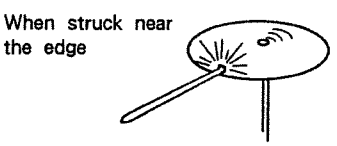
This adjusts the decay (time over which the sound decreases) of the instrument. As you increase the value of the setting the decay will become longer.

If the instrument allows you to set the nuance, the display will show two decay values. These specify the decay for each.



Instruments marked " * " (kick, snare, tom, etc.) in the chart on page 76 allow you to set the decay independently for the attack component (high frequency component: the value at left) and the resonance component (low frequency component: the value at right).
This allows you to simulate different snare tensions for a snare drum, or the sound of a muted tom.





Instruments marked by " * * " (hi-hat, ride cymbal, etc.) in the chart on page 76 allow you to set the decay independently for the sound component when the cymbal is struck near the bell (the value at right) or near the edge (the value at left).
The two decay values give you control over fine shades of the tone.

* For some instruments, decay will not change beyond a certain value. For reverse-type instruments (I-62, I-63, I-64), decay will have no effect.

●Nuance : 0—15

```
NOTE 21(A 0)
Nuance        =  8
```

Instruments designated by " * " or " * * " in the chart on page 76 allow you make subtle changes in the sound using the nuance setting.

For " * " instruments, increased values will increase the low frequency component of the sound. For " * * " instruments, increased values will bring the sound closer to the bell sound of the cymbal.

* If the instrument does not allow you to set nuance, this display will not appear.

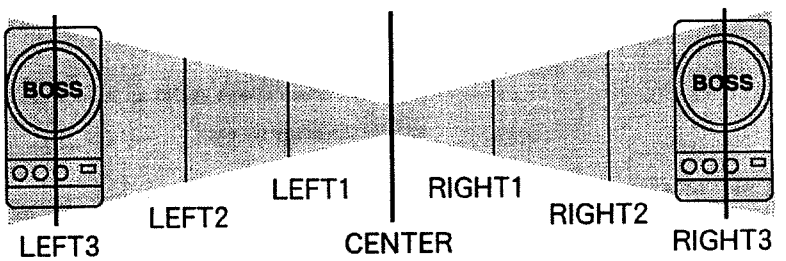
●Output assign : LEFT1—3, CENTER, RIGHT1—3, MULTI1—6

```
NOTE 21(A 0)
Out Asgn= CENTER
```

This selects the output jack (MIX OUT, MULTI OUT 1—6) from which the sound of the instrument will be sent.

If you are using the R - 8M with a mixer, you can send each instrument from one of the MULTI OUT jacks and create complex mixes by adjusting the output balance or adding effects to specific instruments.

If you send the instruments from the MIX OUT jacks, the panning position (stereo position) can be adjusted over seven steps.



●Level : 0—15

```
NOTE 21(A 0)
Level         = 15
```

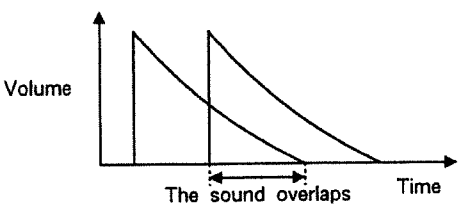
This adjusts the volume of the instrument. As you increase the value, the volume will become louder. At a setting of 0 there will be no sound.

●Assign type : POLY, MONO, EXC1—8

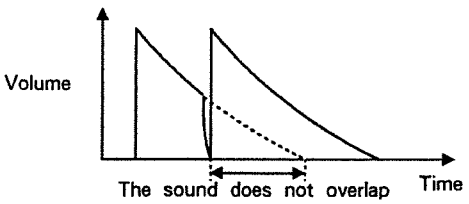
```
NOTE 21(A 0)
Asgn Type = POLY
```

This determines how the instrument will sound.

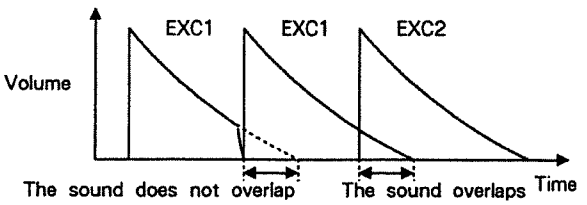
POLY: When sounds are triggered in succession, the most recently played notes will be added without affecting the previous sounds. Use this setting when you do not want to cut off the decay for instruments such as cymbals.



MONO: When sounds are triggered in succession, previously sounded notes will be turned off before the most recently played notes will sound.

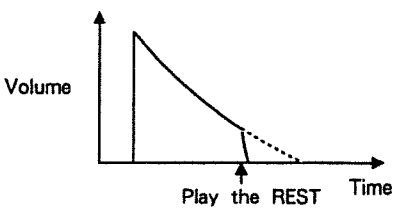


EXC1—8: Instruments of the same EXC number will not sound together. Use this setting when you do not want specific instruments to sound at the same time. For example, instruments such as an open hi-hat, and a closed hi-hat, which do not normally sound simultaneously can be set to the same EXC number.



I-68 is a REST and therefore will produce no sound. It can be used with the assign type settings to choke or simulate gated drum effects.

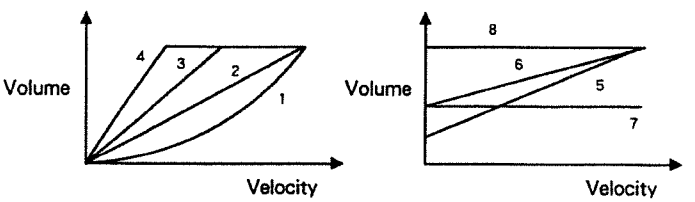
For example, if you set the REST and the crash cymbal to the same EXC number and play the REST before the crash cymbal has finished decaying, the crash cymbal will be muted.



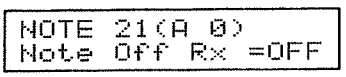
●Velocity curve : 1—8

```
NOTE 21(A 0)
Velo Curve   = 2
```

Select one of the following 8 curves to determine how the velocity of the incoming note on message will affect the volume.

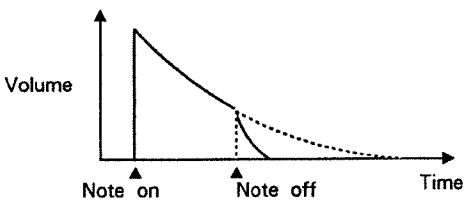


●Note off switch : ON, OFF



This determines whether or not "note off" messages (or "note on" messages with velocity of 0) will be received. Normally you will set this to OFF, but if you wish to use the "note off" message to mute a cymbal etc., set this to ON.

ON: When a "note off" (for the currently sounding note number) is received while the instrument is sounding, that sound will be muted. When the Velocity switch (☞ page 56) is set OFF, the note off velocity value will control the speed of decay.

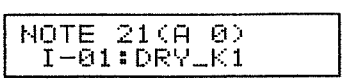


OFF: The sound will not be muted even when a "note off" message is received.

[SETTING PROCEDURE]

① Move to the sound parameter (Instrument Section) setting display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "SOUND" and press [ENTER].



② Select the note number.

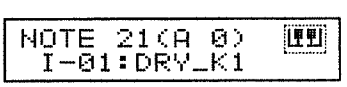
Press [NOTE #] (the indicator will light).
Use the **CURSOR** [◀][▶] to select the note number (21—108).
Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the parameter and use **VALUE** [△][▽] to set it.

＊To move to another note number, repeat step ②.

④ While pressing [JUMP] press [EXIT] to return to the Play mode (the indicator goes out).

You can specify the note number by transmitting a note message to the R - 8M from an external MIDI device. Press and hold [NOTE #] until the following symbol appears in the display. (Release the button before the [NOTE #] indicator begins blinking).

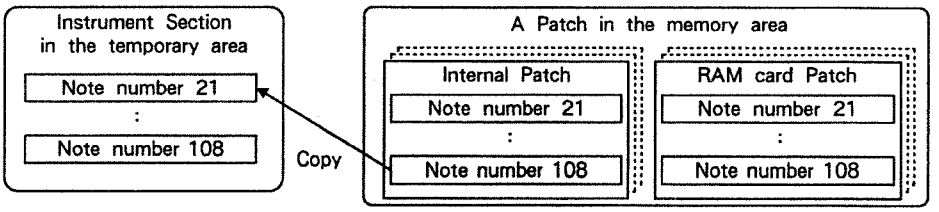


When this symbol is displayed, the displayed note number will change according to the note number received on the Receive channel of the Instrument Section. To return to normal operation, press and hold the [NOTE #] until the symbol disappears.

■Convenient functions when setting sound parameters

● Copy

This function copies note number (sound parameter) settings from a Patch (memory area) to the note number in the temporary area. This is convenient when you want to use the same settings as a previously stored instrument.



① Move to the sound parameter (Instrument Section) copy display.

Press [EDIT] (the indicator will light).

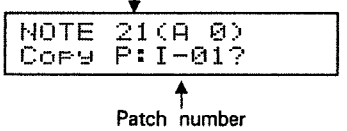
Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "COPY" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "Sound Copy?" and press [ENTER].

Note number of copy destination



Patch number

② Select the note number of the copy destination (temporary area).

Press [NOTE #] (the indicator will light).

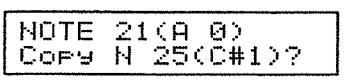
Use the **CURSOR** [◀][▶] to select the note number (21—108) of the copy destination.

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the Patch which contains the instrument which you wish to copy, and press [ENTER].

Select from I-01—I-32 (internal Patches) or C-01—C-32 (RAM card Patches).

④ Use the **CURSOR** [◀][▶] to select the note number (21—108) of the instrument you wish to copy.



⑤ Press [ENTER] and the data will be copied.

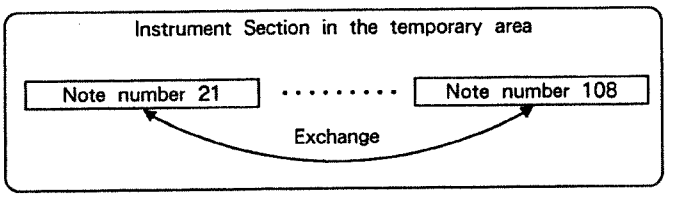
To quit without copying, press [EXIT].

If you want to copy settings from another note number, repeat steps ②—⑤.

⑥ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

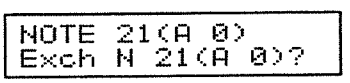
● Exchange

This function exchanges the settings of two specified note numbers (sound parameters) in the temporary area. This is convenient when you want to swap two instruments.



① Move to the exchange display for sound parameters.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "COPY" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "Sound Exchange?" and press [ENTER].



② Select the note number you wish to exchange.

Press [NOTE #] (the indicator will light).
Use the **CURSOR** [◀][▶] to select the note number (21—108).
Press [NOTE #] (the indicator will go out).

③ Use the CURSOR [◀][▶] to select the other note number (21—108).

④ Press [ENTER] to exchange the data.

To quit without exchanging press [EXIT].

If you want to exchange the settings of other note numbers, repeat steps ②—④.

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Control Change settings

The Control Change functions allow you to use control change message, such as modulation or hold, to create musically expressive performances. The Instrument Section can use control change message to control up to 9 specified types of instrument parameter.

Type of control change	Control number
MOD (modulation)	1
CTRL-1 (general purpose controller 1)	16
CTRL-2 (general purpose controller 2)	17
CTRL-3 (general purpose controller 3)	18
CTRL-4 (general purpose controller 4)	19
CTRL-5 (general purpose controller 5)	80
CTRL-6 (general purpose controller 6)	81
CTRL-7 (general purpose controller 7)	82
CTRL-8 (general purpose controller 8)	83

Selectable parameters
PITCH
DECAY
NUANCE
PANPOT

* Some MIDI equipment is not able to transmit control change message, or can transmit only specific control change message. Consult the manual for your MIDI device.
* Unused control numbers can cause problems, so set these instruments to "＊＊-＊＊".
* Pitch cannot be selected for CTRL-5—8.
* When the pan switch (☞ see page 55) is ON, pan will be controlled by control number 10, so pan settings for Modulation or CTRL-1—8 will be ignored. If control number 10 is used to control the panning of the Instrument Section, the all instruments of the Instrument Section will be panned together.

【SETTING PROCEDURE】

① Move to the control change message setting display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "INST" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "CTRL" and press [ENTER].

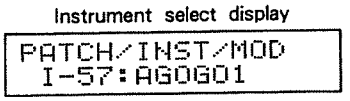
Type of control change

② Select the type of control change.

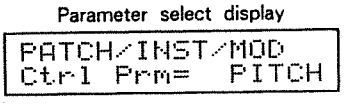
Press [NOTE #] (the indicator will light).
Use the **CURSOR** [◀][▶] to select the type of control change.
Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to move between the displays, and use **VALUE** [△][▽] to select the instrument or parameters.

Instrument select display



Parameter select display



To set other control numbers, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

If you want to use note messages from an external device to select instruments in the instrument select display, press and hold the [NOTE #] button until the following symbol appears in the display. (Release the button before the [NOTE #] indicator begins to blink.)

When a note message is received on the receive channel of the Instrument Section, the instrument which corresponds to the received note number will be selected. To return to normal operation, press and hold the [NOTE #] button until the symbol disappears.

*If you press the [EXIT] button, this function will be canceled.

[HOW TO TRANSMIT CONTROL CHANGE MESSAGE]

Transmit control change message before a "note on" message. Once an incoming control change message has modified a data value, the sound will be produced using that value until another Patch is selected or another control change message is received.

2. Performance Section

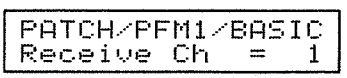
Each of the four Performance Sections has its own receive channel setting, and can be used independently. You can specify instruments for each Performance Section, and specify how sound parameters (pitch/decay/nuance/pan) will change according to the note number.

*For the Performance Section which is not used, set the sound parameter's instrument assign to OFF (* *-* *) (☞page 38).

■Basic parameters

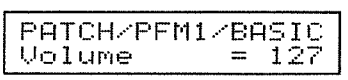
These are the basic parameters of each Performance Section. The following basic parameters can be modified.

●Receive channel : 1—16



This determines the MIDI Receive channel. Note message, pitch bend message, and control change message will be received on this channel.

●Volume : 0—127

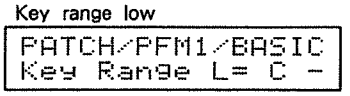


This determines the volume of each Performance Section. Higher values will result in a louder volume. At a setting of 0 there will be no sound.

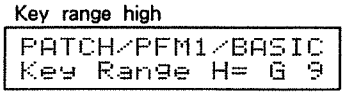
*This value can be modified by volume messages (control number 7) received from an external device (☞see page 55).

●Key range low/high : C-(0) —G9 (127)

Key range low

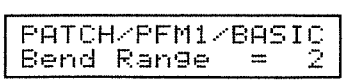


Key range high



This determines the range of notes that will be received by each Performance Section. Note message between the key range low (lower limit) and the key range high (upper limit) will be received. For example, you can set two or more Performance Sections to the same receive channel and set them to different key ranges so that different sounds can be played over different ranges.

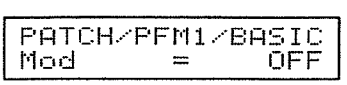
●Bend range : 0—12 (1 octave in semitone step units)



This determines the range of pitch change when using pitch bender message to control the pitch of an instrument. The value indicates the pitch change that will occur when the bender lever is moved fully up or down. At a setting of 0 the bender lever will not affect the pitch.

*The bender switch (☞see page 55) will determine whether or not pitch bender message is received.

●Modulation : OFF, DECAY, NUANCE



This determines whether modulation message (control number 1) will control decay or nuance. If you do not wish to use modulation message, set this to OFF.

[SETTING PROCEDURE]

① Move to the basic parameter (Performance Section) setting display.

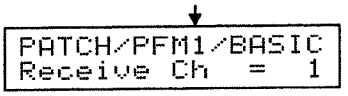
Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PFM" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "BASIC" and press [ENTER].

Performance Section number



② Select the Performance Section.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the Performance Section (1—4).

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to set the value.

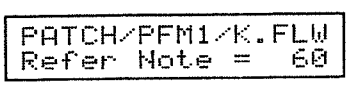
If you wish to make settings for another Performance Section, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Key Follow parameters

These parameters determine how each parameter (pitch/decay/nuance/pan) will be affected as you play notes further away from a specified reference note number. This can be set for each Performance Section.

●Reference note number : 0—127

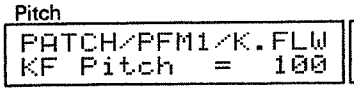


This selects the note number that will be the reference point around which all parameters will be affected. This reference note number is used in common by all parameters.

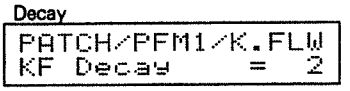
●Key follow

This function determines how greatly each parameter will be affected as you move between note numbers. When the reference note is played, the instrument will be played exactly as specified by its sound parameters (☞see page 38).

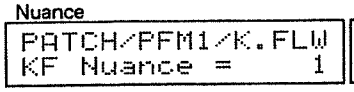
Pitch



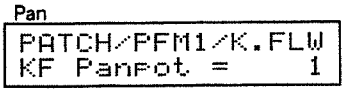
Decay



Nuance



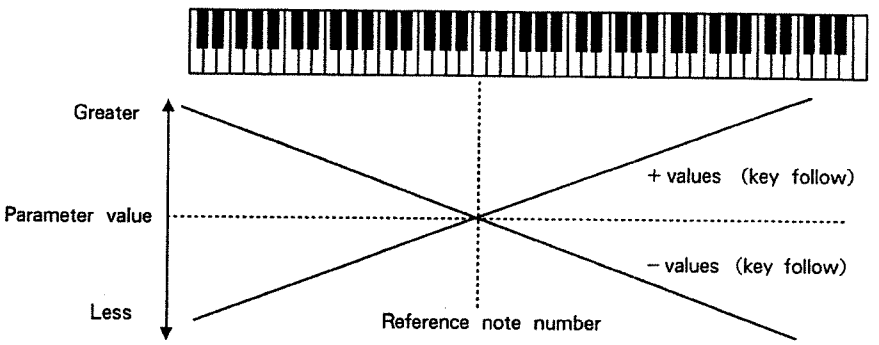
Pan



Parameter	Values
Pitch	−990—+990 cent
Decay	−9—+9
Nuance	−2—+2
Pan	−2—+2/OFF

As you play above (or below) the reference note number, the value of each parameter will be increased (or decreased) by the key follow value you specify. In other words, higher key follow values will result in greater change (a steeper slope in the diagram below). If you do not wish a parameter to be affected, set it to 0 (or OFF).

Nuance and pan can be set to fractional key follow values. For example, a setting of 1/4 will modify the parameter value by 1 when the note number increases (or decreases) by 4.



[SETTING PROCEDURE]

① Move to the key follow setting display.

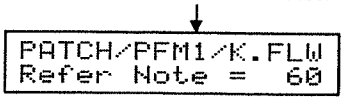
Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PFM" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "K.FLW" and press [ENTER].

Performance Section number



② Select the Performance Section.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the Performance Section (1—4).

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to set the value.

If you wish to make settings for another Performance Section, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Sound parameters

These parameters determine the instruments used by each Performance Section, and how they will sound when played at the reference note number.

Except for level, all sound parameters in a Performance Section are the same as those in the Instrument Section (the level of a Performance Section is determined by the volume setting of the basic parameters). For the function of each sound parameter, please refer to the Instrument Section (page 26).

[SETTING PROCEDURE]

① Move to the sound parameter (Performance Section) setting display.

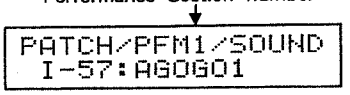
Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PFM" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "SOUND" and press [ENTER].

Performance Section number



② Select the Performance Section.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the Performance Section (1—4).

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to set the value.

If you wish to make settings for another Performance Section, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

[SETTING EXAMPLE]

● When using marimba or vibraphone (in a separately sold sound ROM card) to play the melody

Key Follow (Pitch) = 100 (☞P.36)

Assign Type = POLY (☞P.28)

Note Off Switch = OFF (☞P.30)

*When using the Hold Pedal, set the Hold Switch (☞page 55) ON, and shorten the decay of the Sound parameters. If the decay is long, the sound will not immediately disappear when Hold is turned off.

● When using a bass etc. to play single notes

Key Follow (Pitch) = 100

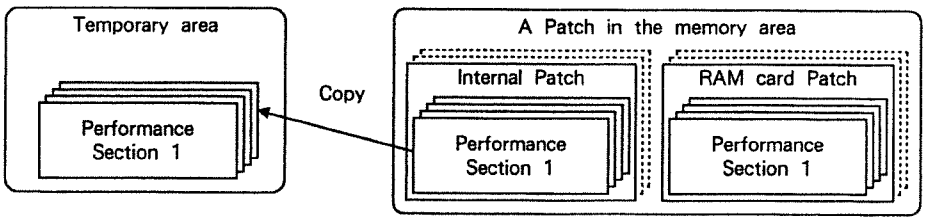
Assign Type = EXC1—8

Note Off Switch = ON

*When the Assign Type is set to MONO, notes of the same note number will not be sounded simultaneously, but notes of different note numbers are sounded individually.

■How to copy a Performance Section

Performance Section settings of a Patch (memory area) can be copied to a Performance Section in the temporary area. This is convenient when you want to use the same settings as a previously stored Performance Section.



① Move to the Performance Section copy display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PFM" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "COPY" and press [ENTER].

Performance Section number of the copy destination

```
PATCH/PFM1/COPY
Copy P:I-01?
```

Patch number

② Select the Performance Section of the copy destination.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the Performance Section (1—4).

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the Patch which contains the Performance Section you wish to copy, press [ENTER].

I-01—I-32 (internal Patches), C-01—C-32 (RAM card Patches)

④ Use the **CURSOR** [◀][▶] to select the Performance Section (PFM1—4) you wish to copy.

```
PATCH/PFM1/COPY
Copy PFM1?
```

⑤ Press [ENTER] to copy the data.

To quit without copying press [EXIT].

If you wish to copy settings from another Performance Section, repeat steps ②—⑤.

⑥ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

3. How to Name a Patch

Each Patch can be given a name using up to 8 characters. This can be a convenient reminder of the song which uses the Patch, or of the type of drum-set used.

① Move to the Patch name setting display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "NAM" and press [ENTER].

Cursor (underline)

② Use the **CURSOR** [◀][▶] and **VALUE** [△][▽] buttons to select the characters.

③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

4. How to Store Patch Settings

Here's how to store a modified Patch (temporary area) into the memory area.

*If you wish to store the data on a RAM card, remember that a newly purchased RAM card, or a RAM card that has been used for other devices, cannot be used as it is. You must first use the Save operation to save internal data to the RAM card. For details refer to "Using a RAM Card" (page 60).

