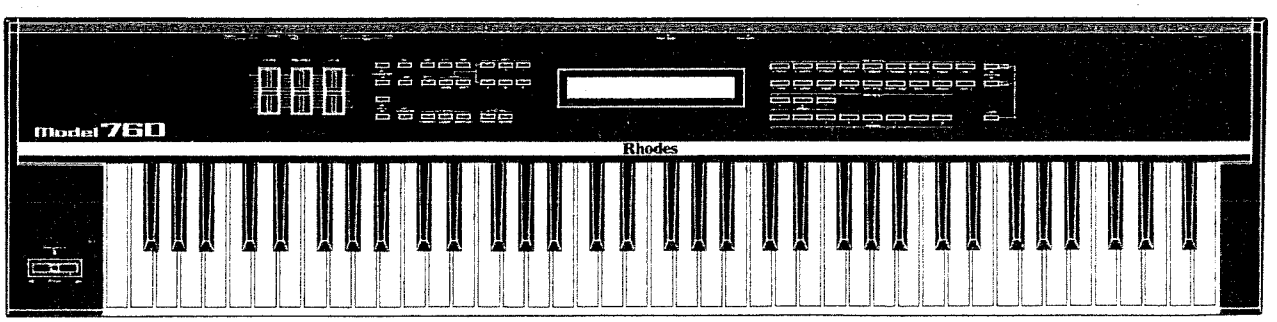
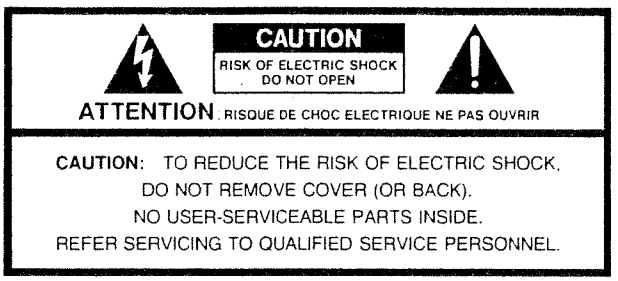
Rhodes

Model 760

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.

Model 760 Patch List

A - 1 Piano Layers This Patch features a sound that has the richness of an acoustic piano layered with the chime - like attack of an electric piano. Add [CHASE] for an interesting effect.	**B - 1 Crystal Pipes** An interesting variation of this sound can be achieved by turning Part 3 off, and adding Part 5 in both the Upper and Lower sections of the keyboard.	**C - 1 Phil R. Monnick** Try adding a full orchestral sound your music.
A - 2 Full Strings Try layering Parts 1, 2 and 3 together. Then press the [SPLIT] button. Now you will hear a trombone and acoustic bass in the Lower section.	**B - 2 Return to OZ** A clear bell - like sound that will change slightly with aftertouch, as will the previous Patch. Try replacing Part 3 with Part 4.	**C - 2 Brother George** Many ballads require a piano and string arrangement. Notice that the strings can be further "conducted" by aftertouch. The [ARPEGGIO] function will add acoustic Guitar to the Lower section.
A - 3 'ammond 'ell The keyboard is split to simulate the double keyboard of an organ. Parts 2 and 3 can be used to recreate the effect of changing the tone bar section of a real organ.	**B - 3 Anthology** This is in fact a collection of "PAD" (soft attack) sounds, available by combining the Parts in several variations, such as : Part 1 - - - 5 -, 1 - 3 - 5 -, - - - - 5 6, 1 - 3 4 - - etc.	**C - 3 Oohz and Aahz** Play softly to produce "Oooh." Play harder to produce "Aaah." Try [CHASE].
A - 4 Big Band Brass A rich combination of three brass sounds in the Upper section, and two in the Lower section.	**B - 4 Calliope Pad** The Lower section involves a sustained mellow "PAD" and arpeggiated flutes, while the Upper section plays a calliope sound with a stereo panning effect.	**C - 4 Head Bangers** Hey look Ma !! Two hands and I'm into heavy metal.
A - 5 Old Steel String This is a steel stringed guitar sound. The [CHASE] feature can be added to this sound to transform it into something like a 12 string guitar.	**B - 5 Gentle Thoughts** An interesting use of bass guitar sounds in an unlikely way, designed to encourage you to experiment with all the tones in the Model 760. Also, try adding Part 4.	**C - 5 Pops Band** This Patch is specifically for multi - timbral performances. ① E. PIANO 1 ② JP. STRINGS ③ FANTASIA ④ SYN. VOX 1 ⑤ FRETLESS 1 ⑥ DRUMS
A - 6 Pressured Sax A split sound again, with electric piano in the Upper section and saxophone in the Lower section. The tone of the saxophone can be changed with aftertouch.	**B - 6 St. Piano's Fire** A wonderful combination of acoustic piano, electric piano and synth strings. Sure to be a favorite !	**C - 6 Rock Band** This Patch is specifically for multi - timbral performances. ① HEAVY. EG 1 ② SAW WAVE 1 ③ R. ORGAN ④ METAL HIT ⑤ PICKED 1 ⑥ DRUMS
A - 7 Basic Bass Designed to illustrate the variety of bass sounds in the Model 760, this Patch was also created to encourage you to experiment with combinations of bass sounds.	**B - 7 Steel Bones** Layer Parts 1 and 4 together for a simple analog synthesizer brass sound. Also try adding [CHASE] for spectacular staccato runs.	**C - 7 Jazz Band** This Patch is specifically for multi - timbral performances. ① A. PIANO 1 ② SAX 1 ③ SOFT TP 1 ④ VIB 1 ⑤ AC. BASS ⑥ DRUMS
A - 8 Soloist This is a selection of solo instrument sounds. Please try them individualy, and in various combinations. For example, try Parts 3, 5 and 6 together.	**B - 8 Contact Sport** A typical analog solo sound. Add a little "overdrive" by switching Part 4 on. Also, try Parts 3 and 6 together for a more digital solo sound.	**C - 8 Funk Band** This Patch is specifically for multi - timbral performances. ① E. GUITAR 1 ② R. ORGAN 2 ③ BRIGHT EP1 ④ SYN. BASS 7 ⑤ SLAP 7 ⑥ DRUMS

Cut off at the perforated line.

Model 760 Tone List

Rhodes

A. PIANO		A. GUITAR		STRINGS		BRASS		E. ORGAN		D - SOUNDS		SLAP BASS		WINDS	
1	A. PIANO 1	18	A. GUITAR 1	29	STRINGS 1	44	BRASS 1	55	E. ORGAN 1	75	FANTASIA	92	SLAP 1	119	SAX 1
2	A. PIANO 2	19	A. GUITAR 2	30	STRINGS 2	45	JP. BRASS 1	56	E. ORGAN 2	76	FANTA BELL	93	SLAP 2	120	SAX 2
3	A. PIANO 3	20	A. GUITAR 3	31	STRINGS 3	46	JP. BRASS 2	57	E. ORGAN 3	77	L. CALLIOPE	94	SLAP 3	121	SAX 3
4	A. PIANO 4	21	A. GUITAR 4	32	STRINGS 4	47	RICH BRASS	58	E. ORGAN 4	78	CALLIOPE	95	SLAP 4	122	SAX 4
5	A. PIANO 5	22	A. GUITAR 5	33	JP. STRINGS	48	BRASTRINGS	59	E. ORGAN 5	79	BELL PAD	96	SLAP 5	123	SAX 5
6	A. PIANO 6			34	STRINGPAD1	49	METAL HIT	60	E. ORGAN 6	80	SYNTH HARP	97	SLAP 6	124	FLUTE 1
7	A. PIANO 7			35	STRINGPAD2			61	E. ORGAN 7	81	SPECT BELL	98	SLAP 7	125	SHAKU 1
8	A. PIANO 8							62	E. ORGAN 8	82	PIZZAGOGO	99	SLAP 8	126	SHAKU 2
9	A. PIANO 9							63	E. ORGAN 9	83	BELL DRUM	100	SLAP 9	127	BREATH
10	A. PIANO 10							64	R. ORGAN 1	84	SPECTRUM 1	101	SLAP 10		
								65	R. ORGAN 2	85	SPECTRUM 2	102	SLAP 11		
										86	N. DANCE	103	SLAP 12		

E. PIANO		E. GUITAR		CHOIR		TP / TRB		MALLETS		SYNTH WAVE		BASS		DRUMS	
11	E. PIANO 1	23	E. GUITAR 1	36	CHOIR 1	50	SOFT TP 1	66	VIBE 1	87	PULSWAVE1	104	AC. BASS	128	DRUMS
12	E. PIANO 2	24	E. GUITAR 2	37	CHOIR 2	51	SOFT TP 2	67	VIBE 2	88	PULSWAVE2	105	FRETLESS 1		
13	E. PIANO 3	25	E. GUITAR 3	38	CHOIR 3	52	TP / TRB 1	68	VIBE 3	89	PULSWAVE3	106	FRETLESS 2		
14	E. PIANO 4	26	E. GUITAR 4	39	CHOIR 4	53	TP / TRB 2	69	MARIMBA	90	SAW WAVE 1	107	FINGERED 1		
15	E. PIANO 5	27	HEAVY. EG1	40	SYN. CHOIR	54	TP / TRB 3	70	BELL 1	91	SAW WAVE 2	108	FINGERED 2		
16	BRIGHT EP1	28	HEAVY. EG2	41	SYN. VOX 1			71	BELL 2			109	PICKED 1		
17	BRIGHT EP2			42	SYN. VOX 2			72	PIZZ			110	PICKED 2		
				43	BREATH VOX			73	METAL			111	SYN. BASS 1		
								74	NAILS			112	SYN. BASS 2		
												113	SYN. BASS 3		
												114	SYN. BASS 4		
												115	SYN. BASS 5		
												116	SYN. BASS 6		
												117	SYN. BASS 7		
												118	SYN. BASS 8		

Program number / Tone name

Rhodes model 760

Owner's Manual

Thank you, and congratulations on your purchase of the Rhodes Model 760. The Model 760 is an electronic keyboard instrument that contains a full palette of high-quality sounds, produced by its RS-PCM process sound source. In addition, it is capable of serving as a multi-timbral sound module. It can be used alone for keyboard performances, or combined with a sequencer or similar device for ensemble performance.

In order to fully understand of the unit's wide range of superior functions, and assure continuing satisfaction, please read this manual in its entirety.

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How to Use This Manual

This manual, in three main sections, explains the functions and procedures necessary for normal play of the instrument, and the various types of settings and how they are made. A table of contents and an index are included for quick reference.

The information provided in each section is as follows:

Section I PLAYING

This section deals with playing the Model 760; selecting tones, using performance features etc. also included is information regarding powering up, and connection to external equipment.

Section II CHANGING SETTINGS

The sound parameters and perfomance functions of the Model 760 can be altered as required. This section explains how these functions work as well as how to control them.

Section III USING MIDI IN PERFORMANCE

In this section the basic concepts of MIDI, and how they apply to the Model 760, are explained. In addition, information regarding MIDI settings and other MIDI devices is also included.

FEATURES

● RS - PCM Process Sound Source

The Model 760 is equipped with an RS - PCM sound source, the same sound source that won acclaim for the Roland U - 20. The Model 760's high quality sound are both dynamic and realistic.

● 128 Internal Tones

Additional sounds are available on optional PCM sound cards (SN - U01 Series).

● Comprehensive Performance Functions

The Model 760 is a performance oriented keyboard. Tone selection,layering, and digital effects are easily accessed during performance. As well, Key Effects such as Harmony, Chase and Arpeggio can also be easily selected.

● Digital Effectors

More breadth and depth can be obtained from sounds with the use of on - board digital Chorus and Reverb.

● Serves as Multi - Timbral Sound Module

The Model 760 is capable of being used as a multi - timbral sound module, with 6 separate parts. When connected with a sequencer it functions effectively for ensemble performances.

CONTENTS

IMPORTANT NOTES

In addition to the items listed under Safety Precautions, on page 2, 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/or damage to speakers.

- Do not use the unit on the same power circuit with any device that will generate line noise, such as a motor or variable lighting system.

[Placement]

- This unit may interface with radio and television reception. Do not use this unit in the vicinity of such receivers.

[Maintenance]

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

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

[Other Precautions]

- Protect the unit from strong impact.

- Never strike or apply strong pressure to the display.

- A 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, consult with nearest Roland Service Station.

[Memory backup]

- The unit contains a battery which maintains the contents of memory while the main power is off. The expected life of this battery is 5 years or more. However, it is strongly recommended that you change it every 5 years. When it is time to change the battery, consult with qualified service personnel.

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

- When the battery becomes weak the following message will appear in the display: check internal battery. However, by this time the contents of memory have already been lost.
  "Check internal battery"

- 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 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.

- Since the unit is equipped with a circuit protection device, it requires a brief interval after the power is turned on before it can be operated.

PANEL DISCRIPTIONS

Front Panel

EDIT Button
Pressed when wishing to change the Tone (sound). Also, [EDIT] is held down and used in combination with a variety of buttons to enable the mode in which changes can be made for that function. (Their indicator lights) (☞ p. 28) [EDIT] is pressed once again to return to the Play mode.

TUNE Button
Pressed when wishing to tune the unit. (☞ p. 22) Also, to carryout ROM Play, press and hold down [EDIT] and then press [TUNE].(☞ p. 12)

MIDI Button
Pressed when wishing to make changes in the Receive Mode, and MIDI Channels. To enter the edit mode for other MIDI parameters, press and hold [EDIT] and then press [MIDI] (☞ p. 54)

VARIATION Buttons
Used to make selection of a variation from the Tone selected by a TONE SELECT button. (☞ p. 14)

VALUE Slider/Buttons
Used to change the values of parameters. The slider is used for making broad, approximate value changes, then the buttons are used to set exact values.

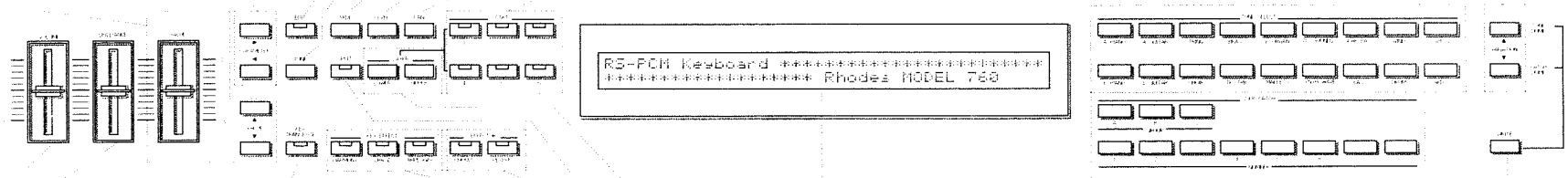
LEVEL Button
Pressed when wishing to adjust the volume for each Part. (☞ p. 31)

TONE SELECT Buttons
Used to choose the Tone to be used. (☞ p. 14)

PAN Button
Pressed when wishing to adjust the Pan (sound localization) for each Part. (☞ p. 32)

PART Buttons
Used to change the Current Part. (☞p. 14) Also, used for selecting the Parts that are to be sounded while employing the Layer function. (☞p. 13, p. 39)

PARAMETER Buttons
Used to select a parameter which is to be changed. They also can be pressed when wishing to check the Number or Name of a Patch.(☞p. 17)



Display

KEY TRANSPOSE Button
Toggles between On/Off for transposition. (☞ p. 22) To enter the Key Transpose edit mode, press and hold [EDIT] and then press [KEY TRANSPOSE]. (☞ p. 40)

USER PATCH Buttons
Used to choose a Patch, a stored collection of settings determining how the unit will be played, and containing settings for the Effectors, etc.(☞p. 17)

BRILLIANCE Slider
Adjusts overall tone quality. When moved upwards, sound gets brighter, and when moved downwards it becomes more subdued. (☞p. 19)。

LAYER Buttons
Used to select the Parts will be sounded in the Upper and Lower sections.(☞p.13) Either [UPPER] or [LOWER] is held down, and then selection is made by pressing a PART button, from [1] to [6].

WRITE Button
Pressed when wishing to store a collection of setting changes as a Patch. (☞ p. 29)
Additionally, the button is used for transmitting Tone or Patch settings over MIDI. (☞ p. 62)

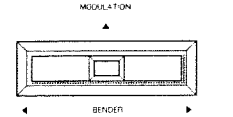
VOLUME Slider
Adjusts the overall volume that will be output from the Output and Headphone jacks.

SPLIT Button
Pressed when wishing to play with the keyboard divided into Upper and Lower sections. The button's indicator lights showing that is on. (☞p. 13) Also, press and hold [EDIT] and then press [SPLIT] to enter the edit mode for the Split Point (where keyboard is divided into Upper and Lower sections). (☞p. 38)

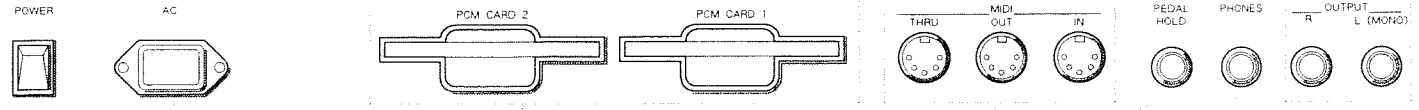
KEY EFFECT Buttons
Provide selection of Harmony, Chase, or Arpeggio functions. (☞ p. 20) The indicator for the currently selected function lights. The function is turned off when the button is pressed again and its indicator goes out.
To enter the Chase edit mode, press and hold [EDIT] and then press [CHASE]. (☞ p. 42)
To enter the Arpeggio edit mode, press and hold [EDIT] and then press [ARPEGGIO]. (☞ p. 43)

EFFECTOR Buttons
Used to turn Chorus and Reverb either On or Off. When On the indicator will be lit. (☞ p. 20)
To enter the Chorus edit mode, press and hold [EDIT] and then press [CHORUS]. (☞ p. 40)
To enter the Reverb edit mode, press and hold [EDIT] and then press [REVERB]. (☞ p. 41)

Rear Panel



BENDER/MODULATION Lever
Used to raise or lower the pitch, or add a vibrato effect. (☞ p. 19)



MIDI Connectors
Connectors used to make connections with other MIDI equipment. (☞ p. 18)

Power Switch
Turns power on or off.

AC Inlet
Connector to which the supplied AC cord is connected.

PEDAL HOLD Jack
Accepts connection of an optionally available pedal switch (DP-2R, BOSS FS-5U, etc.), which then provides On/Off control over the Hold function. (☞ p. 20)

OUTPUT Jacks
Jacks providing output for the unit. From here, connection is made to an amplifier or mixer.

PCM CARD Slots
Slots which accept optionally available PCM Cards (SN-U01 Series). (☞ p. 16)

PHONES Jack
Jack accepting connection of headphones (Roland RH-100, etc). Headphones of an impedance of from 8 to 150 ohms should be used. Even with headphones connected, sound is still output from the Output Jacks.

Section I

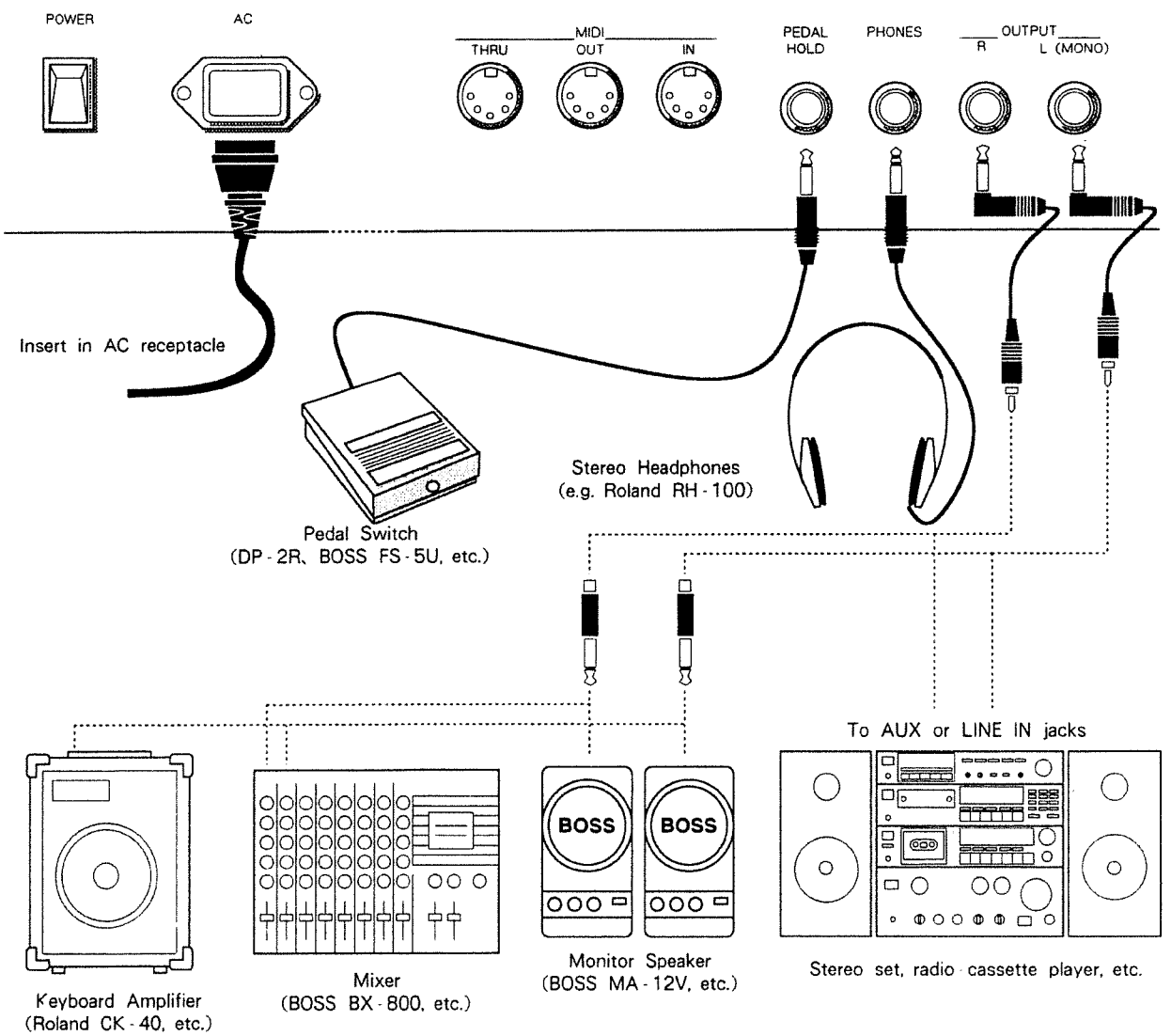
PLAYING

1 Making Connections

Since the Model 760 does not incorporate an amplifier or speakers within the unit. You will therefore require an amplifier and speakers or headphones.

Before making any connections, be sure the power to all equipment is off. Failure to do so may result in damage to the equipment.

The supplied cable can also be connected directly to ordinary audio equipment by removing the plug adaptors, and using the RCA pin plugs. In order to enjoy the full capabilities of the unit, we recommend that you use it in stereo. However, if you wish to use it in mono, connect the cord to the L (MONO) jack.



[2] Auditioning the Unit

You should now be ready to try selecting and playing some of sounds.

1. Turning on Power

① Check once again to make sure all connections are correct and secure. Turn on the Model 760's power switch.

```
RS-PCM Keyboard **********************
********************* Rhodes MODEL 760
```

The display will show what was displayed the last time the unit was on.

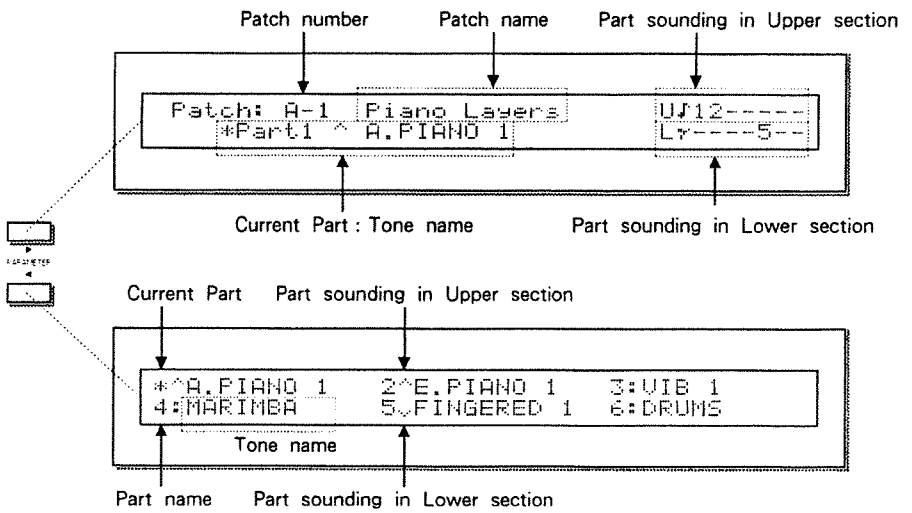
```
Patch: A-1  Piano Layers        U♪12-----
  *Part1 ^ A.PIANO 1            Ly----5--
```

* Since the unit is equipped with a circuit protection device, it requires a brief interval after power is turned on before it can be operated.

② Turn on the amplifier, then adjust the volume.

The unit is now ready to produce sound.

The Model 760 provides you with a broad range of expressive capabilities—using the Tones that can be assigned to the six Parts, and through use of the Layer and Split functions. The display provides you with immediate information on the settings that are important for play of the unit, such as settings for Layer and for the Tones. Selection for what is displayed can be made by pressing PARAMETER [◀][▶].



2. Listening to ROM Play

The Model 760 contains 2 demo songs which demonstrate the full capability of the multi - timbral sound source.

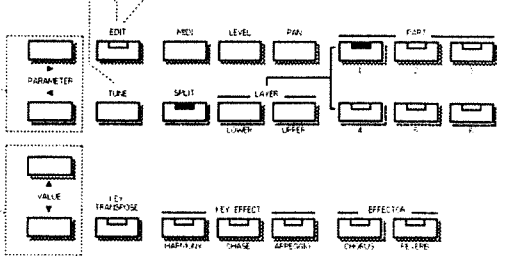
①While holding down [EDIT], press [TUNE].

```
ROM PLAY : Chain of Songs
      Press [VALUE] to Start
```

④To return to the original, play mode, press [EDIT].

②If you wish to choose a certain song, select it using PARAMETER[◀][▶].
If you do not select a specific song, all the songs will be played starting with number.

③Press either [▲] or [▼] at VALUE, to start playback.
(Press either button again to stop playback.)



Song Title	Biographies of Composers
Xtra Krispy Music by Marvin Sanders Copyright ©1989, Marvin Sanders	**Marvin Sanders** Marvin Sanders is an accomplished composer/keyboardist and authority on creative sequencing applications. An active musical director and composer for film, television, and theatre, he lives in Los Angeles where his talents are utilized in studios and live performance. As a product specialist and clinician for the Roland Corporation, other musical contributions have included ROM demo in the U-220, D-5, and Rhodes Model 660.
Enchantde Wood Music by Adrian Scott Copyright ©1989, Adrian Scott	**Adrian Scott** Adrian Scott formerly handled the vocals and keyboards for the popular group from Australia, "Air Supply". Since following the solo path, he in 1984 won the Silver Prize at the "World Song Festival Tokyo '84". Currently, he is involved as a a producer of commercial music and music for films. In addition, as a session player, he has performed along with a number of Australia's top musicians, including Jhon Farnham and Kylie Minogue. He lives in Melbourne, Australia.

* In order to achieve ensemble performance similar to those in the ROM demos, it is necessary to use a sequencer or similar device.
* During ROM Play, nothing will be heard if you play the keyboard. Also, the performance data of ROM Play is not output from MIDI OUT.

● Multi - Timbral Sound Sources

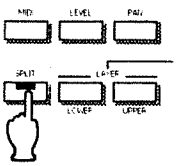
A multi - timbral sound source is a device which is capable of functioning as several independent sound sources. Within the Model 760, six Parts are provided. By assigning a different Tone to each part, they can then be played individually, or layered together. In other words, each Part functions like a conventional, stand - alone sound module.

In order to obtain fuller use of the multi - timbral capabilities, you will need a separate sequencer. For details, refer to Section Ⅲ (p. 47).

3. Altering the Sound Configuration

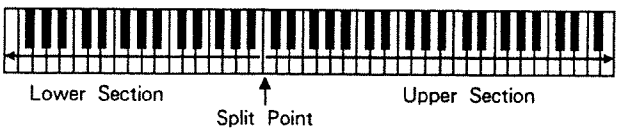
The Model 760 contains 128 sounds. These sounds are referred to as "Tones." One Tone can be assigned to each Part of the Model 760. When playing the keyboard, Parts (Tones) can be used in a variety of combinations, employing the Split and Layer functions, to produce the sound you want.

■ Dividing the Keyboard (Split)

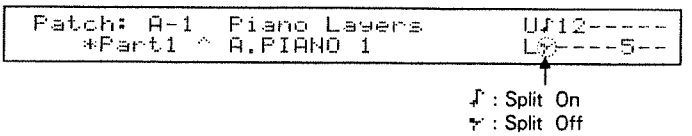


When [SPLIT] is pressed (the indicator will light), the keyboard is divided at the Split Point into Upper and Lower sections. Tones can then be played separately. To turn Split off, press [SPLIT] once again. With Split off, the sound assigned to the Upper section will sound over the entire keyboard range.

Employing the Split function, bass can be played in the Lower section, while the melody is played in the Upper section.



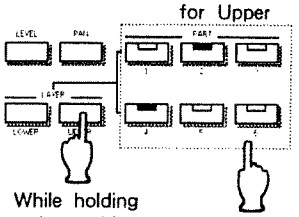
The display changes as follows to indicate whether Split is On or Off.



*Refer to p. 39 for information on how to set the Split Point.

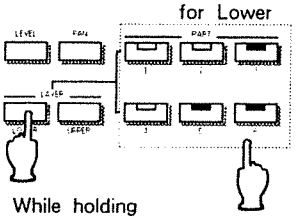
■ Combining Sounds (Layer)

To change the layering for Upper



While holding down this ...

To change the layering for Lower



While holding down this ...

The unit allows you to select the Parts to be sounded by the Upper and Lower sections. By including more than one Part in a section, you can have a variety of Tones sounded together. This function is referred to as "Layer."

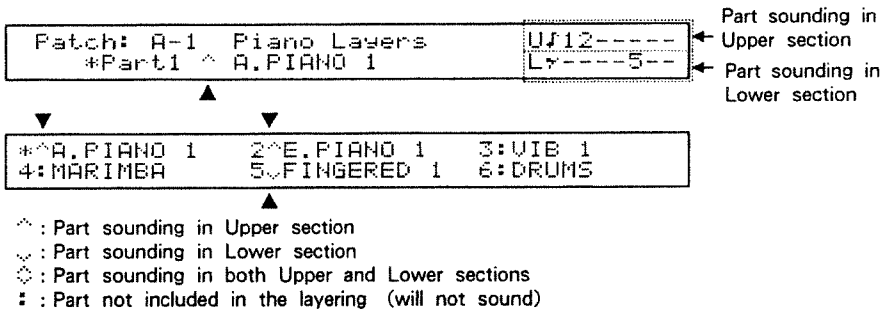
For example, if you layer two Tones of a similar nature (such as ones from the strings or brass groups), you can obtain a fatter, richer sound. The possibilities are almost endless!.

To change the layering for the Upper section, select a Part by holding down [UPPER] and then pressing a Part button, from [1] through [6]. Likewise, to change the layering for the Lower section, select a Part by holding down [LOWER] and then pressing the desired Part button. Press the same button again, and the selection will be cancelled.

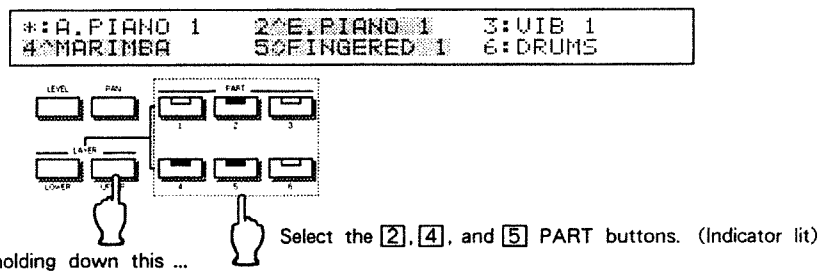
For a Part for which a layering selection has been made, the indicator on the buttons for the relevant Parts will be lit as long as either the [UPPER] or [LOWER] buttons are pressed. (The corresponding indication in the display will be blinking as well.)

* When no Parts at all have been selected for layering, nothing will be heard when the keyboard is played.

While the unit is being played, the settings for Layer will be indicated as shown below:



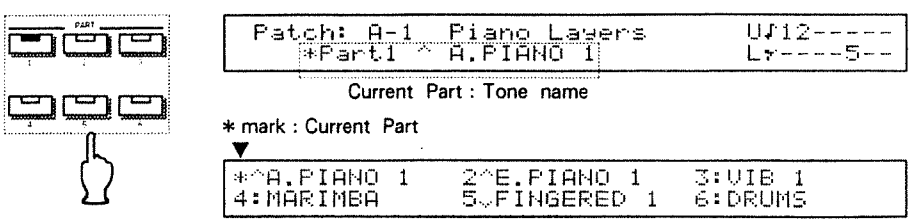
[Example] When you wish to layer Parts 2, 4, and 5 for use in the Upper section:



4. How Tones Are Selected

The last Part that is specified when selecting or changing the Tone for a Part is referred to as the "Current Part." The Current Part can be confirmed by viewing the Part button indicator, or the indication in the display.

The Current Part is specified by pressing a PART button.

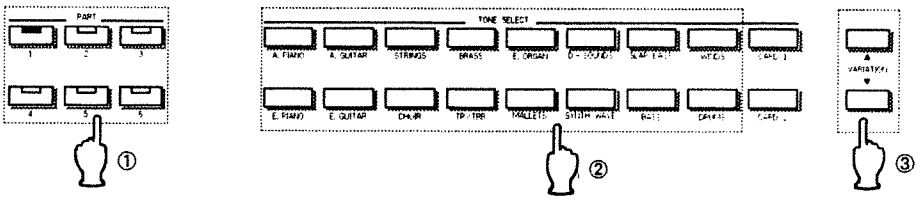


* The Current Part changes automatically when a selection in the Parts to be layered is made.

■ Selecting Internal Tones

A Tone can be selected for each Part.

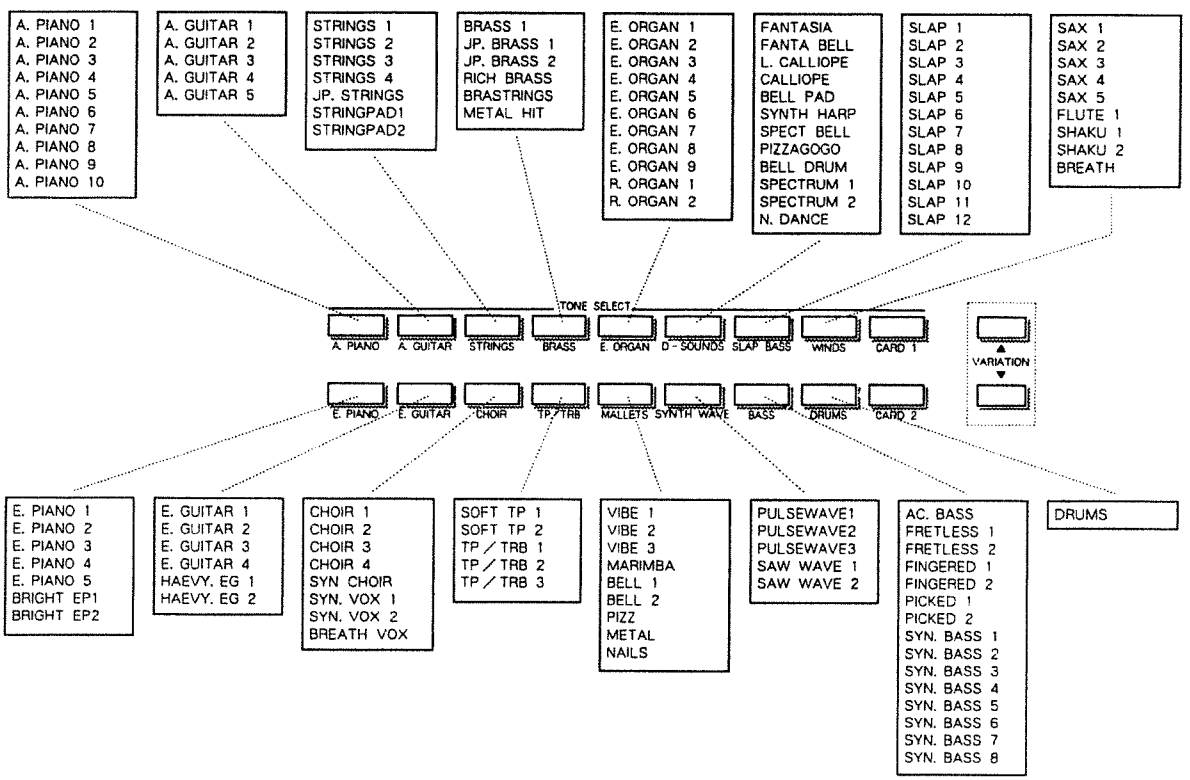
First, using the PART buttons, specify the Current Part (the one for which the Tone is to be changed). Next, using the TONE SELECT buttons, choose the general type of Tone. With VARIATION[▲][▼], select the variation of the Tone you desire.



For example, if you want to change PART 2 so that it has an organ Tone, press PART [2], then [E. ORGAN]. Then with VARIATION [▲][▼], select the variation of the organ sound you wish to use.

The most recently selected variation is recalled when the TONE SELECT button is pressed again.

The following is the list of internal Tones.



* A Tone List has been provided inside the front cover of this manual. It can be removed at the perforations, and for convenience placed nearby while you play. For further details on available Tones, refer to the Reference section at the end of this manual. (☞p. 70)

Checking the Drum Sounds

With a DRUMS Tone, a full variety of percussion sounds can be played, one for each key. If you wish to view the name of the percussion sound for each key, this can be done by looking at the screen used to make settings for Drum Tones. (☞p. 37)

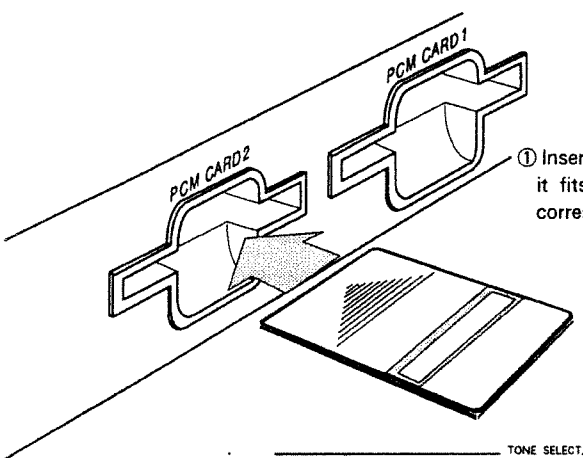
* All keys will not necessarily have a percussion sound assignment. When you press a key for which no drum sound has been assigned, the word OFF will appear for the Drum name in the display. (☞p.74)

■ Selecting Tones on a PCM Card

By employing optional PCM Cards (SN - U01 Series), you can increase the number of available Tones. The PCM Cards that are available are as show below; any two of them can be used simultaneously.

01	Pipe Organ & Harpsi	06	Orchestral Winds
02	Latin & F. X. Percussion	07	Electric Guitars
03	Ethnic Sounds	10	Rock Drums
04	Electric Grand Piano	11	Sound Effects
05	Orchestral Strings	12	Sax & Trombone

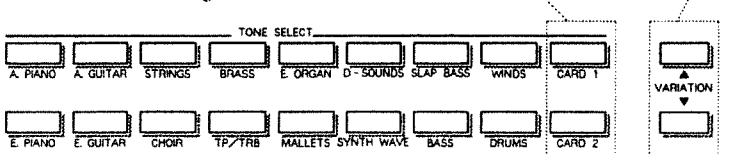
* If you insert any cards other than those specified, Wrong Card will be displayed, and no sound will be produced. In such cases, remove the card immediately; malfunction could result otherwise.



① Insert the PCM Card into the card slot (at the rear of the panel) until it fits securely in place. The PCM CARD 1 and PCM CARD 2 slots correspond respectively to the buttons [CARD 1] and [CARD 2].

②For a card inserted in slot number 1, press [CARD 1].
For a card inserted in slot number 2, press [CARD 2].

③ Using VARIATION [▲][▼], select a Tone.



* Each Tone on a PCM Card is numbered. When VARIATION [▲][▼] is used to select a Tone, the selections are in numerical order.
* At times, after having pulled out one card and inserted another in its place, you may see " - - - - " appearing instead of the Tone name. In such cases, press VARIATION [▲][▼], or [CARD 1] or [CARD 2] and select the Tone again.

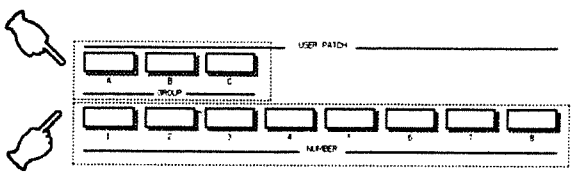
● Useful Tip

On PCM Card SN - U01 - 02, there is a Latin percussion set (LATIN 2). If you use the Layer function and combine the Model 760's internal DRUMS with the LATIN 2 Tone, you can then obtain a percussion sound from almost every key (from B1 to C # 7).

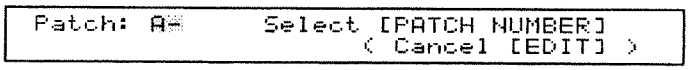
■ Changing Patches

So far, you have selected Tones and combined them by pressing the relevant buttons on the panel each time needed. Through the use of Patches, however, a whole group of such setting choices can be accessed to instantaneously. Each Patch can contain the settings for how Tones are to be combined, as well as other settings (such as those for Key Effects and Effectors).
Combining specific settings into a Patch can be very convenient during performance. Simply selecting the appropriate Patch calls up all the settings required for a particular song. If your needs involve simple Tone changes, or the turning On/Off of effects, it is probably best to just press the panel buttons while playing.

Patches are organized into 3 Groups (A – C), each providing 8 Numbers (1 – 8), for a total of 24 possible Patches. You can change to a particular Patch by first pressing the appropriate GROUP button, then the required NUMBER button. When a subsequent selection is for a Patch within the same Group, it is sufficient to simply press the NUMBER button.
You may want to try the various settings that already been stored as Patches.

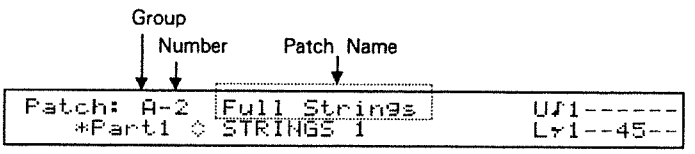


① Press a GROUP button to select the desired Group.



* While a GROUP button is held down, you can view the Patch Names (7 characters) for Numbers 1 through 8.

② Using the NUMBER buttons, select the Number for the Patch.
Should you wish to cancel making the Patch selection, press [EDIT].



* A list of the Preset Patches is included with the manual.
* For information on creating Patches, refer to Section II. (☞p. 23)

● RS - PCM Sound Sources

The Model 760 incorporates an RS - PCM Sound Source. RS - PCM stands for "Re - Synthesized Pulse Code Modulation" ; a digital recording process. However, the sound of a musical instrument are not simply recorded digitally and used as is. Sounds are modelled and re - synthesized using proprietary signal processing technology in order to obtain the utmost in realism.

On the Model 760, the fundamental elements constituting sounds in the RS - PCM Sound Source are referred to as "Tones." Such Tones are of course good enough to be used alone, but they can also be easily altered to suit your preferences.

● Tone Types and Maximum Polyphony

There are 5 different types of Tones (shown below), and each is constructed differently, in the interest of obtaining the most suitable changes in timbre.

If the Tone is composed of one voice, a maximum of 30 notes can be produced simultaneously, but if composed of 2 voices, only 15 notes can be produced at the same time. When layering multiple Parts, or using a sequencer to play the unit automatically, you need to take into consideration the number of voices making up the various tones.

Type	Number of Voices	Composition
Single	1	Tone composed of 1 voice.
V – SW (Velocity Switch)	1	Change between 2 voices obtained depending on the strength with which a key is played.
V – Mix (Velocity Mix)	2	The volume balance for 2 voices changes depending on the strength with which a key is played.
Dual	2	Combination of 2 different voices.
Detune	2	Combination of 2 voices shifted slightly in pitch from each other.

● Melodic Tones and Drum Tones

There are two basic types of Tones ; Melodic Tones and Drum Tones. Melodic Tones are those such as piano and organ. Drum Tones are those such as snare drum and cymbal. In the Drum Tone mode, each key is assigned a different Drum Tone. The settings for Drum Tones are different then those for Melodic Tones (refer to "Drum Tone Settings" ☞p. 37).

● Upper Limits of Range

With certain Tones, no sound will be produced above a certain limit. This is due to the fact that the recording /modelling of the Tone is carried out based on the range the original acoustic instrument is capable of producing. When playing it is perhaps best to keep in mind the natural characteristics of the instrument sounds being used.

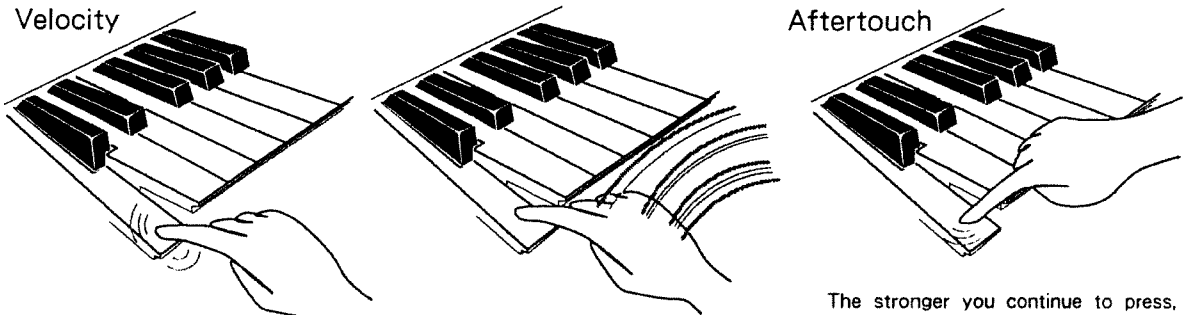
*To check which type each of the Tones is, refer to the Tones List (☞ p. 70). Concerning Tones on PCM Cards, refer to the instructions provided with the PCM Card.

[3] Using the Performance Functions

The Model 760 is equipped with a range of functions that enhance its expressive capabilities. These performance functions are explained in this section (for information on these settings, refer to Section II ☞ p. 23).

■ Keyboard Effects (Velocity/Aftertouch)

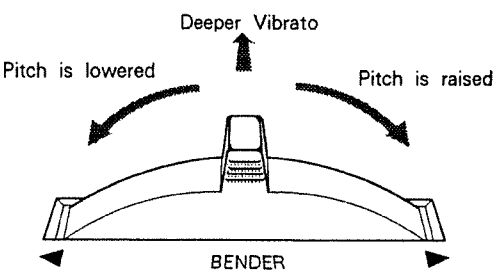
Velocity refers to the changes in volume that are obtained as a result of the differences in the strength with which the keys are played. Changes in volume ranging from pianissimo to fortissimo can be obtained. In addition, the Aftertouch function allows you by firmly holding down a key to obtain changes in pitch, volume, or vibrato.



Press lightly to produce a soft sound. Press strongly to produce a louder sound. The stronger you continue to press, the greater the change obtained.

* The sensitivity for Velocity can be adjusted using Velocity Sens (☞ p.35).
The way in which changes are obtained using Aftertouch is determined by the settings for Aftertouch Bend (☞ p. 34), Aftertouch Sens for Vibrato (☞ p. 35), Aftertouch Sens for Level (☞ p. 35), and Arpeggio Aftertouch Sens (☞ p. 44).

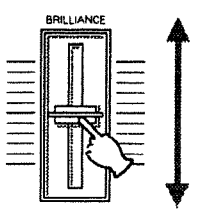
■ Bender/Modulation Lever



The Bender/Modulation lever can be used to raise or lower the pitch, or to add a vibrato effect. It can be effective for expressing the string bending technique of a guitar or the breath nuances of flute sounds.

* The amount of pitch change obtainable is set by the Bender Range function (☞ p. 34), and the vibrato range is set using Modulation Lever Sens (☞ p. 35).

■ Brilliance Control

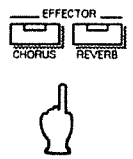


Sound gets brighter

Sound becomes more subdued

Overall tone quality can be adjusted by moving the Brilliance control up or down.

■ Digital Effectors On/Off



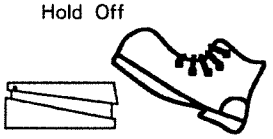
The Model 760 is equipped with Effectors providing Chorus (which adds depth and fullness to sounds) and Reverb (which adds ambience, so what you play can sound like it is played in a spacious hall). For each Part, Effectors can be On or Off.

To use an effect, select the Part (1 – 6) to which the effect is to be applied (Current Part). Then, press CHORUS or REVERB (the indicator will light).

* The effect settings for each Patch can be made independently. (☞ p. 40)
* When Chorus is turned on, the Pan setting (sound image orientation) for that Part will automatically move to the center position. Note that the Chorus effect cannot be applied to any Drum Tones.

■ Hold Pedal

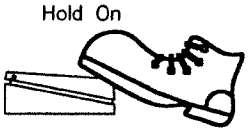
Hold Off



If you connect an optional foot switch (DP - 2R, etc.) to the PEDAL HOLD Jack, notes played can be sustained for as long as you depress the pedal. This function is referred to as "Hold", and provides an effect similar to that of the damper pedal on a piano.

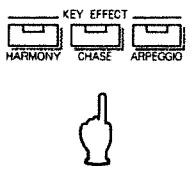
Note also that the manner in which the Hold pedal functions will vary depending on how the Key Effects are used.

Hold On



* A setting which determines whether the Upper or Lower Tone responds to Hold can be made for each Patch (☞ p. 45). When shipped, the unit is set so that the Upper section will respond to the Hold function.
* When drums (or other non-sustaining tones) are selected, the Hold effect will not be obtained when you depress the pedal.

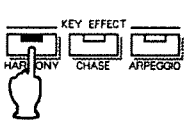
■ Selecting Key Effects



Harmony, Chase, and Arpeggio are other convenient performance functions. Select the function you wish to use (the indicator will light when you press the button). The effect you obtain will vary depending on the settings for Layer and Split, and whether a hold pedal is used or not.

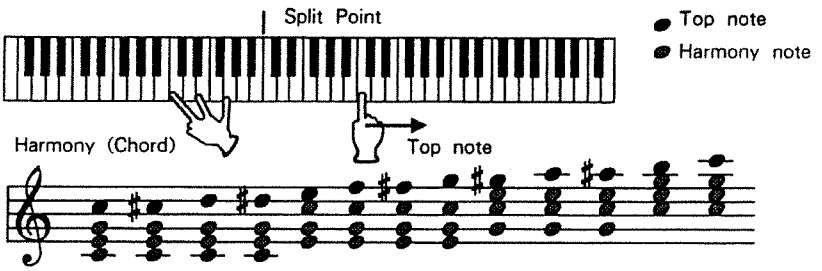
* Only one Key Effect can be used at a time.

● Harmony



The Harmony function (with the Split Point as the dividing line) adds the notes of a chord played in the Lower section so that they underlie the notes played (top note) in the Upper section. You can thus conveniently add harmony (chords) to the melodies you play in the Upper section. If you play only in the Upper section, only one note at a time sounds (suitable for solos). Playing in the Lower section alone, however, produces no sound.

[Example] While a C major chord is held in the Lower section, playing an ascending chromatic scale (starting on C) will produce the following chords:



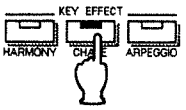
* With Split "On," top notes are sounded using the Upper-layered Part, and harmony notes sound using the Lower-layered Part.

[Using the Hold Pedal]

If you depress the Hold pedal while you play a chord in the Lower section, you can release the notes and the chord will be sustained. You can then play only the Upper section, while the pedal is depressed to achieve the harmony effect.

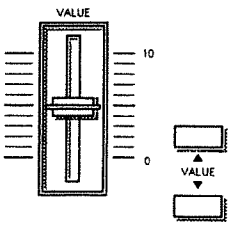
As with any sustain pedal, it should be released before playing the next chord.

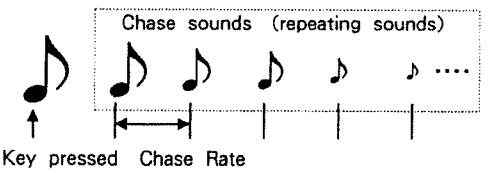
● Chase



Chase provides an effect similar to an echo, with the sound repeating and gradually fading away. Depending on the settings made, you can obtain effects similar to a single delay, or other interesting effects where the pitch, or sound, gradually changes. The time interval between chase sounds (Chase Rate) can be adjusted even while playing, using the VALUE slider or VALUE [▲][▼].

Adjusting the Chase Rate

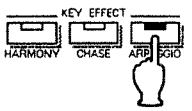




* Chase settings, see page 42.

* When Split is "On," the effect is obtained only in the Upper section.

● Arpeggio

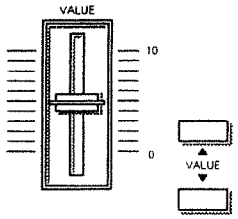


You can obtain the arpeggiation of a chord simply by playing the chord. The pattern used by Arpeggio, as well as the sound it employs, can be changed. The speed of the arpeggiation (Arpeggio Rate) can be adjusted while playing, using the VALUE slider or VALUE [▲][▼]. In addition, aftertouch can used to adjust the arpeggio rate.

* Arpeggio settings, see page 43.

* When Split is "On," the effect is obtained only in the Lower section.

Adjusting Arpeggio Rate



[Using the Hold Pedal]

If you depress the Hold pedal while you play a chord, arpeggiation can still be obtained after releasing the keys.

As with any sustain pedal, it should be released before playing the next chord.

■ Transposition (Key Transpose)

Key Transpose allows you to shift the range of the keyboard in semitone units. This allows you to play in the keys that you are more comfortable with while maintaining the correct relative pitch.

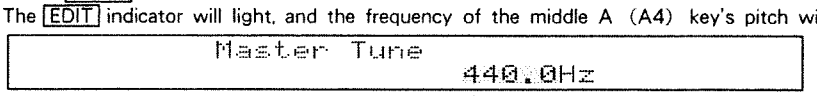
Press [KEY TRANSPOSE] to turn it on (button's indicator will light).

* Key Transpose settings can be made with independently for each Patch. (☞ p. 40)

● Tuning

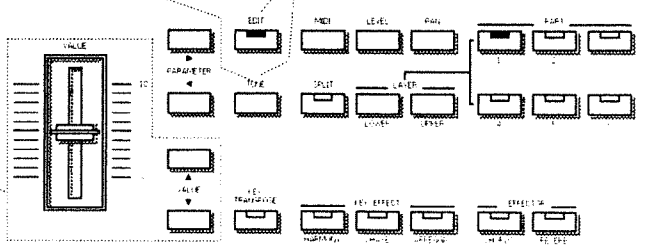
When wishing to match the pitch of this instrument to another, follow this procedure :
This setting will be stored even while the power is off.