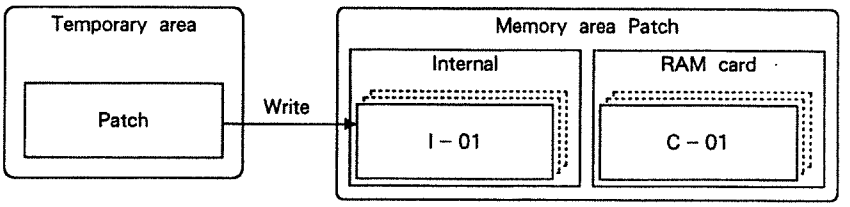
[ABOUT MEMORY PROTECT]

The memory protect function is a protective measure to prevent you from accidentally rewriting the Patch or Feel Patch settings in the internal memory area. If you wish to store Patch or Feel Patch settings in the internal memory area, you must first turn this memory protect off. When storing data on a RAM card, you must turn the card protect switch off.

Normally you will temporarily turn memory protect off during the Write procedure. However, if you will be repeating the write procedure many times, you can turn memory protect off beforehand to avoid this extra step. To turn memory protect off beforehand, refer to page 56.

■Patch write procedure

Here's how to write Patch (temporary area) settings into either of the memory areas.



The Patch writing procedure is used not only to store modified Patch settings, but also to copy Patch settings or rearrange Patches.

To copy Patch settings, in Play mode select the Patch you wish to copy, use step ② of the Patch write procedure to select the copy destination Patch, and execute.

To rearrange Patch settings, select the Patch you wish to move, use step ② of the Patch write procedure to select the move destination, and execute. By repeating this as necessary, you can rearrange Patches.

***To store data on a RAM card, turn the protect switch off after inserting the RAM card.**

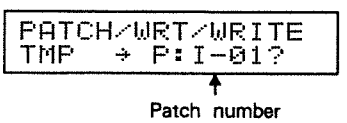
① Move to the Patch write display.

Press **[EDIT]** (the indicator will light).

Use the **CURSOR** **[◀][▶]** to select "PATCH" and press **[ENTER]**.

Use the **CURSOR** **[◀][▶]** to select "WRT" and press **[ENTER]**.

Use the **CURSOR** **[◀][▶]** to select "WRITE" and press **[ENTER]**.



② Use the CURSOR [◀][▶] to select the destination Patch number into which you wish to write.

I-01—I-32 (internal Patches), C-01—C-32 (RAM card Patches)

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] once again and the data will be written.

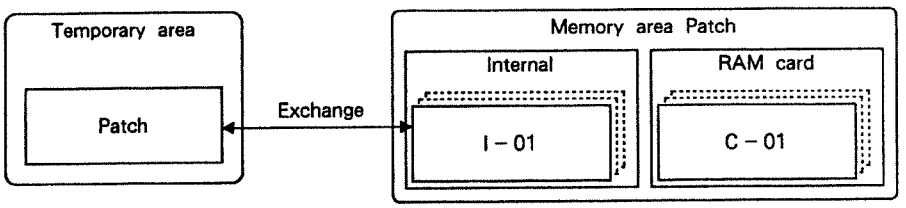
To quit without writing press **[EXIT]**.

If the internal memory protect is on, the following display will appear. Press **[ENTER]** once again to temporarily turn off the memory protect and write the data.

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Patch exchange procedure

This function exchanges (swaps) Patch settings between the temporary area and the memory area. By repeated exchanges, you can rearrange the order of Patch settings. By exchanging a modified Patch with same Patch number, you can compare the edited and unedited settings.



*When exchanging RAM card Patches, turn the protect switch off after inserting the RAM card.

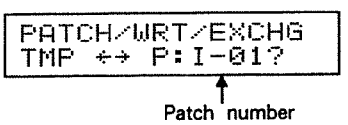
① Move to the Patch exchange display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "EXCHG" and press [ENTER].



② Use the **CURSOR** [◀][▶] to select the Patch number you wish to exchange.

I-01—I-32 (internal Patches), C-01—C-32 (RAM card Patches)

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] once again and the data will be exchanged.

To quit without exchanging press [EXIT].

If the internal memory protect is on, the following display will appear. Press [ENTER] once again to temporarily turn off the memory protect and exchange the data.

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Copy the factory Patch settings

Here's how to copy any one of the 30 factory Patch settings into the Patch in the temporary area. This is convenient when you wish to restore a patch you created to its original settings.

*For the factory Patch settings, refer to "Patch List" on page 84.

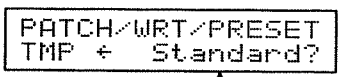
① Select the Patch copy display.

Press the [EDIT] button (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press the [ENTER] button.

Use the **CURSOR** [◀][▶] to select "WRT" and press the [ENTER] button.

Use the **CURSOR** [◀][▶] to select "PRESET" and press the [ENTER] button.



The name of the Patch you wish to copy

② Use the **CURSOR** [◀][▶] to select the Patch you wish to copy.

③ Press the [ENTER] button and the display will ask "Are you sure?".

④ Press the [ENTER] button once again, and the data will be copied.

To cancel the operation press the [EXIT] button.

⑤ To return to Play mode hold [JUMP] and press [EXIT]. (The indicator will go out.)

■Patch clear

This function initializes the Patch settings in the temporary area. Use this function when you wish to create a Patch from scratch.

		Parameter	Initial value
Patch Name			- - - - - - - -
Instrument Section	Basic	Receive channel	10
		Volume	127
		Bend range	12
		Layer function	OFF
	Sound (note number : 21—108)	Instrument assign	** - **
		Pitch	–
		Decay	–
		Nuance	–
		Output assign	–
		Level	–
		Assign type	–
		Velocity curve	–
		Note off switch	–
	Control change	Modulation, Control 1—4	** - ** PITCH
		Control 5—8	** - ** DECAY

		Parameter		Initial value
Performance Section 1—4	Basic	Receive channel	section 1	11
			section 2	12
			section 3	13
			section 4	14
		Volume		127
		Key range low		C – (0)
		Key range high		G9 (127)
		Bend range		12
		Modulation		OFF
	Key follow	Reference note number		60
		Key follow (pitch)		+ 100
		Key follow (decay)		0
		Key follow (nuance)		0
		Key follow (pan)		OFF
	Sound	Instrument assign		** - **
		Pitch		–
		Decay		–
		Nuance		–
		Output assign		–
		Assign type		–
		Velocity curve		–
		Note off switch		–

① Move to the Patch clear display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "PATCH" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "CLEAR" and press [ENTER].

```
PATCH/WRT/CLEAR
Clear TMP?
```

② Press [ENTER] and you will be asked "Are you sure?".

③ Press [ENTER] once again and the data will be cleared.

To quit without clearing press [EXIT].

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

② FEEL FUNCTION

The Feel Function modifies the tone of the instruments specified in each section to create a natural effect of variation.

1. About the Feel Function

■Regular Feel and Random Feel

There are two types of Feel function; Regular Feel and Random Feel. These can be used together to affect the sound.

【REGULAR FEEL】

When a real drummer performs, he consciously modifies the force, striking position, and striking technique with which he plays the drums. This means that when the same drum part is played by different drummers, the result can differ greatly. Regular Feel adds this type of cyclic and intentional tonal variation.

You can select either Groove or Velocity Feel as the source of Regular Feel.

● Groove

This function periodically modifies the sound of specified instruments in synchronization with MIDI clock message from an external device. Use this function when playing the R - 8M from a sequencer or rhythm machine. For example, if you select snare drum velocity, the playing strength of the snare drum will be varied at a specific time.

● Velocity Feel

This function modifies the sound of specified instruments in response to the velocity (playing strength). It is effective to use this function when playing the R - 8M from drum pads or other real-time controllers. In real-time, pitch, decay and nuance can be changed with the velocity (playing strength) and these variations can be stored in each Feel Patch. However, when Groove is selected, these effects cannot be realized.

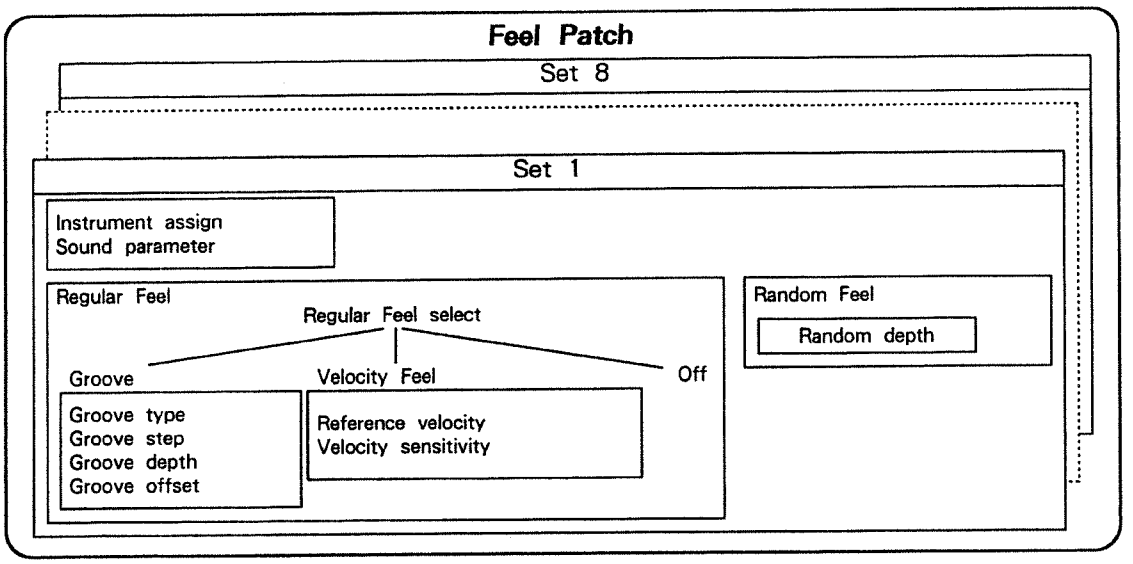
【RANDOM FEEL】

Even when a drummer attempts to play consistently, there will be slight differences in the force or striking position with which he plays the drums. This results in subtle changes in tone, and keeps the performance from becoming monotonous. Random Feel creates this type of irregular variation in tone. "Random" does not mean that the sound will change haphazardly. Rather, this varies the sound in a natural way, using the same "1/f Fluctuations" that appears in many aspects of the natural world.

By using this function to modify the nuance of a ride cymbal for example, you can simulate the naturally occurring change in tone that results from a shift in striking position.

■How a Feel Patch is organized

Each Feel Patch contains 8 sets, with each set containing the instrument to be modified, Regular Feel settings, and Random Feel settings. Internal memory can accommodate 16 Feel Patches, and a RAM card can accommodate 16 more.



2. Feel Patch Settings

To create an original Feel Patch, select one of the Feel Patches (☞ see page 14) and modify the settings. If Feel Patch settings have been modified, an "✻" will be displayed when you return to the Play mode display.

```
PLAY <PATCH-01>
P:I-01   F:I-01✻
```

✻If you wish to keep your edited Feel Patch settings, you must use the Feel Patch Write operation (☞see page 51).

✻If you want to create a new Feel Patch from scratch, first use the Clear operation to reset the Feel Patch data in the temporary area to the initial settings (☞see page 54).

✻If a Feel Patch is not selected in the Play mode, the following display will appear in the Feel Edit mode. Use the **CURSOR** [◀][▶] to select the Feel Patch you wish to edit and press [**ENTER**].

```
Select for EDIT.
Feel:OFF ?
```

■Instrument Assign settings

Select the instruments and parameters that will be affected by the Feel Patch. One of each can be specified for each of the 8 sets.

Parameters that can be specified
VELO (velocity)
PITCH (pitch)
DECAY (decay)
NUANCE (nuance)

*When using Velocity Feel, specifying the velocity parameter will have no effect.

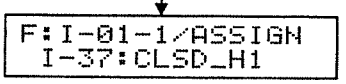
① Move to the instrument assign (Feel Patch) setting display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "ASG" and press [ENTER].

Set number



② Select the set in the Feel Patch.

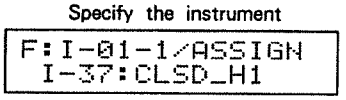
Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the set (1—8) to make the settings for.

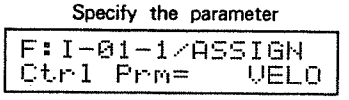
Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the display and use **VALUE** [△][▽] to select the instrument and the parameter.

Specify the instrument



Specify the parameter

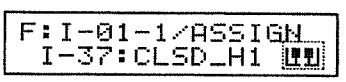


If you wish to make settings for other sets, repeat steps ② and ③.

*When you modify a parameter, all Groove offsets (☞see page 49) will be cleared to 0.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

If you wish to use note messages from an external device to select instruments in the intsrument select display, press and hold the [NOTE #] button until the following symbol appears in the display. (Release the button before the [NOTE #] indicator begins to blink.)



When a note message is received on the receive channel of any section, the instrument sounded by that note will be selected.

To return to normal operation, press and hold the [NOTE #] button until the symbol disappears from the display.

*If you press the [EXIT] button, this function will be canceled.

■Regular Feel settings

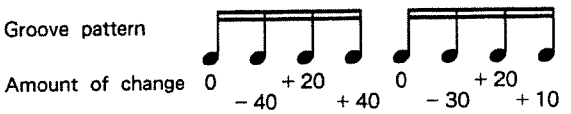
●Regular Feel select : GROOVE, VELOCITY, OFF

```
F:I-01-1/REGULAR
Regular=        OFF
```

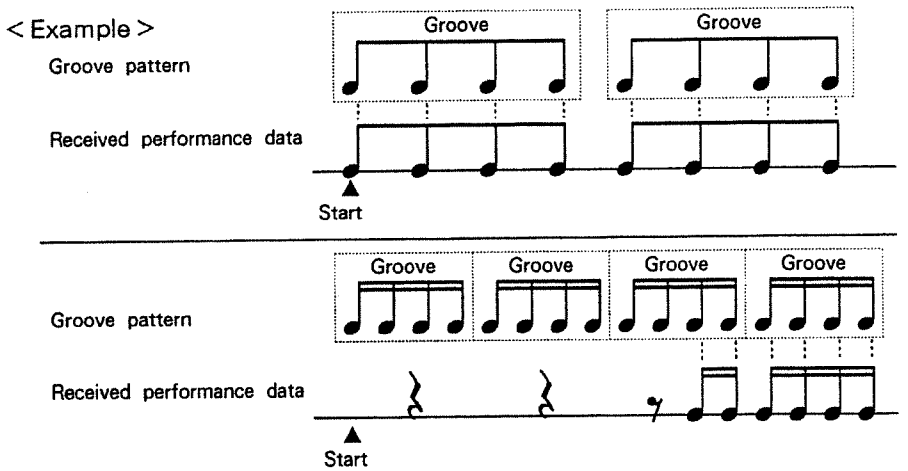
Select Groove or Velocity Feel. If you do not wish to use Regular Feel, set this function to OFF.

Groove

Groove settings determine the timing at which the parameter is modified (Groove type, Groove step) and the amount of change (Groove depth, Groove offset).



When a sequencer or rhythm machine connected to the R - 8M begins playback, the R - 8M will synchronize to the MIDI clock message and repeat the Groove pattern. When note message is received at the timing of the Groove pattern, the parameter value specified for the instrument will be given a relative change according to the various timing settings.



*Notes which do not fall on the timing of the groove will be sounded at the nearest timing setting.

●Groove type : 1—16

```
F:I-01-1/REGULAR
Type            = 16
```

This function determines how many times the parameter will be modified during one cycle of the Groove.

●Groove step : 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32

```
F:I-01-1/REGULAR
Step         = 1/16
```

This function determines the timing interval at which the parameter will be modified.

Groove type : 4
Groove step : 1/8

Groove type : 8
Groove step : 1/16

●Groove depth : 1—8

```
F:I-01-1/REGULAR
Depth          = 8
```

This function determines the amount of effect the Groove will have. Higher settings will cause a greater change in the parameter.

●Groove offset

```
F:I-01-1/Ofs=  0
----.............
```

This function determines the amount of parameter change (relative value) for each timing unit.

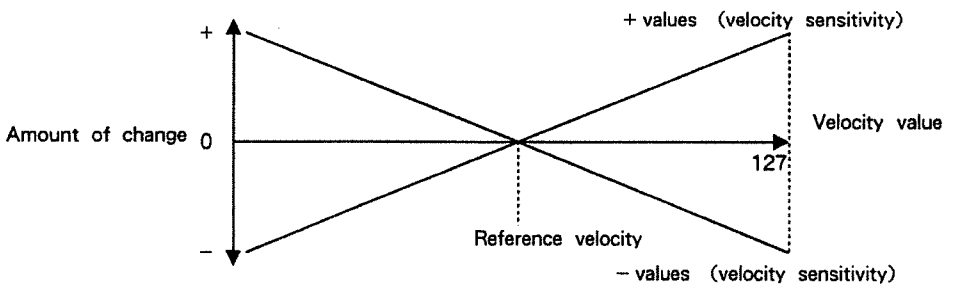
Use the **CURSOR**[◀][▶] to select the timing unit (blinking), and use **VALUE**[△][▽] to set the amount of change. The specified value will be graphically displayed in the lower line.

Parameter	Values
Velocity	−99—+99
Pitch	−99—+99 (1 = 10 cent)
Decay	−20—+20
Nuance	−15—+15

Velocity Feel

This function modifies the parameter value according to the received velocity.

*When using Velocity Feel, the specified velocity parameter in instrument assign will have no effect on the Feel function.



●Reference velocity : 1—127

```
F:I-01-1/REGULAR
Refer Velo =  64
```

This function determines the standard velocity around which the parameter value will be modified.

●Velocity sensitivity : −7—+7

```
F:I-01-1/REGULAR
Velo Sens   =  0
```

This function determines how greatly the parameter value will be modified in response to velocity. This corresponds to the slope in the above diagram; higher settings will make the parameter change greater. Positive or negative settings will change the direction of the slope. At a setting of 0 there will be no change.

[SETTING PROCEDURE]

① Move to the Regular Feel setting display.

Press [**EDIT**] (the indicator will light).

Use the **CURSOR**[◀][▶] to select "FEEL" and press [**ENTER**].

Use the **CURSOR**[◀][▶] to select "REGL" and press [**ENTER**].

Set number

```
F:I-01-1/REGULAR
Regular=      OFF
```

② Select the set in the Feel Patch.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the set (1—8) you wish to modify.

Press [NOTE #] (the indicator will go out).

③ Use the **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to modify the value.

You can modify the parameter selected by Regular Feel select. If Regular Feel select has been turned off, the display can not be selected.

If you wish to make settings for other sets, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Random Feel settings

These settings randomly modify the parameters of the instruments assigned to a set.

●Random depth : 0—8

```
F:I-01-1/RANDOM
Depth          = 0
```

This function specifies how greatly the parameter value will be modified. Higher settings will result in greater change. At a setting of 0 there will be no Random Feel.

[SETTING PROCEDURE]

① Move to the Random Feel setting display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "RND" and press [ENTER].

Set number

```
F:I-01-1/RANDOM
Depth          = 1
```

② Select the set in the Feel Patch.

Press [NOTE #] (the indicator will light).

Use the **CURSOR** [◀][▶] to select the set (1—8) you wish to modify.

Press [NOTE #] (the indicator will go out).

③ Use **VALUE** [△][▽] to specify the random depth (0—8).

If you wish to make settings for other sets, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

3. How to Store Feel Patch Settings

Here's how to store a modified Feel Patch (temporary area) into the memory area.

*If you wish to store the data on a RAM card, remember that a newly purchased RAM card, or a RAM card that has been used for other devices, cannot be used as it is. You must first use the Save operation to save internal data to the RAM card. For details refer to "Using a RAM Card" (☞page 60).

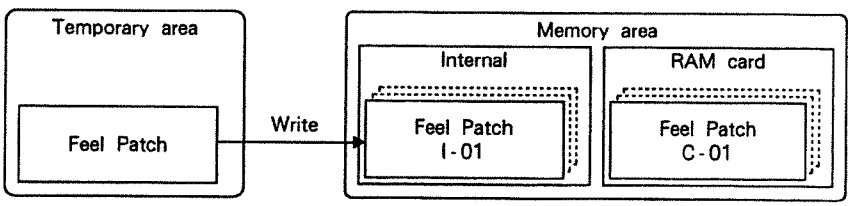
[ABOUT MEMORY PROTECT]

The memory protect function is a protective measure to prevent you from accidentally rewriting the Patch or Feel Patch settings in the internal memory area. If you wish to store Patch or Feel Patch settings in the internal memory area, you must first turn this memory protect off. When storing data on a RAM card, you must turn the card protect switch off.

Normally you will temporarily turn memory protect off during the write procedure. However, if you will be repeating the write procedure many times, you can turn memory protect off beforehand to avoid this extra step. To turn memory protect off beforehand, refer to page 56.

■Feel Patch write procedure

Here's how to write Feel Patch (temporary area) settings into either of the memory areas.



*To store data on a RAM card, turn the protect switch off after inserting the RAM card.

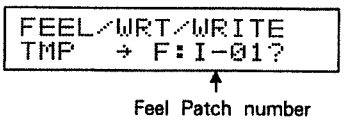
① Move to the Feel Patch write display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRITE" and press [ENTER].



② Use the **CURSOR** [◀][▶] to select the destination Feel Patch number into which you wish to write.

I-01—I-16 (internal Feel Patches), C-01—C-16 (RAM card Feel Patches)

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] once again and the data will be written.

To quit without writing press [EXIT].

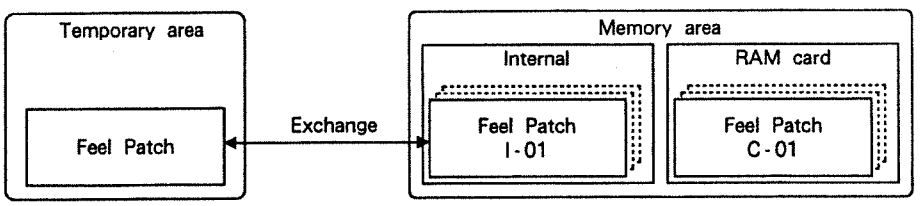
If the internal memory protect is on, the following display will appear. Press [ENTER] once again to temporarily turn off the memory protect and write the data.

```
** PROTECT ON **
Turn off once?
```

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Feel Patch exchange procedure

This function exchanges (swaps) Feel Patch settings between the temporary area and the memory area. By repeated exchanges, you can rearrange the order of Feel Patch settings. By exchanging a modified Feel Patch with the same Feel Patch number, you can compare the edited and unedited settings.



*When exchanging RAM card Feel Patches, turn the protect switch off after inserting the RAM card.