① Press [TUNE].
The [EDIT] indicator will light, and the frequency of the middle A (A4) key's pitch will be displayed.



③ Press [TUNE] or [EDIT] to return to the Play mode.

②Select the desired pitch.
Range : 427.4 to 452.9 Hz (in 0.1 Hz steps)



Section II

CHANGING SETTINGS

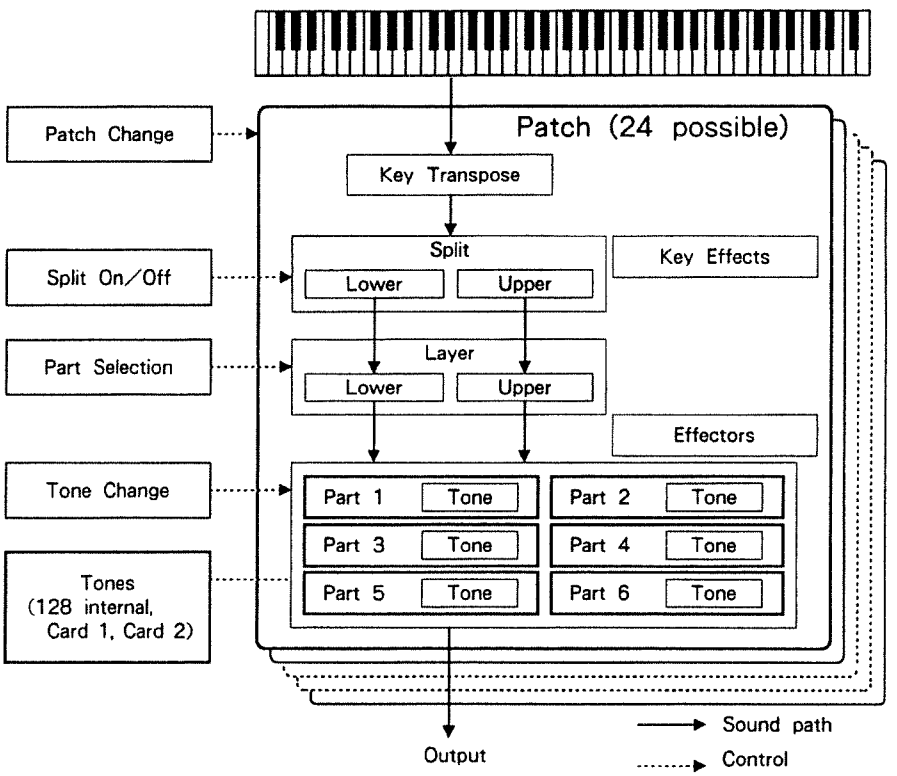
1 Before Changing Any Settings

The following section contains information regarding the organization of the Model 760 and should be read before any settings are changed.

1. Model 760 Organization

■ Sound Flow and Its Controls

The following provides an overview of how sound is routed and controlled within the Model 760.



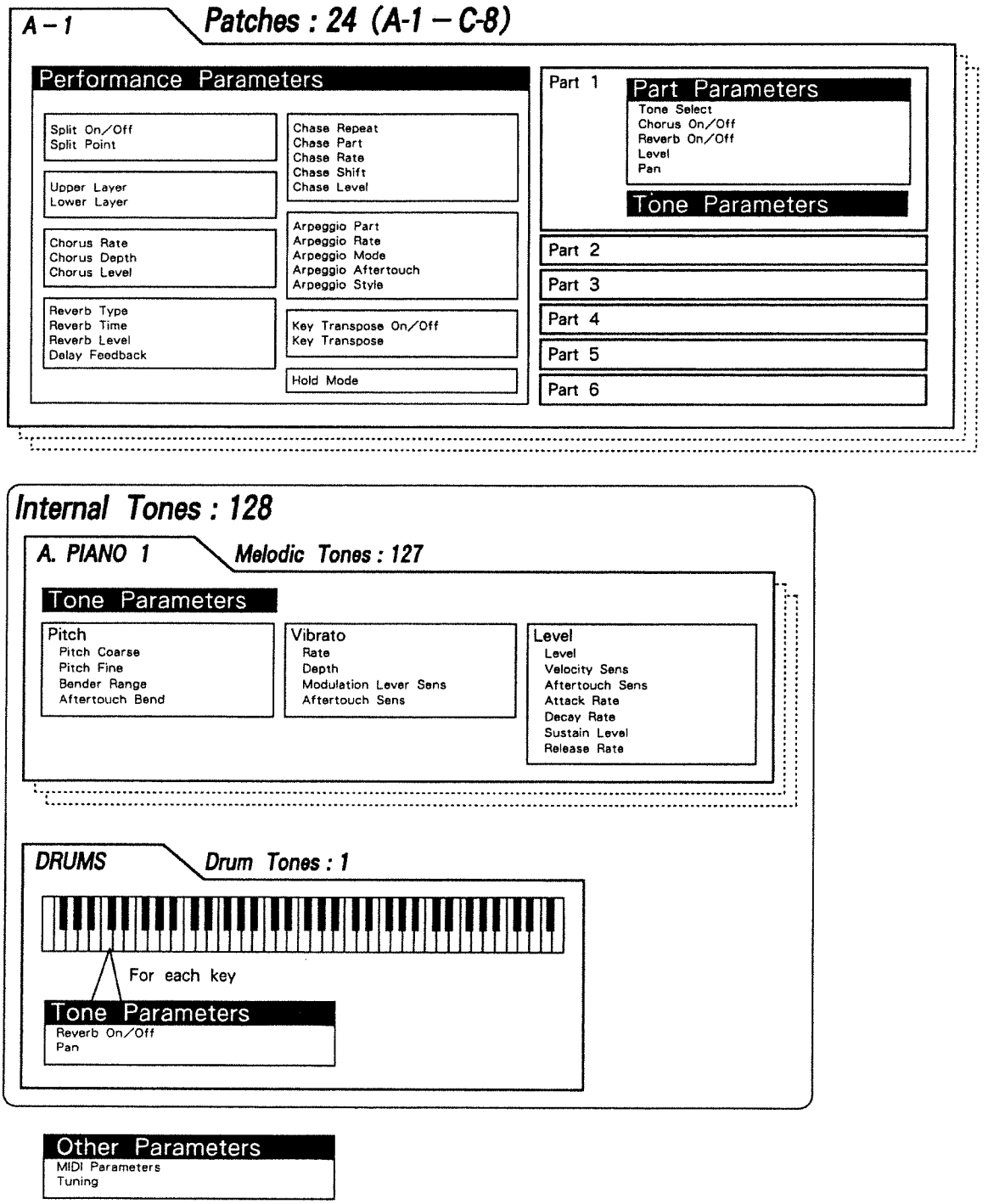
On the Model 760 there are 6 Parts available, and to each of them one Tone can be assigned. These Parts can be layered together and played. The keyboard can also be divided into Upper and Lower sections using the Split function. When Split is On, separate sounds can be generated by the upper and lower sections. With Split Off, everything played will be sounded using the Tone assigned to the Upper section.

Use of the Key Effects and Effectors can further enhance performance.

The settings for all of these functions can be stored together in a setting known as a Patch. Simply selecting the required Patch will instantly recall all of the settings that were made previously.

■ Parameters

The various items involved in making settings are referred to as 'parameters.' The parameters available on the Model 760 are as follows:



●Performance Parameters

These parameters include Split, Layer, and Key Effects. These functions, along with Chorus and Reverb, determine how the unit will perform.

● Part Parameters

These parameters apply to each Part. They comprise settings for the Tone Selection, Pan, Level, and whether the Effectors are On or Off. When Drum Tones are selected for a Part, Reverb (On/Off), Level, and Pan settings can be made.

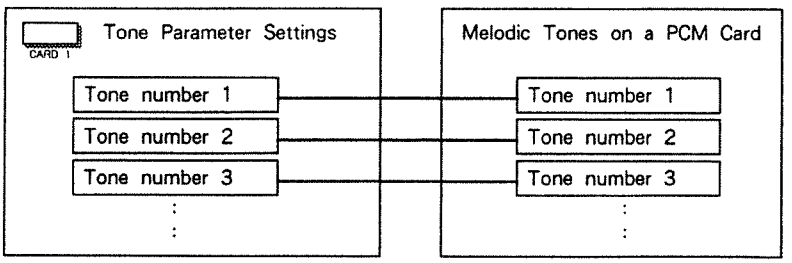
● Tone Parameters

These parameters which include Pitch, Vibrato, and Level, determine how the Melodic Tones will sound. With Drum Tones, settings for Reverb (On/Off), and Pan can be made individually for each sound (key). All settings made for the Tone Parameters are automatically stored.

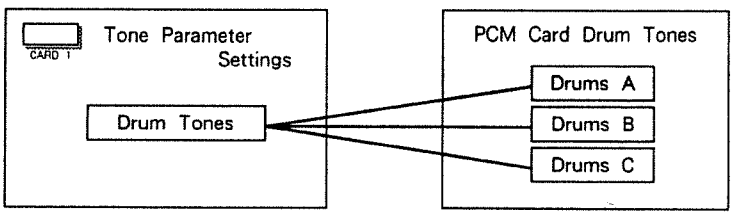
PCM Card Tones

The Tone Parameters which alter the internal Tones can also alter the Tones on a PCM Card. However, the Tone Parameter settings for each Tone on a PCM Card are stored within the unit (not within the PCM Card itself).
The PCM Cards may contain both Melodic and Drum Tones. Again specific parameters apply to each type of Tone.

Melodic Tone Parameters settings are stored in numerical order, corresponding to the Tone Number (e.g. Card #1, Tone 5). Therefore, any card you insert in a particular slot will use the same settings in the same order.
Thus, should you change to a different card, you may need to reset the Tone settings.



For Drum tones, one group of settings each button (CARD 1 and CARD 2) can be made. Since the same settings will be used no matter which card is used, you may need to reset the Drum Tone settings if you switch cards. Additionally, if the card you use contains more than one Drum Tone, the settings used in producing them will be the same regardless of which of Tone is selected.



● Other Parameters

Additional parameters include those for tuning and those for determining how MIDI messages will be handled. MIDI parameters should be set when the unit is to be used in combination with other MIDI devices. For details, refer to "MIDI Settings" (☞p. 54).
Except for a few exceptions, changes in MIDI parameters are automatically stored.

* Any changes made in the settings for the Performance and Part parameters are stored internally on a provisional basis, and will be retained even when the power is turned off. However, once another patch is selected, the settings will change to reflect the newly selected patch; any provisional setting changes will be lost. Should you wish to retain a group of setting changes you have made, they need to be stored using the Write Procedure (☞p. 29).

■ Patches

A complete group of settings, including those for the Performance and Part Parameters, as well as settings for each Tone assigned to each Part, can be stored in units referred to as "Patches."
Up to 24 such Patches can be stored. The following are representative examples of how Patches can be used. You may wish to create a broad variety of Patches to cover a number of different applications.

● Quick Tone Changes During Performance:
If Tones are stored in specific Patches, simply recalling the required Patch during a performance will instantly select all the Tones and settings for each Part. This is especially convenient for Tones on a PCM Card, where you would otherwise need to press VARIATION [▲][▼] several times in order to make the selections.

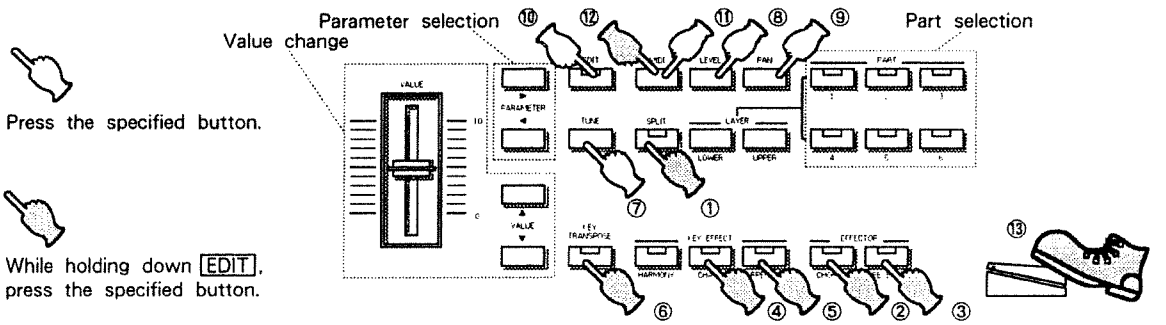
● Switching Among Versions of the Same Tone:
Each Patch can store the Tones and settings assigned to each Part.
It is possible to store a number of different versions of the same basic Tone. For example, storing A. PIANO 1 in several different Patches with different Tone Parameter settings for each Part will allow you to select any variation of the Tone by selecting the appropriate Patch. The same arrangement can be made using Drum Tones as well.

● Changing Settings for the Effectors:
The settings for the Effectors can also be stored within a Patch. In this way, the most appropriate effect setting can be stored along with a Tone or a variation of a Tone. Key Effects can be included in a Patch in the same way.

● Sound Creation Through Tone Combinations:
Patches can also contain new sounds which have been created by using the Split or Layer functions. It is possible for example to select two Tones from the strings family, layer them and then detune them slightly. The resulting "fat" sound can then be stored in a Patch.

2. Basic Procedures for Making Changes

The following graphic illustrates the steps that may be necessary to modify the various parameters. For detailed information, refer to the explanation provided for each parameter.



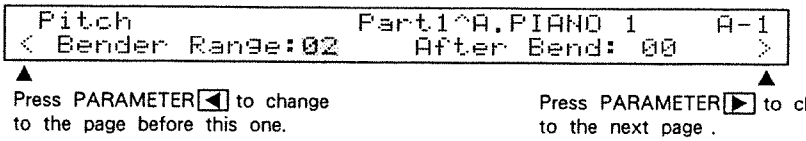
Setting for Performance functions	Choice of the Item (Play mode → Edit mode)	Value change
Split On/Off	Setting changes can be made while playing, independent of the status of other items.	Press SPLIT
Upper Layer		While holding down UPPER, press PART 1 – 6
Lower Layer		While holding down LOWER, press PART 1 – 6
Selection of Key Effects		HARMONY, CHASE, ARPEGGIO
Key Transpose On/Off		Press KEY TRANSPOSE
Split Point ①	While holding down EDIT, press SPLIT	Parameter is selected (only those marked with ♥) with PARAMETER ◀ ▶. Value is changed with VALUE slider, or VALUE ▲ ▼.
Chorus ♥②	While holding down EDIT, press CHORUS	
Reverb ♥③	While holding down EDIT, press REVERB	
Chase ♥④	While holding down EDIT, press CHASE	
Arpeggio ♥⑤	While holding down EDIT, press ARPEGGIO	
Key Transpose ⑥	While holding down EDIT, press KEY TRANSPOSE	
Hold Mode ⑬	While holding down EDIT, press Pedal Switch	
Tuning ⑦	Press TUNE	
Patch Name ♥	Entered during the Patch Write procedure.	

Setting for each Part	Selection of the Part	Choice of the Item (Play mode → Edit mode)	Value change
Tone Select	PART 1 – 6	Setting changes can be made while playing, independent of the status of other items.	GROUP A – C, NUMBER 1 – 8
Chorus On/Off			Press CHORUS
Reverb On/Off			Press REVERB
Level ⑧		Press LEVEL	Parameter is selected (only those marked with ♥) with PARAMETER ◀ ▶. Value is changed with VALUE slider, or VALUE ▲ ▼.
Pan ⑨		Press PAN	
Tone ♥⑩		Press EDIT	

Setting for MIDI	Selection of the Part	Choice of the Item (Play mode → Edit mode)	Value change
Rx Mode MIDI Channel ♥⑪	PART 1 – 6	Press MIDI	Parameter is selected (only those marked with ♥) with PARAMETER ◀ ▶. Value is changed with VALUE slider, or VALUE ▲ ▼.
Other MIDI ♥⑫		While holding down EDIT, press MIDI	

Those marked with ♥ have a number of parameters, which are selected using PARAMETER ◀ ▶.

A few of the items for which you may need to make settings are spread over more than one 'page' of the display. In such cases the symbols indicated below will appear in the display.



Press PARAMETER[◀] to change to the page before this one.

Press PARAMETER[▶] to change to the next page .

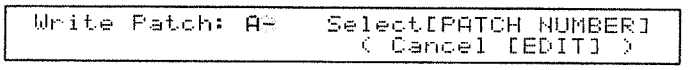
While making settings, the [EDIT] indicator will be lit. To return to the Play mode, press [EDIT] . From the Master Tuning, Level, Pan or MIDI Channel display, pressing the relevant button will return the unit to the play mode.

■How to Store Patches (Write Procedure)

To create a Patch follow this procedure. The current settings will be stored in the memory location for one of the patches (USER PATCH button).

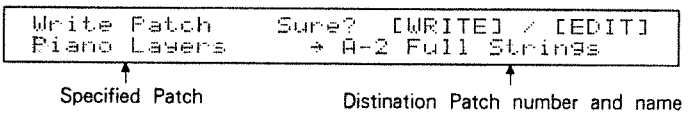
It is not necessary to perform the Write procedure for each parameter that you change. All setting changes made will be stored together when the Write procedure is carried out.

① While holding down [WRITE], press one of the GROUP buttons to obtain the Write screen.



② Using the GROUP and NUMBER buttons, select the Patch which is to be the destination for the write.

Once the Number has been specified, you are presented with the display in which patches can be named. If you do not wish to alter the Patch's name, proceed to Step ④.



Specified Patch

Distination Patch number and name

* While a GROUP button is held down, you can view the Patch Names (7 characters) for Numbers 1 through 8.

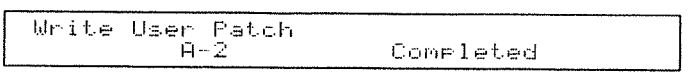
③ When wishing to change the Patch Name, use PARAMETER [◀][▶] to move the blinking cursor to the character you wish to change. Then use the VALUE Slider or VALUE [▲][▼] to select the desired characters.

* Even after a name has been changed, you can re-select the Patch destination.

④ Press [WRITE] and it will be stored to the specified PATCH location.

To cancel the procedure, press [EDIT].

Once the procedure has been completed, the following is displayed. You are then returned to the original screen.

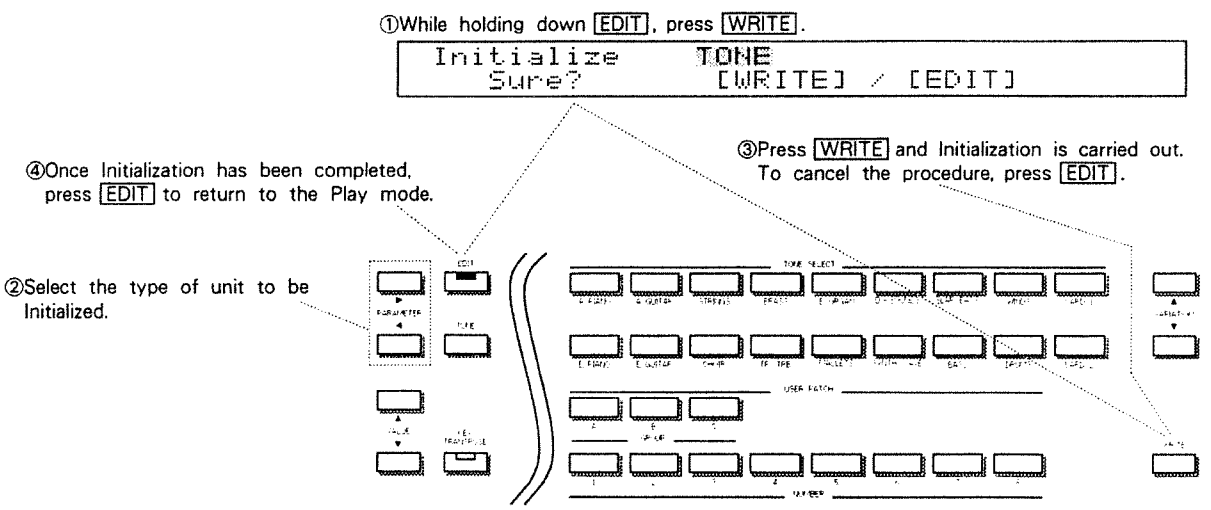


■ Restoring the Unit to the Factory Presets (Initialize)

The Initialization process restores all the Model 760's original factory settings. However, this process will also erase any settings or Patches that you have created. Before proceeding, be sure that there is nothing you wish to save.

It is possible to Initialize specific sections of the unit independently of the others. Refer to the following chart and procedure.

TONE	Initializes the Tone chosen for the Current part. (Pitch, Vibrato, Level)
INT	Initializes all internal Tones (all 128). (Pitch, Vibrato, Level)
CARD1, 2	Initializes all Tones on CARD 1 (or CARD 2). (Pitch, Vibrato, Level)
PATCH A-1 ··· C-8	Initializes the Patch specified. (Tone, Parts, Performance Parameters)
All	Initializes everything contained in internal memory. (Tones, Patches, MIDI parameters, Master tuning)



* When Patches A - 1 through C - 8 have been Initialized, return to the Play mode, and re - select Patches — only then will the newly Initialized settings take sound.

[2] How to Make Changes

While reading the following, you can if you wish actually make changes in the parameters, and create a patch. You do not need to make changes in every parameter, but only in those you feel necessary. Once the setting changes have been made, they can be stored as a patch by carrying out the Write procedure, explained previously.

1. Part Settings (Part Parameters)

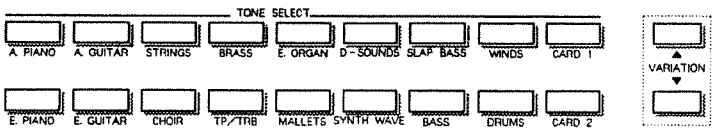
The settings in the following chart can be made for each Part. Select the Part you wish to change (the Current Part) by pressing a PART button ([1] – [6]). The Part button's indicator will light, and it becomes the Current Part. The Current Part is indicated in the display by means of the " * " which appears in place of the number.

You should first confirm which Part is selected whenever making changes.

Parameter	Value
Tone Select	- - - - - - - - - - - - -
Chorus On/Off	On, Off
Reverb On/Off	On, Off
Level	0 ··· 100
Pan	L I ··· I ··· I R, RND

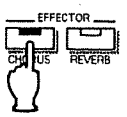
● Tone Selection

Selection is made using the TONE SELECT buttons and VARIATION [▲][▼].



● Chorus On/Off

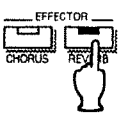
Press [CHORUS] to turn the effect "On" (the indicator will light).



* The Chorus effect is the same for all Parts. (☞ p. 40)
* When the Chorus is turned on, Pan is automatically set to the center position.
* The Chorus effect cannot be selected for a Drum Tone.

● Reverb On/Off

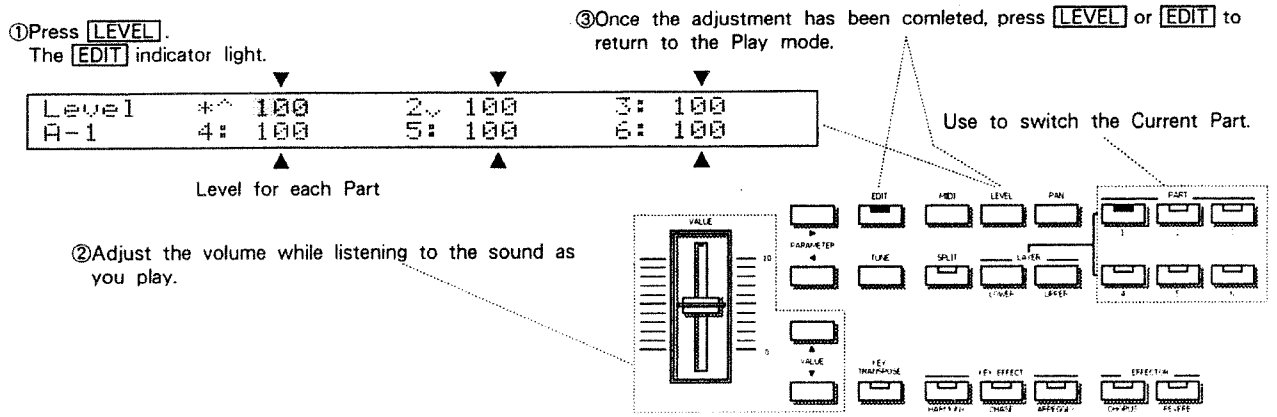
Press [REVERB] to turn the effect "On" (the indicator will light).



* The Reverb effect is the same for all Parts. (☞ p. 41)
* The Reverb effect can be "On" or "Off" for each key (Drum tone). (☞ p. 37)
  When the Reverb for a Part is "Off", no effect will be heard (regardless of individual key settings). When the Reverb for a Part is "On", the effect will be heard in accordance with the settings for each key.

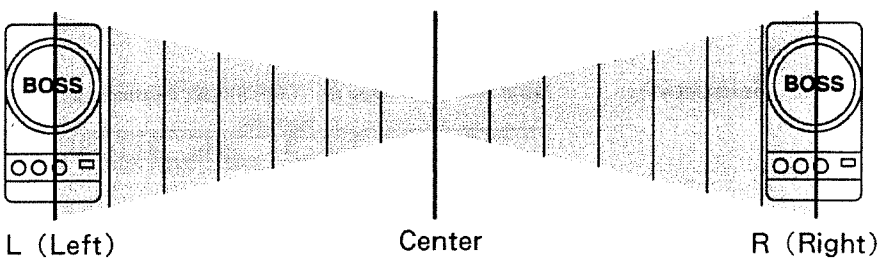
● Adjustment of Level : 0 ··· 100

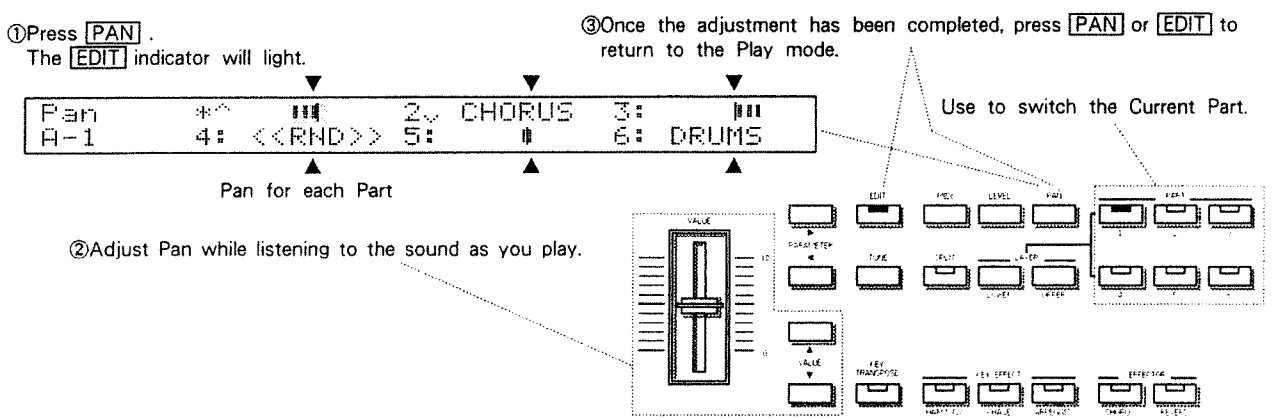
The following procedure adjustments the Level for each Part.



● Changing the Pan (orientation of sound image) : L | ··· | ··· | R, RND

Pan determines the spatial orientation of the sound image obtained when the output is in stereo. 15 different positions (excluding RND) are available. When set to RND (Random), the orientation will change randomly as the keyboard is played.





* If you press [PAN] when Chorus for the Part is "On," CHORUS will be displayed, and no setting changes can be made (Chorus must be turned "Off").
* It is not possible to change Pan settings when Drum Tones have been selected for a Part. To change Pan settings for each Drum tone, refer to page 37.

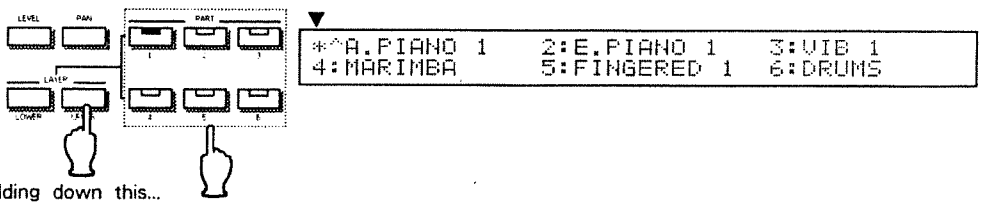
2. Tone Settings (Tone Parameters)

Tone changes can be made after first selecting the Tone as the Current Part.

Parameter			Value
Pitch	Coarse		−24 ··· +24
	Fine		−50 ··· +50
	Bender Range		0 ··· 12
	Aftertouch Bend		−36, −24, −12 ··· +12
Vibrato	Rate		0 ··· 100
	Depth		0 ··· 100
	Modulation Lever Sens		0 ··· 100
	Aftertouch Sens		0 ··· 100
Level	Level		0 ··· 100
	Velocity Sens		−10 ··· +10
	Aftertouch Sens		−10 ··· +10
	Envelope	Attack Rate	−10 ··· +10
		Decay Rate	−10 ··· +10
		Sustain Level	−10 ··· +10
		Release Rate	−10 ··· +10

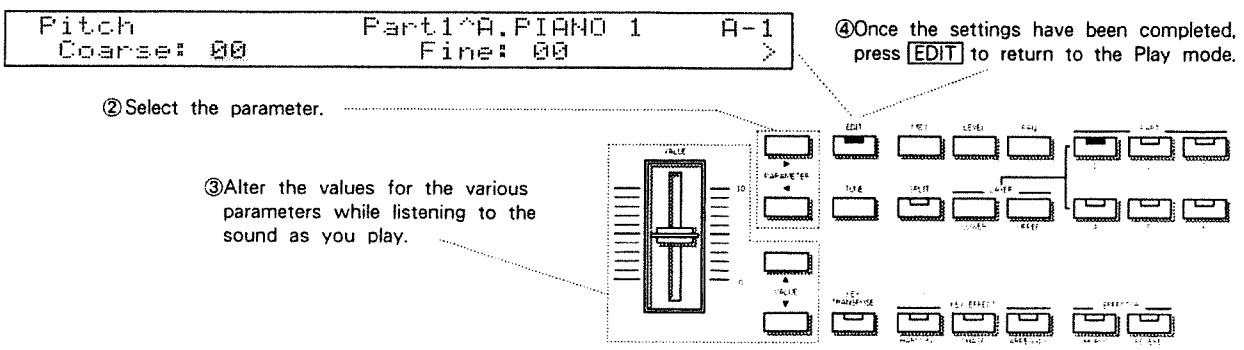
To simplify the process, edit one Tone at a time. The unit should also be set that only the Current Part produces sound.

[Example] To change Part 1's Tone (A. PIANO 1):

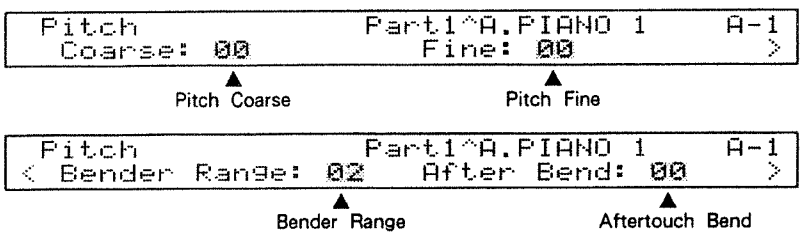


Next, make the setting changes for the selected Tone. If it is a Drum Tone that is being changed, refer to "Settings for Drum Tones." (☞ p. 37)

①Press [EDIT] (the indicator will light).



■ Altering the Pitch



● Pitch Coarse : − 24 ··· + 24 (semitone steps ; ± 2 octaves)

Provides for adjustment of the base pitch for Tones (in semitone units). Useful when wishing to match the pitch of one Tone with respect to another, or to obtain a thicker sound by shifting the relative pitches of Tones that are layered.

It could, for example, also be used with the trumpet tone, which uses B ♭ as the fundamental note. To allow you to play notes as they appear in the notation, it could be set at − 2, thus providing a transposition effect.

● Pitch Fine : − 50 ··· + 50 (approx. ± 50 cents)

Provides for fine adjustment of the base pitch for Tones. Useful for matching the pitch with Tones in other Parts, or to fatten a sound by slightly shifting pitches (about 3 cents).

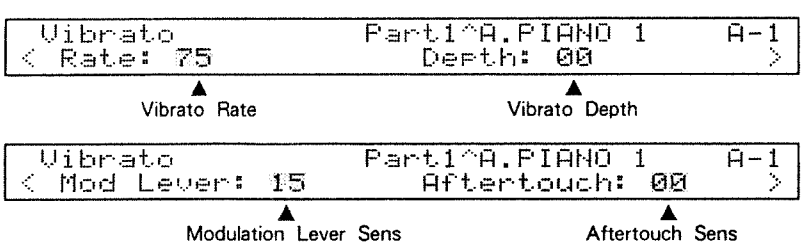
● Bender Range : 0 ··· 12 (semitone steps ; 1 octave)

Determines the amount of pitch change obtained when the bender lever is moved to either left or right extremes.

● Aftertouch Bend : − 36, − 24, − 12 ··· + 12 (− 3, − 2, − 1 ··· + 1 octaves)

Adjusts the amount of change obtained when aftertouch is used to change the pitch. The value represents the amount of change occurring when a key is pressed with the maximum force. When set to − 36 or − 24, you can obtain an effect similar to that when the arm on a guitar is pushed down.

■ Changing the Vibrato Effect



● Vibrato Rate : 0 ··· 100

Adjusts the speed of the vibrato pulsation. The higher the value, the faster the pulsation becomes.

● Vibrato Depth : 0 ··· 100

Adjusts the depth of the vibrato obtained when the keyboard is played. The higher the value, the deeper the vibrato becomes.

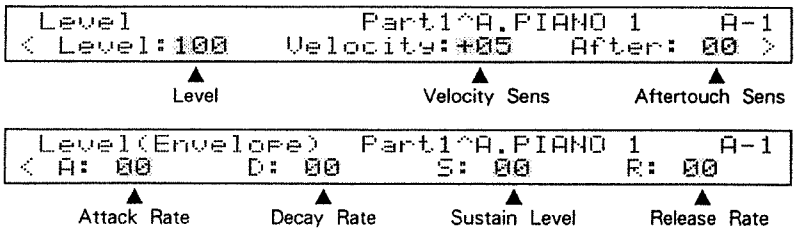
● Modulation Lever Sens : 0 ··· 100

Adjusts the sensitivity of the Modulation Lever when it is used to control Vibrato. The higher the value, the deeper the vibrato obtained when the lever is pushed.

● Aftertouch Sens : 0 ··· 100

Adjusts the sensitivity of Aftertouch when it is used to control Vibrato Depth. The higher the value, the deeper the vibrato obtained when keys are firmly depressed. Effective for expressing the nuances of breath techniques for solo instrument sounds such as the saxophone.

■ Level Changes



● Level : 0 ··· 100

Adjusts the volume of Tones. Setting is made when adjusting the volume balance relative to other Tones.

● Velocity Sens : − 10 ··· + 10

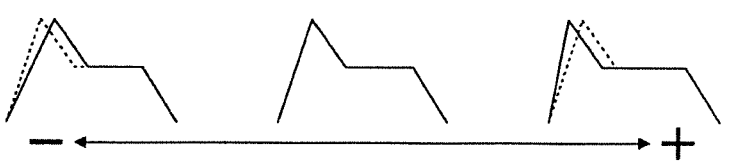
Adjusts the sensitivity when velocity is used to control volume. The higher the value, the greater the change in volume. When set in the + range, the volume increases as you play harder. When set in the − range, the volume decreases as you play harder. A setting of +8 to +10 will allow a wide range of dynamics necessary for an instrument like the acoustic piano.

● Aftertouch Sens : − 10 ··· + 10

Adjusts the sensitivity when aftertouch is used to control volume. The higher the value, the greater the change in volume. When set in the + range, the volume increases as the pressure on the key is increased. When set in the − range, the volume decreases as the pressure on the keys is increased. These functions are useful for controlling the volume of sustained sounds (e.g. organ).

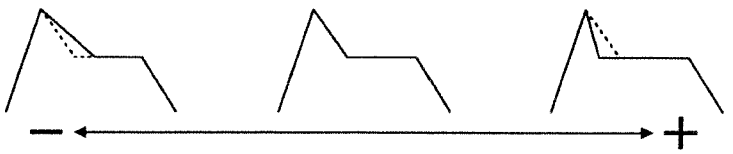
● Attack Rate : − 10 ··· + 10

Adjusts the attack rate (speed of the attack) for the envelope (changes in volume over time). When set in the + range the attack is more rapid. When set in the − range, the attack becomes slower.



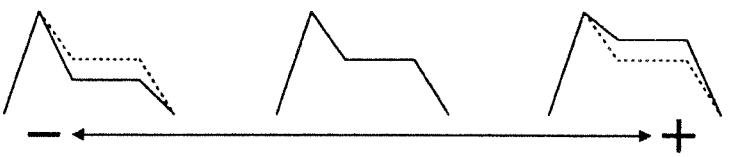
● Decay Rate : − 10 ··· + 10

Adjusts the envelope's decay rate (speed at which the sound decreases until it reaches the sustain level). When set in the + range, the decay is more rapid. When set in the − range, the deacy is slower.



● Sustain Level : − 10 ··· + 10

Adjusts the envelope's sustain level (level of the sustained sound). When set in the + range, the level of the sustained sound is higher. When set in the − range, the level of the sustained sound is lower.



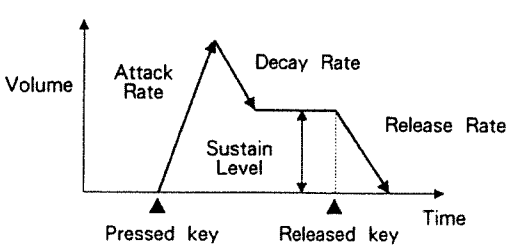
● Release Rate : − 10 ··· + 10

Adjusts the envelope's release rate (speed of attenuation). When set in the + range, the level decreases more rapidly. When set in the − range, the level decreases more slowly.

● Envelopes

The envelope is what determines the volume changes that occur over time, from the sound's attack until it fades away. Every real acoustic instrument has its own envelope, and it plays a role in giving the instrument its distinctive characteristic.

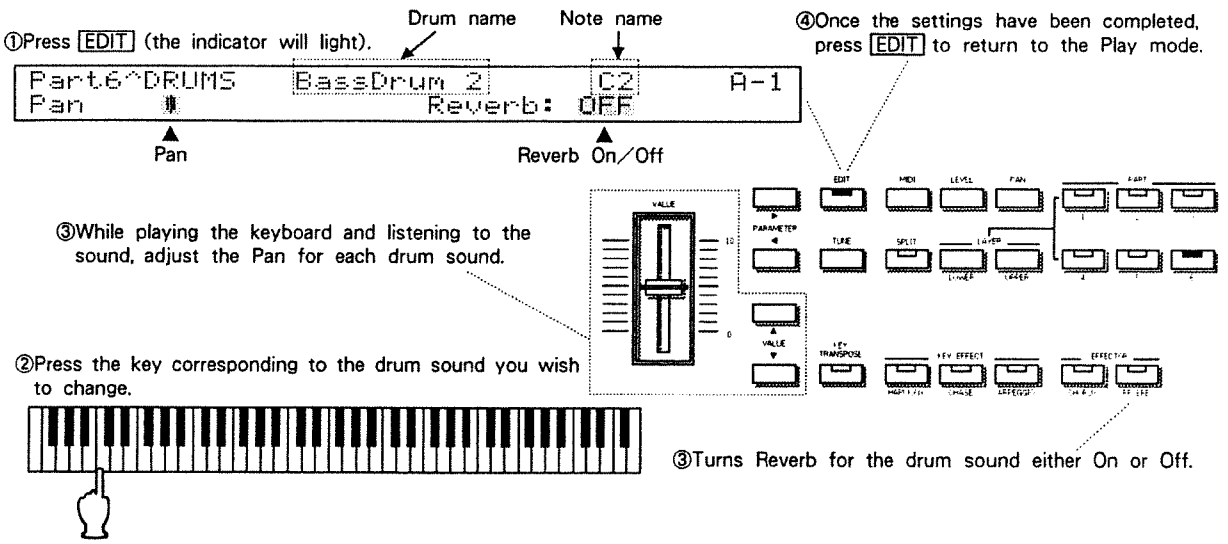
On the Model 760, each Tone has an individual, unique envelope. The envelope for each Tone can be altered using its four parameters. Envelope changes are specific to the Tone selected. For this reason, the values you set and the actual changes to the envelope may be different depending on the Tone.



■Drum Tone Settings

With Drum Tones, settings for Reverb On/Off can be made for each key (drum sound). First, select the Drum tones (in the Current Part) for which changes are to be made. Then carry out the following steps.

Parameter	Value
Reverb On/Off	On, Off
Pan	L | ··· | ··· | R, RND



* When Reverb is turned "Off" for the Part, the effect will not be obtained regardless of settings made for each key. Before making individual Reverb On/Off settings, the Reverb should be turned "On" for the Part. (☞P. 31)
* OFF will be displayed instead of Drum name when you press any key to which a drum sound has not been assigned. In such cases, no changes in the parameters can be made.

[PCM Cards]

Only one group of settings can be stored for each button, [CARD 1] and [CARD 2] (☞ p. 26). For that reason, no matter which Drum Tone on a PCM Card is selected, the sound will be produced in accordance with that one particular group of settings.

Should you wish to have each Drum Tone produce sound with the different settings, you should store the drum settings along with the individual Patches.

3. Performance Function Settings (Performance Parameters)

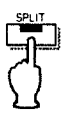
The following chart lists the Performance functions (Layer, Split, Key Effects, Chorus and Reverb) and the range of values or setting.

Parameter		Value
Split On/Off	☆	On, Off
Split Point		E1 ··· G # 7
Upper Layer	☆	Part 1 ··· 6 (On or Off for each Part)
Lower Layer	☆	Part 1 ··· 6 (On or Off for each Part)
Key Transpose On/Off	☆	On, Off
Key Transpose		− 12 ··· + 12
Chorus Rate		0 ··· 100
Chorus Depth		0 ··· 100
Chorus Level		0 ··· 100
Reverb Type		ROOM - 1 ··· 3, HALL - 1, 2, GATE, DELAY - 1, 2
Reverb Time		0 ··· 100
Reverb Level		0 ··· 100
Delay Feedback		0 ··· 100
Key Effect	☆	Off, Harmony, Chase, Arpeggio
Chase Repeat		ON, OFF
Chase Part		1 ··· 6、ROTARY
Chase Rate		0 ··· 100
Chase Shift		− 12 ··· + 12
Chase Level		0 ··· 100
Arpeggio Mode		UP, DOWN, UP & DOWN, RANDOM
Arpeggio Style		STACCATO, PORTATO, LEGATO
Arpeggio Part		1 ··· 6, LAYER
Arpeggio Rate		0 ··· 100
Arpeggio Aftertouch Sens		− 5 ··· + 5
Hold Mode		UPPER, LOWER, BOTH
Patch Name (16 character)	★	(space) A ··· Z a ··· z 0 ··· 9 - / + * . , : ; = ! " # $ % & '( ) ( ) { } [ ] _ ?

* For the parameters marked with ☆, selection is made using the button on the panel.
* The Patch Name (★) is entered during the Patch Write procedure.(☞ p.29)

■ Split Settings

● Split On/Off

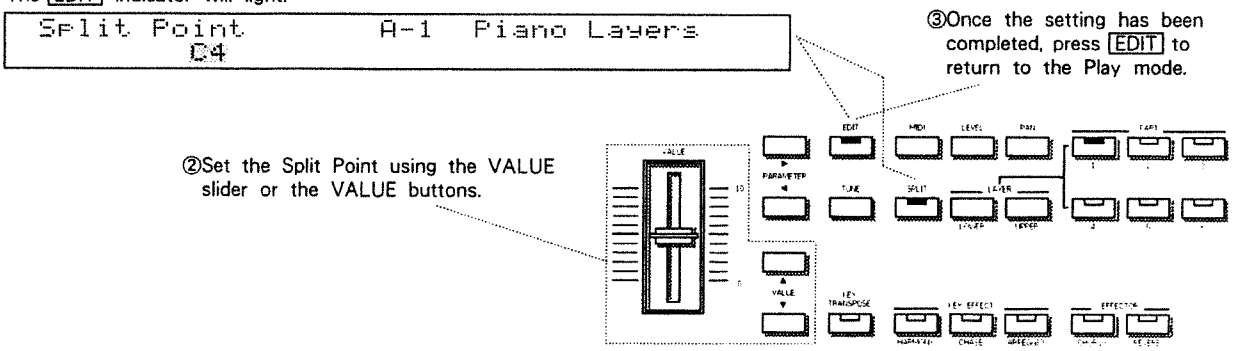


With Split "On," the keyboard is divided into Upper and Lower sections at the Split Point. With Split "Off," the sound assigned to the Upper section will be produced over the entire range of the keyboard.

● Setting a Split Point

The following shows how to set the Split Point (the point at which the keyboard is divided into Upper and Lower sections). The setting can be made within the range of E1 to G#7. When using the Harmony Key Effect, the keyboard range will be divided so that the Upper section is for the top notes, and the Lower section is for the harmony. (☞ p. 20)

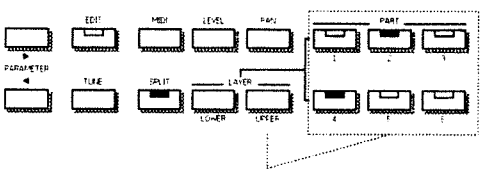
①While holding down [EDIT], press [SPLIT].
The [EDIT] indicator will light.



■ Layer Settings

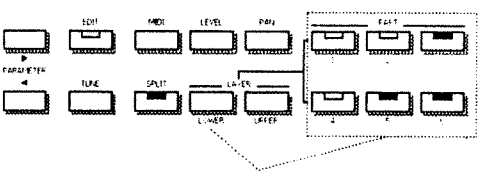
Selection of the Parts that will be sounded in the Upper and Lower sections is made as follows:

To make Layer settings for the Upper section :



While holding down [UPPER], select Parts by pressing PART buttons [1]–[6] (the PART button indicator will light).

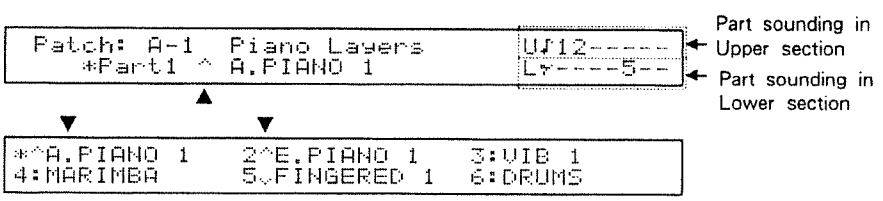
To make Layer settings for the Lower section :



While holding down [LOWER], select Parts by pressing PART buttons [1]–[6] (the PART button indicator will light).

Press the PART button again to cancel the selection.

The settings for Layer are displayed as shown below.



^ : Part sounding in Upper section
. : Part sounding in Lower section
◇ : Part sounding in both Upper and Lower sections
: : Part not included in the layering (will not sound)

■Key Transpose Setting

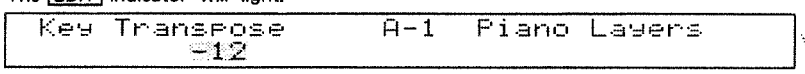
●Key Transpose On/Off

Press [KEY TRANSPOSE], to turn the function On.

●Key Transpose : − 12 ··· + 12 (semitone steps, ± 1 octave)

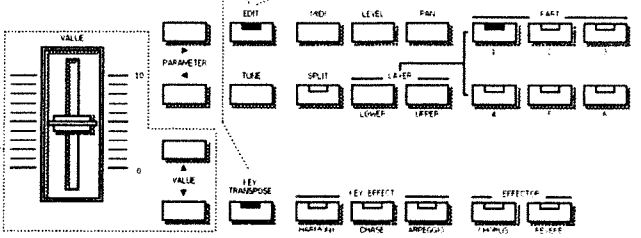
Allows you to set the amount by which the keyboard's sound will be transposed.

①While holding down [EDIT], press [KEY TRANSPOSE].
The [EDIT] indicator will light.



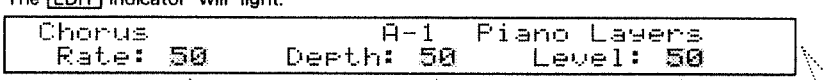
③Once the setting has been completed, press [EDIT] to return to the Play mode.

②Use the VALUE slider or the VALUE buttons to make the setting for Key Transpose. Check the results by playing something, and turning Key Transpose on and off.



■Chorus Settings

①While holding down [EDIT], press [CHORUS].
The [EDIT] indicator will light.

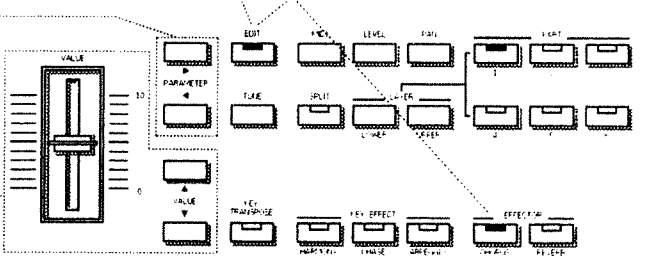


Chorus Rate　Chorus Depth　Chorus Level

④Once the setting has been completed, press [EDIT] to return to the Play mode.

②Select the parameter.

③Use the VALUE slider or the VALUE buttons to change the various parameter values. Play the keyboard while turning Chorus On and Off to hear the difference.



●Chorus Rate : 0 ··· 100

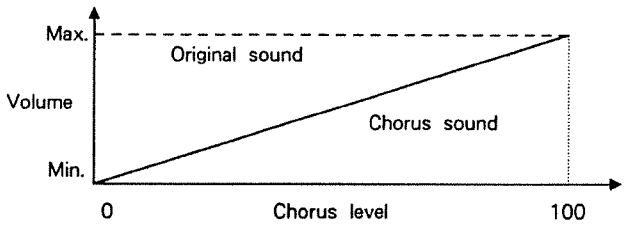
Adjusts the rate of the chorus sweep. Higher value produce a faster pulsation.

●Chorus Depth : 0 ··· 100

Adjusts the depth (extent to which it is applied) of the chorus. The higher the value, the deeper the effect becomes.

● Chorus Level : 0 ··· 100

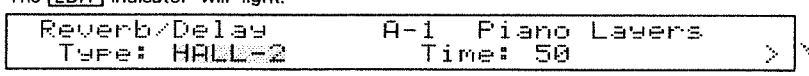
Provides for the level adjustment of the chorus-affected portion of the sound.



■ Reverb/Delay Settings

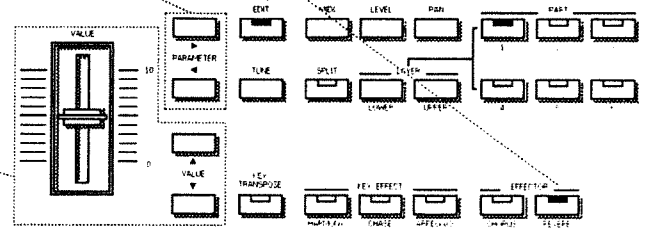
①While holding down [EDIT], press [REVERB].
The [EDIT] indicator will light.

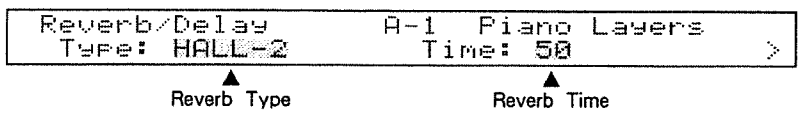
④Once the desired settings have been made, press [EDIT] to return the Play mode.

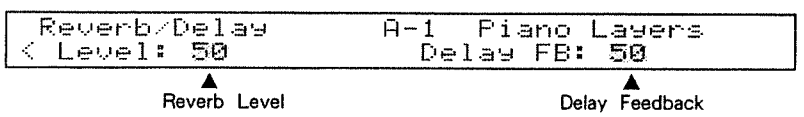


②Select the desired parameter.

③Use the VALUE slider and the VALUE buttons to change the value for the various parameters. Play the keyboard while turning Reverb/Delay On and Off to hear the difference.







● Reverb Type : ROOM-1 ··· 3, HALL-1, 2, GATE, DELAY-1, 2

Selection is made from the 6 types of Reverb and 2 types of Delay available.

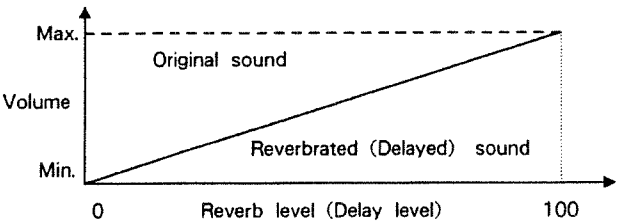
ROOM-1 ··· 3	Sharply-defined, spacious reverb.
HALL-1, 2	Provides a more relaxed sound, and reverb that has more depth than ROOM.
GATE	Provides reverberation that is sharply muted.
DELAY-1	A standard delay.
DELAY-2	A delay with reflected sounds that pan left to right.

● Reverb Time : 0 ··· 100

Adjusts the reverberation time. The higher the value, the longer the reverberating time becomes. When Delay has been selected, the setting controls the length of the Delay Time.

● Reverb Level : 0 ··· 100

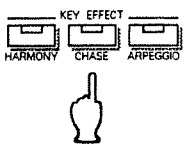
Provides for the level adjustment of the reverberation-affected (or delayed) portion of the sound.



● Delay Feedback : 0 ··· 100

This setting determines the number of times the delayed sound will be repeated (feedback). The higher the value set, the greater the number of repetitions.

■ Key Effects (Off, Harmony, Chase, Arpeggio)

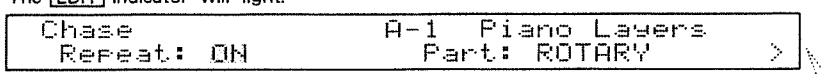


Press the desired KEY EFFECT button.

■ Chase Settings

This settings determining the effects produced by the Chase function. When Split is "On," the Chase effect is obtained only in the Upper section.

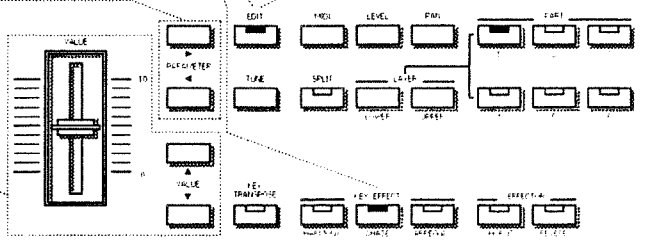
①While holding down [EDIT], press [CHASE].
The [EDIT] indicator will light.

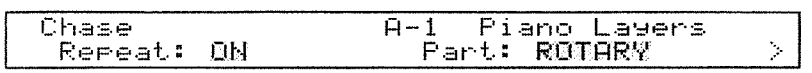


④Once the desired settings have been made, press [EDIT] to return the Play mode.

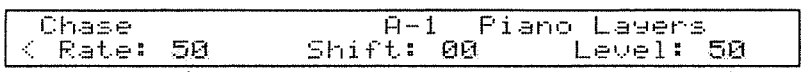
②Select the desired parameter.