① Move to the Feel Patch exchange display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "EXCHG" and press [ENTER].

```
FEEL/WRT/EXCHG
TMP <-> F:I-01?
```

Feel Patch number

② Use the **CURSOR** [◀][▶] to select the Feel Patch number you wish to exchange.

I-01—I-16 (internal Feel Patches), C-01—C-16 (RAM card Feel Patches)

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] once again and the data will be exchanged.

To quit without writing press [EXIT].

If the internal memory protect is on, the following display will appear. Press [ENTER] once again to temporarily turn off the memory protect and exchange the data.

```
** PROTECT ON **
Turn off once?
```

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Copy the factory Feel Patch settings

Here's how to copy any one of the 16 Feel Patch factory settings into the Patch in the temporary area. This is convenient when you wish to restore a Feel Patch you created to its original settings.

*For the factory Feel Patch settings, refer to "Feel Patch List" on page 115.

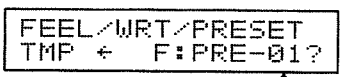
① Select the Feel Patch copy display.

Press the [EDIT] button (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PRESET" and press [ENTER].



The Feel Patch you wish to copy

② Use the **CURSOR** [◀][▶] to select the Feel Patch (1—16) you wish to copy.

③ Press the [ENTER] button and the display will ask "Are you sure?".

④ Press the [ENTER] button once again, and the data will be copied.

To cancel the operation press the [EXIT] button.

⑤ To return to Play mode hold [JUMP] and press [EXIT]. (The indicator will go out.)

■Feel Patch clear

This function initializes the Feel Patch settings in the temporary area. Use this function when you wish to create a Feel Patch from scratch.

		Parameter	Setting value	
Instrument assign		Instrument assign	** - **	
		Parameter	VELO	
Regular Feel	Regular Feel select		OFF	
	Groove	Groove type	16	
		Groove step	1/16	
		Groove depth	8	
		Groove offset	Velocity	0
			Pitch	0
			Decay	0
			Nuance	0
	Velocity Feel	Reference velocity	64	
		Velocity sensitivity	0	
Random Feel		Random depth	0	

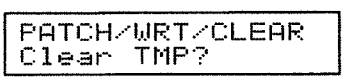
① Move to the Feel Patch clear display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "FEEL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "WRT" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "CLEAR" and press [ENTER].



② Press [ENTER] and you will be asked "Are you sure?".

③ Press [ENTER] once again and the data will be cleared.

To quit without clearing press [EXIT].

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

[3] SETUP

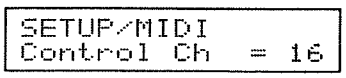
These settings for MIDI, memory protect and program change map, affect the entire system of the R - 8M.

*Setup settings are preserved even when the power is turned off.

■MIDI settings

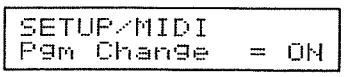
These MIDI settings affect the entire system.

●Control channel : 1—16



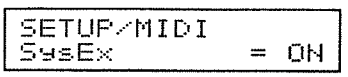
This function determines the channel on which program change message (to select Patches or Feel Patches) will be received. The control channel is also used as the basic channel on which exclusive message is received and transmitted (☞see page 63).

●Program change switch : ON, OFF



This switch determines whether or not program change message will be received.

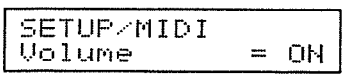
●Exclusive switch : ON, OFF



This switch determines whether or not exclusive message will be received.

*If memory protect (☞see page 56) is on, exclusive message will not affect the settings in the memory area even if the exclusive switch is ON.

●Volume switch : ON, OFF

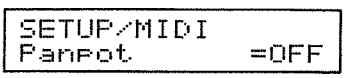


This switch determines whether or not volume message (control number 7) will be received.

●Bender switch : ON, OFF

This switch determines whether or not pitch bender message will be received.

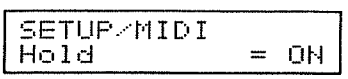
●Pan switch : ON, OFF



This switch determines whether or not pan message (control number 10) will be received.

*If the pan switch is turned ON, the pan setting specified by the control number in the Instrument Section will be ignored (☞see page 33).

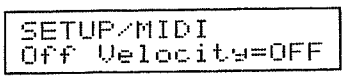
●Hold switch : ON, OFF



This switch determines whether or not hold messages (control number 64) will be received or not. Normally, "hold" messages carry a data value of on/off, but by using a MIDI devices that can transmit a continuous value, you can control instrument decay.

*Some sequencers will handle only on/off data for "hold" messages. In such cases, decay changing can not be recorded.

●Velocity switch (note off) : ON, OFF



This switch determines whether or not note off velocity will be received. This will be effective when using the R - 8M with MIDI devices that are able to transmit note off velocity. As the note off velocity value is higher, the decay time will become shorter.

*For instruments which receive note off velocity, set the Note Off switch on (see page 30, 38).

[SETTING PROCEDURE]

① Move to the MIDI (setup) setting display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "SETUP" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "MIDI" and press [ENTER].

② Use the **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to modify the setting.

③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■How to turn memory protect on/off

The memory protect function is a protective measure to prevent you from accidentally rewriting the Patch or Feel Patch settings in the internal memory area. Normally you will leave memory protect on, but when storing Patch or Feel Patch settings into the internal memory area, you must turn this memory protect off.
Normally you will temporarily turn memory protect off during the write procedure. However, if you will be repeating the write procedure many times, you can turn memory protect off beforehand to avoid this extra step.

① Move to the memory protect setting display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "SETUP" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "PROTECT" and press [ENTER].

② Use **VALUE** [△][▽] to turn memory protect ON/OFF.

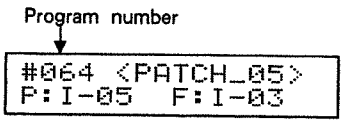
③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■How to set the program change map

If you wish to select Patches or Feel Patches using program change message from an external device, set the program change map to specify which Patch number or Feel Patch number will be selected in response to each incoming program number. A program number can simultaneously select both a Patch and a Feel Patch, or either one.

Program change messages can be received in the Play mode, and will be received on the control channel (see page 55). If you want program change messages to be received, set the Program Change switch to on (see page 55).

When program change message is received, the display will show the received program number as follows.

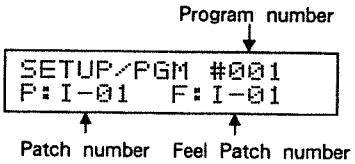


① Move to the program change map setting display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "SETUP" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "PGM" and press [ENTER].



② Select the program number for which you wish to make settings.

Press [NOTE #] (the indicator will light).

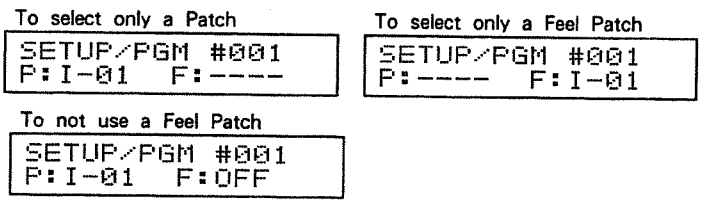
Use the **CURSOR** [◀][▶] to select the program number (1—128).

Press [NOTE #] (the indicator will go out).

*Program numbers can be selected from an external device using Program Change messages.

③ Use the **CURSOR** [◀][▶] and **VALUE** [△][▽] respectively to select a Feel Patch and a Patch.

If you wish to select only a Patch or only a Feel Patch, select " – – – – " for the type you do not wish to change. If you do not wish to use a Feel Patch, select "OFF".



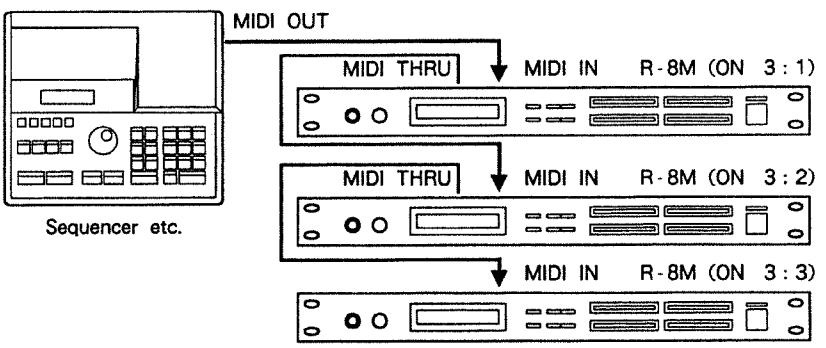
If you wish to make settings for another program number, repeat steps ② and ③.

④ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Using two or more R-8M units (Stack)

A single R - 8M is able to produce up to 12 notes at once. The Stack function allows you to connect two or more R - 8M units together to increase the number of simultaneous notes that can be produced. Turn Stack on for each R - 8M, specify the number of connected R - 8M units (1—8), and specify the device number for each R - 8M. As long as each R - 8M is set to a different device number, the order in which they are connected does not matter.

< Setting example > When using three R-8M units; set Stack function ON; number of unit 3 device number 1, 2, or 3

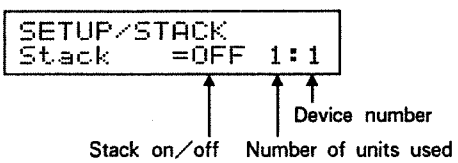


In addition to the Stack settings, each R - 8M must be have the same Patch settings. If they do not have the same Patch settings, different instruments will sound, or the notes will not sound properly. To give each R - 8M the same Patch settings, use the bulk dump procedure (☞ see page 63) to copy the Patch data.

* Stack settings are preserved even when the power is turned off.
* If you are using only one R - 8M, turn Stack OFF.
* If you incorrectly specify the number of units used, or if two or more R - 8M units are set to the same device number, notes will not sound properly.

① Move to the Stack setting display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "SETUP" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "STACK" and press [ENTER].



② Use **CURSOR** [◀][▶] to select the parameter, and use **VALUE** [△][▽] to set each parameter.

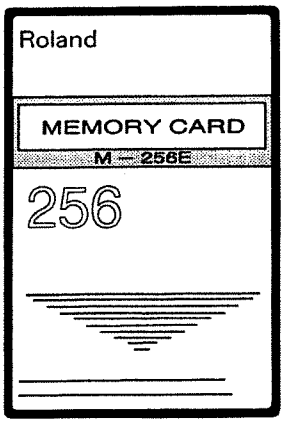
③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

Chapter 4

Utility mode functions

[1] USING A RAM CARD

■Data that can be stored in a RAM card



A RAM card (M-256E) can store the following settings.

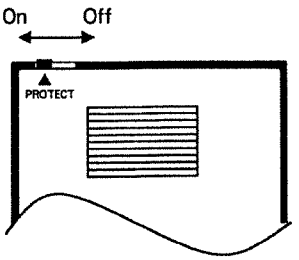
32 Patches
16 Feel Patches
Setup data (MIDI, program change map)

If you leave a RAM card inserted while playing the R - 8M, you will be able to instantly select the card Patches or Feel Patches in the same way as internal settings. It is also possible to write modified settings from the temporary area directly into a RAM card. However, if you wish to use setup data from a card, you must use the Load operation to copy the setup data from the RAM card into internal memory.

＊M-256D RAM cards can be used.

■Precautions when using a RAM card

- Use only the specified type of RAM card (M - 256E).
- When using a new RAM card for the first time, install the included lithium battery into the card. Use the Save procedure to copy the internal data into the RAM card before using it.
- RAM cards have a protect switch that protects the stored data. Normally you will leave this on, but turn it off before saving data to the RAM card.

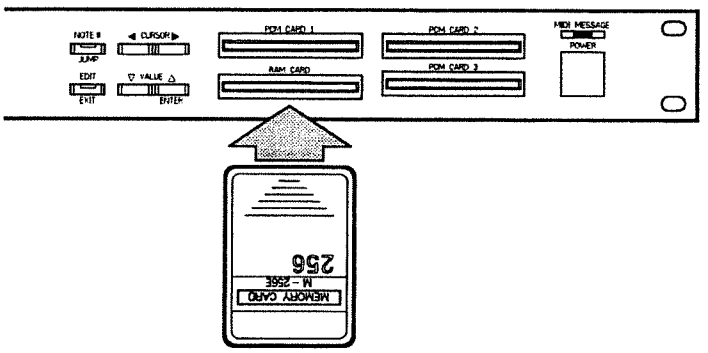


- Do not turn the power off or remove the card while saving or loading data from a RAM card. Doing so could damage the data in the RAM card or internal memory.

■Saving data from the R-8M to a RAM card

This SAVE operation copies all internal data (32 Patches, 16 Feel Patches, and setup data) from the R-8M into a RAM card. When using a new RAM card or a RAM card which has been used by another device, use this Save operation first.

① Insert the RAM card firmly into the RAM CARD slot, and set the RAM card protect switch off.



② Move to the save display.

Press [EDIT] (the indicator will light).

Use the **CURSOR** [◀][▶] to select "UTIL" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "RAMCARD" and press [ENTER].

Use the **CURSOR** [◀][▶] to select "SAVE" and press [ENTER].

```
UTIL/RAM/SAVE
Press ENTER.
```

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] and the data will be saved.

To quit without saving press [EXIT].

If the RAM card is new or if it has been used by another device, the following display will appear. Press [ENTER] once again. To quit without saving press [EXIT].

```
UTIL/RAM/SAVE
Format?
```

⑤ Turn the protect switch of the RAM card on again.

⑥ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

■Loading data from a RAM card into the R-8M

The LOAD operation copies all data from a RAM card (32 Patches, 16 Feel Patches, and setup data) into the R-8M. When you use the load operation, internal settings of the R-8M will be replaced by the settings from the RAM card, and the previous settings will be lost.

① Insert the RAM card firmly into the RAM CARD slot.

② Move to the load display.

Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "UTIL" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "RAMCARD" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "LOAD" and press [ENTER].

```
UTIL/RAM/LOAD
Press ENTER.
```

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] and the data will be loaded.

To quit without loading press [EXIT].

If memory protect is turned on the following display will appear. Press [ENTER] once again to temporarily turn memory protect off and load the data.

```
** PROTECT ON **
Turn off once?
```

⑤ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

[2] OTHER FUNCTIONS

1. Transmitting Exclusive message

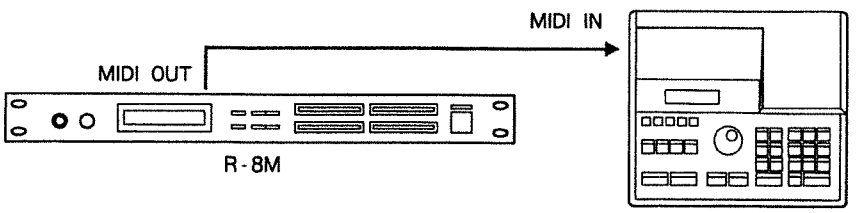
R-8M settings can be transmitted as exclusive message to another R-8M or any MIDI device that is able to receive exclusive message.

■How to transmit exclusive message (bulk dump)

The following categories of R-8M data can be transmitted.

Display		Transmitting data
ALL	INT	Patch (temporary area, I01—I32) Feel Patch (temporary area, I01—I16) Setup data (internal)
	CARD	Patch (C01—C32) Feel Patch (C01—C16) Setup data (RAM card)
	INT & CARD	both INT and CARD
PATCH	TMP	the Patch in the temporary area
	I01—32	any one of the internal Patches (memory area)
	C01—C32	any one of the RAM card Patches
FEEL	TMP	the Feel Patch in the temporary area
	I01—16	any one of the internal Feel Patches (memory area)
	C01—C16	any one of the RAM card Feel Patches
SETUP		internal setup data

[CONNECTIONS]



*If you wish to transmit data from a RAM card, insert the RAM card.

[PROCEDURE]

① Set the R-8M control channel (☞ page 55) to match the basic channel of the receiving device.

② Set the receiving MIDI device to receive exclusive message.

③ Move to the bulk display.

Press **EDIT** (the indicator will light).

Use the **CURSOR** ◀ ▶ to select "UTIL" and press **ENTER**.

Use the **CURSOR** ◀ ▶ to select "BULK" and press **ENTER**.

```
UTIL/BULK    ALL
PATCH FEEL SETUP
```

④ Use the **CURSOR** [◀][▶] to select the data to be transmitted and press [**ENTER**].
If you have selected anything other than SETUP, use the **CURSOR** [◀][▶] to select the type of data to be transmitted.

⑤ Press [**ENTER**] and you will be asked "Are you sure?".

⑥ Press [**ENTER**] and the data will be transmitted.
To quit without transmitting press [**EXIT**].

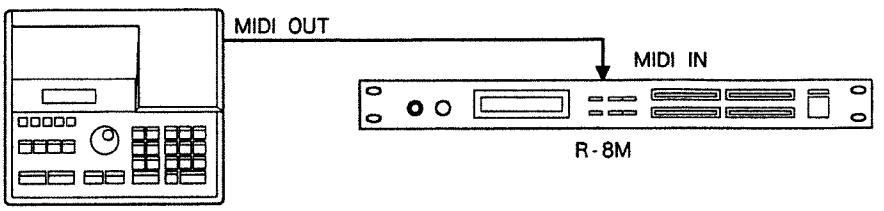
While the data is being transmitted the display will read "Transmitting".
To abort while the data is being transmitted, press [**EXIT**].

⑦ While pressing [**JUMP**], press [**EXIT**] to return to the Play mode (the indicator will go out).

■How to receive exclusive message (bulk load)

This function receives exclusive message from another R-8M or other MIDI device and reads it into internal memory or a RAM card, replacing the previous settings.

[CONNECTIONS]



[PROCEDURE]

① Set the R-8M control channel (☞ page 55) to match the basic channel of the transmitting device (if you are receiving the data from a sequencer, set the control channel that you used when recording the data into the sequencer).

② Turn the exclusive switch of the R-8M on (☞ page 55).

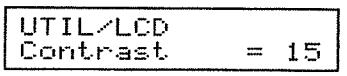
③ If you want the settings in the R-8M internal memory to be changed, turn the R-8M memory protect off (☞ page 56). If you want the RAM card settings to be changed, insert a RAM card and turn the card protect switch off.

④ Transmit exclusive message from the transmitting MIDI device.
When exclusive message is received, the display will show "Receiving SysEx".

2. Adjusting the Display Contrast

This function adjusts the contrast of the R-8M's LCD. When using the R-8M in different locations you can adjust the contrast for maximum visibility.

① Move to the contrast setting display.
Press [EDIT] (the indicator will light).
Use the **CURSOR** [◀][▶] to select "UTIL" and press [ENTER].
Use the **CURSOR** [◀][▶] to select "LCD" and press [ENTER].



② Use **VALUE** [△][▽] to adjust the contrast (0—15).

③ While pressing [JUMP], press [EXIT] to return to the Play mode (the indicator will go out).

*The contrast setting will be maintained even when the power is turned off.

3. Restoring All R-8M Data to the Factory Settings (Initialize)

If you wish to restore all data of the R-8M to the factory settings, use the following procedure.

① Turn the R-8M power off.

② While pressing the **CURSOR** [▶] and [ENTER], turn the power on.

③ Press [ENTER] and you will be asked "Are you sure?".

④ Press [ENTER] once again and the data will be initialized.
To quit without initializing the data press [EXIT].

Chapter 5

Appendix

ABOUT MIDI

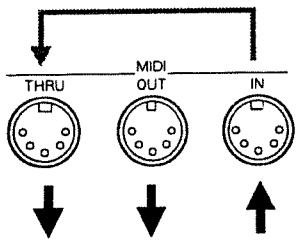
MIDI stands for Musical Instrument Digital Interface, and is a worldwide standard for transmitting notes, musical expressions, and other musical data between electronic musical instruments. If an instrument has MIDI, it can transmit musical data to other instruments regardless of the manufacturer or type. When a note is played or a pedal is pressed, this information is transmitted as a MIDI message.

1. How MIDI message is Transmitted and Received

The following is a simple explanation of how MIDI message is transmitted and received.

MIDI Connectors

The following three connectors are used to transmit and receive MIDI message. Use MIDI cables to connect these connectors as your setup requires.

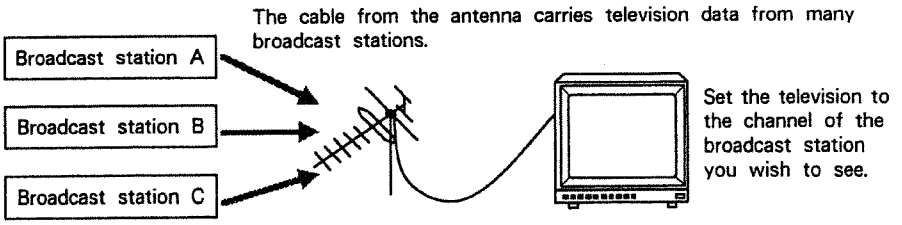


MIDI IN : This connector receives data from another MIDI device.
MIDI OUT : This connector transmits data from the device itself.
MIDI THRU : This connector retransmits the exact data that was received at MIDI IN.

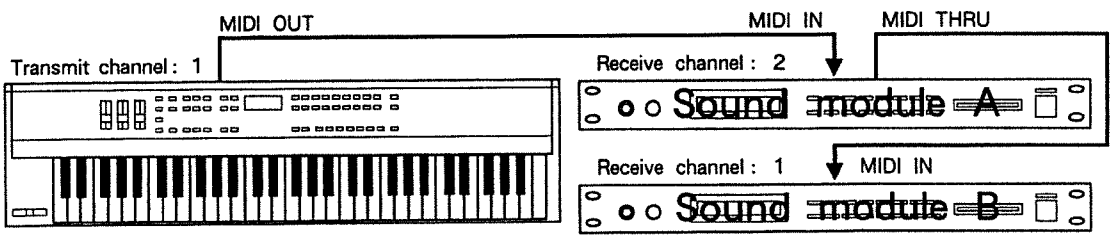
*You can use MIDI THRU to connect as many MIDI devices as you like, but the practical limit is 4 or 5 devices. If more devices are connected, the MIDI signal may become garbled, and the data may not be correctly received.

MIDI Channels

MIDI uses a single MIDI cable to transmit data independently to two or more MIDI devices using various channels.
A MIDI channel is similar to a television channel. By changing the channel on a television set, you can view programs from many broadcast stations. When the receiving channel matches the transmitting channel, the data of that channel will be received.



MIDI uses sixteen channels (1—16), and when a MIDI device is set to receive the same channel as transmitted by the transmitting device, it will receive that message. For the connections and MIDI channel settings shown in the following diagram, only sound module B will produce sound when the keyboard is played.



2. The Main Types of MIDI message Used by the R-8M

MIDI uses many different types of MIDI messages to transmit a wide variety of musical information. MIDI message can be broadly divided into two categories; data that is handled by MIDI channels (channel messages), and data that is handles without regard to the MIDI channel (system messages).

■Data handled by MIDI channels (channel messages)

These messages transmit performance nuances. Normally, these messages are all you will be using. The settings of the sound source will determine the effect that these MIDI messages will have.

● Note message

This message transmits the drum hits (corresponding to the notes pressed on a keyboard). Note messages include the following.

Note number		The type of drum sound (a number indicating the key position)
Note on		Strike the drum (press the key)
Note off		Release the key
Velocity	Note on	the strength with which the drum (key) is hit
	Note off	Key release strength (when using a keyboard that transmits note off velocity)

Note number is expressed as a number from 0—127, with middle C (C4) as 60. In general, the note number determines the pitch. However, for rhythm sound sources, the note number is used to specify the type of drum sound. The R-8M's Instrument Section allows it to be used as a conventional rhythm sound source, and the Performance Sections allow it to be played like a synthesizer sound source with different pitches for each note number.

*Most rhythm machines either transmit the "note on" and "note off" messages in immediate succession, or transmit the note off message at a specific time interval after the note on message.

● Pitch bender message

This message transmits changes in the bender lever position (pitch).

● Aftertouch message

This message transmits changes in aftertouch (the force with which you press down on the keyboard to modify the sound). This message is ignored by the R-8M.

● Program change message

This message is usually used to select sounds, and includes a program number (1—128) that specifies the sound to be selected. When the R-8M receives this message it will select Patches or Feel Patches. The program change map (☞ page 57) allows you to freely specify the Patch and/or Feel Patch that will be selected by each incoming program number.

● Control change message

This message includes messages such as modulation or pan that are used for musical expression. A control number is used to distinguish the various functions. Each MIDI device will respond to this message in a different way.

The Instrument Section of the R-8M can receive control numbers to modify the sound of specified instruments in up to 9 different ways (☞ page 33).

■Data handled without regard to the MIDI channel (system messages)

System messages include exclusive message, synchronization message, and message that helps keep a MIDI system running correctly. The R-8M uses mainly real-time messages and exclusive messages.

● Common

Common message includes song select messages that select songs, and song position messages that specify the position in a song. Song position messages are received by the Feel (Groove) function.

● Real-time

Real-time message is used to keep MIDI devices in synchronization. It includes clock messages to keep the tempo together, and messages that start/stop playback, and continue start (resume playback from where the song was last stopped). The R-8M can use real-time message to control the Feel (Groove) function.

● Active sensing

This function monitors the connection and condition of the MIDI cable. That is, whether the cable is connected to the device and if the cable is functioning properly.

● Exclusive message

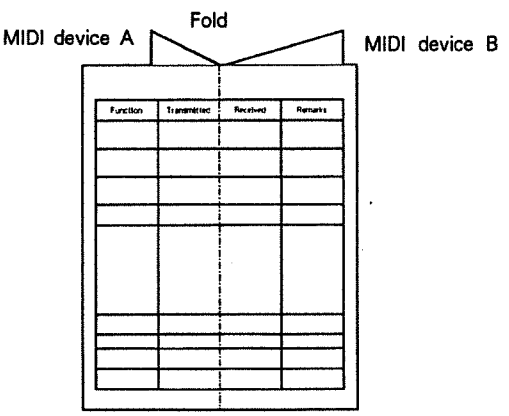
Exclusive message is data that is unique to a particular device, such as sound data. Exclusive message is generally transmitted and received between devices of the same manufacturer. R-8M Patch or Feel Patch data can be transmitted as exclusive message and stored in a sequencer, or sent to another R-8M. The R-8M transmits and receives exclusive message on the control channel (☞ page 55).

● MIDI implementation chart

MIDI allows various electronic musical instruments to communicate, but it is possible that not all types of data will be received or transmitted.

For example, even if you transmit aftertouch message from a keyboard, the sound source will not respond unless it is able to receive aftertouch message. The receiving device must be able to receive the type of message that is being transmitted.

This is why the operation manual of each MIDI device includes a MIDI Implementation Chart. This chart tells you at a glance the types of MIDI message that the device is able to transmit and receive. By comparing the implementation charts for two devices, you can see how they will be able to communicate. Since the implementation chart is always a standard size, you can fold the charts in half and place them together to see how the transmitted message of one device matches the received message of the other device.



TROUBLESHOOTING

If there is no sound or if the unit appears to be operating incorrectly, check the following points first. If you are unable to solve the problem, consult your dealer or a nearby Roland service station.

No sound/Volume is too low

● Is the volume knob turned down?
Check the volume of the R-8M and the volume of the mixer and amp.

● Is there sound in the headphones?
If there is sound in the headphones, the problem is either in the connecting cable or in the mixer/amp system. Check the connections and the mixer/amp system (☞P. 8).

● When you transmit MIDI message to the R-8M, does the MIDI message indicator light?
If the indicator does not light, check the MIDI channel of the transmitting device and the MIDI cable connections.

● Is the ROM play display selected?
The R-8M will not receive MIDI message in the ROM Play mode.

Instrument section does not sound

● Are the instruments correctly assigned?
Instrument assign (☞P. 26)

● Are the output assignments set to MULTI 1—6? Instruments set to MULTI 1—6 will not be sent from MIX OUT.
Output assign (☞P. 28)

● Is Layer function turned on? If Layer function is on, there will be no sound even if note message for note numbers 77—108 is received.
Layer function (☞P. 25)

● Are the volume-related parameters set correctly?
Volume (☞P. 25), Level (☞P. 28)

● Has the volume been lowered by volume messages received from an external device?
Reselect the Patch.

Performance section does not sound

● Is the output assign set to MULTI 1—6? When MULTI 1—6 is selected the sound will not be sent from MIX OUT.
Output assign (☞P. 38)

● Is the key range set correctly?
Key range high/low (☞P. 35)

● Are the volume-related parameters set correctly?
Volume (☞P. 35)

● Has the volume been lowered by volume messages received from an external device?
Reselect the Patch.

The sound breaks off

● Are you playing too many instruments at once?
The R-8M can produce up to 12 simultaneous notes. A single R-8M cannot produce more than 12 notes at once.

● Are the stack settings correct?
Stack (☞P. 58)

● Is the assign type set to MONO or EXC?
Instrument Section (☞P. 28), Performance Section (☞P. 38)

● Is the "note off" switch turned on?
Instrument Section (☞P. 30), Performance Section (☞P. 38)

● Is the velocity switch (note off) turned on?
Velocity switch (note off) (☞P. 56)

Variations in velocity do not affect the volume

● Is the velocity curve set to 7 or 8?
Instrument Section (☞P. 29), Performance Section (☞P. 38)

Two instruments sound at once

● Is Layer function turned on? If Layer function is turned on, two instruments will be sounded simultaneously for note numbers 29—60.
Layer function (☞P. 25)

● Check to see if Instrument Section and Performance Section share same MIDI channel.
Instrument Section (☞P.25), Performance Section (☞P.35)

Cannot make settings for note numbers 77—108 (Instrument Section)

● Is Layer function turned on? If Layer function is turned on, the instruments of note numbers 77—108 will be treated as note numbers 29—60.
Layer function (☞P. 25)

Sound does not change in a Performance Section

● Is Key Follow set to 0 or off?
Key follow (☞P. 36)

Feel function does not affect the sound

● Is a Feel Patch selected?
Select a Feel Patch (☞P. 14)

● Is Feel function turned off?
Regular Feel select (☞P. 48), Random depth (☞P. 50)

● Is the instrument specified by the Feel Patch assigned to the currently selected Patch?
Instrument Assign of the Patch (☞P.26, P.38), Instrument Assign of the Feel Patch (☞P.47)

● Regular Feel (Groove) will operate only when MIDI clock message is being received.

Program changes do not select Patches or Feel Patches

● Is the program change switch off?
Program change switch (☞P. 55)

● Does the transmit channel of the controller match the control channel of the R-8M?
Control channel (☞P. 55)

● Is the program change map set correctly?
Program change map (☞P. 57)

Cannot control the R-8M using certain types of MIDI message

● Are the various reception switches in the setup mode turned off?
MIDI (setup) settings (☞P. 55)

● Is the pan switch (setup) turned on?
If the pan switch is turned on, control number 10 will control panning. This means that the control number specified in the Instrument Section will not control panning (☞P. 55).

Cannot receive exclusive message

● Is the exclusive switch turned off?
Exclusive switch (☞P. 55)

● Is memory protect turned on?
Memory protect (☞P. 56)

● Does the basic channel of the transmitting device match the control channel of the R-8M?
Control channel (☞P. 55)

The R-8M's display is difficult to read

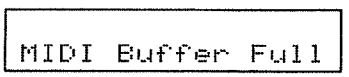
● Adjust the display contrast (☞P. 65).

ERROR MESSAGES

If you operate the R-8M incorrectly or if some unexpected condition occurs, the R-8M will display one of the following error messages. Take the appropriate action given for each error message.

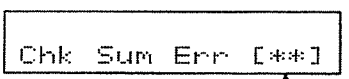
Problem: The backup battery inside the R-8M has run down.

Action : Press **ENTER** and normal operation will resume, but the settings of the R-8M internal memory will not be preserved. Consult your dealer or nearby Roland service station to have the battery replaced.



Problem: The R-8M received more MIDI message than it could handle at once.

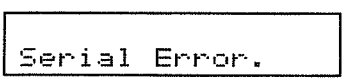
Action : Reduce the amount of MIDI message that is being transmitted to the R-8M.



Check sum of the received data

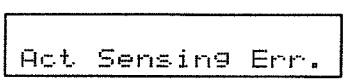
Problem: An exclusive messages was not correctly received (check sum error).

Action : Check the data being transmitted from the transmitting device, and repeat the operation.



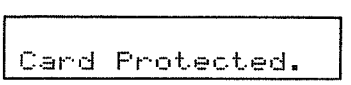
Problem: MIDI message was not received correctly.

Action : If this display appears frequently, consult your dealer or nearby Roland service station.



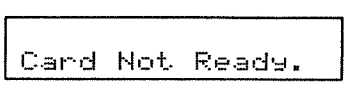
Problem: A malfunction has occurred in the device connected to the R-8M's MIDI IN connector (active sensing error).

Action : Check the MIDI IN connections (broken cable, MIDI cable pulled out, etc.).



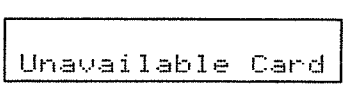
Problem: The RAM card protect switch is turned on.

Action : Turn the protect switch off.



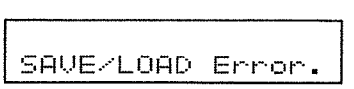
Problem: The RAM card is not correctly inserted into the RAM card slot.

Action : Insert the RAM card correctly (all the way) into the RAM card slot.



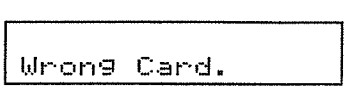
Problem: The R-8M cannot use this RAM card.

Action : Use the correct RAM card (M-256E/D).



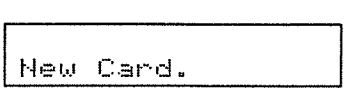
Problem: Could not correctly save/load RAM card data.

Action : Check that the RAM card is inserted correctly, and try the operation once again.



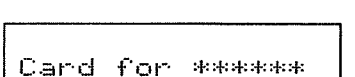
Problem: The R-8M cannot use this Card.

Action : Immediately remove the card to avoid malfunction.



Problem: The RAM card does not contain R-8M data.

Action : If you wish to use the card with the R-8M, use the save operation (☞ page 61).

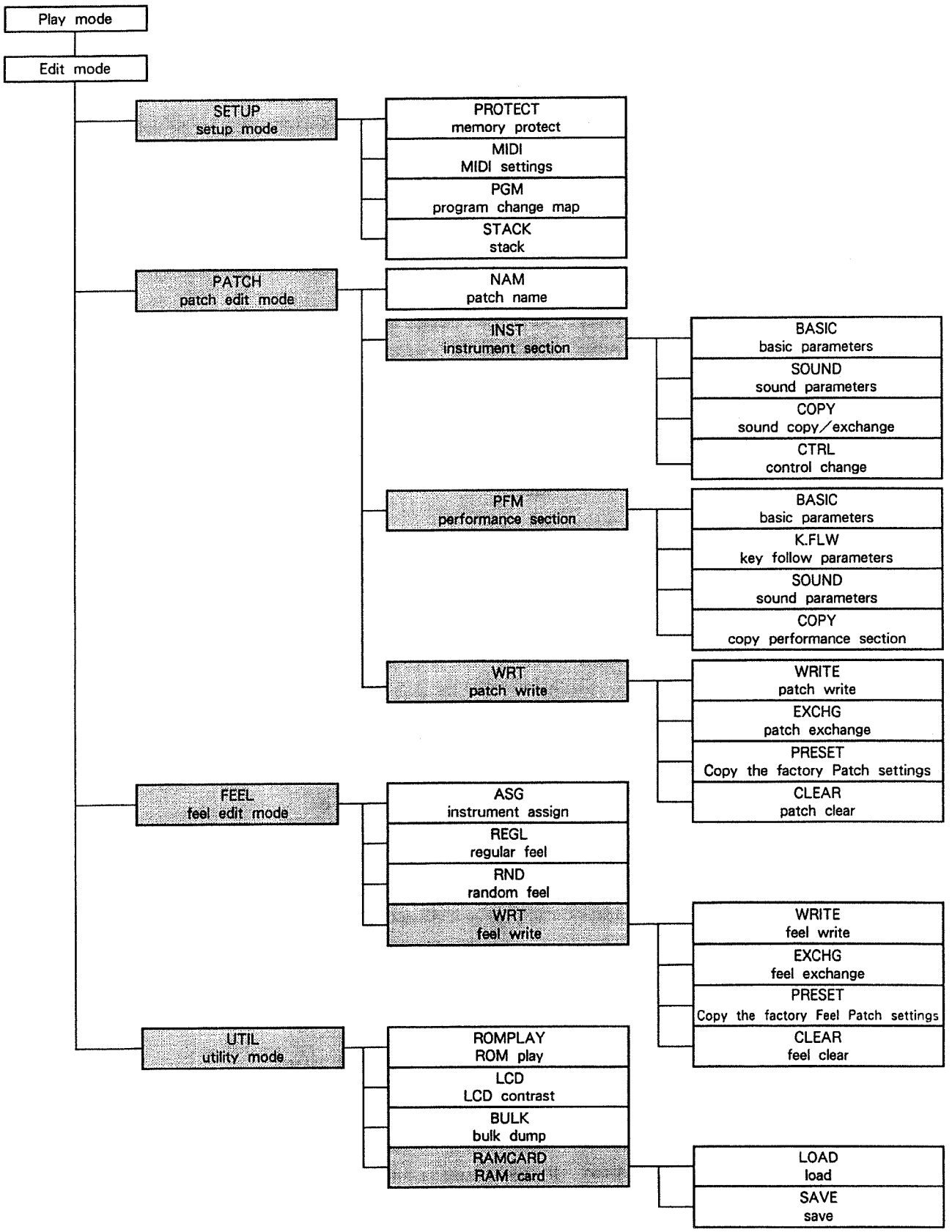


Model name

Problem: The RAM card contains data for another Roland device.

Action : If you wish to use the card with the R-8M, use the save operation (☞ page 61).

R-8M MODE CHART



R-8M PARAMETERS

Patch

		Parameter	Range of values
Patch name		Patch name (8 characters)	– (space) A—Z a—z 0—9 & # !? • , : ; ' " * + – / < = > ( ) [ ] _
Instrument Section	Basic	Receive channel	1—16
		Volume	0—127
		Bend range	0—12
		Layer function	ON, OFF
	Sound (note numbers : 21—108)	Instrument assign	**-**, I-01—I-68, 01-01—01-26, ••• 30-01—30-26
		Pitch	–4800—+4800
		Decay	0—127
		Nuance	0—15
		Output assign	LEFT1—3, CENTER, RIGHT1—3, MULTI1—6
		Level	0—15
		Assign type	POLY, MONO, EXC1—8
		Velocity curve	1—8
		Note off switch	ON, OFF
	Control change	Modulation	**-**, I-01—I-68, 01-01—01-26, ••• 30-01—30-26
		Control 1	
		Control 2	
		:	
		:	PITCH, DECAY, NUANCE, PANPOT
		Control 8	
Performance Section 1—4	Basic	Receive channel	1—16
		Volume	0—127
		Key range low	C-2—G9
		Key range high	C-2—G9
		Bend range	0—12
		Modulation	OFF, DECAY, NUANCE
	Key follow	Reference note number	0—127
		Key follow (pitch)	–990—+990
		Key follow (decay)	–9—+9
		Key follow (nuance)	–2—+2
		Key follow (pan)	–2—+2/OFF
	Sound	Instrument assign	**-**, I-01—I-68, 01-01—01-26, ••• 30-01—30-26
		Pitch	–4800—+4800
		Decay	0—127
		Nuance	0—15
		Output assign	LEFT1—3, CENTER, RIGHT1—3, MULTI1—6
		Assign type	POLY, MONO, EXC1—8
		Velocity curve	1—8
		Note off switch	ON, OFF

Setup

	Parameter	Range of values
MIDI	Control channel	1—16
	Program change switch	ON, OFF
	Exclusive switch	ON, OFF
	Volume switch	ON, OFF
	Bender switch	ON, OFF
	Pan Switch	ON, OFF
	Hold switch	ON, OFF
	Velocity switch (note off)	ON, OFF
Memory protect		ON, OFF
Program change map (1—128)	Patch number	I-01—I-32, C-01—C-32, ----
	Feel Patch number	I-01—I-16, OFF, C-01—C-16, ----
Stack	Stack switch	ON, OFF
	Number of units	1—8
	Device number	1—8

Utility

Parameter	Range of values
LCD contrast	0—15

Feel Patch (sets 1—8)

			Parameter	Range of values	
Instrument assign			Instrument assign	I-01—I-68, 01-01—01-26, ••• 30-01—30-26	
			Parameter	VELO, PITCH, DECAY, NUANCE	
Regular Feel			Regular Feel select	GROOVE, VELOCITY, OFF	
	Groove		Groove type	1—16	
			Groove step	1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32	
			Groove depth	1—8	
			Groove offset	Velocity	–99—+99
				Pitch	–99—+99
				Decay	–20—+20
				Nuance	–15—+15
	Velocity Feel		Reference velocity	1—127	
			Velocity sensitivity	–7—+7	
Random Feel			Random depth	0—8	

R-8M INSTRUMENTS

Instrument number	Display	Instrument name	Remarks
1	* DRY_K1	DRY KICK 1	close miking sound
2	* DRY_K2	DRY KICK 2	close miking sound
3	* WOOD_K1	WOOD KICK 1	close miking sound
4	* DBLH_K1	DOUBLE HEAD KICK 1	
5	* DBLH_K2	DOUBLE HEAD KICK 2	
6	* SOLID_K	SOLID KICK	
7	* ROOM_K1	ROOM AMBIENT KICK 1	with ambience of a large room
8	* ROOM_K2	ROOM AMBIENT KICK 2	with ambience of a large room
9	* MONDO_K	MONDO KICK	
10	* WOOD_S1	WOOD SNARE 1	close miking sound (8 inch snare)
11	* OPEN_S1	OPEN SNARE 1	close miking sound
12	* TIGHT_S	TIGHT SNARE	close miking sound (5 inch snare)
13	* NICE_S1	NICE SNARE 1	with ambience
14	* FAT_S1	FAT SNARE 1	
15	* IMPCT_S	IMPACT SNARE	with ambience
16	* SNAP_S1	SNAP SNARE 1	
17	* OUCH_S	OUCH ! SNARE	with reverb
18	* RVB_S1	REVERB SNARE 1	with reverb
19	* PICL_S1	PICCOLO SNARE 1	close miking sound (3 inch snare)
20	* RIMSHT1	RIMSHOT SNARE 1	close miking sound
21	* RIMSHT2	RIMSHOT SNARE 2	with ambience
22	SIDSTK1	SIDE STICK 1	
23	SIDSTK2	SIDE STICK 2	
24	* DRY_T1	DRY TOM 1	close miking sound
25	* DRY_T2	DRY TOM 2	close miking sound
26	* DRY_T3	DRY TOM 3	close miking sound
27	* DRY_T4	DRY TOM 4	close miking sound
28	* ROOM_T1	ROOM AMBIENT TOM 1	with ambience of a large room
29	* ROOM_T2	ROOM AMBIENT TOM 2	with ambience of a large room
30	* ROOM_T3	ROOM AMBIENT TOM 3	with ambience of a large room
31	* ROOM_T4	ROOM AMBIENT TOM 4	with ambience of a large room
32	* POWR_T1	POWER TOM 1	with ambience
33	* POWR_T2	POWER TOM 2	with ambience
34	* POWR_T3	POWER TOM 3	with ambience

* Velocity or nuance settings will modify the sound.

** Nuance settings will modify the sound.

Instrument number	Display	Instrument name	Remarks
35	* POWR_T4	POWER TOM 4	with ambience
36	* DOOM_T1	DOOM TOM 1	sound processed by an effect
37	** CLSD_H1	CLOSED HIHAT 1	
38	** OPEN_H1	OPEN HIHAT 1	
39	PDAL_H1	PEDAL CLOSED HIHAT 1	
40	CRSH_C1	CRASH CYMBAL 1	
41	** MLLT_C1	MALLET CRASH CYMBAL 1	can be used as a mallet roll
42	** RIDE_C1	RIDE CYMBAL 1	
43	** RDBL_C1	RIDE – BELL CYMBAL 1	mixed bell and ride
44	BELL_C1	RIDE CYMBAL BELL 1	
45	808CLAP	808 HAND CLAP	TR-808 handclap
46	* OPEN_D1	OPEN DRUM 1	large unmuted drum
47	* TAIKO1	TAIKO 1	traditional Japanese drum
48	CLAVE1	CLAVES 1	
49	CABASA1	CABASA 1	
50	COWBEL1	COWBELL 1	
51	TAMBRN1	TAMBOURINE 1	
52	SHAKER1	SHAKER 1	
53	MUTE_CG	MUTE HIGH CONGA	
54	SLAP_CG	SLAP HIGH CONGA	
55	LOW_CG	OPEN LOW CONGA	
56	** SLID_CG	SLIDE LOW CONGA	slide playing
57	AGOGO1	AGOGO 1	
58	** OCT_AGG	OCTAVE AGOGO	
59	WHISTL1	WHISTLE 1	short sound
60	WHISTL2	WHISTLE 2	long sound
61	** CAN1	CAN 1	
62	** BACK_S1	BACK SNARE 1	reverse of RVB_S1 (inst # 18)
63	BACK_T1	BACK TOM 1	reverse of DOOM_T1 (inst # 36)
64	BACK_C1	BACK CYMBAL 1	reverse of CRSH_C1 (inst # 40)
65	** SPARK1	SPARK 1	
66	** SURF	SURF	
67	** WHEEL1	WHEEL 1	
68	REST	REST	no sound (use to mute other sounds)

* Velocity or nuance settings will modify the sound.