③Use the VALUE slider or VALUE buttons to change the value for the various parameters. Play the keyboard while turning Chase function On and Off to hear the difference.





Chase Repeat — Chase Part



Chase Rate — Chase Shift — Chase Level

● Chase Repeat : ON, OFF

Selects whether the Chase sounds (repetitions) will be repeated numerous times, or only once.

● Chase Part : 1 ··· 6, ROTARY

The setting determining which Parts will sound using the Chase effect. When using the "ROTARY" function, the layered Parts will be sounded alternately (if using 2 sounds) or in order (if using more than 2 sounds). When using "ROTARY," the Chase Repeat function should be "On."

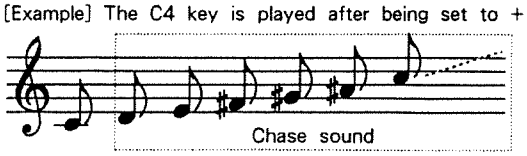
● Chase Rate : 0 ··· 100

Adjusts the time interval between the repetitions of the Chase sounds. The higher the value, the shorter the time interval between repeated sounds.

*If Chase has been selected, adjustment of the rate can be made during performance, using the VALUE slider or VALUE [▲][▼].

● Chase Shift : − 12 ··· + 12 (semitone steps)

[Example] The C4 key is played after being set to + 2.



Adjusts the amount of change in the pitch of each successive Chase sound. When set in the + range, the pitch rises, whereas in the − range, the pitch will fall. At "0" there will be no change.

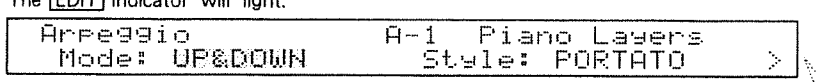
● Chase Level : 0 ··· 100

Adjusts the level of the Chase sounds. The higher the value, the louder the Chase sounds will be and the longer they will be heard.

■ Arpeggio Settings

The settings determines the effects obtained by the Arpeggio function. When Split is "On" arpeggios can only be played on the Lower section of the keyboard.

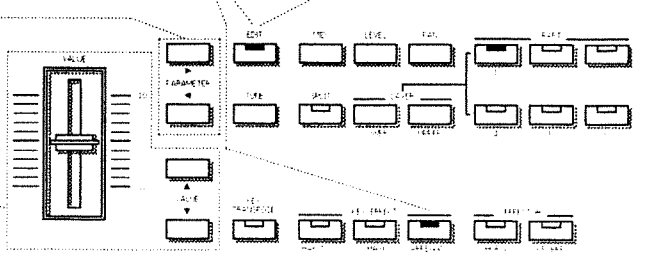
①While holding down [EDIT], press [CHASE].
The [EDIT] indicator will light.

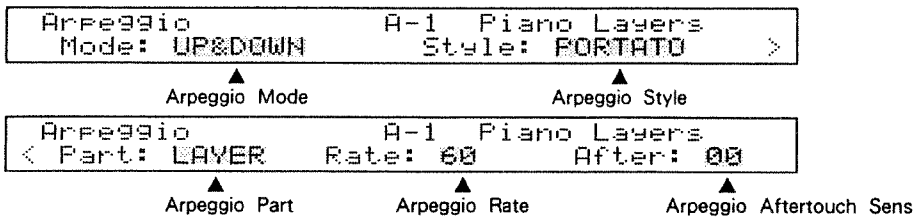


④Once the desired settings have been made, press [EDIT] to return the Play mode.

②Select the desired parameter.

③Using the VALUE slider or the VALUE buttons to change the value for the various parameters. Play the keyboard while turning the Chase function On and Off to hear the difference.

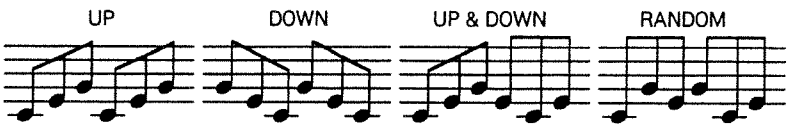




● Arpeggio Mode : UP, DOWN, UP & DOWN, RANDOM

This function allows you to select one of the following Arpeggio patterns:

[Example] When a C Major chord has been played.



● Arpeggio Style : STACCATO, PORTATO, LEGATO

This function allows you to select one of the following Arpeggio Style:

STACCATO	Played, with sharp emphasis.
PORTATO	Standard.
LEGATO	Played in a smooth flowing manner.

● Arpeggio Part : 1 ··· 6, LAYER

This function allows you to select which Part(s) will be affected by the arpeggio function. When set to "LAYER," the arpeggio is sounded using the layered Parts. When a specified Part is selected, any chords that are played will sound using the layered Parts and the specified Part will sound with the arpeggio function.

● Arpeggio Rate : 0 ··· 100

Adjusts the speed of arpeggiation; the higher the value the faster it becomes.

* If Arpeggio has been selected, adjustment of the rate can be made during performance using the VALUE slider or VALUE [▲][▼].

● Arpeggio Aftertouch Sens : − 5 ··· + 5

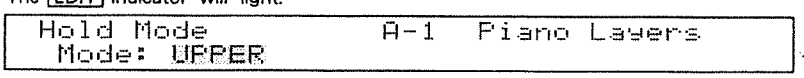
Adjusts the sensitivity of Aftertouch when it is used to control the Arpeggio Rate. With values in the + range, the arpeggiation rate becomes faster when keys are firmly depressed. With values in the − range, the arpeggiation rate becomes slower when keys are firmly depressed.

■Hold Mode Setting

This section allows you to specify which section of the keyboard the Hold function will affect.It is, of course, necessary to connect a pedal switch to the PEDAL HOLD Jack.

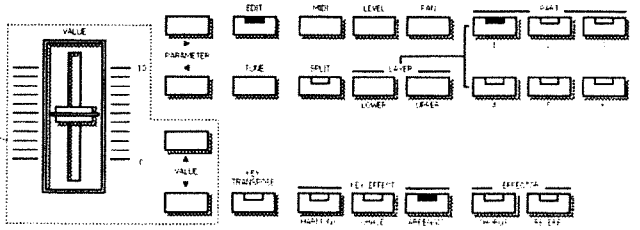
UPPER	Only the Upper section is held.
LOWER	Only the Lower section is held.
BOTH	Both the Upper and Lower sections are held.

① While holding down [EDIT], depress the pedal.
The [EDIT] indicator will light.



③ Once the setting has been made, press [EDIT] to return to the Play mode.

②Use the VALUE slider or the VALUE buttons to select the desired Hold Mode.



* whenever the Harmony or Arpeggio key effects are "On," the action that can be obtained with the hold pedal will correspond to that allowed by the Key Effects, regardless of the setting made for Hold Mode. (☞p.21, p.22)

Section III

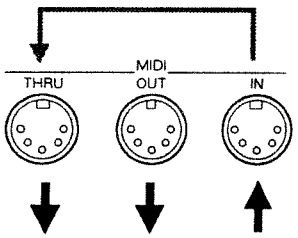
USING MIDI IN PERFORMANCE

[1] About MIDI

MIDI stands for "Musical Instrument Digital Interface." It is an international standard that allows for the exchange of performance data (the notes played, sound changes etc.) to be exchanged various different instruments. As long they are MIDI compatible, all devices, (regardless of differences in model or manufacturer) can exchange whatever performance data they are equipped to receive.
With MIDI, events such as playing on a keyboard, or depressing a pedal are handled as MIDI data.

1. The Exchange of MIDI Data

About MIDI Connectors In carrying out the exchange of MIDI data, 3 types of connectors (shown below) are used. MIDI cables are connected to these connectors in various ways depending on how they are to be used.

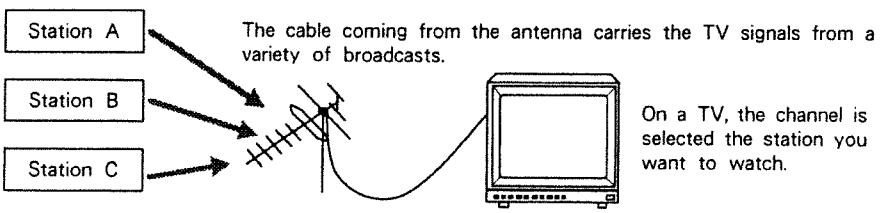


MIDI IN: Receives data from another MIDI device.
MIDI OUT: Transmits data originating in the unit.
MIDI THRU: Transmits an exact copy of the data received at MIDI IN.

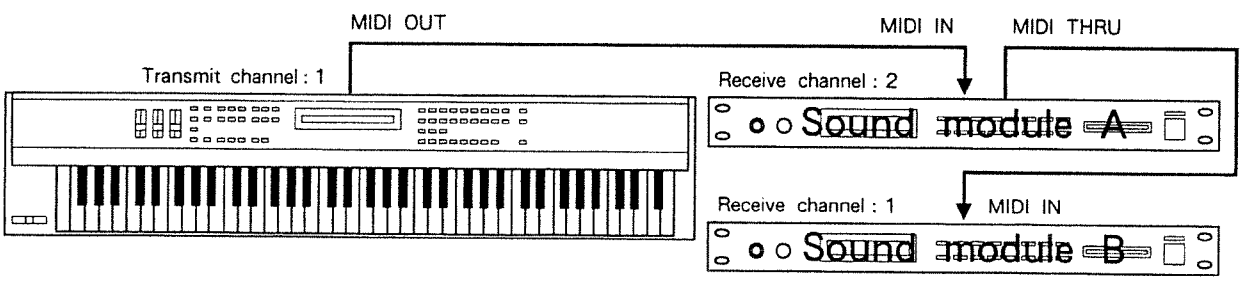
* In theory, any number of MIDI devices could be connected together using MIDI THRU connectors. It is best, however, to consider 4 or 5 devices as being the practical limit. This is because the further down the line a device is located, the more message delay is likely to occur. The chance of error due to deterioration in signal quality also increases.

MIDI Channels

With MIDI, a single cable can be used to transmit different sets of performance information, to different MIDI devices. This is possible thanks to the concept of a MIDI channel.
MIDI channels are in some ways similar to the channels on a television set. On a TV, a variety of programs broadcast from different stations can be viewed by switching channels. This is because the information on any particular channel is conveyed only when the receiver is set to the same channel that is being used for transmission.



The channels available with MIDI range from 1 to 16. When a musical instrument is set so its MIDI receive channel matches the MIDI channel used by the transmitting device, the MIDI data is transmitteded. When the MIDI channels are set as illustrated below, and you play the keyboard, sound will only be produced by sound module B.



2. MIDI Messages Recognized by the Model 760

In order to convey the great variety of expression possible with music, MIDI is capable of handling a large range of data types (messages). MIDI messages can be divided into two main types: Messages that are handled on separate channels (Channel messages); and messages that are handled independently of channels (System messages).

■ Messages for Each MIDI Channel (Channel Messages)

These messages are used to convey the events of a performance. In most circumstances they alone are sufficient for providing the necessary control. The specific results obtained by the various MIDI message are determined by the settings on the sound source receiving them.

● Note Messages

These messages convey what is played on the keyboard. Some Note messages are as follows:

Note number	Number representing the position of the key.
Note on	Key is pressed.
Note off	Key is released.
Velocity	Strength with which the key is depressed.

* Notes are numbered 0 through 127 and correspond to the positions of keys. Middle C (C4) is number 60.
* With Drum Tones, each Note Number triggers a different drum sound.

● Pitch Bender Messages

Messages which convey the position of the bender lever (pitch).

● Aftertouch Messages

These messages convey the functions of aftertouch. There are two types of aftertouch; Channel and Polyphonic.

Channel Aftertouch provides control based on each MIDI channel. No matter which key it is that is pressed more firmly, the effect is applied equally to all notes on the same MIDI channel.

Polyphonic Aftertouch provides control on an individual key (note) basis. Even though it may share the same MIDI channel with other notes, any particular key that has more pressure applied to it will produce an individual effect.

The Model 760 can transmit Channel Aftertouch only. However, it is capable of responding to both types of Aftertouch messages when received from an external MIDI device.

● Program Change Messages

These messages are used for conveying sound change information. Sounds are changed using Program Numbers, (1 to 128). On the Model 760, both Tones and Patches can be changed. Tones are changed using the Part's MIDI channel, and Patches are changed using the Control Channel. For details, refer to page 53.

● Control Change Messages

These messages are used to enhance the expressiveness of a performance, and include Vibrato, Hold, Volume, and Pan. Each function is identified by a Control Number. The functions which can be controlled will vary depending on the MIDI device.

On the Model 760, the action of the modulation lever can be used to transmit Modulation messages, and the action of the hold pedal can be used to transmit hold messages. Upon reception from an external source, control over Vibrato, Hold, Volume, and Pan can be obtained.

■Messages Independent of MIDI Channels (System Messages)

System Messages include Exclusive messages, the information necessary for synchronized play, as well as diagnostic data. On the Model 760, it is mainly Exclusive messages that are handled.

● Exclusive Messages

Exclusive messages handle information such as that related to a device's unique tones. Generally, such messages can be exchanged only between devices of the same model by the same manufacturer. Exclusive messages can be employed instead of Program Numbers to select Tones or Patches. They can also be used to save Tone and Patch data to a sequencer, or for transferring such data to another Model 760.

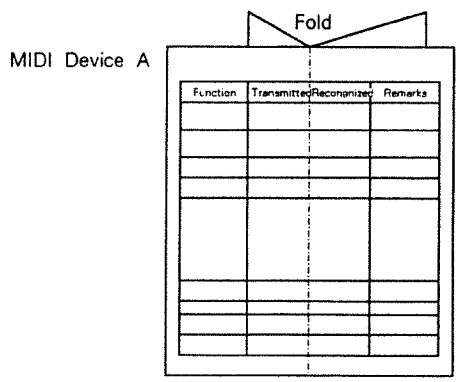
Whenever Exclusive messages are to be used for communication, both musical instruments need to be set to the same Unit Number. (☞ p. 57)

● MIDI Implementation Chart

MIDI has made it possible for a wide range of musical instruments to communicate with each other. That doesn't mean, however, that all messages will all be understood by all MIDI devices.

For example, you may try to use the keyboard to provide control of aftertouch, but if the sound module you have connected doesn't respond to Aftertouch, no effect will be obtained. Thus, communication between MIDI devices occurs only when both devices can transmit and receive specific messages.

It is for this reason that every owner's manual (for all kinds of MIDI devices) always includes a MIDI Implementation Chart (☞p.89). This chart is a quick reference to the types of MIDI messages a device is capable of handling. You can compare the MIDI Implementation Charts for two devices in order to find out which types of data will be compatible. The MIDI Implementation Charts are a standard size so that can be placed side by side for easy data comparison.



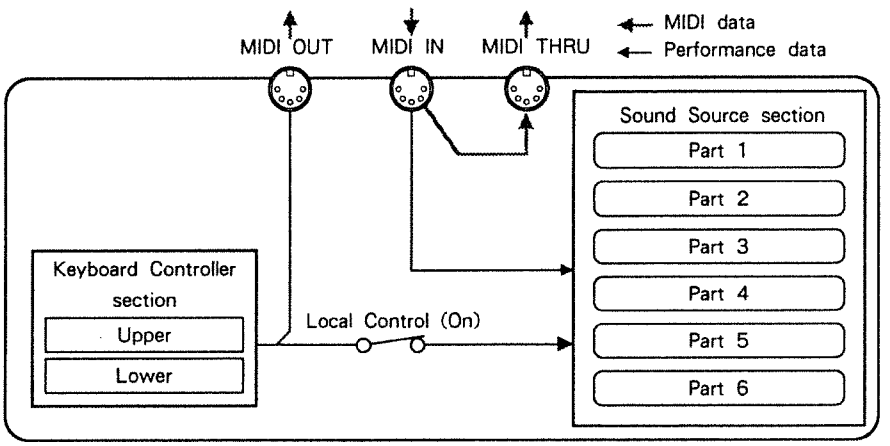
*For detailed explanation of MIDI message and how it is handled, refer to "Roland Exclusive Messages" (☞p.76), and "MIDI Implementation".(☞p.80)

[2] MIDI on the Model 760

By employing MIDI, the Model 760 can be used as a multi - timbral sound module, or it can be used as the controller for external equipment. The following explains the MIDI configuration on the Model 760, and how settings are made.

1. Performance Data Flow

Let's take a look inside the Model 760 and see how performance data is routed. Internally, the unit can be divided into two parts: the Keyboard Controller section, which provides for play of the keyboard and other panel operations such as use of the bender lever; and the Sound Source section, which produces the sounds. When the keyboard is played, that information is relayed to the sound source section, causing sound to be produced. The internal sound source can thus be considered as being much like an external sound module connected to MIDI OUT.

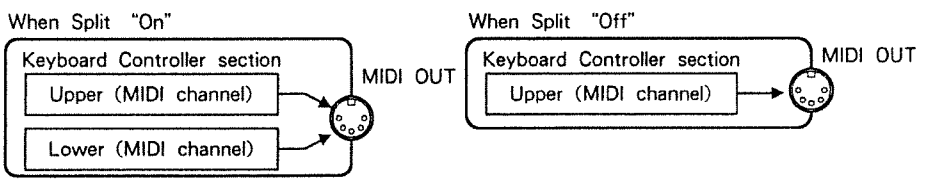


* There is a Local Control switch (☞ p. 56) which determines whether the keyboard controller and sound source are connected with each other or not. Ordinarily, it is set to Local On. However, it is sometimes convenient to switch to Local Off, when you wish to record what is played on the keyboard into a sequencer.

● How Transmission Takes Place

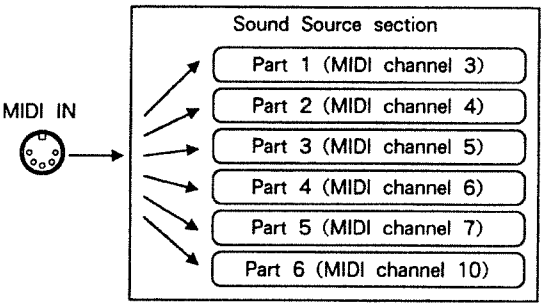
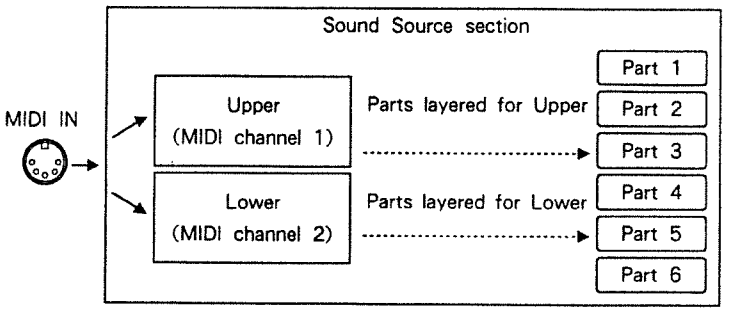
On the Model 760, a separate MIDI channel is used for each of the Upper and Lower sections. When Split is "On," the performance data generated each section is transmitted on their respective MIDI channels. Channel Messages (Aftertouch, Pitch Bender, and Control Change messages – other than Note Messages) are transmitted on both of the channels used by the Upper and Lower sections.

When Split is "Off," transmission takes place on the MIDI channel used by the Upper section.



● How Reception Takes Place

There are 3 modes available to receive Note and Control data. Choose the mode appropriate for your particular application.

<table>
<tr><td>PART</td><td>In this mode, each Part is treated as if it were an independent sound module. Data is received independently on the channel assigned to each Part. Use this mode to achieve ensemble performances when the unit is used with a sequencer.
 
</td></tr>
<tr><td>U/L</td><td>MIDI data is received on the two channels used by the Upper and Lower sections. Multiple Parts can be sounded simultaneously, in accordance with the settings for Layer control. This mode could be used when you wish to combine this unit with another keyboard that will be used as the master controller.
In most circumstances, Upper and Lower should be set to different MIDI channels.
 
</td></tr>
<tr><td>BOTH</td><td>MIDI data is received on all of the channels that would be used by the PART and U/L modes combined.</td></tr>
</table>

2. Changing Tones/Patches Using MIDI

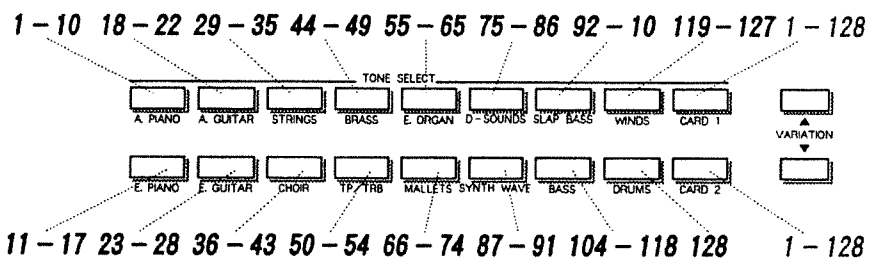
On the Model 760 Program Change messages can be used to change Patches or Tones.

■ Tone Changes

The exchange of Program Change message used to change Tone involves each Part's MIDI Channel. The Program Number that will change each Tone is determined beforehand. (see the Tone List, p.70)

When the TONE SELECT button, or VARIATION [▲][▼] buttons are used to select to a different tone, the Program Number that corresponds to that tone is transmitted on the MIDI channel of the Current Part.

[Program Numbers and the buttons used to transmit them]



* On PCM cards, each Tone's number corresponds to the Program Number.

Program Change messages from an external device are received on the MIDI channels used by each Part, regardless of the Receive Mode setting. When Program Change messages are received on a Part's MIDI channel, a change is made to the specified Part's Tone. If an internal Tone has been assigned to the Part, change will be made to an internal Tone. If a Tone on a PCM Card has been assigned to a Part, change will be made to a PCM Card Tone. The change from "Internal Tone" to "PCM Card Tone" cannot be accomplished by means of Program Changes received from an external device.

■ Patch Changes

Patch number	Program number
A-1 ··· A-8	1 ··· 8
B-1 ··· B-8	9 ··· 16
C-1 ··· C-8	17 ··· 24

The Program Change messages used to change Patches are communicated using the Control Channel. Program Numbers and the Patches they control are as shown at the left.

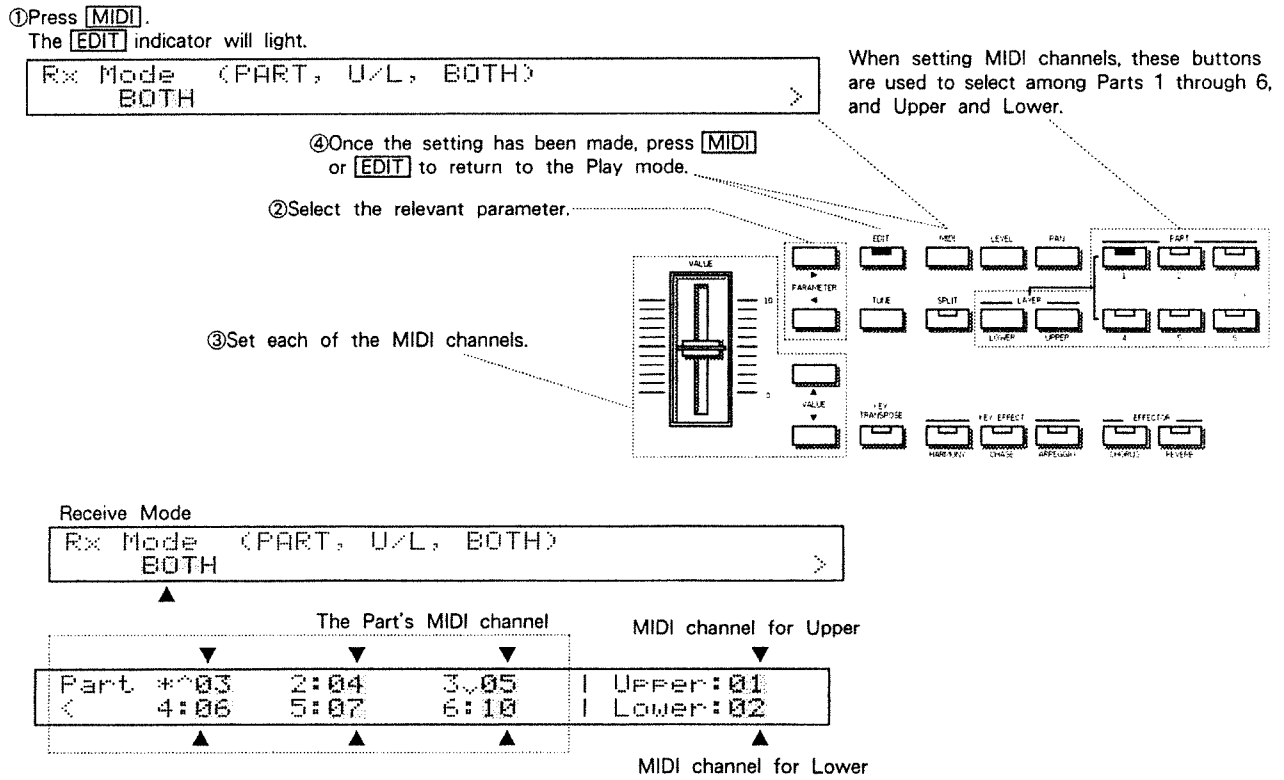
When a Patch change is carried out on the Model 760, the Program Number corresponding to that Patch Number is transmitted on the Control channel. Conversely, when Program Change messages are received on the Control channel, a change is made to the Patch with the corresponding number. However, if Program Numbers other than 1 to 24 are received, they produce no Patch changes.

3. MIDI Settings

The following explains how the various MIDI parameters function, and how they are set. Settings for MIDI parameters (all of them except Local Control and Unit Number) are retained in memory even if you change Patches, or turn power off.

■Rx Mode and Tx/Rx Channel Settings

The MIDI channel used transmit/receive performance infomation, and the Rx Mode are set as follows.



●Rx Mode : PART, U/L, BOTH

This setting allows you to chooses one of the three modes available for reception of Note and Control Change information, as shown below.

PART	In this mode, each Part is treated as if it were an independent sound module. Data is received independently on the channel assigned to each Part. Use this mode to achieve ensemble performances when the unit is used with a sequencer.
U/L	MIDI data is received on the two channels used by the Upper and Lower sections. Multiple Parts can be sounded simultaneously, in accordance with the settings for Layer control. This mode could be used when you wish to combine this unit with another keyboard that will be used as the master keyboard.
BOTH	MIDI data is received on all of the channels that would be used by the PART and U/L modes combined.

● MIDI Channels for Parts : 1 ··· 16, OFF

Here, the MIDI channel used by each Part is set. When the Receive Mode is set to either PART or BOTH, performance information will be received on MIDI channels used by Parts. Note also that regardless of the Rx Mode setting, Program Change messages used for changing Tones will be communicated on the MIDI channels used by the Parts.

● MIDI Channels for Upper and Lower : 1 ··· 16

Here, settings for the MIDI channels used by the Upper and Lower sections are made. Ordinarily, Upper and Lower should be set to different MIDI channels.

When Transmitting	When Split is "On," the performance data generated by the Upper and Lower sections (with the Split Point being the boundary) is transmitted on separate MIDI channels. Channel Messages (Aftertouch, Pitch Bender, and Control Change messages – other than Note messages) are transmitted on both of the channels used by the Upper and Lower sections. When Split is "Off," transmission takes place on the MIDI channel used by the Upper section.
When Receiving	When the Receive Mode is set to either U/L or BOTH, performance data will be received on the MIDI channels used by the Upper and Lower sections.

* If the Upper and Lower section are set to the same MIDI channel and Split is "On," the sound range within which reception takes place is divided into Upper and Lower at the Split Point.

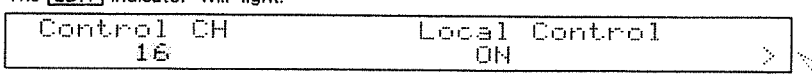
■ Other MIDI Parameters Settings

Other settings, such as how reception/transmission of MIDI data is to take place are made as follows.