** Nuance settings will modify the sound.

SOUND PARAMETER INITIAL SETTINGS

INST #	INSTRUMENT NAME	PITCH	DECAY	NUANCE	OUTPUT ASSIGN	ASSIGN TYPE	VELOCITY CURVE
1	DRY_K1	0	4:19	8	CENTER	POLY	2
2	DRY_K2	0	20:12	8	CENTER	POLY	2
3	WOOD_K1	0	16:14	8	CENTER	POLY	2
4	DBLH_K1	0	19:13	8	CENTER	POLY	2
5	DBLH_K2	0	25:12	8	CENTER	POLY	2
6	SOLID_K	0	7: 7	8	CENTER	POLY	2
7	ROOM_K1	0	24:20	8	CENTER	POLY	2
8	ROOM_K2	0	24:24	8	CENTER	POLY	2
9	MONDO_K	0	20:23	8	CENTER	POLY	2
10	WOOD_S1	0	19:14	8	CENTER	POLY	2
11	OPEN_S1	0	27:14	8	CENTER	POLY	2
12	TIGHT_S	0	19:14	8	CENTER	POLY	2
13	NICE_S1	0	23:17	8	CENTER	POLY	2
14	FAT_S1	0	22:15	8	CENTER	POLY	2
15	IMPCT_S	0	23:16	8	CENTER	POLY	2
16	SNAP_S1	0	16:13	8	CENTER	POLY	2
17	OUCH_S	0	20:16	8	CENTER	POLY	2
18	RVB_S1	0	35:33	8	CENTER	POLY	2
19	PICL_S1	0	19:16	8	CENTER	POLY	2
20	RIMSHT1	0	16:13	8	CENTER	POLY	2
21	RIMSHT2	0	21:17	8	CENTER	POLY	2
22	SIDSTK1	0	10:--	--	CENTER	POLY	2
23	SIDSTK2	0	5:--	--	CENTER	POLY	2
24	DRY_T1	0	30:35	8	RIGHT3	POLY	2
25	DRY_T2	0	29:33	8	RIGHT1	POLY	2
26	DRY_T3	0	28:30	8	LEFT 1	POLY	2
27	DRY_T4	0	27:24	8	LEFT 3	POLY	2
28	ROOM_T1	0	34:33	8	RIGHT3	POLY	2
29	ROOM_T2	0	33:31	8	RIGHT1	POLY	2
30	ROOM_T3	0	32:29	8	LEFT 1	POLY	2
31	ROOM_T4	0	31:27	8	LEFT 3	POLY	2
32	POWR_T1	0	34:27	8	RIGHT3	POLY	2
33	POWR_T2	0	33:25	8	RIGHT1	POLY	2
34	POWR_T3	0	32:23	8	LEFT 1	POLY	2

INST #	INSTRUMENT NAME	PITCH	DECAY	NUANCE	OUTPUT ASSIGN	ASSIGN TYPE	VELOCITY CURVE
35	POWR_T4	0	31:20	8	LEFT 3	POLY	2
36	DOOM_T1	0	50:--	--	RIGHT3	POLY	2
37	CLSD_H1	0	12:12	8	LEFT 1	EXC1	2
38	OPEN_H1	0	35:40	8	LEFT 1	EXC1	2
39	PDAL_H1	0	15:--	--	LEFT 1	EXC1	2
40	CRSH_C1	0	55:--	--	LEFT 2	POLY	2
41	MLLT_C1	0	60:60	5	LEFT 1	POLY	2
42	RIDE_C1	0	50:50	8	RIGHT2	POLY	2
43	RDBL_C1	0	50:50	8	RIGHT2	POLY	2
44	BELL_C1	0	50:--	--	RIGHT2	POLY	2
45	808CLAP	0	23:--	--	RIGHT1	POLY	2
46	OPEN_D1	0	28:30	8	RIGHT1	POLY	2
47	TAIKO1	0	8:30	8	CENTER	POLY	2
48	CLAVE1	0	9:--	--	CENTER	POLY	2
49	CABASA1	0	8:--	--	RIGHT2	POLY	2
50	COWBEL1	0	16:--	--	LEFT 2	POLY	2
51	TAMBRN1	0	21:--	--	LEFT 1	POLY	2
52	SHAKER1	0	12:--	--	LEFT 2	POLY	2
53	MUTE_CG	0	10:--	--	RIGHT1	POLY	2
54	SLAP_CG	0	20:--	--	RIGHT1	POLY	2
55	LOW_CG	0	29:--	--	CENTER	POLY	2
56	SLID_CG	0	18:50	8	CENTER	POLY	2
57	AGOGO1	0	20:--	--	RIGHT2	POLY	2
58	OCT_AGG	0	20:20	8	LEFT 2	POLY	2
59	WHISTL1	0	7:--	--	LEFT 2	EXC2	2
60	WHISTL2	0	3:--	--	LEFT 2	EXC2	2
61	CAN1	0	20:30	8	RIGHT3	POLY	2
62	BACK_S1	0	0: 0	8	LEFT 1	POLY	2
63	BACK_T1	0	0:--	--	RIGHT1	POLY	2
64	BACK_C1	0	0:--	--	CENTER	POLY	2
65	SPARK1	0	70:70	8	LEFT 2	POLY	2
66	SURF	0	127:127	8	CENTER	POLY	2
67	WHEEL1	0	60:60	8	RIGHT2	POLY	2
68	REST	0	0:--	--	CENTER	EXC8	2

BLANK CHARTS

Feel Patch #:

Set	Assign		Regular Feel															Random Feel
			Regular Select	Groove												Velocity Feel		
	Inst	Param		Type	Step	Depth	Offset 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16											Ref. Velo	Sens	Depth
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		

Patch #: Name:

Performance Section

#	Basic						Key Follow					Sound							
	Rx Ch	Vol.	Key Range		Bend Range	Mod	Ref. Note #	Pitch	Decay	Nuance	Pan	Inst Assign	Pitch	Decay	Nuance	Output Assign	Assign Type	Velo Curve	Note Off Switch
			Low	High															
1																			
2																			
3																			
4																			

Instrument Section

Basic

Receive Channel	
Volume	
Bend Range	
Layer function	

Control Change

	Instrument	Parameter
Mod (1)		
Ctrl-1 (16)		
Ctrl-2 (17)		
Ctrl-3 (18)		
Ctrl-4 (19)		
Ctrl-5 (80)		
Ctrl-6 (81)		
Ctrl-7 (82)		
Ctrl-8 (83)		

Instrument Section

Note #	Inst Assign	Pitch	Decay	Nuance	Output Assign	Level	Assign Type	Velo Curve	Note Off Switch
21			:						
22			:						
23			:						
24			:						
25			:						
26			:						
27			:						
28			:						
29			:						
30			:						
31			:						
32			:						
33			:						
34			:						
35			:						
36			:						
37			:						
38			:						
39			:						
40			:						
41			:						
42			:						
43			:						
44			:						
45			:						
46			:						
47			:						
48			:						
49			:						
50			:						
51			:						
52			:						
53			:						
54			:						
55			:						
56			:						
57			:						
58			:						
59			:						
60			:						
61			:						
62			:						
63			:						
64			:						

Instrument Section

Note #	Inst Assign	Pitch	Decay	Nuance	Output Assign	Level	Assign Type	Velo Curve	Note Off Switch
65			:						
66			:						
67			:						
68			:						
69			:						
70			:						
71			:						
72			:						
73			:						
74			:						
75			:						
76			:						
77			:						
78			:						
79			:						
80			:						
81			:						
82			:						
83			:						
84			:						
85			:						
86			:						
87			:						
88			:						
89			:						
90			:						
91			:						
92			:						
93			:						
94			:						
95			:						
96			:						
97			:						
98			:						
99			:						
100			:						
101			:						
102			:						
103			:						
104			:						
105			:						
106			:						
107			:						
108			:						

Program Change Map

PGM #	Patch #	Feel Patch#
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
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19		
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21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		

PGM #	Patch #	Feel Patch#
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
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57		
58		
59		
60		
61		
62		
63		
64		

PGM #	Patch #	Feel Patch#
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
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89		
90		
91		
92		
93		
94		
95		
96		

PGM #	Patch #	Feel Patch#
97		
98		
99		
100		
101		
102		
103		
104		
105		
106		
107		
108		
109		
110		
111		
112		
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121		
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123		
124		
125		
126		
127		
128		

PATCH LIST

Patch Number	Patch Name	Remarks
01	Standard	Basic drum set
02	BeefKit	American dance music drum set
03	DoomKit	Heavy metal drum set
04	HouseKit	"House music" type drum set
05	Stereo1	Stereo drum set (1)
06	Flange1	Flanged drum set (1)
07	GetFunky	Funk music drum set
08	JunkYard	Drum set made of junk objects
09	Cowntry1	Country music drum set (1)
10	Jahzz	Jazz-type drum set
11	BigRockr	Hard rock drum set
12	JustPerc	Drum set with mainly percussion
13	MondoKit	American dance music "Very Big Sound"
14	Studio	Drum set with unprocessed sounds
15	Cowntry2	Country music drum set (2)
16	Stereo2	Stereo drum set (2)
17	OldieKit	Oldies drum set
18	Flange2	Flanged drum set (2)
19	Flange3	Flanged drum set (3)
20	LatinSet	Latin-type drum set
21	FATSO	Fat-sounding drum set
22	SN-R8-01	Patch for sound ROM card (SN-R8-01)
23	SN-R8-02	Patch for sound ROM card (SN-R8-02)
24	SN-R8-03	Patch for sound ROM card (SN-R8-03)
25	SN-R8-04	Patch for sound ROM card (SN-R8-04)
26	SN-R8-05	Patch for sound ROM card (SN-R8-05)
27	SN-R8-06	Patch for sound ROM card (SN-R8-06)
28	SN-R8-07	Patch for sound ROM card (SN-R8-07)
29	SN-R8-08	Patch for sound ROM card (SN-R8-08)
30	SN-R8-09	Patch for sound ROM card (SN-R8-09)
31	User	Same settings as Patch number 01
32	User	Same settings as Patch number 01

* Regardless of the Patch you select, you can play Bass on Performance Section 1 (MIDI channel 2), and chords or melody on Performance Section 2 (MIDI channel 3).

Patch 01 : Standard

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
I-35	POWR_T4	93
OFF	—	92
I-34	POWR_T3	91
I-37	CLSD_H1	90
I-33	POWR_T2	89
I-10	WOOD_S1	88
I-13	NICE_S1	87
I-11	OPEN_S1	86
I-03	WOOD_K1	85
I-05	DBLH_K2	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-31	ROOM_T4	50
I-40	CRSH_C1	49
I-27	DRY_T4	48
I-30	ROOM_T3	47
I-38	OPEN_H1	46
I-26	DRY_T3	45
I-39	PDAL_H1	44
I-29	ROOM_T2	43
I-37	CLSD_H1	42
I-25	DRY_T2	41
I-18	RVB_S1	40
I-45	808CLAP	39
I-14	FAT_S1	38
I-22	SIDSTK1	37
I-07	ROOM_K1	36
I-01	DRY_K1	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 02 : BeefKit

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
OFF	—	58
I-15	IMPCT_S	
OFF	—	57
I-40	CRSH_C1	
OFF	—	56
I-50	COWBEL1	
OFF	—	55
I-40	CRSH_C1	
OFF	—	54
I-51	TAMBRN1	
OFF	—	53
I-44	BELL_C1	
OFF	—	52
OFF	—	
OFF	—	51
I-42	RIDE_C1	
I-31	ROOM_T4	50
I-27	DRY_T4	
OFF	—	49
I-40	CRSH_C1	
I-30	ROOM_T3	48
I-26	DRY_T3	
I-34	ROOM_T3	47
I-26	DRY_T3	
OFF	—	46
I-38	OPEN_H1	
I-29	ROOM_T2	45
I-25	DRY_T2	
OFF	—	44
I-39	PDAL_H1	
I-29	ROOM_T2	43
I-25	DRY_T2	
OFF	—	42
I-37	CLSD_H1	
I-28	ROOM_T1	41
I-24	DRY_T1	
I-19	PICL_S1	40
I-17	OUCH_S	
OFF	—	39
I-45	808CLAP	
I-18	RVB_S1	38
I-19	PICL_S1	
OFF	—	37
I-22	SIDSTK1	
I-08	ROOM_K2	36
I-04	DBLH_K1	
I-08	ROOM_K2	35
I-01	DRY_K1	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 03 : DoomKit

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
I-15	IMPCT_S	58
OFF	—	
I-40	CRSH_C1	57
OFF	—	
I-50	COWBEL1	56
OFF	—	
I-40	CRSH_C1	55
OFF	—	
I-51	TAMBRN1	54
OFF	—	
I-44	BELL_C1	53
OFF	—	
OFF	—	52
OFF	—	
I-42	RIDE_C1	51
I-36	DOOM_T1	
I-27	DRY_T4	50
OFF	—	
I-40	CRSH_C1	49
I-36	DOOM_T1	
I-25	DRY_T2	48
I-36	DOOM_T1	
I-25	DRY_T2	47
OFF	—	
I-38	OPEN_H1	46
I-36	DOOM_T1	
I-25	DRY_T2	45
OFF	—	
I-39	PDAL_H1	44
I-36	DOOM_T1	
I-25	DRY_T2	43
OFF	—	
I-37	CLSD_H1	42
I-36	DOOM_T1	
I-24	DRY_T1	41
OFF	—	
I-62	BACK_S1	40
OFF	—	
I-45	808CLAP	39
I-18	RVB_S1	
I-14	FAT_S1	38
OFF	—	
I-22	SIDSTK1	37
I-02	DRY_K2	
I-06	SOLID_K	36
I-08	ROOM_K2	
I-09	MONDO_K	35
OFF	—	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 04 : HouseKit

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-55	LOW_CG	68
I-44	BELL_C1	67
OFF	—	66
I-48	CLAVE1	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-65	SPARK1	62
I-55	LOW_CG	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
OFF	—	58
I-15	IMPCT_S	
OFF	—	57
I-40	CRSH_C1	
OFF	—	56
I-50	COWBEL1	
OFF	—	55
I-40	CRSH_C1	
OFF	—	54
I-51	TAMBRN1	
OFF	—	53
I-44	BELL_C1	
OFF	—	52
OFF	—	
OFF	—	51
I-42	RIDE_C1	
I-61	CAN1	50
I-27	DRY_T4	
I-64	BACK_C1	49
I-40	CRSH_C1	
I-61	CAN1	48
I-26	DRY_T3	
I-61	CAN1	47
I-26	DRY_T3	
OFF	—	46
I-38	OPEN_H1	
I-61	CAN1	45
I-25	DRY_T2	
OFF	—	44
I-39	PDAL_H1	
I-61	CAN1	43
I-25	DRY_T2	
OFF	—	42
I-37	CLSD_H1	
I-61	CAN1	41
I-24	DRY_T1	
I-45	808CLAP	40
I-12	TIGHT_S	
OFF	—	39
I-45	808CLAP	
I-61	CAN1	38
I-19	PICL_S1	
OFF	—	37
I-22	SIDSTK1	
I-47	TAIKO1	36
I-02	DRY_K2	
I-24	DRY_T1	35
I-07	ROOM_K1	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 05 : Stereo1

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-58 I-58	OCT_AGG OCT_AGG	60
I-52 I-52	SHAKER1 SHAKER1	59
I-61 I-61	CAN1 CAN1	58
I-65 I-65	SPARK1 SPARK1	57
I-50 I-50	COWBEL1 COWBEL1	56
I-40 I-40	CRSH_C1 CRSH_C1	55
I-51 I-51	TAMBRN1 TAMBRN1	54
I-44 I-44	BELL_C1 BELL_C1	53
I-64 I-64	BACK_C1 BACK_C1	52
I-42 I-42	RIDE_C1 RIDE_C1	51
I-31 I-35	ROOM_T4 POWR_T4	50
I-40 I-40	CRSH_C1 CRSH_C1	49
I-30 I-35	ROOM_T3 POWR_T3	48
I-30 I-34	ROOM_T3 POWR_T3	47
I-38 I-38	OPEN_H1 OPEN_H1	46
I-29 I-33	ROOM_T2 POWR_T2	45
I-37 I-37	CLSD_H1 CLSD_H1	44
I-29 I-33	ROOM_T2 POWR_T2	43
I-37 I-37	CLSD_H1 CLSD_H1	42
I-28 I-32	ROOM_T1 POWR_T1	41
I-18 I-13	RVB_S1 NICE_S1	40
I-45 I-45	808CLAP 808CLAP	39
I-17 I-19	OUCH_S PICL_S1	38
I-22 I-22	SIDSTK1 SIDSTK1	37
I-03 I-02	WOOD_K1 DRY_K2	36
I-07 I-01	ROOM_K1 DRY_K1	35
I-55 I-55	LOW_CG LOW_CG	34
I-54 I-54	SLAP_CG SLAP_CG	33
I-53 I-53	MUTE_CG MUTE_CG	32
I-41 I-41	MLLT_C1 MLLT_C1	31
I-47 I-47	TAIKO1 TAIKO1	30

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 06 : Flange1

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-58	OCT_AGG	60
I-58	OCT_AGG	
I-52	SHAKER1	59
I-52	SHAKER1	
I-61	CAN1	58
I-61	CAN1	
I-65	SPARK1	57
I-65	SPARK1	
I-50	COWBEL1	56
I-50	COWBEL1	
I-40	CRSH_C1	55
I-40	CRSH_C1	
I-51	TAMBRN1	54
I-51	TAMBRN1	
I-44	BELL_C1	53
I-44	BELL_C1	
I-62	BACK_S1	52
I-62	BACK_S1	
I-42	RIDE_C1	51
I-42	RIDE_C1	
I-31	ROOM_T4	50
I-31	ROOM_T4	
I-40	CRSH_C1	49
I-40	CRSH_C1	
I-30	ROOM_T3	48
I-30	ROOM_T3	
I-30	ROOM_T3	47
I-30	ROOM_T3	
I-38	OPEN_H1	46
I-38	OPEN_H1	
I-29	ROOM_T2	45
I-29	ROOM_T2	
I-39	PDAL_H1	44
I-39	PDAL_H1	
I-29	ROOM_T2	43
I-29	ROOM_T2	
I-37	CLSD_H1	42
I-37	CLSD_H1	
I-28	ROOM_T1	41
I-28	ROOM_T1	
I-21	RIMSHT2	40
I-21	RIMSHT2	
I-45	808CLAP	39
I-45	808CLAP	
I-18	RVB_S1	38
I-18	RVB_S1	
I-23	SIDSTK2	37
I-23	SIDSTK2	
I-02	DRY_K2	36
I-02	DRY_K2	
I-08	ROOM_K2	35
I-08	ROOM_K2	
I-55	LOW_CG	34
I-55	LOW_CG	
I-54	SLAP_CG	33
I-54	SLAP_CG	
I-53	MUTE_CG	32
I-53	MUTE_CG	
I-41	MLLT_C1	31
I-41	MLLT_C1	
I-47	TAIKO1	30
I-47	TAIKO1	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 07 : GetFunky

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
I-15	IMPCT_S	58
OFF	—	57
I-40	CRSH_C1	
OFF	—	56
I-50	COWBEL1	
OFF	—	55
I-40	CRSH_C1	
OFF	—	54
I-51	TAMBRN1	
OFF	—	53
I-43	RDBL_C1	
OFF	—	52
OFF	—	
OFF	—	51
I-42	RIDE_C1	
OFF	—	50
I-26	DRY_T3	
OFF	—	49
I-40	CRSH_C1	
OFF	—	48
I-26	DRY_T3	
OFF	—	47
I-26	DRY_T3	
OFF	—	46
I-38	OPEN_H1	
OFF	—	45
I-25	DRY_T2	
OFF	—	44
I-39	PDAL_H1	
OFF	—	43
I-25	DRY_T2	
OFF	—	42
I-37	CLSD_H1	
OFF	—	41
I-25	DRY_T2	
I-10	WOOD_S1	40
I-20	RIMSHT1	
OFF	—	39
I-45	80BCLAP	
I-19	PICL_S1	38
I-12	TIGHT_S	
OFF	—	37
I-22	SIDSTK1	
OFF	—	36
I-03	WOOD_K1	
OFF	—	35
I-02	DRY_K2	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 08 : JunkYard

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-61 I-58	CAN1 OCT_AGG	60
I-51 I-52	TAMBRN1 SHAKER1	59
OFF I-61	— CAN1	58
OFF I-65	— SPARK1	57
I-58 I-50	OCT_AGG COWBEL1	56
I-65 I-40	SPARK1 CRSH_C1	55
I-49 I-51	CABASA1 TAMBRN1	54
I-59 I-44	WHISTL1 BELL_C1	53
OFF OFF	— —	52
I-49 I-42	CABASA1 RIDE_C1	51
I-57 I-31	AGOGO1 ROOM_T4	50
I-65 I-40	SPARK1 CRSH_C1	49
I-58 I-30	OCT_AGG ROOM_T3	48
I-57 I-30	AGOGO1 ROOM_T3	47
I-45 I-38	808CLAP OPEN_H1	46
I-58 I-29	OCT_AGG ROOM_T2	45
I-45 I-39	808CLAP PDAL_H1	44
I-57 I-29	AGOGO1 ROOM_T2	43
I-37 I-45	CLSD_H1 808CLAP	42
I-58 I-28	OCT_AGG ROOM_T1	41
I-51 I-17	TAMBRN1 OUCH_S	40
I-13 I-45	NICE_S1 808CLAP	39
I-65 I-15	SPARK1 IMPCT_S	38
I-49 I-22	CABASA1 SIDSTK1	37
I-65 I-09	SPARK1 MONDO_K	36
I-61 I-07	CAN1 ROOM_K1	35
I-38 I-55	OPEN_H1 LOW_CG	34
I-38 I-54	OPEN_H1 SLAP_CG	33
I-38 I-53	OPEN_H1 MUTE_CG	32
I-64 I-41	BACK_C1 MLLT_C1	31
I-61 I-47	CAN1 TAIKO1	30

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 09 : Cowntry1

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-23	SIDSTK2	68
I-51	TAMBRN1	67
OFF	—	66
I-48	CLAVE1	65
I-55	LOW_CG	64
I-50	COWBEL1	63
I-52	SHAKER1	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-27	DRY_T4	50
I-40	CRSH_C1	49
I-26	DRY_T3	48
I-26	DRY_T3	47
I-38	OPEN_H1	46
I-25	DRY_T2	45
I-39	PDAL_H1	44
I-25	DRY_T2	43
I-37	CLSD_H1	42
I-24	DRY_T1	41
I-13	NICE_S1	40
I-45	808CLAP	39
I-14	FAT_S1	38
I-22	SIDSTK1	37
I-06	SOLID_K	36
I-01	DRY_K1	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 10 : Jahzz

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-43	RDBL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-27	DRY_T4	50
I-40	CRSH_C1	49
I-27	DRY_T4	48
I-27	DRY_T4	47
I-38	OPEN_H1	46
I-24	DRY_T1	45
I-39	PDAL_H1	44
I-24	DRY_T1	43
I-37	CLSD_H1	42
I-24	DRY_T1	41
I-12	TIGHT_S	40
I-23	SIDSTK2	39
I-20	RIMSHT1	38
I-22	SIDSTK1	37
I-04	DBLH_K1	36
I-05	DBLH_K2	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 11 : BigRockr

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
I-15	IMPCT_S	58
OFF	—	
I-40	CRSH_C1	57
OFF	—	
I-50	COWBEL1	56
OFF	—	
I-40	CRSH_C1	55
OFF	—	
I-51	TAMBRN1	54
OFF	—	
I-44	BELL_C1	53
OFF	—	
OFF	—	52
OFF	—	
I-42	RIDE_C1	51
I-27	DRY_T4	
I-35	POWR_T4	50
OFF	—	
I-40	CRSH_C1	49
I-31	ROOM_T4	
I-36	DOOM_T1	48
I-26	DRY_T3	
I-34	POWR_T3	47
OFF	—	
I-38	OPEN_H1	46
I-30	ROOM_T3	
I-36	DOOM_T1	45
OFF	—	
I-39	PDAL_H1	44
I-25	DRY_T2	
I-33	POWR_T2	43
OFF	—	
I-37	CLSD_H1	42
I-29	ROOM_T2	
I-36	DOOM_T1	41
I-15	IMPCT_S	
I-14	FAT_S1	40
I-45	808CLAP	
OFF	—	39
I-18	RVB_S1	
I-14	FAT_S1	38
OFF	—	
I-22	SIDSTK1	37
I-06	SOLID_K	
I-08	ROOM_K2	36
I-28	ROOM_T1	
I-02	DRY_K2	35
OFF	—	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 12 : JustPerc

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
I-38	OPEN_H1	59
I-66	SURF	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
I-61	CAN1	52
I-42	RIDE_C1	51
I-50	COWBEL1	50
I-40	CRSH_C1	49
I-63	BACK_T1	48
I-56	SLID_CG	47
I-38	OPEN_H1	46
I-61	CAN1	45
I-39	PDAL_H1	44
I-65	SPARK1	43
I-37	CLSD_H1	42
I-45	808CLAP	41
I-58	OCT_AGG	40
I-45	808CLAP	39
I-46	OPEN_D1	38
I-22	SIDSTK1	37
I-48	CLAVE1	36
I-59	WHISTL1	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 13 : MondoKit

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
OFF	—	58
I-15	IMPCT_S	
OFF	—	57
I-40	CRSH_C1	
OFF	—	56
I-50	COWBEL1	
OFF	—	55
I-40	CRSH_C1	
OFF	—	54
I-51	TAMBRN1	
OFF	—	53
I-44	BELL_C1	
OFF	—	
OFF	—	52
OFF	—	
I-42	RIDE_C1	51
I-09	MONDO_K	
I-35	POWR_T4	50
OFF	—	49
I-40	CRSH_C1	
I-09	MONDO_K	48
I-34	POWR_T3	
I-09	MONDO_K	
I-34	POWR_T3	47
OFF	—	46
I-38	OPEN_H1	
I-09	MONDO_K	45
I-33	POWR_T2	
OFF	—	44
I-39	PDAL_H1	
I-09	MONDO_K	43
I-33	POWR_T2	
OFF	—	42
I-37	CLSD_H1	
I-09	MONDO_K	41
I-32	POWR_T1	
I-21	RIMSHT2	
I-18	RVB_S1	40
OFF	—	39
I-45	808CLAP	
I-15	IMPCT_S	38
I-17	OUCH_S	
OFF	—	37
I-22	SIDSTK1	
I-06	SOLID_K	36
I-09	MONDO_K	
I-09	MONDO_K	
I-28	ROOM_T1	35
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 14 : Studio

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-26	DRY_T3	50
I-40	CRSH_C1	49
I-26	DRY_T3	48
I-26	DRY_T3	47
I-38	OPEN_H1	46
I-25	DRY_T2	45
I-39	PDAL_H1	44
I-25	DRY_T2	43
I-37	CLSD_H1	42
I-25	DRY_T2	41
I-14	FAT_S1	40
I-45	808CLAP	39
I-20	RIMSHT1	38
I-22	SIDSTK1	37
I-01	DRY_K1	36
I-07	ROOM_K1	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 15 : Cowntry2

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-23	SIDSTK2	68
I-51	TAMBRN1	67
OFF	—	66
I-48	CLAVE1	65
I-55	LOW_CG	64
I-50	COWBEL1	63
I-52	SHAKER1	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-31	ROOM_T4	50
I-40	CRSH_C1	49
I-30	ROOM_T3	48
I-30	ROOM_T3	47
I-38	OPEN_H1	46
I-29	ROOM_T2	45
I-39	PDAL_H1	44
I-29	ROOM_T2	43
I-37	CLSD_H1	42
I-28	ROOM_T1	41
I-15	IMPCT_S	40
I-45	808CLAP	39
I-14	FAT_S1	38
I-22	SIDSTK1	37
I-02	DRY_K2	36
I-09	MONDO_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 16 : Stereo2

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-58	OCT_AGG	60
I-58	OCT_AGG	
I-52	SHAKER1	59
I-52	SHAKER1	
I-61	CAN1	58
I-61	CAN1	
I-65	SPARK1	57
I-65	SPARK1	
I-50	COWBEL1	56
I-50	COWBEL1	
I-40	CRSH_C1	55
I-40	CRSH_C1	
I-51	TAMBRN1	54
I-51	TAMBRN1	
I-44	BELL_C1	53
I-44	BELL_C1	
I-64	BACK_C1	52
I-64	BACK_C1	
I-42	RIDE_C1	51
I-42	RIDE_C1	
I-35	POWR_T4	50
I-27	DRY_T4	
I-40	CRSH_C1	49
I-40	CRSH_C1	
I-34	POWR_T3	48
I-26	DRY_T3	
I-34	POWR_T3	47
I-26	DRY_T3	
I-38	OPEN_H1	46
I-38	OPEN_H1	
I-33	POWR_T2	45
I-25	DRY_T2	
I-37	CLSD_H1	44
I-37	CLSD_H1	
I-33	POWR_T2	43
I-25	DRY_T2	
I-37	CLSD_H1	42
I-37	CLSD_H1	
I-32	POWR_T1	41
I-24	DRY_T1	
I-14	FAT_S1	40
I-12	TIGHT_S	
I-45	808CLAP	39
I-45	808CLAP	
I-16	SNAP_S1	38
I-15	IMPCT_S	
I-22	SIDSTK1	37
I-22	SIDSTK1	
I-06	SOLID_K	36
I-03	WOOD_K1	
I-07	ROOM_K1	35
I-04	DBLH_K1	
I-55	LOW_CG	34
I-55	LOW_CG	
I-54	SLAP_CG	33
I-54	SLAP_CG	
I-53	MUTE_CG	32
I-53	MUTE_CG	
I-41	MLLT_C1	31
I-41	MLLT_C1	
I-47	TAIKO1	30
I-47	TAIKO1	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 17 : OldieKit

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
I-15	IMPCT_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
I-27	DRY_T4	50
I-40	CRSH_C1	49
I-26	DRY_T3	48
I-26	DRY_T3	47
I-38	OPEN_H1	46
I-25	DRY_T2	45
I-39	PDAL_H1	44
I-25	DRY_T2	43
I-37	CLSD_H1	42
I-24	DRY_T1	41
I-12	TIGHT_S	40
I-45	808CLAP	39
I-10	WOOD_S1	38
I-23	SIDSTK2	37
I-03	WOOD_K1	36
I-02	DRY_K2	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 18 : Flange2

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-58	OCT_AGG	60
I-58	OCT_AGG	
I-52	SHAKER1	59
I-52	SHAKER1	
I-61	CAN1	58
I-61	CAN1	
I-65	SPARK1	57
I-65	SPARK1	
I-50	COWBEL1	56
I-50	COWBEL1	
I-40	CRSH_C1	55
I-40	CRSH_C1	
I-51	TAMBRN1	54
I-51	TAMBRN1	
I-44	BELL_C1	53
I-44	BELL_C1	
I-62	BACK_S1	52
I-62	BACK_S1	
I-42	RIDE_C1	51
I-42	RIDE_C1	
I-35	POWR_T4	50
I-35	POWR_T4	
I-40	CRSH_C1	49
I-40	CRSH_C1	
I-34	POWR_T3	48
I-34	POWR_T3	
I-34	POWR_T3	47
I-34	POWR_T3	
I-38	OPEN_H1	46
I-38	OPEN_H1	
I-33	POWR_T2	45
I-33	POWR_T2	
I-39	PDAL_H1	44
I-39	PDAL_H1	
I-33	POWR_T2	43
I-33	POWR_T2	
I-37	CLSD_H1	42
I-37	CLSD_H1	
I-32	POWR_T1	41
I-32	POWR_T1	
I-15	IMPCT_S	40
I-15	IMPCT_S	
I-45	808CLAP	39
I-45	808CLAP	
I-17	OUCH_S	38
I-17	OUCH_S	
I-22	SIDSTK1	37
I-22	SIDSTK1	
I-05	DBLH_K2	36
I-05	DBLH_K2	
I-09	MONDO_K	35
I-09	MONDO_K	
I-55	LOW_CG	34
I-55	LOW_CG	
I-54	SLAP_CG	33
I-54	SLAP_CG	
I-53	MUTE_CG	32
I-53	MUTE_CG	
OFF	—	31
OFF	—	
I-47	TAIKO1	30
I-47	TAIKO1	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 19 : Flange3

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
I-58	OCT_AGG	60
I-58	OCT_AGG	
I-52	SHAKER1	59
I-52	SHAKER1	
I-61	CAN1	58
I-61	CAN1	
I-65	SPARK1	57
I-65	SPARK1	
I-50	COWBEL1	56
I-50	COWBEL1	
I-40	CRSH_C1	55
I-40	CRSH_C1	
I-51	TAMBRN1	54
I-51	TAMBRN1	
I-44	BELL_C1	53
I-44	BELL_C1	
I-62	BACK_S1	52
I-62	BACK_S1	
I-42	RIDE_C1	51
I-42	RIDE_C1	
I-27	DRY_T4	50
I-27	DRY_T4	
I-40	CRSH_C1	49
I-40	CRSH_C1	
I-26	DRY_T3	48
I-26	DRY_T3	
I-26	DRY_T3	47
I-26	DRY_T3	
I-38	OPEN_H1	46
I-38	OPEN_H1	
I-25	DRY_T2	45
I-25	DRY_T2	
I-39	PDAL_H1	44
I-39	PDAL_H1	
I-25	DRY_T2	43
I-25	DRY_T2	
I-37	CLSD_H1	42
I-37	CLSD_H1	
I-24	DRY_T1	41
I-24	DRY_T1	
I-19	PICL_S1	40
I-19	PICL_S1	
I-45	808CLAP	39
I-45	808CLAP	
I-14	FAT_S1	38
I-14	FAT_S1	
I-22	SIDSTK1	37
I-22	SIDSTK1	
I-07	ROOM_K1	36
I-07	ROOM_K1	
I-03	WOOD_K1	35
I-03	WOOD_K1	
I-55	LOW_CG	34
I-55	LOW_CG	
I-54	SLAP_CG	33
I-54	SLAP_CG	
I-53	MUTE_CG	32
I-53	MUTE_CG	
I-41	MLLT_C1	31
I-41	MLLT_C1	
I-47	TAIKO1	30
I-47	TAIKO1	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 20 : LatinSet

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
I-50	COWBEL1	66
I-46	OPEN_D1	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
I-27	DRY_T4	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
I-58	OCT_AGG	52
I-42	RIDE_C1	51
I-53	MUTE_CG	50
I-40	CRSH_C1	49
I-54	SLAP_CG	48
I-27	DRY_T4	47
I-38	OPEN_H1	46
I-55	LOW_CG	45
I-39	PDAL_H1	44
I-26	DRY_T3	43
I-37	CLSD_H1	42
I-60	WHISTL2	41
I-12	TIGHT_S	40
I-45	808CLAP	39
I-16	SNAP_S1	38
I-22	SIDSTK1	37
I-02	DRY_K2	36
I-04	DBLH_K1	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 21 : FATSO

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	
OFF	—	59
OFF	—	
I-15	IMPCT_S	58
OFF	—	57
I-40	CRSH_C1	
OFF	—	56
I-50	COWBEL1	
OFF	—	55
I-40	CRSH_C1	
OFF	—	54
I-51	TAMBRN1	
OFF	—	53
I-44	BELL_C1	
OFF	—	52
OFF	—	
OFF	—	51
I-42	RIDE_C1	
I-47	TAIKO1	50
I-31	ROOM_T4	
OFF	—	49
I-40	CRSH_C1	
I-47	TAIKO1	48
I-30	ROOM_T3	
I-47	TAIKO1	47
I-30	ROOM_T3	
OFF	—	46
I-38	OPEN_H1	
I-47	TAIKO1	45
I-29	ROOM_T2	
OFF	—	44
I-39	PDAL_H1	
I-47	TAIKO1	43
I-29	ROOM_T2	
OFF	—	42
I-37	CLSD_H1	
I-47	TAIKO1	41
I-28	ROOM_T1	
I-20	RIMSHT1	40
I-19	PICL_S1	
OFF	—	39
I-45	808CLAP	
I-15	IMPCT_S	38
I-17	OUCH_S	
OFF	—	37
I-22	SIDSTK1	
I-28	ROOM_T1	36
I-09	MONDO_K	
I-47	TAIKO1	35
I-08	ROOM_K2	
OFF	—	34
OFF	—	
OFF	—	33
OFF	—	
OFF	—	32
OFF	—	
OFF	—	31
OFF	—	
OFF	—	30
OFF	—	

* Layer = ON

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 22 : SN-R8-01

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
01-03	OPN_PND	76
I-48	CLAVE1	75
01-04	MUT_PND	74
01-09	VIBSLAP	73
I-60	WHISTL2	72
I-59	WHISTL1	71
01-13	MARACAS	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
01-01	LOW_TB	66
01-02	HIGH_TB	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
01-05	LOW_BG	61
01-06	HIGH_BG	60
01-23	BELTREE	59
01-19	CASTANE	58
01-07	OPN_SRD	57
01-14	COWBEL2	56
01-08	MUT_SRD	55
I-51	TAMBRN1	54
01-17	TRIANGL	53
01-17	TRIANGL	52
I-42	RIDE_C1	51
01-25	LOGDRUM	50
I-40	CRSH_C1	49
01-22	TIMPANI	48
01-25	LOGDRUM	47
01-15	LNG_GUI	46
01-22	TIMPANI	45
01-18	TAMBRN2	44
01-25	LOGDRUM	43
01-16	SHO_GUI	42
01-22	TIMPANI	41
01-21	CON_BD	40
I-45	808CLAP	39
01-12	MUT_CU1	38
I-22	SIDSTK1	37
01-21	CON_BD	36
01-11	OPN_CU1	35
I-01	DRY_K1	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	01-26 : STEELDR
Performance Section 2	01-24 : KALIMBA
Performance Section 3	—
Performance Section 4	—

Patch 23 : SN-R8-02

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
02-12	SLAP4	58
02-24	BRCR_C2	57
I-50	COWBEL1	56
02-24	BRCR_C2	55
I-51	TMBRN1	54
I-44	BELL_C1	53
OFF	—	52
02-25	BRRD_C1	51
02-19	BRSH_T3	50
02-23	BRCR_C1	49
02-20	BRSH_T4	48
02-18	BRSH_T2	47
02-22	BROP_H1	46
02-19	BRSH_T3	45
I-39	PDAL_H1	44
02-17	BRSH_T1	43
02-21	BRCL_H1	42
02-18	BRSH_T2	41
02-08	SWISH4	40
I-45	808CLAP	39
02-14	ROLL2	38
I-22	SIDSTK1	37
02-04	ATACK_K	36
02-03	SHARP_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	02-26 : ACC_BAS
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 24 : SN-R8-03

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
I-66	SURF	76
03-20	FOOTSTP	75
03-14	WOW	74
03-17	WATER	73
03-23	DRILL	72
03-23	DRILL	71
I-52	SHAKER1	70
I-49	CABASA1	69
03-16	SCRPULL	68
03-15	SCRPUSH	67
03-11	BKTRASH	66
OFF	—	65
03-05	DOOR2	64
03-06	CARDOOR	63
03-09	PUNCH	62
I-58	OCT_AGG	61
I-61	CAN1	60
I-67	WHEEL1	59
03-04	DOOR1	58
03-08	GLSCRSH	57
03-21	FUGSNAP	56
03-07	GUN	55
03-19	LOCK	54
03-25	KATANA	53
I-65	SPARK1	52
03-22	HUBCAP	51
03-12	SMASH	50
03-01	GONG	49
03-10	TRASH	48
03-12	SMASH	47
03-24	SPRAY	46
03-10	TRASH	45
03-22	HUBCAP	44
03-12	SMASH	43
03-24	SPRAY	42
03-10	TRASH	41
03-13	SLAP1	40
I-45	808CLAP	39
03-12	SMASH	38
03-18	SWITCH	37
03-03	CANNON	36
03-02	THUD	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	03-26 : NANTOKA
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 25 : SN-R8-04

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
04-20	808CLAV	75
OFF	—	74
04-24	RAPNOIS	73
I-60	WHISTL2	72
I-59	WHISTL1	71
04-19	808MARC	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
04-18	808CNG	64
04-18	808CNG	63
04-18	808CNG	62
OFF	—	61
OFF	—	60
OFF	—	59
04-07	FLANG_S	58
04-15	EL_CRSH	57
04-21	808COW	56
04-15	EL_CRSH	55
I-51	TAMBRN1	54
04-17	EL_BELL	53
OFF	—	52
04-16	808RIDE	51
04-10	BEND_T	50
04-15	EL_CRSH	49
04-12	808_T	48
04-10	BEND_T	47
04-14	8080HH	46
04-12	808_T	45
04-23	HIGH_Q	44
04-10	BEND_T	43
04-13	808CHH	42
04-12	808_T	41
04-05	ELEC_S	40
I-45	808CLAP	39
04-08	808_S	38
04-09	808SIDE	37
04-01	ELEC_K	36
04-04	808_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	04-26 : SY_BASS
Performance Section 2	I—48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 26 : SN-R8-05

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
05-06	HIGH_S1	58
05-23	CRSH_C4	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
05-25	RIVETBL	53
OFF	—	52
05-24	RIVETRD	51
05-21	RING_T4	50
05-22	CRSH_C3	49
05-17	OPEN_T4	48
05-20	RING_T3	47
I-38	OPEN_H1	46
05-16	OPEN_T3	45
I-39	PDAL_H1	44
05-19	RING_T2	43
I-37	CLSD_H1	42
05-15	OPEN_T2	41
05-08	HI_SHOT	40
I-45	808CLAP	39
05-09	MID_S	38
05-13	SIDSTK3	37
I-01	DRY_K1	36
05-03	LOOSE_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	05-26 : FL_BASS
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 27 : SN-R8-06

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
06-10	BENDIR	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
06-07	RAMACYM	68
06-07	RAMACYM	67
06-13	DJEMB_C	66
06-14	DJEMB_R	65
06-02	TABL_TN	64
06-01	TABL_NA	63
06-03	TABL_TE	62
06-09	DARBK_D	61
06-08	DARBK_T	60
06-06	MADAL	59
06-05	KHOLE	58
06-12	REQ_DUM	57
I-50	COWBEL1	56
06-11	REQ_TIK	55
06-17	CAXIXI	54
06-25	ATARI	53
OFF	—	52
06-25	ATARI	51
06-16	TALK_UP	50
06-18	THAIGNG	49
06-15	TALK	48
06-16	TALK_UP	47
06-20	TUZUMIL	46
06-15	TALK	45
06-21	OHKAWA	44
06-16	TALK_UP	43
06-19	TUZUMIH	42
06-15	TALK	41
06-23	MATURIR	40
I-45	808CLAP	39
06-24	SIMEDAI	38
06-26	HYOUSHI	37
06-04	BAYA_GE	36
06-22	MATURI	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	06-21 : OHKAWA
Performance Section 2	06-18 : THAIGNG
Performance Section 3	—
Performance Section 4	—

Patch 28 : SN-R8-07

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
07-11	BARAFN1	75
OFF	—	74
07-24	ANGKLUN	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
07-21	W_BELL	68
07-21	W_BELL	67
07-07	XYLO1	66
07-08	XYLO2	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
07-25	SPOKE	58
07-24	ANGKLUN	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
07-10	GLOCKN2	53
OFF	—	52
07-10	GLOCKN2	51
07-14	SANZA2	50
07-24	ANGKLUN	49
07-20	KENONG	48
07-14	SANZA2	47
07-26	FINGCYM	46
07-20	KENONG	45
07-26	FINGCYM	44
07-14	SANZA2	43
07-26	FINGCYM	42
07-20	KENONG	41
07-23	MATSU	40
I-45	808CLAP	39
07-20	KENONG	38
07-12	BARAFN2	37
I-01	DRY_K1	36
07-20	KENONG	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	07-04 : VIBE1
Performance Section 2	07-18 : SARON
Performance Section 3	—
Performance Section 4	—

Patch 29 : SN-R8-08

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
08-12	TIN_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
08-25	CRSH_C5	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
08-16	DAZZ_T4	50
08-26	CHINA_C	49
08-20	POP_T4	48
08-15	DAZZ_T3	47
I-38	OPEN_H1	46
08-19	POP_T3	45
I-39	PDAL_H1	44
08-14	DAZZ_T2	43
I-37	CLSD_H1	42
08-18	POP_T2	41
08-08	BIRCH_S	40
I-45	808CLAP	39
08-09	COPP_S	38
I-22	SIDSTK1	37
08-02	WHACK_K	36
08-01	MUFF_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

Patch 30 : SN-R8-09

■ Instrument Section

Receive ch	10

Inst Number	Instrument Name	Note Number
OFF	—	93
OFF	—	92
OFF	—	91
OFF	—	90
OFF	—	89
OFF	—	88
OFF	—	87
OFF	—	86
OFF	—	85
OFF	—	84
OFF	—	83
I-48	CLAVE1	82
OFF	—	81
OFF	—	80
OFF	—	79
OFF	—	78
OFF	—	77
OFF	—	76
I-48	CLAVE1	75
OFF	—	74
OFF	—	73
I-60	WHISTL2	72
I-59	WHISTL1	71
I-52	SHAKER1	70
I-49	CABASA1	69
I-57	AGOGO1	68
I-57	AGOGO1	67
OFF	—	66
OFF	—	65
I-55	LOW_CG	64
I-55	LOW_CG	63
I-53	MUTE_CG	62
OFF	—	61
OFF	—	60
OFF	—	59
09-12	RADIO_S	58
I-40	CRSH_C1	57
I-50	COWBEL1	56
I-40	CRSH_C1	55
I-51	TAMBRN1	54
I-44	BELL_C1	53
OFF	—	52
I-42	RIDE_C1	51
09-22	ATAK_T4	50
I-40	CRSH_C1	49
09-26	HOLO_T4	48
09-21	ATAK_T3	47
I-38	OPEN_H1	46
09-25	HOLO_T3	45
I-39	PDAL_H1	44
09-20	ATAK_T2	43
I-37	CLSD_H1	42
09-24	HOLO_T2	41
09-10	FUNK_S	40
I-45	808CLAP	39
09-17	SLAM_S	38
09-18	SIDSTK4	37
I-01	DRY_K1	36
09-01	FACE_K	35
OFF	—	34
OFF	—	33
OFF	—	32
OFF	—	31
OFF	—	30

* Layer = OFF

■ Performance Section

	Receive ch
Performance Section 1	2
Performance Section 2	3
Performance Section 3	4
Performance Section 4	5

	Instrument Assign
Performance Section 1	I-50 : COWBEL1
Performance Section 2	I-48 : CLAVE1
Performance Section 3	—
Performance Section 4	—

FEEL PATCH LIST

Feel Patch Number	Remarks
01	Velocity will affect pitch
02	Velocity will affect decay
03	Velocity will affect nuance
04	Volume will change randomly
05	Pitch will change randomly
06	Decay will change randomly
07	Nuance will change randomly
08	Change will occur mainly on the hi-hat. When synchronized to MIDI clock from an external device, a cyclic change mainly in volume will result.
09	
10	
11	Change will occur mainly on the hi-hat. When synchronized to MIDI clock from an external device, a cyclic change mainly in decay will result.
12	
13	
14	Change will occur mainly on the hi-hat, when synchronized to MIDI clock from an external device. This is effective when using a rhythm pattern in triple time. A cyclic change in sound will also result for rhythm patterns other than triple time.
15	
16	

* Feel Patches are set to match the Standard patch (patch number 01).