Parameter	Value
Control Channel	1 ··· 16
Local Control	ON, OFF
Program Change (transmit/receive)	ON, OFF
Aftertouch (transmit/receive)	ON, OFF
Breath (receive)	OFF, VOL, MOD, AFT, V & M, V & A, M & A, ALL
Volume (receive)	ON, OFF
Exclusive (receive)	OFF, ON - 1, ON - 2
Unit Number	CTRL, 17 ··· 32
Bulk Dump †	– – – – – – – – – –

† Refer to "Bulk Dump." (☞p. 63)

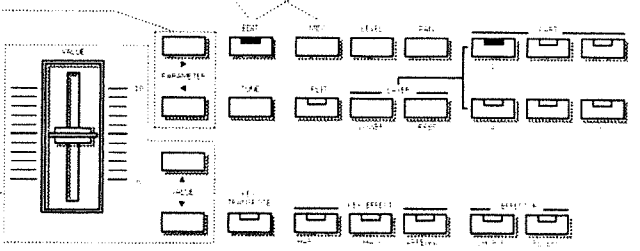
① While holding down [EDIT], press [MIDI].
The [EDIT] indicator will light.

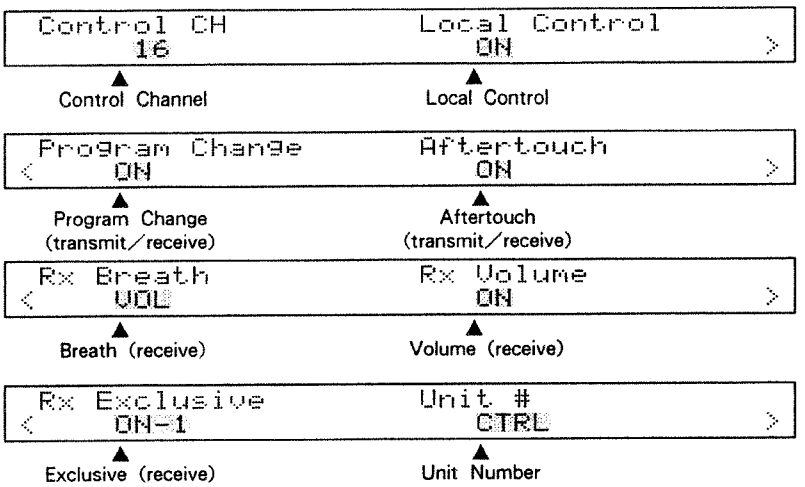


④ Once the setting have been made, press [EDIT] to return to the Play mode.

② Select the desired parameter.

③ Make the desired change in the parameter's value.





● Control Channel : 1 ··· 16

Sets the Transmit/Receive channel to be used when Program Change messages are to be used to change Patches. When Patches are changed on the Model 760, a corresponding Program Number is transmitted on the Control Channel. Also, when Program Changes messages are received from an external device on the Control Channel, a Patch change occurs.

● Local Control : ON, OFF

Local Control acts as a switch which determines whether or not the Keyboard Controller and Sound Source are connected with each. Ordinarily, it is set to Local On (ON). (see diagram on p. 51, at top) When set to Local Off (OFF), no sound will be heard when the keyboard is played, but the performance information will be transmitted from MIDI OUT. Regardless of the setting for Local Control, performance information from an external MIDI device can be received, and will trigger an internal sound source.

The default setting at power-up is ON.

● Program Change messages (transmit/receive) : ON, OFF

This setting determines whether transmit/receive Program Change messages is ON or OFF. Ordinarily it is set to ON.

● Aftertouch messages (transmit/receive) : ON, OFF

This setting determines whether transmit/receive Aftertouch messages is ON or OFF. Ordinarily it is set to ON.

●Breath messages (receive) : OFF, VOL, MOD, AFT, V & M, V & A, M & A, ALL

This setting determines what will be controlled by Breath messages (control number : 2), when a breath controller is used.

OFF	Reception ignored
VOL	Volume
MOD	Modulation (Vibrato Depth)
AFT	Aftertouch
V & M	Volume and Modulation
V & A	Volume and Aftertouch
M & A	Modulation and Aftertouch
ALL	Volume, Modulation and Aftertouch

● Volume messages (receive) : ON, OFF

This setting determines whether reception of Volume messages (control number : 7) is ON or OFF. Ordinarily it is set to ON.

● Exclusive messages (receive) : ON - 1, ON - 2, OFF

This setting determines how Exclusive messages will be received.

ON - 1	Reception of Exclusive messages for the specified Unit Number only.
ON - 2	Reception of all Exclusive messages takes place, regardless of the MIDI channel or Unit Number.
OFF	Reception is ignored.

● Unit Number : CTRL, 17 ··· 32

The Unit Number (17 ... 32) is used for identification, for the purposes to transmt/receive Exclusive messages regardless of the channel settings of the respective MIDI devices. When set to CTRL, Exclusive messages can be received on the Control Channel.

Note that even when the Unit Number has been changed, the default setting at power-up is "17."

[3] MIDI Applications

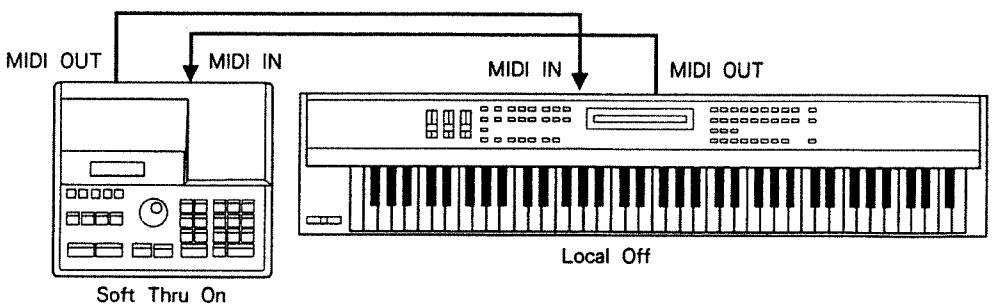
This section describes some of the possible applications of the Model 760 when it is used with other MIDI devices.

1. Use as a Multi-Timbral Sound Module

Since the Model 760 can also function as a 6 Part multi-timbral sound module, it can be employed as the sound source for a sequencer or other unit capable of automatic play.
For our purposes here, it is assumed that a sequencer (e.g. Roland MC - 500 MkII, MC - 300) is used for recording and automatic play. For details on the use of the sequencer, refer to its owner's manual.

● Before starting the recording

With the power off to both units, connect the sequencer with the Model 760. Turn on to the Model 760, and then the sequencer. Next, in order to hear what is played on the keyboard, and what is recorded into the sequencer simultaneously, set Soft Thru on the sequencer to "On", and the Model 760 to "Local Off" (☞ p. 56). If the sequencer does not have a Soft Thru function, the Model 760 should be left at "Local On."



* When Soft Thru is set to "On", all MIDI data arriving at the sequencer's MIDI IN is output (without change) from its MIDI OUT.
* If the sequencer is capable of transmitting Local On/Off information, it can be used to automatically change the Local On/Off setting on the Model 760.

● Sequencing an Ensemble Performance

Part	MIDI channel	Tone
1	3	A. PIANO
2	4	AC. BASS
3	5	STRINGS 1
4	6	BRASS 1
5	7	SAX 1
6	10	DRUMS

When you wish to achieve an ensemble performance that uses multiple Parts, the Receive Mode on the Model 760 should be set to PART, and each Part should be set to a different MIDI channel number. The MIDI channels for Upper and Lower should each be set to the same channels as those of the Parts which are to be recorded.
In this case, certain operations (such as Tone changes) will be somewhat more difficult if you have used the Layer feature to have multiple Parts layered together. You should set the unit so that Tones sound in manner where they can be easily manipulated on an individual basis. For example, if you are planning on a jazz number, the Tone selection shown at the left might be suitable.

Start Recording

Once ready, you can begin recording. If Split is "Off," the data representing what you play will be transmit on the MIDI channel set for the Upper section. Split should be "Off" when playing an instrument sound that normally requires a broad sound range, such as piano. If you set Split "On," you could record what is played in the Upper and Lower sections at the same time, using two separate MIDI channels. This provides convenience in that the bass part (or chords) could be played while you also play the melody. In addition, you can use the Bender Lever or Aftertouch during recording, and such data will also be included in the recording of the performance.

When you are ready to record a different Part, change the MIDI channels for Upper and Lower, then continue in the same manner.

Rather than recording drums based on what is played on the keyboard, you could play them using a separate Pad Controller (Roland PAD - 5, PAD - 80, etc.). You could also use step-time input to enter a pattern into the sequencer. Another possibility is to use a rhythm machine (Roland R - 8, R - 5, etc.) that is set up for synchronized play using MIDI. The Model 760 does not allow you to change the Note Numbers that the drum sounds use.

When wishing to record the drums you play on another device, you should set the controlling device so each of its drum sounds (Note Numbers) match up with the Model 760's drum sounds (Note Numbers).

Creation of the most suitable Patch

Once you have finished the recording of the whole piece, use the sequencer to play it back. While listening to playback, try selecting other tones. Also, try adjusting the overall balance by changing Level or Pan settings. As finishing touches, make adjustments for Chorus and Reverb. When completed, it can be stored as a Patch.

If you then record the Program Number (Patch Number) for the Patch at the beginning of the song, you then obtain an automatic change to the Patch when the sequencer is played.

Changing Tones partway through a song

Each tone has a Program Number assigned to it (see Tone List ☞ p. 70). If you make a change in the Tone while recording, the Program Number which corresponds to it is transmitted, and will be recorded. At the same time, the Tone on the Model 760 is changed as a result of that Program Number.

Since the timing of Tone changes may not be exact (if the changes are made while recording), it is often better to overdub afterwards.

● Recording a solo performance

When wishing to record a piano solo, the Rx Mode should be set to U/L. Since MIDI data can then be received and transmitted on the MIDI channels for Upper and Lower section, even songs using the Layer and Split functions can be reproduced afterwards. To get the most faithful reproduction afterwards, it is best to use Patches for sound changes. You will probably want to create a good selection of Patches to have available before making such recordings.

● Changing Tones or Patches using Exclusive Messages

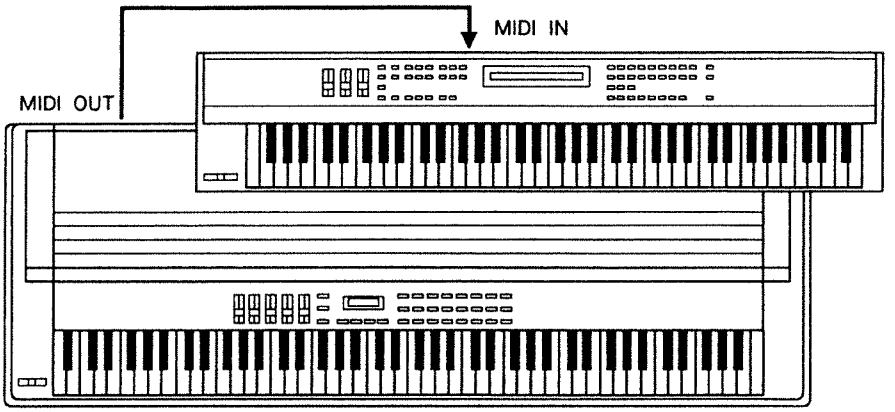
If you record the settings for Patches or Tones using Exclusive messages (instead of Program Numbers), you will be assured that the same settings are used during played back, even if settings for Patches or Tones on the Model 760 have been changed since.

To use Exclusive messages to transmit Patch settings, carry out the Patch Dump procedure; and to transmit Tone settings, perform the Tone Dump procedure. (☞ p. 62)

2. Use with Another Keyboard Controller

The unit can be combined with another keyboard controller (MK - 80, etc.) and used as a double - keyboard.

● Connections



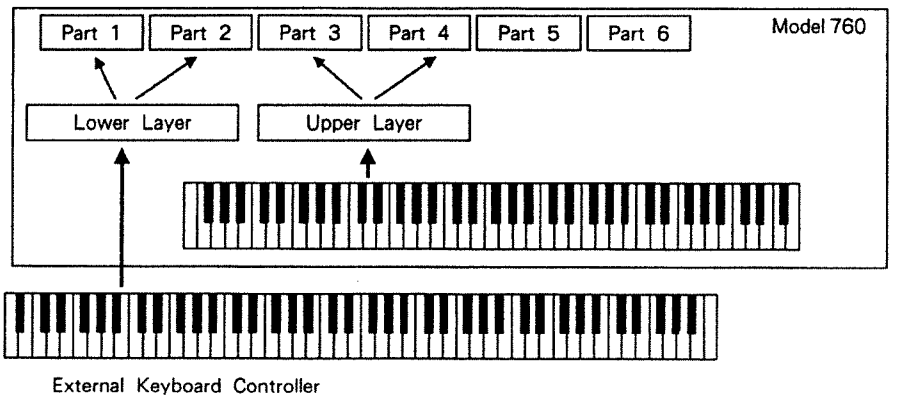
● Double - keyboard Usage

When wishing to play the Upper Part using the Model 760's keyboard, and play the Lower Part using an external Keyboard Controller, the MIDI parameters should be set as shown, and Split should be set to "Off."

Should you wish to change the Part that is triggered by the external Keyboard Controller, make changes in the Layer settings for Lower using the Model 760's panel.

< Example > When the transmit channel used by the Keyboard Controller is channel 1 :

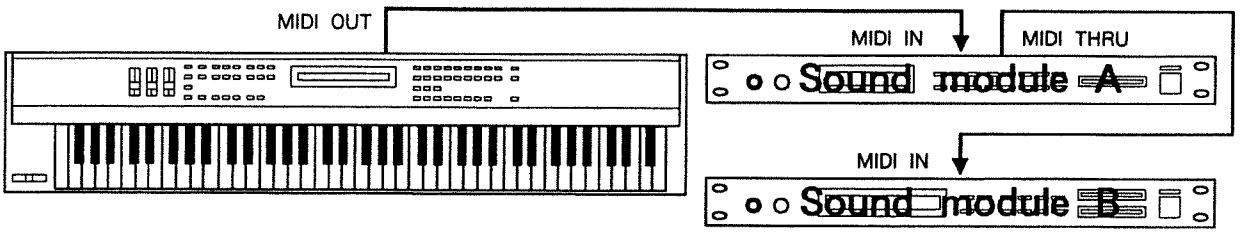
Parameter	Value
MIDI channel for Lower	1
MIDI channel for Upper	any other than 1
Receive Mode	U/L



3. Using Sound Modules

● Connections

When the unit is to be used in combination with other sound modules (Roland U - 220, D - 110, etc.) connections should be made as follows, and the MIDI parameters should be set to suit the application.



If Split will be "Off" when playing, the sound module's receive channel should be matched with the channel used by the Upper section.

If Split will be "On" when playing, sound module A's receive channel should be matched with the channel used by the Upper section, and sound module B's receive channel should be matched with the channel used by the Lower section. Then the two sound modules can be triggered independently by the Upper and Lower sections. If you have a multi - timbral sound module, Upper and Lower sections can also be used to trigger different sounds independently.

● Changes in the sound

When wishing to have sounds in the sound module change to correspond with a Patch change on the Model 760, you need to match the Control channel with the channel used for reception on the sound module.

When wishing to have the sound module change sounds to correspond with a Tone change on the Model 760, you need to match the MIDI channel used by the Current Part with the channel used for reception on the sound module.

● Combinations of Sounds

There are many possible ways of combining sound modules and sounds. Here are a few representative examples.

●A fatter sound can be obtained by layering two similar sounds and detuning one of them slightly. You could also try layering sounds an octave apart. This is most effective with sounds such as strings, brass, or organ.

●Another possibility is to set the Velocity Sens (Tone parameter) on the Model 760 in the − range, and on the sound module in the + range. Then, when keys are played strongly the sound module will be triggered. When the keys are played lightly, the Model 760 will sound. Aftertouch and volume sensitivitycan also be used to obtain similar effects.

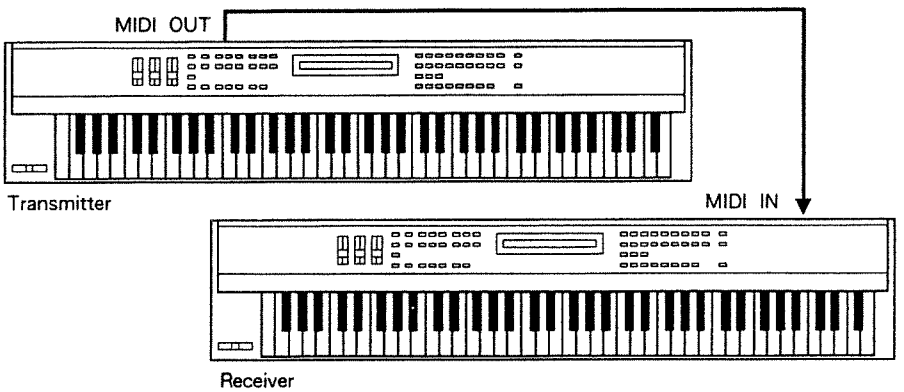
●If you make changes in envelopes on both units, attack portions could be sounded by the Model 760, and the sustained portions could be played by the sound module.

4. Transfer of Data Using Exclusive Messages

By employing Exclusive messages, a variety of data (parameter settings) can be transferred to a sequencer or another Model 760.

● Connections

When wishing to transmit data to another Model 760, a MIDI cable should be connected as shown below. For transfer of data with a sequencer, the setup shown on page 58 should be used.



● Transmission

When transmitting Exclusive data from the Model 760, there is a choice of the following 3 modes. They are selected depending on the type of parameters that are to be transmitted.

Tone Dump

Provides transmission of the Tone data for the Current Part. Rather than using a Tone's Program number, if you record this data into a sequencer you will be assured that the same tone settings are used during played back, even if settings on the Model 760 have since been changed.

While holding down [WRITE], press VARIATION [▲].
Once the data transmission has finished, "Completed" will be displayed, and you are returned to the Play mode.

Patch Dump

Provides for transmission of the currently selected Patch data. (Performance parameters, Part parameters for each Part, and the Tone parameters for every Tone selected for each Part) Instead of using a Patch's Program number, if you record this data into a sequencer, you will be assured that the same Patch settings are always used during played back, even if settings on the Model 760 have since been changed.

While holding down [WRITE], press VARIATION [▼].
Once the data transmission has finished, "Completed" will be displayed, and you are returned to the Play mode.

Bulk Dump

Bulk Dump is a process which transmits all the data contained within the Model 760. It allows you to store settings for the Model 760 in a sequencer, or to set another Model 760 to exactly the same settings.

* If you transmit data in this manner to another Model 760, you will lose all existing settings in the receiving unit, since they will be completely replaced with the new settings. Before carrying out this procedure, ensure that there is nothing you wish to save.

① While holding down [EDIT] press [MIDI]. Then, select the following screen using PARAMETER [◀][▶].

```
MIDI Bulk Dump
<   Sure ?       [WRITE] / [EDIT]
```

② Press [WRITE].

To cancel the transfer, press [EDIT].

Once the data transmission has finished, "Completed" will be displayed briefy, and you are returned to the screen in step ①.

③ Press [EDIT] to return to the Play mode.

● Reception

When wishing to receive Exclusive messages on the Model 760, set the "Rx Exclu" MIDI parameter to either ON - 1 or ON - 2. When the receiver has been set to ON - 1, you need to match the Unit Numbers on both transmitter and receiver.

If you then select the Play mode, it is ready to receive message at any time. (☞p. 57)


REFERENCE

TROUBLESHOOTING

In situations where a malfunction has occured or you think the unit is not operating properly, check the following items. Then, if you should still be unable to achieve normal operation, contact the store where bought the unit, or the nearest Roland Service Station.

No sound produced /sound too low

● Are you sure you don't have the volume set too low?
Recheck the volume settings you have on this unit, and any amplifier or mixer you have connected.

● Can sound be heard through headphones?
If so, then you may have a cord that is damaged, or the amplifier or mixer you have connected is the source of the problem.
Check the equipment and the connections . (☞ p. 10)

● Have you rechecked settings for Layer?
If no Parts at all have been included in any Layer setup, no sound is produced when the keyboard is played. Using the Layer function, select a Part. (☞ p. 13)

● Are you sure the level settings for Parts and Tones are not too low?
Level of Parts (☞ p. 31); Level of Tones(☞ p. 35).

● Are you sure the unit is not set at Local Off?
Set it to Local On. (☞ p. 56)

● Are Velocity Sens and Aftertouch Sens (Level) set inappropriately?
Velocity Sens (☞ p. 35); Aftertouch Sens (☞ p. 35).

● Is it possible that the volume for Parts is being set too low as a result of Volume messages received from an external MIDI device?
Try changing Patches.(☞ p. 17)

The sound seems strange

● Are you sure you don't have settings for Tones in their revised form after changing them for use in another Patch?
Initialize the settings for Tones. (☞ p. 30)

● Try re-checking the Layer settings
In certain cases strange sounds can results from the unusual combination of sounds. Try changing the choices made for Layer (☞ p. 13); also try re-selecting Tones. (☞ p. 14)

● Have you made changes in the Tone settings with respect to one PCM card, and now have a different card inserted?
Re-insert PCM card properly, or initialize the settings for Tones on PCM Card. (☞ p. 30)

The pitch is not right

● Are you sure you don't have Key Transpose set at "On"?
Turn it Off. (☞ p. 40)

● Has Tuning been shifted?
Carry out tuning. (☞ p. 22)

● Is the pitch for the Tones set properly?
Pitch Coarse / Pitch Fine (☞ p. 34).

● Is it possible that Bender messages are being continually received?
Try moving the bender lever, or changing Patches.

Patches/Tones don't change properly

● Is the [EDIT] indicator lit?
Press [EDIT] to return to the Play mode.

MIDI messages aren't received correctly.

● Are you sure you have MIDI cables connected properly?
Re - connect them so they are connected properly. (☞ p. 54)

● Have you checked to make sure settings for each Part's MIDI channel, and settings for how MIDI data is to be received are set as they should be?
MIDI settings. (☞ p. 54)

■ Error Messages

When a mistake in an operational procedure has been made, or the unit is unable to carry out a procedure properly, an Error Message will appear in the display. In such cases refer to the information below, then correct the problem.

While using a PCM Card

```
Wrong Card  →  Pull out
```

Cause: A card other than one specified has been inserted.
Remedy: Remove the card immediately.

```
Card Not Ready
```

Cause: No PCM card is inserted, or it is not properly inserted.
Remedy: Check that the card is inserted properly, then try again.

When using other MIDI devices

```
MIDI Communication Error
```

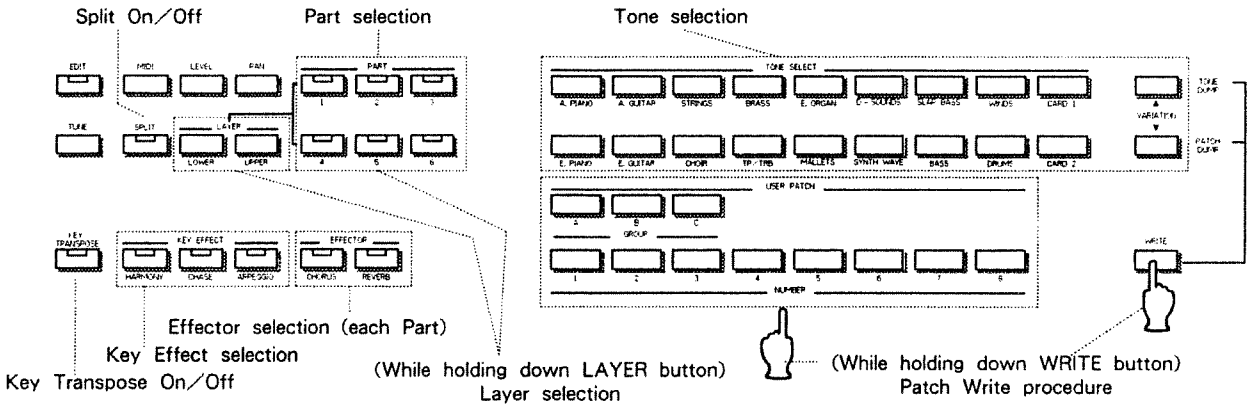
Condition: MIDI data is not being received preperly.
Cause: A MIDI cable with a bad internal connection is being used; or the cable has been unplugged.
(Active Sensing was interrupted)
Too much MIDI information has been received at once; information processing is difficult.
Exclusive messages were improperly received.
Remedy: Check MIDI cable connections, and the data to be transmitted, then try the procedure again.

When battery is depleted

```
Check internal battery
```

Cause: The unit's backup battery has been depleted.
Remedy: Contact you nearest Roland Service Station.

OPERATION MAP

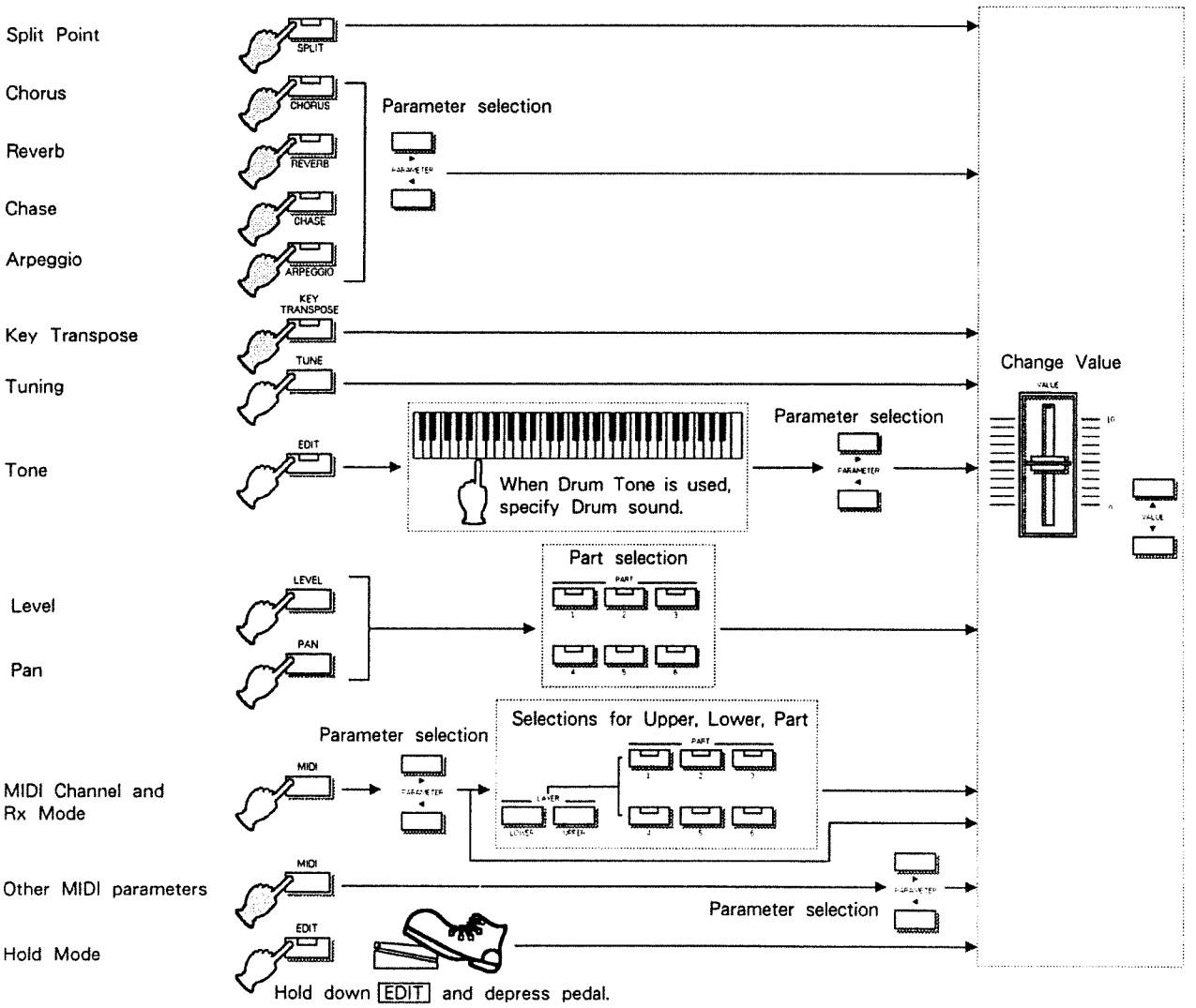


Press the specified button.