Instrument Assign

Feel Patch Number 01—07

Set Number	Instrument
1	I-01 : DRY_K1
2	I-14 : FAT_S1
3	I-25 : DRY_T2
4	I-26 : DRY_T3
5	I-27 : DRY_T4
6	I-37 : CLSD_H1
7	I-38 : OPEN_H1
8	I-42 : RIDE_C1

Feel Patch Number 08—16

Set Number	Instrument
1	I-01 : DRY_K1
2	I-14 : FAT_S1
3	I-37 : CLSD_H1
4	I-37 : CLSD_H1
5	I-38 : OPEN_H1
6	I-38 : OPEN_H1
7	I-42 : RIDE_C1
8	I-42 : RIDE_C1

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 triggers 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

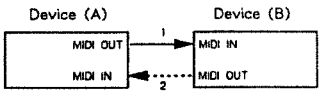
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records-waveform and tone data, switch status, and parameters, for example-to specific locations in a machine-dependent address space, thereby allowing access 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 Section 3 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

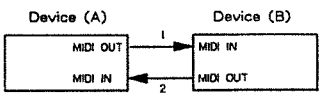


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

≠ Handshake-transfer procedure (See Section 4 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



Connection at points 1 and 2 is essential.

Notes on the above two procedures

* There are separate Command-IDs for different transfer procedures.
* Devices A 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 and is used 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 20 milliseconds 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.

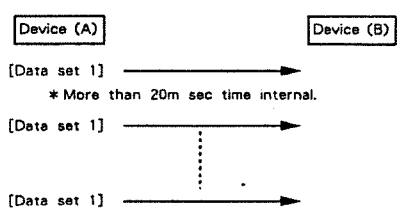
The MIDI standards inhibit non-real time messages from interrupting an exclusive one. This fact is inconvenient for the devices that support a "soft-through" mechanism. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out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

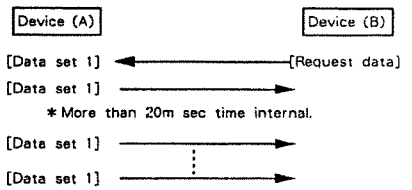
*A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before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

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

Otherwise, it will return a "Rejection (RJC)" message.
*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 maintain compatibility with such devices, Roland has limited the DAT to 256 bytes 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 :

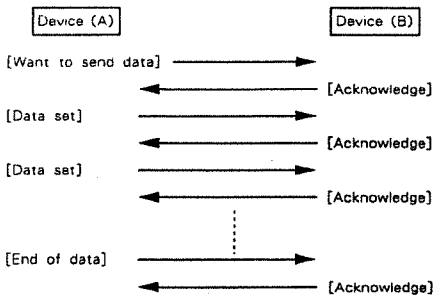
- a WSD or RQD message has specified an illegal data address or size.
- the device is not ready for communication.
- an illegal number of addresses or data has been detected.
- data transfer has been terminated by an operator.
- a communications error has occurred.

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.

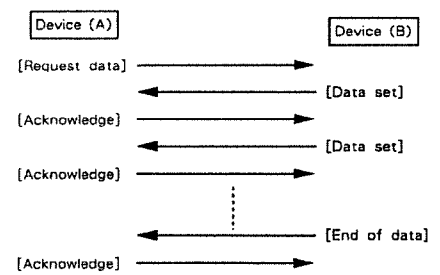
Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
4FH	Command ID
F7H	End of exclusive

= Example of Message Transactions

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

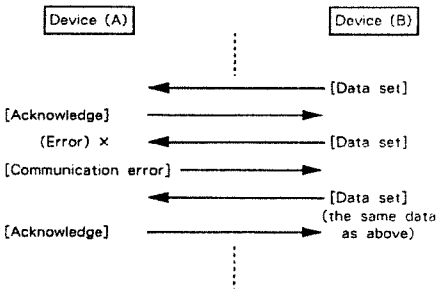


● Device (A) requests and receives data from device (B).

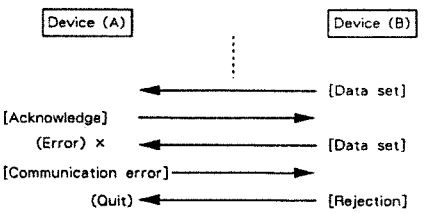


● Error occurs while device (A) is receiving data from device (B).

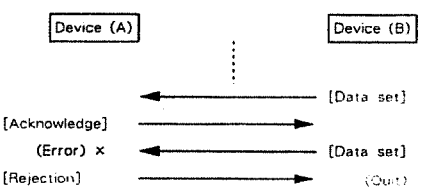
1) Data transfer from device (A) to device (B).



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



3) Device (A) immediately quits data transfer.



TOTAL PERCUSSION SOUND MODULE

Model R-8M

MIDI Implementation

Date : Oct. 23 1989

Version : 1.00

1. TRANSMITTED DATA

■System Exclusive Message

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

With the R-8M, the System Exclusive Message can be used to transmit and receive parameters of Patch, Feel Patch and Setup.
For details refer to "Roland Exclusive Messages" and paragraph 3.

2. RECOGNIZED RECEIVE DATA

The R-8M is ready for reception except when one of the following operations is performed.

UTIL/ROMPLAY
UTIL/RAMCARD/LOAD or SAVE
UTIL/BULK dumping
Sound ROM card insertion ("Checking Card ..." being displayed)

2.1 Instrument Section

■Channel Voice Message

●Note off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Velocity : 00H - 7FH (0 - 127)

The R-8M receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

Ignores a Note Off message if PATCH/INST/SOUND/Note Off Rx = OFF has been selected.

Mutes the sounding notes upon receiving a Note Off message if PATCH/INST/SOUND/Note Off RX = ON and SETUP/MIDI/Off Velocity = Off have been selected, disregarding velocity value.

However, the R-8M decays the sound, after note off, at a rate equal to the velocity value if PATCH/INST/SOUND/Note Off RX = ON and SETUP/MIDI/Off Velocity = ON have been selected.

The R-8M regards a Note On with velocity 00H as a Note Off having velocity value 40H.

●Note On

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 15H - 6CH (21 - 108)
vv = Velocity : 01H - 7FH (1 - 127)

The R-8M receives a Note On message on the channel set by PATCH/INST/BASIC/Receive Ch.

Sounds the instrument that is assigned by PATCH/INST/SOUND to the received note number.

The range of Note numbers received is 15H-4CH (21-76) when PATCH/INST/BASIC/Layer = ON has been selected. If a note number within the range 1DH-3CH (29-60) is assigned two instruments, a Note On for such note can sound these instruments simultaneously.

●Control Change

○Volume

Status	Second	Third
BnH	07H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Volume : 00H - 7FH (0 - 127)

Receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

Changes the PATCH/INST/BASIC/Volume to the received value if SETUP/MIDI/Volume = ON has been selected.

○Panpot

Status	Second	Third
BnH	0AH	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

Receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

If SETUP/MIDI/Panpot = ON has been selected, the R-8M converts the received value to the panpot position (LEFT 3 - RIGHT 3) assigned to the received value as shown in Table *1 and memorizes the result.

Every time the R-8M receives a Note On message, it sounds on the panpot position until the Panpot having different value is given.

When MULTI1 - MULTI6 are set by PATCH/INST/SOUND/Out Asgn, the R-8M ignores Panpot.

＊1 Panpot Value

Parameter	value	panpot
	00H - 12H	LEFT3
	13H - 24H	LEFT2
	25H - 36H	LEFT1
panpot	37H - 48H	CENTER
	49H - 5AH	RIGHT1
	5BH - 6CH	RIGHT2
	6DH - 7FH	RIGHT3

○Hold 1

Status	Second	Third
BnH	40H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

Receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

With SETUP/MIDI/Hold = ON :
For a note with PATCH/INST/SOUND/Note Off Rx = ON, the R-8M decays the sound level at the rate determined by Hold 1 value, upon receiving a Note Off message. For a note with PATCH/INST/SOUND/Note Off Rx = OFF, the R-8M decays the sound level at the rate determined by Hold 1 value, after sounding the note. (This function does not affect the instruments having a reverse decay type of sound.)

If the transmitting controller can send continuously changing Hold 1 value, the R-8M can also continuously vary sound decay rate.

○Modulation Depth

Status	Second	Third
BnH	01H	vvH
BnH	21H	vvH

○General purpose controller 1

Status	Second	Third
BnH	10H	vvH
BnH	30H	vvH

○**General purpose controller 2**

Status	Second	Third
BnH	11H	vvH
BnH	31H	vvH

○**General purpose controller 3**

Status	Second	Third
BnH	12H	vvH
BnH	32H	vvH

○**General purpose controller 4**

Status	Second	Third
BnH	13H	vvH
BnH	33H	vvH

○**General purpose controller 5**

Status	Second	Third
BnH	50H	vvH

○**General purpose controller 6**

Status	Second	Third
BnH	51H	vvH

○**General purpose controller 7**

Status	Second	Third
BnH	52H	vvH

○**General purpose controller 8**

Status	Second	Third
BnH	53H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

Receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

By using PATCH/INST/CTRL, a combination of instrument and parameter can be assigned up to 9 controls.

The R - 8M converts the received value into the parameter - offset as shown in Table ＊2 specified by PATCH/INST/CTRL/Ctrl Prm ; and stores the result.

When reproducing an instrument, the offset is added to the value set by PATCH/INST /SOUND for the control being assigned to that instrument.
If the sum of the values exceeds the set range of the sound parameter, the odd values are ignored.

Exceptions :
When the parameter set by PATCH/INST/CTRL/Ctrl Prm is PANPOT ;
the instrument sounds at the panpot position set by PATCH/INST/SOUND/Out Asgn, if "Offset" is Off ; and at Offset - position, if other than Off.
PANPOT will be ignored if MULTI1 - MULTI6 have been set by PATCH/INST/ SOUND/Out Asgn.

When using R - 8 or R - 5 :
Duplicate the assignment of the R - 8 (R - 5) onto each control. And the "performance parameters" set in the R - 8 (R - 5) pad and "sequence parameters" programmed in a rhythm pattern can effectively change R - 8M sounds.

＊2 Control Change Value

parameter	value	offset
	0000H - 0407H	- 4800
	0408H - 0417H	- 4790
	0418H - 0427H	- 4780
	:	:
	3F68H - 3F77H	- 0010
pitch	3F78H - 4007H	0000
	4008H - 4017H	+ 0010
	:	:
	7B58H - 7B67H	+ 4780
	7B68H - 7B77H	+ 4790
	7B78H - 7F7FH	+ 4800
	00H	- 63
	01H	- 63
	02H	- 62
	:	:
	3FH	- 01
decay	40H	00
	41H	+ 01
	:	:
	7EH	+ 62
	7FH	+ 63
	00H - 0BH	- 7
	0CH - 13H	- 6
	14H - 1BH	- 5
	:	:
	34H - 3BH	- 1
nuance	3CH - 43H	0
	44H - 4BH	+ 1
	:	:
	64H - 6BH	+ 5
	6CH - 73H	+ 6
	74H - 7FH	+ 7
	00H - 0FH	LEFT3
	10H - 1FH	LEFT2
	20H - 2FH	LEFT1
panpot	30H - 3FH	CENTER
	40H - 4FH	RIGHT1
	50H - 5FH	RIGHT2
	60H - 6FH	RIGHT3
	70H - 7FH	OFF

○**RPN LSB**

Status	Second	Third
BnH	64H	llH

○**RPN MSB**

Status	Second	Third
BnH	65H	mmH

○**Data Entry**

Status	Second	Third
BnH	06H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
ll = The lower byte of the parameter number designated by RPN
mm = The upper byte of the parameter number designated by RPN
vv = The value for the parameter designated by RPN

The R - 8M receives the message on the channel set by PATCH/INST/BASIC/ Receive Ch.

Parameters of a unit can be changed by using MIDI RPN function.
Designate the parameter to be changed by a set of RPN MSB and LSB, and then specify the new parameter value with Data Entry.

Effective RPN for the R - 8M is Pitch Bend Sensitivity (RPN ＃0) only.

RPN MSB	RPN LSB	Data entry	Description
00H	00H	vvH	Pitch bend sensitivity
		vv = 0 - 12	semitone steps, up to 1 octave

Upon receiving this message, the R - 8M rewrites PATCH/INST/BASIC/Bend Range with the received value.

●**Pitch Bend Change**

Status	Second	Third
EnH	llH	mmH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
mm,ll = Value : 00H,00H - 7FH,7FH (- 8192 - + 8191)

The R - 8M receives the message on the channel set by PATCH/INST/BASIC/ Receive Ch.

Upon receiving this message with SETUP/MIDI/Pitch Bender = ON,the R - 8M bends the pitch of sounding note of the Instrument Section according to the value set by PATCH/INST/BASIC/Bend Range.

■ Channel Mode Message

● Reset all controllers

Status	Second	Third
BnH	79H	00H

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

The R - 8M receives the message on the channel set by PATCH/INST/BASIC/Receive Ch.

The R - 8M initializes all the controllers upon receiving this message.

Pitch Bend Change ± 0 (center)
Panpot Off (PATCH/INST/SOUND/Out Asgn is activated)
Hold 1 0
Modulation and general purpose controllers are to be initialized so that the offset of assigned parameters becomes either 0 or Off.

● All notes off

Status	Second	Third
BnH	7BH	00H

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

The R - 8M receives the message on the channel set by PATCH/INST/BASIC/Receive Ch and mutes all the sounding notes.

2.2 Performance Section

■ Channel Voice Message

● Note off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Velocity : 00H - 7FH (0 - 127)

The R - 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

Ignores an Note Off when PATCH/PFM/SOUND/Note Off Rx = OFF has been selected.

Mutes the sounding notes upon receiving a Note Off message if PATCH/PFM/SOUND/Note Off Rx = ON and SETUP/MIDI/Off Velocity = OFF have been selected, disregarding velocity value.

However, the R - 8M decays the sound, after a note off message, at a rate equal to the velocity value if PATCH/PFM/SOUND/Note Off Rx = ON and SETUP/MIDI/Off Velocity = ON have been selected. The R - 8M regards a Note On message with velocity 00H as a Note Off message having velocity value 40H.

● Note On

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
kk = Note number : 00H - 7FH (0 - 127)
vv = Velocity : 01H - 7FH (1 - 127)

The R - 8M receives a Note On message on the channel set by PATCH/PFM/BASIC/Receive Ch.

The Range of Note numbers received is designated by PATCH/PFM/BASIC/Key Range L,H.

Sounds the instrument that is assigned by PATCH/PFM/SOUND to the section.

When PATCH/PFM/K.FLW is set to other than 0 or OFF, the pitch, decay, nuance and panpot of the instrument to be reproduced varies according to note number.

● Control Change

○ Volume

Status	Second	Third
BnH	07H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Volume : 00H - 7FH (0 - 127)

The R - 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

Changes the PATCH/PFM/BASIC/Volume to the received value if SETUP/MIDI/Volume = ON has been selected.

○ Panpot

Status	Second	Third
BnH	0AH	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

The R - 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

If SETUP/MIDI/Panpot = ON has been selected, the R - 8M converts the received value to the panpot position (LEFT 3 - RIGHT 3) assigned to the received value as shown in Table *1 and memorizes the result.

Every time the R - 8M receives a Note On message, it sounds on the panpot position until the Panpot having different value is given.

When MULTI1 - MULTI6 are set by PATCH/PFM/SOUND/Out Asgn, the R - 8M ignores Panpot.

○ Hold 1

Status	Second	Third
BnH	40H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

The R - 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

With SETUP/MIDI/Hold = ON:
For a note with PATCH/PFM/SOUND/Note Off Rx = ON, the R - 8M decays the sound level at the rate determined by Hold 1 value, upon receiving a Note Off message. For a note with PATCH/PFM/SOUND/Note Off Rx = OFF, the R - 8M decays the sound level at the rate determined by Hold 1 value, after sounding the note. (This function does not affect the instruments having a reverse decay type of sound.)

If the transmitting controller can send continuously changing Hold 1 value, the R - 8M can also continuously vary sound decay rate.

○ Modulation Depth

Status	Second	Third
BnH	01H	vvH

n = MIDI channel : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

The R - 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

The R - 8M converts the received value into the parameter - offset (Decay or nuance) as shown in Table *2 assigned to modulation by PATCH/PFM/BASIC/Mod: and stores the result.

When reproducing an instrument upon receiving a Note on message, the R - 8M adds this offset to the value set by PATCH/PFM/SOUND. If sum of the values exceeds set range of the sound parameter, the odd values are ignored.

○**RPN LSB**

Status	Second	Third
BnH	64H	llH

○**RPN MSB**

Status	Second	Third
BnH	65H	mmH

○**Data Entry**

Status	Second	Third
BnH	06H	vvH

n = MIDI channel : 0H – FH (0 – 15) 0 = ch.1 15 = ch.16
ll = The lower byte of the parameter number designated by RPN
mm = The upper byte of the parameter number designated by RPN
vv = The value of the parameter designated by RPN

The R – 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

Parameters of a unit can be changed by using MIDI RPN function. Designate the parameter to be changed by a set of RPN MSB and LSB, and then specify the new parameter value with Data Entry.

Effective RPN for the R – 8M is Pitch Bend Sensitivity (RPN # 0) only.

RPN

MSB LSB	Data entry	Description
00H 00H	vvH	Pitch bend sensitivity
	vv = 0 – 12	semitone steps, up to 1 octave

Upon receiving this message, the R – 8M rewrites PATCH/PFM/BASIC/Bend Range with the received value.

●**Pitch Bend Change**

Status	Second	Third
EnH	llH	mmH

n = MIDI channel : 0H – FH (0 – 15) 0 = ch.1 15 = ch.16
mm,ll = Value : 00H,00H – 7FH,7FH (– 8192 – + 8191)

The R – 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

Upon receiving this message with SETUP/MIDI/Pitch Bender = ON selected, the R – 8M bends the pitch of sounding note according to the value set by PATCH/PFM/BASIC/Bend Range.

■**Channel Mode Message**

●**Reset all controllers**

Status	Second	Third
BnH	79H	00H

n = MIDI channel : 0H – FH (0 – 15) 0 = ch.1 15 = ch.16

The R – 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

The R – 8M initializes all controllers upon receiving this message.

Pitch Bend Change	± 0 (center)
Panpot	Off (PATCH/PFM/SOUND/Out Asgn is activated)
Hold 1	0
Modulation	40H (the offset of assigned parameter becomes 0.)

●**All notes off**

Status	Second	Third
BnH	7BH	00H

n = MIDI channel : 0H – FH (0 – 15) 0 = ch.1 15 = ch.16

The R – 8M receives the message on the channel set by PATCH/PFM/BASIC/Receive Ch.

Mutes the sounding notes upon receiving an All Notes Off message.

2.3 Receive Messages to Control the System

■**Channel Voice Message**

●**Program change**

Status	Second
CnH	ppH

n = MIDI channel : 0H – FH (0 – 15) 0 = ch.1 15 = ch.16
pp = Program number : 00H – 7FH (0 – 127)

The R – 8M receives the message on the channel set by SETUP/MIDI/Control Ch.

Upon receiving this message with SETUP/MIDI/Pgm Change = ON selected, the R – 8M changes Patch and Feel Patch according to the program change map's contents set by the SETUP/PGM.

■**System Common Message**

●**Song position pointer**

Status	Second	Third
F2H	llH	mmH
mm,ll = Song position	: 00H,00H – 7FH,7FH (0 – 16383)	

This message syncs the Groove to the play information when FEEL/REGL/Regular = GROOVE has been selected.

■**System Real Time Message**

●**Timing clock**

Status
F8H

●**Start**

Status
FAH

●**Continue**

Status
FBH

●**Stop**

Status
FCH

These messages syncs the groove to the play information when FEEL/REGL/Regular = GROOVE has been selected.

●**Active sensing**

Status
FEH

Whenever the R – 8M receives this message, it monitors the interval of the coming data. If the subsequent message has not arrived 300 ms after the previous data, it processes all sections as though it has received an All Notes Off message and a Reset All Controllers message. Monitoring of incoming signals is terminated.

■**System Exclusive Message**

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

With the R – 8M, the System Exclusive Message can be used to transmit and receive parameters of Patch, Feel Patch and Setup.

For details refer to "Roland Exclusive Messages" and paragraph 3.

3. Exclusive Communications

■ General

The R - 8M can perform one - way communications to send and receive parameters for Patch, Feel Patch and Setup.
These parameters can be transferred either by bulk dump or by individual parameter control. A Patch, set of Patches, Feel Patches or set of Feel Patches are recommended to be transferred in bulk dump method, while individual parameter should be separately by individual parameter control.