Hold down [EDIT] and press the specified button.

Play mode ⟵ Edit mode

To enter Edit mode



PARAMETER LIST

Changed using panel buttons.

Part parameter	Value
Tone Select	– – – – – – – – – –
Chorus On/Off	On, Off
Reverb On/Off	On, Off
Level	0 ··· 100
Pan	L | ··· | ··· | R, RND

Tone parameter		Value
Pitch	Coarse	– 24 ··· + 24
	Fine	– 50 ··· + 50
	Bender Range	0 ··· 12
	Aftertouch Bend	– 36, – 24, – 12 ··· + 12
Vibrato	Rate	0 ··· 100
	Depth	0 ··· 100
	Modulation Lever Sens	0 ··· 100
	Aftertouch Sens	0 ··· 100
Level	Level	0~100
	Velocity Sens	– 10 ··· + 10
	Aftertouch Sens	– 10 ··· + 10
	Attack Rate	– 10 ··· + 10
	Decay Rate	– 10 ··· + 10
	Sustain Level	– 10 ··· + 10
	Release Rate	– 10 ··· + 10

Drum - type Tones

Tone parameter	Value
Reverb On/Off	On, Off

Parameter	Value
Tuning	427.4 ··· 452.9 Hz

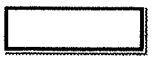
Performance parameter	Value
Split On/Off	On, Off
Split Point	E1 ··· G # 7
Upper Layer	Part 1 ··· 6 (On or Off for each)
Lower Layer	Part 1 ··· 6 (On or Off for each)
Key Transpose On/off	On, Off
Key Transpose	– 12 ··· + 12
Chorus Rate	0 ··· 100
Chorus Depth	0 ··· 100
Chorus Level	0 ··· 100
Reverb Type	ROOM - 1 ··· 3, HALL - 1, 2, GATE, DELAY - 1, 2
Reverb Time	0 ··· 100
Reverb Level	0 ··· 100
Delay Feedback	0 ··· 100
Key Effect	Off, Harmony, Chase, Arpeggio
Chase Repeat	ON, OFF
Chase Part	1 ··· 6, ROTARY
Chase Rate	0 ··· 100
Chase Shift	– 12 ··· + 12
Chase Level	0 ··· 100
Arpeggio Mode	UP, DOWN, UP & DOWN, RANDOM
Arpeggio Style	STACCATO, PORTATO, LEGATO
Arpeggio Part	1 ··· 6, LAYER
Arpeggio Rate	0 ··· 100
Arpeggio Aftertouch Sens	– 5 ··· + 5
Hold Mode	UPPER, LOWER, BOTH
Patch Name (16 characters)	(spece) A ··· Z a ··· z 0 ··· 9 - / + * . , : ; = ! " # $ % & '( ) 〈 〉 { } [ ] _ ?

MIDI parameter		Value	Factory settings
MIDI Channel	Part 1 ··· 6	1 ··· 16, OFF	① 3 ② 4 ③ 5 ④ 6 ⑤ 7 ⑥ 10
	Upper, Lower	1 ··· 16	Upper 1 Lower 2
Rx Mode		PART, U/L, BOTH	BOTH
Control Channel		1 ··· 16	16
Local Control		ON, OFF	ON
Program Change (Rx & Tx)		ON, OFF	ON
Aftertouch (Rx & Tx)		ON, OFF	ON
Breath (Rx)		OFF, VOL, MOD, AFT, V & M, V & A, M & A, ALL	VOL
Volume (Rx)		ON, OFF	ON
Exclusive (Rx)		OFF, ON - 1, ON - 2	ON - 1
Unit Number		CTRL, 17 ··· 32	17
Bulk Dump		– – – – – – – – – –	– – – – – – – – – –

TONE LIST

	Tone name	Prog #	Tyep	Number of Voices	Remaks	Upper limit of range
A. PIANO	A. PIANO 1	1	V - Mix	2	Soft	
	A. PIANO 2	2	V - Mix	2		
	A. PIANO 3	3	V - Mix	2	Bright	
	A. PIANO 4	4	V - Mix	2	Honky - tonk	
	A. PIANO 5	5	Single	1	Soft	
	A. PIANO 6	6	Detune	2		
	A. PIANO 7	7	Single	1	Hard	
	A. PIANO 8	8	Detune	2		
	A. PIANO 9	9	Single	1	Hard and bright	
	A. PIANO 10	10	Detune	2		
E. PIANO	E. PIANO 1	11	V - Mix	2	Soft + Hard	
	E. PIANO 2	12	Single	1	Soft	
	E. PIANO 3	13	Detune	2		
	E. PIANO 4	14	Single	1	Hard	
	E. PIANO 5	15	Detune	2		
	BRIGHT EP1	16	Single	1		G # 7
	BRIGHT EP2	17	Detune	2		
A. GUITAR	A. GUITAR 1	18	Single	1		A6
	A. GUITAR 2	19	Detune	2		
	A. GUITAR 3	20	Dual	2		
	A. GUITAR 4	21	Dual	2	Added lower octave	
	A. GUITAR 5	22	V - SW	1	Slow attack / fast attack (V = 100)	
E. GUITAR	E. GUITAR 1	23	V - SW	1	Muted / unmuted (V = 100)	F6
	E. GUITAR 2	24	Single	1	Muted	
	E. GUITAR 3	25	Single	1		
	E. GUITAR 4	26	Detune	2		
	HEAVY. EG 1	27	Single	1	Combination fifths	E7
	HEAVY. EG 2	28	Detune	2		
STRINGS	STRINGS 1	29	Single	1	Long release	B7
	STRINGS 2	30	Single	1	Short release	
	STRINGS 3	31	Dual	2	Long release, Added lower octave	
	STRINGS 4	32	Dual	2	Short release, Added lower octave	
	JP. STRINGS	33	Single	1		
	STRINGPAD1	34	Single	1		
	STRINGPAD2	35	Dual	2		

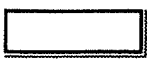
Prog # : Program number V : Velocity threshold (The value for velocity at which sound will change. The maximum value for velocity is 127.)


CHOIR

Tone name	Prog #	Type	Number of Voices	Remarks	Upper limit of range
CHOIR 1	36	Single	1	Long release	G # 6
CHOIR 2	37	Single	1	Short release	
CHOIR 3	38	Dual	2	Long release, Added lower octave	
CHOIR 4	39	Dual	2	Short release, Added lower octave	
SYN CHOIR	40	Single	1		
SYN. VOX 1	41	Single	1		
SYN. VOX 2	42	Single	1		
BREATH VOX	43	Dual	2		G7


BRASS

BRASS 1	44	Single	1		G # 7
JP. BRASS 1	45	Single	1		
JP. BRASS 2	46	Single	1		
RICH BRASS	47	Single	1		
BRASTRINGS	48	Dual	2		
METAL HIT	49	Dual	2		


TP / TRB

SOFT TP 1	50	Single	1		B7
SOFT TP 2	51	Detune	2		
TP / TRB 1	52	Single	1		
TP / TRB 2	53	Single	1	Soft	
TP / TRB 3	54	Single	1	Bright	


E. ORGAN

E. ORGAN 1	55	Single	1		A6
E. ORGAN 2	56	Detune	2		
E. ORGAN 3	57	Single	1		B6
E. ORGAN 4	58	Detune	2		
E. ORGAN 5	59	Single	1		E7
E. ORGAN 6	60	Detune	2		
E. ORGAN 7	61	Single	1		G # 6
E. ORGAN 8	62	Detune	2		
E. ORGAN 9	63	Dual	2		A6
R. ORGAN 1	64	Dual	2		
R. ORGAN 2	65	Dual	2		

Prog # : Program number

MALLETS

Tone name	Prog #	Tyep	Number of Voices	Remarks	Upper limit of range
VIBE 1	66	Single	1	Soft	
VIBE 2	67	Detune	2	Soft	
VIBE 3	68	V-Mix	2	Soft + Hard	F # 7
MARIMBA	69	Single	1		D7
BELL 1	70	Single	1	Long release	
BELL 2	71	Detune	2	Short release	
PIZZ	72	Single	1		
METAL	73	Single	1		
NAILS	74	Single	1		

D – SOUNDS

FANTASIA	75	Dual	2		
FANTA BELL	76	Single	1		
L. CALLIOPE	77	Dual	2		G7
CALLIOPE	78	Single	1		
BELL PAD	79	Dual	2		
SYNTH HARP	80	Single	1		
SPECT BELL	81	Dual	1		
PIZZAGOGO	82	Dual	2		
BELL DRUM	83	Dual	2		
SPECTRUM 1	84	Single	1		
SPECTRUM 2	85	Single	1		
N. DANCE	86	Single	1		

SYNTH WAVE

PULSEWAVE1	87	Single	1		
PULSEWAVE2	88	Single	1		
PULSEWAVE3	89	Single	1		
SAW WAVE 1	90	Single	1		
SAW WAVE 2	91	Single	1		

Prog # : Program number

	Tone name	Prog #	Type	Number of Voices	Remarks	Upper limit of range
SLAP BASS	SLAP 1	92	Single	1	Thumped / Pulled (S = E2, H = F # 4)	G7
	SLAP 2	93	Detune	2		
	SLAP 3	94	Single	1	Thumped / Pulled (S = B2, H = F # 4)	
	SLAP 4	95	Detune	2	Thumped / Pulled (S = E2, H = F # 4)	
	SLAP 5	96	V-SW	1	Thumped / Pulled (V = 100, H = F # 4)	
	SLAP 6	97	V-SW	1	Slow attack / fast attack (V = 100, H = F # 4)	
	SLAP 7	98	Single	1	Thumped / Pulled (S = E2, H = C # 4)	
	SLAP 8	99	Detune	2		
	SLAP 9	100	Single	1	Thumped / Pulled (S = B2, H = C # 4)	
	SLAP 10	101	Detune	2	Thumped / Pulled (S = E2, H = C # 4)	
	SLAP 11	102	V-SW	1	Thumped / Pulled (V = 100, H = C # 4)	
	SLAP 12	103	V-SW	1	Slow attack / fast attack (V = 100, H = C # 4)	
BASS	AC. BASS	104	V-Mix	2	Added fret noise	F4
	FRETLESS 1	105	Single	1	(H = D # 6)	G7
	FRETLESS 2	106	Detune	2	(H = D # 6)	
	FINGERED 1	107	Single	1	(H = C # 5)	
	FINGERED 2	108	Detune	2	(H = C # 5)	
	PICKED 1	109	Single	1		A4
	PICKED 2	110	Detune	2		
	SYN. BASS 1	111	V-Mix	2	Soft + Hard	B4
	SYN. BASS 2	112	Single	1	Soft	C # 5
	SYN. BASS 3	113	Single	1	Hard	B4
	SYN. BASS 4	114	Single	1		
	SYN. BASS 5	115	Single	1		
	SYN. BASS 6	116	Single	1		
	SYN. BASS 7	117	Single	1		
	SYN. BASS 8	118	V-Mix	2		
WINDS	SAX 1	119	Single	1		E7
	SAX 2	120	Single	1	Soft	
	SAX 3	121	Single	1	Bright	
	SAX 4	122	Detune	2		
	SAX 5	123	Dual	2	Added lower octave	
	FLUTE 1	124	Single	1		A # 7
	SHAKU 1	125	Single	1		F7
	SHAKU 2	126	Detune	2		
	BREATH	127	Single	1		

Prog # : Program number V : Velocity threshold

S : Split point (Position on keyboard at which change in voice occurs.)

H : Harmony point (Position on keyboard at which harmony elements are added.)

DRUMS

Tone name	Prog #	Type	Number of Voices	Remarks	Upper limit of range
DRUMS	128	Single	1	See chart below	

DRUMS (Factory settings)

	Note number	Drum name	Pan	Reverb
	35	Bass Drum 1	L R	Off
C2	36	Bass Drum 2	L R	Off
	37	Rim Shot	L R	On
	38	Snare Drum 1	L R	On
	39	Hand Clap	L R	On
	40	Snare Drum 2	L R	On
	41	Low Tom Tom 1	L R	On
	42	Closed High Hat 1	L R	Off
	43	Low Tom Tom 2	L R	On
	44	Open High Hat 2	L R	Off
	45	Middle Tom Tom 1	L R	On
	46	Open High Hat 1	L R	Off
	47	Middle Tom Tom 2	L R	On
C3	48	High Tom Tom 1	L R	On
	49	Crash Cymbal 1	L R	On
	50	High Tom Tom 2	L R	On
	51	Ride Cymbal 1	L R	On
	52	China Cymbal 1	L R	On
	53	Cup (Mute)	L R	On
	54	Off	L R	Off
	55	Off	L R	Off
	56	Cowbell	L R	On
	57	Crash Cymbal 2	L R	On
	58	Snare Drum 3	L R	On
	59	Ride Cymbal 2	L R	On
C4	60	Off	L R	Off
	61	Off	L R	Off
	62	Off	L R	Off
	63	Off	L R	Off
	64	Off	L R	Off
	65	Off	L R	Off
	66	Off	L R	Off
	67	Off	L R	Off
	68	Off	L R	Off
	69	Cabasa	L R	On
	70	Off	L R	Off
	71	Off	L R	Off
C5	72	Off	L R	Off
	73	Off	L R	Off
	74	Off	L R	Off
	75	Off	L R	Off
	76	Off	L R	Off
	77	Off	L R	Off
	78	Off	L R	Off
	79	High Pitch Tom Tom 2	L R	On
	80	Off	L R	Off
	81	High Pitch Tom Tom 1	L R	On
	82	Off	L R	Off
	83	Off	L R	Off
C6	84	Bass Drum 3	L R	Off
	85	Bass Drum 4	L R	Off
	86	Snare Drum 4	L R	On
	87	Snare Drum 5	L R	On
	88	Snare Drum 6	L R	On
	89	Low Tom Tom 3	L R	On
	90	Closed High Hat 2	L R	Off
	91	Middle Tom Tom 3	L R	On
	92	China Cymbal 2	L R	On
	93	High Tom Tom 3	L R	On
	94	Ride Cymbal 3	L R	On
	95	Off	L R	Off
C7	96	Off	L R	Off
	97	Off	L R	Off
	98	Off	L R	Off

Off : No sound

BLANK CHARTS

A blank chart could be photocopied and used whenever needed.

Patch #		Patch Name	

Split		Layer						Chorus			Reverb			
On/Off	Point	Lower			Upper			Rate	Depth	Level	Type	Time	Level	Delay FB
on off		1	2	3	1	2	3							
		4	5	6	4	5	6							

Key Transpose		Key Effect Select	Chase					Arpeggio					Hold Mode
On/Off	Transpose		Repeat	Part	Rate	Shift	Level	Mode	Style	Part	Rate	After	
on off													

	Tone Name	Level	Pan	Effector On/Off	
				Chorus	Reverb
Part 1			L | | | | | | | | | | | | | | | R	on off	on off
Part 2			L | | | | | | | | | | | | | | | R	on off	on off
Part 3			L | | | | | | | | | | | | | | | R	on off	on off
Part 4			L | | | | | | | | | | | | | | | R	on off	on off
Part 5			L | | | | | | | | | | | | | | | R	on off	on off
Part 6			L | | | | | | | | | | | | | | | R	on off	on off

	Pitch				Vibrate				Level						
	Coarse	Fine	Bender	After	Rate	Depth	Lever	After	Level	Velocity	After	Attack	Decay	Sustain	Release
Part 1															
Part 2															
Part 3															
Part 4															
Part 5															
Part 6															

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

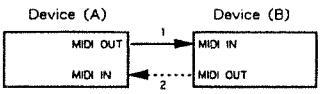
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory-resident records-waveform and tone data, switch status, and parameters, for example-to specific locations in a machine-dependent address space, thereby allowing access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

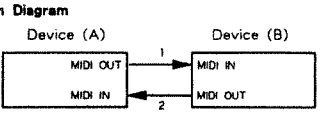


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

≠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.

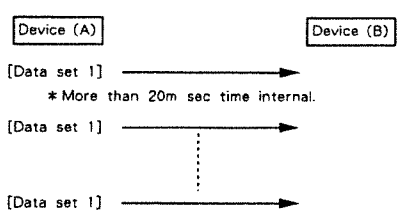
The MIDI standards inhibit non-real time messages from interrupting an exclusive one. This fact is inconvenient for the devices that support a "soft-through" mechanism. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out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

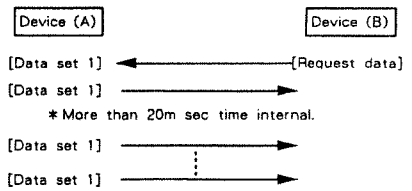
*A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.
*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields before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

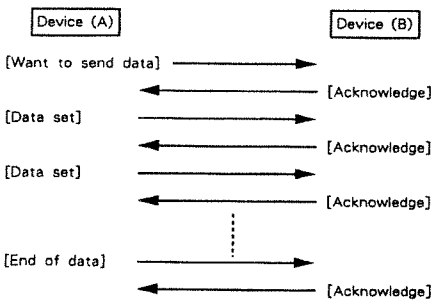
- a WSD or RQD message has specified an illegal data address or size.
- the device is not ready for communication.
- an illegal number of addresses or data has been detected.
- data transfer has been terminated by an operator.
- a communications error has occurred.

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.

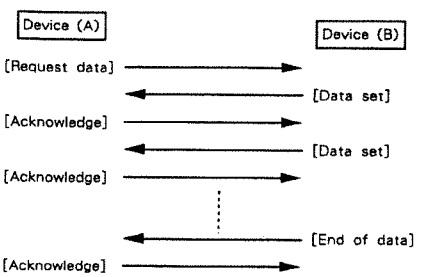
Byte	Description
F0H	Exclusive status
41H	Manufacturer ID (Roland)
DEV	Device ID
MDL	Model ID
4FH	Command ID
F7H	End of exclusive

Example of Message Transactions

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

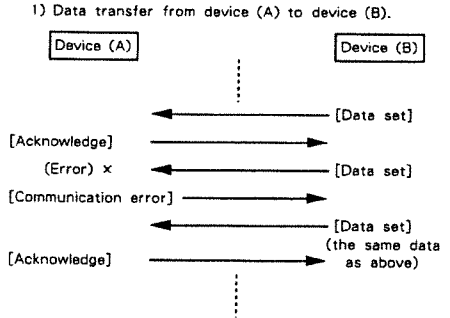


● Device (A) requests and receives data from device (B).

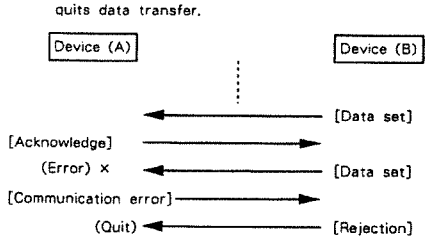


● Error occurs while device (A) is receiving data from device (B).

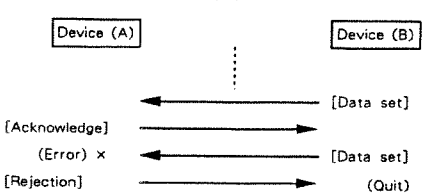
1) Data transfer from device (A) to device (B).



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



3) Device (A) immediately quits data transfer.



RS – PCM KEYBOARD

Model 760

MIDI Implementation

Date : Nov. 17 1989

Version : 1.00

1. RECOGNIZED RECIEVE DATA

Following messages are always recognized except for ROM Play.

■ Channel voice messages

The message is recognized through the MIDI channel for Upper/Lower or each part according to MIDI Rx Mode.(p.54)

● Note event

○ Note off

Status	Second	Third
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
kk = Note number : 00H – 7FH (0 – 127) 0 = C – 1 – 127 = G9
vv = Velocity : Ignored

○ Note on

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
kk = Note number : 00H – 7FH (0 – 127) 0 = C – 1 – 127 = G9
vv = Velocity : 01H – 7FH (1 – 127)

● Aftertouch

This message is recognized when MIDI After function (p.56) is on.

○ Polyphonic Aftertouch

Status	Second	Third
AnH	kkH	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
kk = Note number : 00H – 7FH (0 – 127) 0 = C – 1 – 127 = G9
vv = Value : 00H – 7FH (0 – 127)

○ Channel Aftertouch

Status	Second
DnH	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Value : 00H – 7FH (0 – 127)

● Control change

○ Modulation depth

Status	Second	Third
BnH	01H	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Modulation depth : 00H – 7FH (0 – 127)

○ Breath

This message is recognized as volume/modulation/aftertouch according to MIDI Rx Breath fuction.(p.57)

Status	Second	Third
BnH	02H	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Breath : 00H – 7FH (0 – 127)

○ Volume

This message is recognized when MIDI Rx Volume fuction is on.(p.57)
The value (vvH) corresponds to the Level of Part.

Status	Second	Third
BnH	07H	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Volume value : 00H – 7FH (0 – 127)

○ Pan

This message is recognized as the Part's Pan, and 15 different positions are available as settings.(p.32)

Status	Second	Third
BnH	0AH	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Pan value : 00H – 7FH (0 – 127) 00H = Left – 40H = Center – 7FH = Right

L7 .. L6 .. L5 .. L4 .. L3 .. L2 .. L1 .. Center .. R1 .. R2 .. R3 .. R4 .. R5 .. R6 .. R7

L7 : 0H – 8H (0 – 8)
L6 : 9H – 11H (9 – 17)
L5 : 12H – 19H (18 – 25)
L4 : 1AH – 22H (26 – 34)
L3 : 23H – 2AH (35 – 42)
L2 : 2BH – 33H (43 – 51)
L1 : 34H – 3BH (52 – 59)
Center : 3CH – 44H (60 – 68)
R1 : 45H – 4AH (69 – 76)
R2 : 4BH – 55H (77 – 85)
R3 : 56H – 5DH (86 – 93)
R4 : 5EH – 66H (94 – 102)
R5 : 67H – 6EH (103 – 110)
R6 : 6FH – 77H (111 – 119)
R7 : 78H – 7FH (120 – 127)

○ Hold 1

Status	Second	Third
BnH	40H	vvH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
vv = Hold : 00H – 7FH (0 – 127) 0 – 63 = OFF,64 – 127 = ON

○ RPN LSB

Status	Second	Third
BnH	64H	llH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
ll = LSB of the patameter number controlled by RPN

○ RPN MSB

Status	Second	Third
BnH	65H	mmH

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
mm = MSB of the patameter number controlled by RPN

*** RPN description ***
Using MIDI RPN, parameters can be changed by Control change messages. RPN MSB and LSB specify the parameter to be controlled, while Data entry shows the parameter value.

Pitch bend sensitivity and Fine tune are controllable by RPN on Model 760.

RPN = 0 : Pitch bend sensitivity
BnH 64H 00H (RPN LSB) BnH 65H 00H (RPN MSB) BnH 06H mmH (Data Entry MSB)

n = MIDI channel No. : 0H – FH (0 – 15) 0 = ch.1 – 15 = ch.16
mm = Bender range : 00H – 0CH (0 – 12) 1 octave by semitone
* Data Entry LSB is ignored.

RPN # 1 : Fine tune

BnH 64H 01H	BnH 65H 00H	BnH 26H llH	BnH 06H mmH
(RPN LSB)	(RPN MSB)	(Data Entry LSB)	(Data Entry MSB)

n = Control channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
ll = LSB data of the Fine tune : 00H - 7FH
mm = MSB data of the Fine tune : 1FH - 60H
mm, ll = 1FH,00H - 40H,00H - 60H,18H (- 50.5cent - 0cent - + 50.3cent)
↑
A = 440.0Hz

○ Data entry LSB

Status	Second	Third
BnH	26H	llH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
ll = Value of RPN : 00H - 7FH (0 - 127)

○ Data entry MSB

Status	Second	Third
BnH	06H	mmH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
mm = Value of RPN : 00H - 7FH (0 - 127)

*** Data entry description ***
RPN # 0 : Pitch bend sensitivity
Data Entry MSB (Data Entry LSB)

BnH 06H mmH	(BnH 26H llH)	Pitch bend sensitivity
00H	ignored	0 cent
01H	〃	100 cent (semitone)
·	〃	·
0CH	〃	1200 cent (1 Octave)
0DH	〃	ignored
·	〃	〃
7FH	ignored	ignored

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

RPN # 1 : Fine tune
Data Entry MSB Data Entry LSB

BnH 06H mmH	BnH 26H llH	Fine tune
1FH	58H	- 50.5 cent
·	·	·
·	·	·
40H	00H	0 cent (A4 = 440.0Hz)
·	·	·
·	·	·
60H	18H	+ 50.3 cent

n = Control channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

● Program change

The message is recognized when MIDI Program Change function is on.(p.55)
However, it is not recognized in Edit mode.

Status	Second
CnH	ppH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
pp = Program change number : 00H - 7FH (0 - 127)

○ Tone change

This message is recognized through the MIDI channel for each part, and Program change number (ppH) corresponds to the Internal or Card 1/2 Tones.
See the Tones list (p.70) for details.

CnH ppH	Tone # : Tone Name
00H	1 : A.PIANO 1
·	·
·	·
7FH	128 : DRUMS

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

○ Patch change

This message is recognized through the Control Channel, and Program change number (ppH) corresponds to the USER PATCH #.

CnH ppH	Patch #
00H	USER PATCH A - 1
·	·
·	·
17H	USER PATCH C - 8
18H	ignored
·	〃
7FH	ignored

n = Control channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

● Pitch bend Change

Status	Second	Third
EnH	llH	mmH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
ll = LSB of Pitch bend change : 00H - 7FH (0 - 127)
mm = MSB of Pitch bend change : 00H - 7FH (0 - 127)
mmH, llH = 00H, 00H - 40H, 00H - 7FH, 7FH (- 8192 - 0 - + 8191)

mmH	llH	Relative value of Pitch
00H	00H	- 8192
·	·	·
·	·	·
40H	00H	0
·	·	·
·	·	·
7FH	7FH	+ 8191

■ Channel mode messages

The message is recognized through the MIDI channel for Upper/Lower or each part according to MIDI Rx mode.(p.54)

● Reset all controllers

Status	Second	Third
BnH	79H	00H

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

When Reset all controllers is recognized, each of the controller is set as follows.

Controller	Setting
Pitch bender	± 0 (center)
Hold 1	0 (off)
Modulation	0 (min)
Channel aftertouch	0 (min)
Polyphonic aftertouch	0 (min)

● Local control

This message is recognized through the Control Channel.

Status	Second	Third
BnH	7AH	vvH

n = Control channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
vv = Value : 00H, 7FH (0, 127) 0 = OFF, 127 = ON

● All notes off

When All notes off is recognized, all the notes which have been turned on by MIDI Note on message are turned off.

Status	Second	Third
BnH	7BH	00H

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

■ System real time messages

● Active sensing

Once recieving this message, the Model 760 expects to accept status or data in sequence, at last within about 400 msec intervals.
If the unit fails to recieve a message 400 msec after previous one, it judges there is a problem somewhere in MIDI path, muting the current sound, set as reset all controllers is recognized. After "MIDI Comunication Error" is displayed, it will be back into normal condition but monitoring 400 msec - interval of incoming signal.

Status
FEH

■ System exclusive messages

A set of various parameter is received using MIDI Exclusive messages on Model 760. Refer to section 3 (p.47) and 'Roland Exclusive Messages' (p.76) for details.