Individual parameter control works only with parameters of Patch, Feel Patch in the temporary area, and setup parameters in the internal memory area.

Model ID included in the exclusive message should be 36H. The device ID code should be the channel number of the SETUP/MIDI/Control Ch. Note that the actual value that is set in the device ID field is smaller by one than the SETUP/MIDI/Control Ch value.

■ One Way Communications

● Request data 1 **RQ1** **(11H)**

Byte	Description	
F0H	Exclusive status	
41H	Manufacturer ID	(Roland)
Dev	Device ID	
36H	Model ID	(R - 8M)
11H	Command ID	(RQ1)
aaH	Address MSB	
aaH	Address	
aaH	Address LSB	
ssH	Size MSB	
ssH	Size	
ssH	Size LSB	
sum	Check sum	
F7H	EOX	(End of Exclusive)

● Data set 1 **DT1** **(12H)**

Byte	Description	
F0H	Exclusive status	
41H	Manufacturer ID	(Roland)
Dev	Device ID	
36H	Model ID	(R - 8M)
12H	Command ID	(DT1)
aaH	Address MSB	
aaH	Address	
aaH	Address LSB	
ddH	data	
:	:	
ddH	data	
sum	Check sum	
F7H	EOX	(End of Exclusive)

■ Transmission

The R - 8M transmits an exclusive message when one of the following events occurs.

1) Bulk dump is performed from UTIL/BULK.

Sends specified parameter groups with bulk dump area addresses.

2) NOTE ≠ key is pressed in the Edit mode with SETUP/MIDI/SysEx = ON selected.

The R - 8M sends parameters being edited with address being the one of those for individual parameter control area. This operation is performed whether NOTE ≠/JUMP LED is on or off.
Exceptions : this operation will not be performed when, the menu screen is being opened, or a parameter being edited is not supported by exclusive message.

3) Data request message is received with SETUP/MIDI/SysEx = ON selected .

The R - 8M transmits the parameters that match the address and size denoted in the received data request.

■ Receive

The R - 8M is ready for reception except when one of the following operations is performed.

UTIL/ROMPLAY
UTIL/RAMCARD/LOAD or SAVE
UTIL/BULK dumping
Sound ROM card insertion ("Checking Card ..." being displayed)

■ Parameter address map

Addresses are shown in 7 - bit hexadecimal.

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

Address Map

[Individual Parameter Control Area]

Address	Block	Total Size	Reference
00 00 00	Patch Temporary	02 03 18	Table 1
03 00 00	Feel Patch Temporary	00 07 2A	Table 2
04 00 00	Setup (Internal)	00 02 09	Table 3

[Bulk Dump Area]

Address	Block	Total Size	Reference
10 00 00	Patch Temporary	00 0B 02	Table 4
11 00 00	Feel Patch Temporary	00 02 60	Table 5
12 00 00	Patch I-01	00 0B 02	Table 4
12 10 00	Patch I-02	00 0B 02	
:	:	:	
15 70 00	Patch I-32	00 0B 02	
16 00 00	Feel Patch I-01	00 02 60	Table 5
16 03 00	Feel Patch I-02	00 02 60	
:	:	:	
16 2D 00	Feel Patch I-16	00 02 60	
17 00 00	Setup (Internal)	00 04 0A	Table 6
18 00 00	Patch C-01	00 0B 02	Table 4
18 10 00	Patch C-02	00 0B 02	
:	:	:	
1B 70 00	Patch C-32	00 0B 02	
1C 00 00	Feel Patch C-01	00 02 60	Table 5
1C 03 00	Feel Patch C-02	00 02 60	
:	:	:	
1C 2D 00	Feel Patch C-16	00 02 60	
1D 00 00	Setup (RAM Card)	00 04 0A	Table 6

[Table 1] Patch (Individual)

Address		Description
PATCH/NAM		
00 00 00	Name char. 1	32 - 122 (except 36, 37, 76, 78, 80)
00 00 01	Name char. 2	32 - 122 (except 36, 37, 76, 78, 80)
:	:	:
00 00 07	Name char. 8	32 - 122 (except 36, 37, 76, 78, 80)
INST Section		
PATCH/INST/BASIC		
01 00 00	Receive Ch	0 - 15 (1 - 16)
01 00 01	Volume	0 - 127 (0 - 127)
01 00 02	Bend Range	0 - 12 (0 - 12)
01 00 03	Layer	0 - 1 (OFF, ON)
PATCH/INST/CTRL	n = Ctrl # : 1H - 9H (MOD, CTRL1-8)	
01 0n 00	Media #	0 - 31 (OFF, INT, C01 C30)
01 0n 01	Inst #	0 - 67 (1 - 68)

01 0n 02	Ctrl Prm	0 - 3	(PITCH, DECAY, NUANCE, PANPOT) (in case of MOD, CTRL1-4)
		1 - 3	(DECAY, NUANCE, PANPOT) (in case of CTRL5-8)
PATCH/INST/SOUND		nn = Note # : 15H - 6CH (21 - 108)	
01 nn 00	Media #	0 - 3	(OFF, INT, C01-C30)
01 nn 01	Inst #	0 - 67	(1 - 68)
01 nn 02	Pitch Lower	-480 - +480 (-4800 - +4800) *	
01 nn 03	Pitch Upper		
01 nn 04	Decay1	0 - 127	(0 - 127)
01 nn 05	Decay2	0 - 127	(0 - 127)
01 nn 06	Nuance	0 - 15	(0 - 15)
01 nn 07	Out Asgn	0 - 12	(L3 - R3, M1 - M6)
01 nn 08	Level	0 - 15	(0 - 15)
01 nn 09	Asgn Type	0 - 9	(EXC1-8, MONO, POLY)
01 nn 0A	Velo Curve	0 - 7	(1 - 8)
01 nn 0B	Note Off Rx	0 - 1	(OFF, ON)
PFM Section		n = PFM Section # : 0H - 3H (1 - 4)	
PATCH/PFM/BASIC			
02 0n 00	Receive Ch	0 - 15	(1 - 16)
02 0n 01	Volume	0 - 127	(0 - 127)
02 0n 02	Key Range L	0 - 127	(C- - G9)
02 0n 03	Key Range H	0 - 127	(C- - G9)
02 0n 04	Bend Range	0 - 12	(0 - 12)
02 0n 05	Mod	0 - 2	(OFF, DECAY, NUANCE)
PATCH/PFM/K.FLW			
02 0n 06	Refer Note	0 - 127	(C- - G9)
02 0n 07	KF Pitch Lower	-99 - +99 (-990 - +990) *	
02 0n 08	KF Pitch Upper		
02 0n 09	KF Decay	-9 - +9 (-9 - +9) *	
02 0n 0A	KF Nuance	0 - 10	(-2, -1, -1/2, -1/4, -1/8, 0, +1/8, +1/4, +1/2, +1, +2)
02 0n 0B	KF Panpot	0 - 10	(-2, -1, -1/2, -1/4, -1/8, OFF, +1/8, +1/4, +1/2, +1, +2)
PATCH/PFM/SOUND			
02 0n 0C	Media #	0 - 31	(OFF, INT, C01-C30)
02 0n 0D	Inst #	0 - 67	(1 - 68)
02 0n 0E	Pitch Lower	-480 - +480 (-4800 - +4800) *	
02 0n 0F	Pitch Upper		
02 0n 10	Decay1	0 - 127	(0 - 127)
02 0n 11	Decay2	0 - 127	(0 - 127)
02 0n 12	Nuance	0 - 15	(0 - 15)
02 0n 13	Out Asgn	0 - 14	(L3 - R3, M1 - M6)
02 0n 14	dummy	(ignore if received)	
02 0n 15	Asgn Type	0 - 9	(EXC1-8, MONO, POLY)
02 0n 16	Velo Curve	0 - 7	(1 - 8)
02 0n 17	Note Off Rx	0 - 1	(OFF, ON)
Total size = 02 03 18 Bytes			
		* 2's complement	

[Table 2] Feel Patch (Individual) n = Set # : 0H - 7H (1 - 8)

Address		Description
FEEL/ASG		
03 0n 00	Media #	0 - 31 (OFF, INT, C01-C30)
03 0n 01	Inst #	0 - 67 (1 - 68)
03 0n 02	Ctrl Prm	0 - 3 (VELO, PITCH, DECAY, NUANCE)
FEEL/REGL		
03 0n 03	Regular	0 - 2 (OFF, GROOVE, VELOCITY)
03 0n 04	Type	0 - 15 (1 - 16)
03 0n 05	Step	0 - 6 (1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32)
03 0n 06	Groove Depth	0 - 7 (1 - 8)
03 0n 07	Offset1 Lower	-99 - +99 (-99 - +99) *
03 0n 08	Offset1 Upper	
:		
03 0n 25	Offset16 Lower	-99 - +99 (-99 - +99) *
03 0n 26	Offset16 Upper	
03 0n 27	Refer Velo	1 - 127 (1 - 127)
03 0n 28	Velo Sens	-7 - +7 (-7 - +7) *
FEEL/RND		
03 0n 29	Random Depth	0 - 8 (0 - 8)
Total size = 00 07 2A Bytes		
		* 2's complement

[Table 3] Setup (Individual)

Address		Description
SETUP/PGM	nn = Pgm # : 00H - 7FH (#001 - #128)	
04 00 nn	Patch #	0 - 64 (I-01 - I-32, C-01 - C-32, ----)
04 01 nn	Feel Patch #	0 - 33 (I-01 - I-16, C-01 - C-16, OFF, ----)
SETUP/MIDI		
04 02 00	Pgm Change	0 - 1 (OFF, ON)
04 02 01	Volume	0 - 1 (OFF, ON)
04 02 02	Pitch Bender	0 - 1 (OFF, ON)
04 02 03	Panpot	0 - 1 (OFF, ON)
04 02 04	Hold	0 - 1 (OFF, ON)
04 02 05	Off Velocity	0 - 1 (OFF, ON)
SETUP/STACK		
04 02 06	Stack	0 - 1 (OFF, ON)
04 02 07	Number of Units	0 - 7 (1 - 8)
04 02 08	Unit #	0 - 7 (1 - 8)
Total size = 00 02 09 Bytes		

[Table 4] Patch (Bulk Dump)

Offset Address		Description	
PATCH/NAME			
00 00	bit 0-3	Name char.1 lower 4bits	
00 01	bit 0-2	Name char.1 upper 3bits	
:	:	:	
00 0E	bit 0-3	Name char.8 lower 4bits	
00 0F	bit 0-2	Name char.8 upper 3bits	
PATCH/INST/BASIC			
00 10	bit 0	Layer	
00 11		(reserved)	
00 12	bit 0-3	Receive Ch	
00 13	bit 0-3	Bend Range	
00 14	bit 0-3	Volume lower 4bits	
00 15	bit 0-3	Volume upper 3bits	
PATCH/INST/CTRL			
00 16		MOD	(See [4-1])
00 1A		CTRL1	
:		:	
00 36		CTRL8	
PATCH/INST/SOUND			
00 3A		NOTE #21	(See [4-2])
:		:	
09 7C		NOTE #108	
PATCH/PFM			
0A 0A		PFM1/BASIC, K.FLW	(See [4-3])
0A 1A		PFM1/SOUND	(See [4-2])
0A 28		PFM2/BASIC, K.FLW	
0A 38		PFM2/SOUND	
0A 46		PFM3/BASIC, K.FLW	
0A 56		PFM3/SOUND	
0A 64		PFM4/BASIC, K.FLW	
0A 74		PFM4/SOUND	
Total size = 00 0B 02 Bytes			

[4 – 1] PATCH/INST/CTRL

Offset Address		Description
00 00	bit 0-3	Media # lower 4bits
00 01	bit 0	Media # upper 1bit
	bit 1-3	Ctrl Prm
00 02	bit 0-3	Inst # lower 4bits
00 03	bit 0-2	Inst # upper 3bits

size = 00 04 Bytes

[4 – 2] PATCH/INST/SOUND
PATCH/PFM/SOUND

Offset Address		Description	
00 00	bit 0-3	Media # lower 4bits	
00 01	bit 0	Media # upper 1bit	
	bit 1-3	Velo Curve	
00 02	bit 0-3	Inst # lower 4bits	
00 03	bit 0-2	Inst # upper 3bits	
	bit 3	Note Off Rx	
00 04	bit 0-3	Pitch bit0-3	
00 05	bit 0-3	Pitch bit4-7	
00 06	bit 0-3	Decay1 lower 4bits	
00 07	bit 0-2	Decay1 upper 3bits	
	bit 3	Pitch bit8	
00 08	bit 0-3	Decay2 lower 4bits	
00 09	bit 0-2	Decay2 upper 3bits	
	bit 3	Pitch bit9(MSB)	
00 0A	bit 0-3	Level	(PATCH/INST/SOUND)
		dummy	(PATCH/PFM/SOUND)
00 0B	bit 0-3	Nuance	
00 0C	bit 0-3	Out Asgn	
00 0D	bit 0-3	Asgn Type	

size = 00 0E Bytes

[4 – 3] PATCH/PFM/BASIC, K.FLW

Offset Address		Description	
00 00	bit 0-3	Receive Ch	PATCH/PFM/BASIC
00 01	bit 0-3	Bend Range	
00 02	bit 0-3	Volume lower 4bits	
00 03	bit 0-2	Volume upper 3bits	
00 04	bit 0-3	Key Range L lower 4bits	
00 05	bit 0-2	Key Range L upper 3bits	
00 06	bit 0-3	Key Range H lower 4bits	
00 07	bit 0-2	Key Range H upper 3bits	
00 08	bit 0-2	Mod Parameter	
	bit 3	KF Decay lower 1bits	PATCH/PFM/K.FLW
00 09	bit 0-3	KF Decay upper 4bits	
00 0A	bit 0-3	Refer Note lower 4bits	
00 0B	bit 0-2	Refer Note upper 3bits	
00 0C	bit 0-3	KF Pitch lower 4bits	
00 0D	bit 0-3	KF Pitch upper 4bits	
00 0E	bit 0-3	KF Nuance	
00 0F	bit 0-3	KF Panpot	

size = 00 10 Bytes

[Table 5] Feel Patch (Bulk Dump)

Offset Address	Description	
00 00	Set 1	(See [5-1])
00 2C	Set 2	
:	:	
02 34	Set 8	

Total size = 00 02 60 Bytes

[5 – 1] FEEL/ASG, REGL, RND

Offset Address		Description	
00 00	bit 0-3	Media # lower 4bits	FEEL/ASG
00 01	bit 0	Media # upper 1bit	
	bit 1-2	Groove Depth	FEEL/REGL
00 02	bit 0-3	Inst # lower 4bits	FEEL/ASG
00 03	bit 0-2	Inst # upper 3bits	
00 04	bit 0-1	Ctrl Prm	
	bit 2-3	Regular	FEEL/REGL
00 05	bit 0-3	Velo Sens	
00 06	bit 0-3	Type	
00 07	bit 0-2	Step	
00 08	bit 0-3	Offset #1 lower 4bits	
00 09	bit 0-3	Offset #1 upper 4bits	
:	:	:	
00 26	bit 0-3	Offset #16 lower 4bits	
00 27	bit 0-3	Offset #16 upper 4bits	
00 28	bit 0-3	Refer Velo lower 4bits	
00 29	bit 0-2	Refer Velo upper 3bits	
00 2A	bit 0-3	Random Depth	FEEL/RND
00 2B		(reserved)	

size = 00 2C Bytes

[Table 6] Setup (Bulk Dump)

Offset Address		Description
SETUP/PGM		
00 00	bit 0-3	#001 Patch # lower 4bits
00 01	bit 0-2	#001 Patch # upper 3bits
:	:	:
01 7E	bit 0-3	#128 Patch # lower 4bits
01 7F	bit 0-2	#128 Patch # upper 3bits
02 00	bit 0-3	#001 Feel Patch # lower 4bits
02 01	bit 0-2	#001 Feel Patch # upper 3bits
:	:	:
03 7E	bit 0-3	#128 Feel Patch # lower 4bits
03 7F	bit 0-2	#128 Feel Patch # upper 3bits
SETUP/STACK		
04 00		(reserved)
04 01		(reserved)
04 02		(reserved)
04 03		(reserved)
04 04		(reserved)
04 05		(reserved)
SETUP/MIDI		
04 06	bit 0	Pgm Change
	bit 1	(reserved)
	bit 2	Volume
	bit 3	Pitch Bender
04 07	bit 0	Panpot
	bit 1	(reserved)
	bit 2	Hold
	bit 3	(reserved)
04 08	bit 0	Off Velocity
04 09		(reserved)

Total size = 00 04 0A Bytes

[Individual Parameter Control Area]

Address	Block	Reference
00 00 00	Patch Temporary	Table 1
03 00 00	Feel Patch Temporary	Table 2
04 00 00	Setup (Internal)	Table 3

[Bulk Dump Area]

Address	Block	Reference	Panel Operation
10 00 00	Patch Temporary	Table 4	UTIL / BULK
11 00 00	Feel Patch Temporary	Table 5	UTIL / BULK
12 00 00	Patch I-01	Table 4	/ALL / ALL
12 10 00	Patch I-02		/INT / INT&CARD
	:		
15 70 00	Patch I-32		
16 00 00	Feel Patch I-01	Table 5	
16 03 00	Feel Patch I-02		
	:		
16 2D 00	Feel Patch I-16		
17 00 00	Setup (Internal)	Table 6	
18 00 00	Patch C-01	Table 4	UTIL
18 10 00	Patch C-02		/BULK
	:		/ALL
1B 70 00	Patch C-32		/CARD
1C 00 00	Feel Patch C-01	Table 5	
1C 03 00	Feel Patch C-02		
	:		
1C 2D 00	Feel Patch C-16		
1D 00 00	Setup (RAM Card)	Table 6	

TOTAL PERCUSSION SOUND MODULE

Model R-8M

MIDI Implementation

Date : Oct. 23 1989

Version : 1.00

Function ...		Transmitted	Recognized	Remarks
Basic	Default	×	1 – 16	Memorized
Channel	Changed	×	1 – 16	(Non – volatile)
Mode	Default	Mode 3	Mode 3	
	Messages	×	×	
	Alterd	*********		
Note Number		×	0 – 127	
	True Voice	*********		
Velocity	Note ON	×	○	
	Note OFF	×	*1	
After Touch	Key's	×	×	
	Ch's	×	×	
Pitch Bender		×	*1	8 bit resolution
Control Change	1, 33	×	*1	Modulation
	6	×	*2	Data Entry
	7	×	*1	Volume
	10	×	*1	Panpot
	16 – 19, 48 – 51	×	*1	Controller 1 – 4
	64	×	*1	Hold 1
	80 – 83	×	*1	Controller 4 – 8
	100, 101	×	*2	RPN LSB, MSB
	121	×	○	Reset All Controllers
Prog Change		×	*1	
	True #	*********		
System Exclusive		○	*1	
System Common	Song Pos	×	○ *3	
	Song Sel	×	×	
	Tune	×	×	
System Real Time	Clock	×	○ *3	
	Commands	×	○ *3	
Aux Messages	Local ON/OFF	×	×	
	All Notes OFF	×	○	
	Active Sense	×	○	
	Reset	×	×	
Notes		*1 Can be set to ○ or × manually, and memorized. *2 Only RPN # 0 : Pitch Bend Sensitivity is effective. *3 Used to sync the Feel function (Groove) to the play information.		

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

○ : Yes
× : No

■ How to read a MIDI Implementation chart

○ : MIDI message that can be received or transmitted
× : MIDI message that cannot be received or transmitted

● Basic channel

This is the range of MIDI channels on which MIDI message can be transmitted (received). The MIDI channel setting will be preserved even when the power is turned off.

● Mode

Devices which have more than one receive channel normally operate in mode 3 (omni off, poly).
Reception : Only the MIDI message of the specified channel is received, and played polyphonically.
Transmission : MIDI message is transmitted on the specified channel.

* Mode indicates the mode messages handled by MIDI.

● Note number

This is the range of note numbers that can be received. Note number 60 is middle C (C4).

● Velocity

This is the range over which velocity can be transmitted (received) for a "note on" or "note off" message.

● Aftertouch

The R-8M does not use this message.

● Pitch bender

The range over which the pitch bender will affect the pitch can be set independently for each section.

● Control change

This lists the control numbers and control functions which can be received. The functions controlled by General Purpose Controllers can be freely specified. For details, refer to MIDI implementation.

● Program change

The listed program numbers are the numbers of the data. The number listed here is one less than the Patch or Feel Patch that will be selected.

● Exclusive

Reception of exclusive messages can be turned on/off by the exclusive switch (setup).

● Common, Real-time

These MIDI messages are used when synchronizing with sequencers or rhythm machines. The R-8M can synchronize its Regular Feel (Groove) to song position pointer and real-time messages.

● Other

These messages are used mainly to keep a MIDI system running correctly, and include active sensing (to check for broken MIDI cables) and all "note off messages" (to stop all currently sounding notes).

SPECIFICATIONS

R - 8M Total Percussion Sound Module

● Sound source
Internal ..... 68 sounds
Sampling frequency ..... 44.1 kHz
Dynamic range ..... 16 bit
Maximum simultaneous notes ..... 12 notes

● Internal memory
Patch 32
Feel Patch 16
Setup 1

● RAM card memory
Patch 32
Feel Patch 16
Setup 1

● Display
16 character 2 line LCD (with backlight)

● Indicators
Note number/Jump indicator
Edit indicator
MIDI message indicator

● Knobs and buttons
Volume knob
Note number/Jump button
Edit/Exit button
Cursor buttons (◀ ▶)
Value buttons (enter)
Power switch

● Output jacks
Multi out jacks 1—6
Mix out jacks (L (MONO)/R)
Headphone jack

● Terminals
PCM card slot × 3
RAM card slot
MIDI connectors (IN/OUT/THRU)

● External dimensions
482 (W) × 358 (D) × 45 (H) mm
19″ × 14 – 1/8″ × 1 – 3/4″
EIA-1U rack mount type

● Weight
4.5 kg/9 lb 15 oz

● Power consumption
15 W

● Included items
Connection cable (LP - 25)
Owner's manual

● Options
Sound ROM card (SN - R8 series)
RAM card (M - 256E)

*Specifications and appearance are subject to change without notice for product improvement.

INDEX

【Index (by function)】

■Instrument settings

■Performance Controls

■Patch/Feel Patch setting functions

■Storing data

■Other

【Index (by term)】

(I) Instrument section
(P) Performance section

S

T

U

V

W

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. Räjahdysvaara.
Pariston saa vaihtaa ainoastaan alan ammottimies.

For West Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

Roland TOTAL PERCUSSION SOUND MODULE R-8M

(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 residential installation. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by the following measure:

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable.
  These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.
  If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures.
- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV. If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:

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

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 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.

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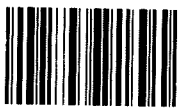
UPC 10689



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