Status	data	(EOX)
F0H	ddH	F7H

F0H = System exclusive
ddH = data : 00H - 7FH
F7H = EOX (End of Exclusive)

2. TRANSMITTED DATA

■ Channel voice messages

The message is transmitted through the MIDI Channel for Upper/Lower.(p.55)

● Note event

If Chase/Arpeggio (Key Effect) is set at "On," note events for chase/arpeggio effect is transmitted through the Part's MIDI channel coresponded to "Chase Part" / "Arpeggio Part."

○ Note off

Status	Second	Third
8nH	kkH	vvH

n = MIDI channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
kk = Note number	: 00H - 7FH (0 - 127)	0 = C - 1 - 127 = G9
vv = Velocity	: 01H - 7FH (1 - 127)	

○ Note on

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
kk = Note number	: 00H - 7FH (0 - 127)	0 = C - 1 - 127 = G9
vv = Velocity	: 01H - 7FH (1 - 127)	

● Control change

○ Modulation depth

This message is transmitted when the Modulation Lever is used.

Status	Second	Third
BnH	01H	vvH

n = MIDI channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
vv = Modulation depth	: 00H - 7FH (0 - 127)	

○ Hold 1

This message is transmitted when the Hold Pedal is depressed.

Status	Second	Third
BnH	40H	vvH

n = MIDI channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
vv = Hold	: 00H, 7FH (0, 127)	OFF = 0, ON = 127

*** Transmission of RPN ***
While setting Tuning (p.22), press the [WRITE] button then the Fine tune (RPN # 1) is transmitted through the Control Channel.

RPN # 1 : Fine tune

BnH 64H 01H	BnH 65H 00H	BnH 26H llH	BnH 06H mmH
(RPN LSB)	(RPN MSB)	(Data LSB)	(Data MSB)

n = Control channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
ll = LSB data of the Fine tune	: 00H - 7FH	
mm = MSB data of the Fine tune	: 1FH - 60H	
mmH,llH = 1FH,00H - 40H,00H - 60H,18H	(- 50.5cent - 0cent - + 50.3cent)	

↑
A = 440.0Hz

○ RPN LSB

Status	Second	Third
BnH	64H	01H

n = Control channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
01 = LSB of the Fine tune		

○ RPN MSB

Status	Second	Third
BnH	65H	00H

n = Control channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
00 = MSB of the Fine tune		

○ Data entry LSB

Status	Second	Third
BnH	26H	llH

n = Control channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
ll = LSB data of the Fine tune	: 00H - 7FH (0 - 127)	

○ Data entry MSB

Status	Second	Third
BnH	06H	mmH

n = Control channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
mm = MSB data of the Fine tune	: 1FH - 60H (31 - 96)	

● Program change

This message is transmitted when MIDI Program Change function is on.(p.55)

Status	Second
CnH	ppH

n = MIDI channel No.	: 0H - FH (0 - 15)	0 = ch.1 - 15 = ch.16
pp = Program change number	: 00H - 7FH (0 - 127)	

○ Tone change number

When the TONE SELECT or VARIATION button are pressed, the Tone change number corresponds to that tone is transmitted through the MIDI Channel for current part. Refer to TONE LIST (p.70) for program number.

Tone #	: Tone Name	CnH ppH
1	: A.PIANO 1	00H
•		•
•		•
128	: DRUMS	7FH

n = MIDI channel No. for current part : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

○ **Patch change number**

When the USER PATCH button is pressed, the patch change number corresponds to that patch is transmitted through the Control Channel.

Patch #	CnH ppH
USER PATCH A - 1	00H
.	.
.	.
USER PATCH C - 8	17H

n = Control channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

● Channel Aftertouch

This message is transmitted when holding down the key by the MIDI After function is on.

Status	Second
DnH	vvH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16
vv = Value : 00H - 7FH (0 - 127)

● Pitch bend Change

This message is transmitted when the Bender Lever is used.

Status	Second	Third
EnH	llH	mmH

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16
ll = LSB of Pitch bend change : 00H - 7FH (0 - 127)
mm = MSB of Pitch bend change : 00H - 7FH (0 - 127)
mmH,llH = 00H,00H - 40H,00H - 7FH,7FH (-8192 - 0 - +8191)

mmH	llH	Relative value of Pitch
00H	00H	-8192
.	.	.
.	.	.
40H	00H	0
.	.	.
.	.	.
7FH	7FH	+8191

■ Channel mode messages

The message is transmitted through the MIDI Channel for Upper/Lower.(p.55)

● Reset all controllers

This message is transmitted to external equipments when used to change the setting of Key Split or MIDI channel.

Status	Second	Third
BnH	79H	00H

n = MIDI channel No. : 0H - FH (0 - 15) 0 = ch.1 - 15 = ch.16

■ System real time messages

● Active sensing

This message is transmitted for checking MIDI connection between Model 760 and external equipments at an interval of 250msec.

Status
FEH

■ System exclusive messages

Status
F0H ..... ddH F7H

F0H = System exclusive
ddH = data : 00H - 7FH
F7H = EOX (End of Exclusive)

A set of various parameter is transmitted using MIDI Exclusive messages on Model 760. Refer to section 3 (p.47) and 'Roland Exclusive Messages' (p.76) for details.

3. EXCLUSIVE COMMUNICATIONS

A set of parameters of a tone or patch or bulk can transmit to Model 760 by using one way MIDI exclusive message. This message is always received except for ROM Play, if Rx Exclu of MIDI function is set to ON - 1 or ON - 2.
However, when Rx Exclu is set to ON - 1, you need to match the Unit Numbers on both equipments.(p.57)

Model - ID # in the exclusive message is used "35H" on Model 760.
Device - ID # is set to "Unit Number less 1", upon power - up the next time it always Unit Number will be set at "17". Then Device - ID # is used 10H (16 = 17 - 1).

■ One - way communication

Refer to Section 3. One - way Transfer Procedure (p.76) and Section 4. Parameter Address Map (p.**) for details.

● Request data RQ1 (11H)

Byte	Comments
F0H	Exclusive status
41H	Manufactures ID (Roland)
DEV	Device ID (Unit # - 1)
35H	Model ID (Model 760)
11H	Command ID (RQ1)
aaH	Address MSB
bbH	Address
ccH	Address LSB
ssH	Size MSB
ssH	Size
ssH	Size LSB
sum	Check sum
F7H	EOX (End Of eXclusive)

When receiving RQ1 in case of Rx Exclu of MIDI function is set to ON - 1 or ON - 2, contains start address listed in the Paremeter base address table, and the address size is 1 or moreover in the block of the same value of address MSB, sends the data stored in that address location and the subsequent locations, if any, using DT1 format. So that cannot be taken out the data of plural block at once.

Model 760 never sends this message.

● Data set DT1 (12H)

Byte	Comments
F0H	Exclusive status
41H	Manufactures ID (Roland)
DEV	Device ID (Unit # - 1)
35H	Model ID (Model 760)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address LSB
ddH	Data
:	:
eeH	Data
sum	Check sum
F7H	EOX (End Of eXclusive)

○ **Receiving DT1**

When receiving DT1 in case of Rx Exclu of MIDI function is set to ON - 1 or ON - 2, and if the address specified in the message corresponds to the Parameter base address table, stores the data into that and subsequent address locations.
However, the plural data of DT1 is received at the same time, Model 760 cannot manage the data. Then make intervals at about 400msec during DT1 messages.

○ **Transmission DT1**

Exclusive messages are transmitted under following conditions by DT1.

1) Tone dump
While holding down the [WRITE] button, press VARIATION [▲] button then the Tone data of the current part is transmitted. Refer to *4 - 2 of Parameter Addres Map for details.

2) Patch dump
While holding down the [WRITE] button, press VARIATION [▼] button then the Patch data of the current patch is transmitted. Refer to *4 - 3 of Parameter Address Map for details.

3) Bulk dump
While displaying on MIDI function "MIDI Bulk Dump Sure ?", press [WRITE] button then all the data within Model 760 is transmitted. Refer to *4-3, *4-4, *4-5 of Parameter Address Map for details.

4) Recognized RQ1
When receiving RQ1 in case of Rx Exclu of MIDI function is set to ON-1 or ON-2, parameter corresponding to the address is transmitted.

4. PARAMETER ADDRESS MAP

Address are shown in 7 - bit hexadecimal.

アドレス	MSB		LSB
バイナリー	0aaa aaaa	0bbb bbbb	0ccc cccc
ヘキサ・16進	AA	BB	CC

■ Parameter base address

Parameter base address is explained on each blocks.(*4-1, *4-2 etc.)

Start address	Description		Command RQ1	Command DT1
00 01 00H	System Temporary Area	*4-1	○	○
01 00 00H	Part Temporary Area (Part 1)	*4-2		
01 00 06H	Part Temporary Area (Part 2)	:		
01 00 0CH	Part Temporary Area (Part 3)	:	○	○
01 00 12H	Part Temporary Area (Part 4)	:		
01 00 18H	Part Temporary Area (Part 5)	:		
01 00 1EH	Part Temporary Area (Part 6)	:		
02 00 00H	Patch Memory (User Patch A-1)	*4-3		
02 04 34H	Patch Memory (User Patch A-2)	:		
:	:			
02 23 20H	Patch Memory (User Patch B-1)	:	○	○
:	:			
02 60 78H	Patch Memory (User Patch C-7)	:		
02 65 2CH	Patch Memory (User Patch C-8)	:		
09 00 00H	Tone Modify Area (Internal #1)	*4-4		
09 00 10H	Tone Modify Area (Internal #2)	:		
:	:			
09 07 70H	Tone Modify Area (Internal #64)	:	○	○
:	:			
09 0F 50H	Tone Modify Area (Internal #126)	:		
09 0F 60H	Tone Modify Area (Internal #127)	:		
0A 00 00H	Tone Modify Area (Card1 #1)	*4-4		
0A 00 10H	Tone Modify Area (Card1 #2)	:		
:	:			
0A 07 70H	Tone Modify Area (Card1 #64)	:	○	○
:	:			
0A 0F 60H	Tone Modify Area (Card1 #127)	:		
0A 0F 70H	Tone Modify Area (Card1 #128)	:		
0B 00 00H	Tone Modify Area (Card2 #1)	*4-4		
0B 00 10H	Tone Modify Area (Card2 #2)	:		
:	:			
0B 07 70H	Tone Modify Area (Card2 #64)	:	○	○
:	:			
0B 0F 60H	Tone Modify Area (Card2 #127)	:		
0B 0F 70H	Tone Modify Area (Card2 #128)	:		
0C 00 00H	Drums Modify Area (Internal)	*4-5		
0C 01 00H	Drums Modify Area (Card1)	:	○	○
0C 02 00H	Drums Modify Area (Card2)	:		
10 00 00H	Display Area	*4-6	×	○

○ : available × : unavailable

The actual address of a parameter in a block is the sum of the start address of each block and one or more offset address.
And Device-ID # is set "10H (Unit# = 17)" for an example of RQ1/DT1 application.

* Inner Process on Model 760 *
When one Patch is selected, the data of System memory (*4-3-1) and Part memory (*4-3-2) is once transfered to the each Temporary area (*4-1, *4-2), and sound generate for refering to the data of those temporary and tone memory of the Patch (*4-3-3 or *4-3-4).
If changed the data of current tone, that data is automatically written to the Tone modify area (*4-4, *4-5), and sound generate for refering to that tone modify data.
When the data of current tone is changed by exclusive messages, you must be done either of following ways before transmit the exclusive messages of tone data.

1. Specify the tone to transmit the program change number of the tone that wish to change.

2. Specify the tone to transmit the exclusive message of the tone group/variation # from Part temoporary area (*4-2).

*4-1 Seystem Temporary Area
Temporary system data for sound generation is setting in this area.

Offset address		Description		
00 00H	0000 000a	Key Transpose SW	0-1	(OFF, ON)
00 01H	000a aaaa	Key Transpose Value	0-24	(-12 - +12)
00 02H	0000 000a	Key Split	0-1	(WHOLE, SPLIT)
00 03H	0aaa aaaa	Split Point	0-127	(C-1 - G9)
00 04H	00aa aaaa	Upper Part		
		bit 6-7	-	
		bit 5 Part 1	0-1	(OFF, ON)
		bit 4 Part 2	0-1	(OFF, ON)
		bit 3 Part 3	0-1	(OFF, ON)
		bit 2 Part 4	0-1	(OFF, ON)
		bit 1 Part 5	0-1	(OFF, ON)
		bit 0 Part 6	0-1	(OFF, ON)
00 05H	00aa aaaa	Lower Part		
		bit 6-7	-	
		bit 5 Part 1	0-1	(OFF, ON)
		bit 4 Part 2	0-1	(OFF, ON)
		bit 3 Part 3	0-1	(OFF, ON)
		bit 2 Part 4	0-1	(OFF, ON)
		bit 1 Part 5	0-1	(OFF, ON)
		bit 0 Part 6	0-1	(OFF, ON)
00 06H	0000 0000	dummy		
00 07H	0000 00aa	Hold Mode	0-2	(UPPER, LOWER, BOTH)
00 08H	0aaa aaaa	Chorus Rate	0-100	
00 09H	0aaa aaaa	Chorus Depth	0-100	
00 0AH	0aaa aaaa	Chorus Level	0-100	
00 0BH	0000 0aaa	Reverb Type	0-7	(ROOM-1, 2, 3, HALL-1, 2, GATE, DELAY-1, 2)
00 0CH	0aaa aaaa	Reverb Time	0-100	
00 0DH	0aaa aaaa	Reverb Level	0-100	
00 0EH	0aaa aaaa	Delay Feedback	0-100	
00 0FH	0000 00aa	Key Effect Select	0-3	(OFF, HARMONY, CHASE, ARPEGGIO)
00 10H	0000 000a	Chase Repeat	0-1	(OFF, ON)
00 11H	0000 0aaa	Chase Part	0-6	(1-6, ROTARY)
00 12H	0aaa aaaa	Chase Rate	0-100	
00 13H	000a aaaa	Chase Shift	0-24	(-12 - +12)
00 14H	0aaa aaaa	Chase Level	0-100	
00 15H	0000 00aa	Arpeggio Mode	0-3	(UP, DOWN, UP&DOWN, RANDOM)
00 16H	0000 0aaa	Arpeggio Part	0-6	(1-6, LAYER)
00 17H	0aaa aaaa	Arpeggio Rate	0-100	
00 18H	0000 aaaa	Arpeggio After	0-10	(-05 - +05)
00 19H	0000 00aa	Arpeggio Style	0-2	(STACCATO, PORTATO, LEGATO)
Total size	00 00 1AH			

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data from System temporary area.

F0 41 10 35 11 00 01 00 00 00 1A 65 F7

/Example of DT1 application/
When the current Key Split is set as on, transmit to the Model 760 following messages.

F0 41 10 35 12 00 01 02 01 7C F7

*4 - 2 Part Temporary Area (Part1 - Part6)
Temporary Part data for sound generation is setting in this area.
When execute Tone dump operation, temporary part data and tone memory data (*4 - 4) at current part is transmitted.

Offset address	Description		
00 00H	000a aaaa	Tone Group	0 - 17
		(A.PIANO, E.PIANO, ..., CARD1, CARD2)	
00 01H	0aaa aaaa	Tone Variation	0 - 127(max)
			(Variation #)
00 02H	0aaa aaaa	Part Level	0 - 100
00 03H	0000 aaaa	Part Pan	0 - 15
			(L7 - 0 - R7, RND)
00 04H	0000 000a	Chorus SW	0 - 1
			(OFF, ON)
00 05H	0000 000a	Reverb SW	0 - 1
			(OFF, ON)
Total size	00 00 06H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Part 3" from Part temporary area.

F0 41 10 35 11 01 00 0C 00 00 06 6D F7

/Example of DT1 application/
When the Tone of Part 5 set as "BRIGHT EP1", transmit to the Model 760 following messages.

F0 41 10 35 12 01 00 18 01 05 61 F7

*4 - 3 Patch Memory (A - 1 - C - 8)
The data of USER PATCH is memorized.
When execute Patch dump operation, whole data of one patch in this area is transmitted.

Offset address	Description	
00 00 00H	System Memory	*4-3-1
00 00 20H	Part Memory (Part 1)	*4-3-2
00 00 26H	Part Memory (Part 2)	:
00 00 2CH	Part Memory (Part 3)	:
00 00 32H	Part Memory (Part 4)	:
00 00 38H	Part Memory (Part 5)	:
00 00 3EH	Part Memory (Part 6)	:
00 00 44H	Tone Memory (Part 1)	*4-3-3
00 00 54H	Tone Memory (Part 2)	:
00 00 64H	Tone Memory (Part 3)	:
00 00 74H	Tone Memory (Part 4)	:
00 01 04H	Tone Memory (Part 5)	:
00 01 14H	Tone Memory (Part 6)	:
00 01 24H	Drums Memory (internal)	*4-3-4
00 02 24H	Drums Memory (Card1)	:
00 03 24H	Drums Memory (Card2)	:
00 04 24H	Patch Name	*4-3-6
Total size	00 04 34H	

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "USER PATCH A - 1" from Patch Memory area.
This data is same as Patch dump operation of "USER PATCH A - 1".

F0 41 10 35 11 02 00 00 00 04 34 46 F7

*4 - 3 - 1 System Memory
The data of Performance paremeter is memorized.

Offset address	Description			
00 00H	0000 000a	Key Transpose SW		0 - 1 (OFF, ON)
00 01H	000a aaaa	Key Transpose Value		(-12 - +12)
00 02H	0000 000a	Key Split		0 - 1 (WHOLE, SPLIT)
00 03H	0aaa aaaa	Split Point		0 - 127 (C-1 - G9)
00 04H	00aa aaaa	Upper Part		
		bit 6-7	-	
		bit 5	Part 1	0 - 1 (OFF, ON)
		bit 4	Part 2	0 - 1 (OFF, ON)
		bit 3	Part 3	0 - 1 (OFF, ON)
		bit 2	Part 4	0 - 1 (OFF, ON)
		bit 1	Part 5	0 - 1 (OFF, ON)
		bit 0	Part 6	0 - 1 (OFF, ON)
00 05H	00aa aaaa	Lower Part		
		bit 6-7	-	
		bit 5	Part 1	0 - 1 (OFF, ON)
		bit 4	Part 2	0 - 1 (OFF, ON)
		bit 3	Part 3	0 - 1 (OFF, ON)
		bit 2	Part 4	0 - 1 (OFF, ON)
		bit 1	Part 5	0 - 1 (OFF, ON)
		bit 0	Part 6	0 - 1 (OFF, ON)
00 06H	0000 0000	dummy		
00 07H	0000 00aa	Hold Mode		0 - 2 (UPPER, LOWER, BOTH)
00 08H	0aaa aaaa	Chorus Rate		0 - 100
00 09H	0aaa aaaa	Chorus Depth		0 - 100
00 0AH	0aaa aaaa	Chorus Level		0 - 100
00 0BH	0000 0aaa	Reverb Type		0 - 7 (ROOM-1, 2, 3, HALL-1, 2, GATE, DELAY-1, 2)
00 0CH	0aaa aaaa	Reverb Time		0 - 100
00 0DH	0aaa aaaa	Reverb Level		0 - 100
00 0EH	0aaa aaaa	Delay Feedback		0 - 100
00 0FH	0000 00aa	Key Effect Select		0 - 3 (OFF, HARMONY, CHASE, ARPEGGIO)
00 10H	0000 000a	Chase Repeat		0 - 1 (OFF, ON)
00 11H	0000 0aaa	Chase Part		0 - 6 (1 - 6, ROTARY)
00 12H	0aaa aaaa	Chase Rate		0 - 100
00 13H	000a aaaa	Chase Shift		0 - 24 (-12 - +12)
00 14H	0aaa aaaa	Chase Level		0 - 100
00 15H	0000 00aa	Arpeggio Mode		0 - 3 (UP, DOWN, UP&DOWN, RANDOM)
00 16H	0000 0aaa	Arpeggio Part		0 - 6 (1 - 6, LAYER)
00 17H	0aaa aaaa	Arpeggio Rate		0 - 100
00 18H	0000 aaaa	Arpeggio After		0 - 10 (-05 - +05)
00 19H	0000 00aa	Arpeggio Style		0 - 2 (STACCATO, PORTATO, LEGATO)
00 1AH	0000 0000	dummy		
00 1BH	0000 0000	dummy		
:	:	:		
00 1FH	0000 0000	dummy		
Total size	00 00 20H			

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "System Memory" from USER PATCH B - 3.

F0 41 10 35 11 02 2C 08 00 00 20 2A F7

/Example of DT1 application/
When the Reverb type of USER PATCH B - 4 write as "GATE" and memorized, transmit to the Model 760 following messages.

F0 41 10 35 12 02 30 47 05 02 F7

*4 - 3 - 2 Part Memory (Part1 ~ Part6)
The data of Part parameter is memorized.

Offset address		Description	
00 00H	000a aaaa	Tone Group	0 - 17
		(A.PIANO, E.PIANO, ...	CARD1, CARD2)
00 01H	0aaa aaaa	Tone Variation	0 - 127(max)
			(Variation #)
00 02H	0aaa aaaa	Part Level	0 - 100
00 03H	0000 aaaa	Part Pan	0 - 15
			(L7 - 0 - R7, RND)
00 04H	0000 000a	Chorus SW	0 - 1
			(OFF, ON)
00 05H	0000 000a	Reverb SW	0 - 1
			(OFF, ON)
Total size	00 00 06H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Part Memory" from Part 3 of USER PATCH C - 6.

F0 41 10 35 11 02 5C 70 00 00 06 2C F7

/Example of DT1 application/
When the Level of Part 4 of USER PATCH C - 5 write as "100", transmit to the Model 760 following messages.

F0 41 10 35 12 02 58 44 64 7E F7

*4 - 3 - 3 Tone Memory (Part1 ~ Part6)
The data of Tone parameter is memorized.

Offset address		Description	
00 00H	00aa aaaa	Pitch Coarse	0 - 48
			(-24 - +24)
00 01H	0aaa aaaa	Pitch Fine	0 - 100
			(-50 ~ +50)
00 02H	0000 aaaa	Bender Range	0 12
00 03H	000a aaaa	After Bend	0 - 26
			(-36, -24, -12 - +12)
00 04H	0aaa aaaa	Vibrato Rate	0 - 100
00 05H	0aaa aaaa	Vibrato Depth	0 - 100
00 06H	0aaa aaaa	Modulation Lever	0 - 100
00 07H	0aaa aaaa	After Modulation	0 - 100
00 08H	0aaa aaaa	Level	0 - 100
00 09H	000a aaaa	Velocity Sense	0 - 20
			(-10 - +10)
00 0AH	000a aaaa	After Sense	0 - 20
			(-10 - +10)
00 0BH	000a aaaa	Attack Rate	0 - 20
			(-10 - +10)
00 0CH	000a aaaa	Decay Rate	0 - 20
			(-10 - +10)
00 0DH	000a aaaa	Sustain Level	0 - 20
			(-10 - +10)
00 0EH	000a aaaa	Release Rate	0 - 20
			(-10 - +10)
00 0FH	0000 0000	Dummy	
Total size	00 00 10H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Tone Memory" from Part 6 of USER PATCH A - 5.

F0 41 10 35 11 02 12 64 00 00 10 78 F7

/Example of DT1 application/
When the Pitch Coarse of Part 2 of USER PATCH A - 6 write as " - 12", transmit to the Model 760 following messages.

F0 41 10 35 12 02 16 58 0C 04 F7

*4 - 3 - 4 Drums Memory (Internal, Card1, Card2)
The data of Drums Setup is memorized.

Offset address	Description	
00 00H	Tone Setup (for Note# 35, B1)	#4-3-5
00 02H	Tone Setup (for Note# 36, C2)	:
:	:	
00 32H	Tone Setup (for Note# 60, C4)	:
:	:	
00 7CH	Tone Setup (for Note# 97, C#7)	:
00 7EH	Tone Setup (for Note# 98, D7)	:
Total size	00 01 00H	

*4 - 3 - 5 Tone Setup (each Note #)

Offset address		Description	
00H	0000 aaaa	Pan	0 - 15
			(L7 - 0 - R7, RND)
01H	0000 000a	Reverb SW	0 - 1
			(OFF, ON)
Total size	00 00 02H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Internal Drums Memory" from USER PATCH B - 8.

F0 41 10 35 11 02 43 30 00 01 00 0A F7

/Example of DT1 application/
When the Reverb of C4 key of Card1 Drums of USER PATCH B - 7 write as "ON", transmit to the Model 760 following messages.

F0 41 10 35 12 02 40 2F 01 0E F7

*4 - 3 - 6 Patch Name
The data of Patch Name is memorized.

Offset address		Description	
00H	0aaa aaaa	Patch Name 1	32 - 125
			(ASCII)
01H	0aaa aaaa	Patch Name 2	32 - 125
			(ASCII)
:	:	:	:
0FH	0aaa aaaa	Patch Name 16	32 - 125
			(ASCII)
Total size	00 00 10H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Patch Name" of USER PATCH A - 5.

F0 41 10 35 11 02 53 4C 00 00 10 4F F7

/Example of DT1 application/
When the Patch Name of USER PATCH C - 4 write as "Fantasia Strings", transmit to the Model 760 following messages.

F0 41 10 35 12 02 58 00 46 61 6E 74 61 73 69 61 20 53 74 72 69 6E 67 73 75 F7

*4 - 4 Tone Modify Area (#1 - #128)
The data of Tone Modify of Internal or Card 1/2 is memorized.
When modify Tone settings, it is written in this area.

Offset address	Description		
00 00H	00aa aaaa	Pitch Coarse	0 - 48 (-24 - +24)
00 01H	0aaa aaaa	Pitch Fine	0 - 100 (-50 - +50)
00 02H	0000 aaaa	Bender Range	0 - 12
00 03H	000a aaaa	After Bend	0 - 26 (-36, -24, -12 - +12)
00 04H	0aaa aaaa	Vibrato Rate	0 - 100
00 05H	0aaa aaaa	Vibrato Depth	0 - 100
00 06H	0aaa aaaa	Modulation Lever	0 - 100
00 07H	0aaa aaaa	After Modulation	0 - 100
00 08H	0aaa aaaa	Level	0 - 100
00 09H	000a aaaa	Velocity Sense	0 - 20 (-10 - +10)
00 0AH	000a aaaa	After Sense	0 - 20 (-10 - +10)
00 0BH	000a aaaa	Attack Rate	0 - 20 (-10 - +10)
00 0CH	000a aaaa	Decay Rate	0 - 20 (-10 - +10)
00 0DH	000a aaaa	Sustain Level	0 - 20 (-10 - +10)
00 0EH	000a aaaa	Release Rate	0 - 20 (-10 - +10)
00 0FH	0000 0000	Dummy	
Total size	00 00 10H		

/Example of RQ1 application/
When Model 760 recieve following messages, it sends modifyed data of "R.ORGAN 1" from Internal Tone Modify Area.

F0 41 10 35 11 09 07 70 00 00 10 70 F7

/Example of DT1 application/
When the Release of CHOIR 1 of Internal Tone write as " +3", transmit to the Model 760 following messages.

F0 41 10 35 12 09 04 3E 0D 28 F7

*4 - 5 Drums Modify Area (Internal, Card1, Card2)
The data of Drums Modify of Internal or Card 1/2 is memorized.
When modify Drums settings, it is written in this area.

Offset address	Description	
00 00H	Tone Setup (for Note# 35, B1)	#4-5-1
00 02H	Tone Setup (for Note# 36, C2)	:
:	:	
00 32H	Tone Setup (for Note# 60, C4)	:
:	:	
00 7CH	Tone Setup (for Note# 97, C#7)	:
00 7EH	Tone Setup (for Note# 98, D7)	:
Total size	00 01 00H	

*4 - 5 - 1 Tone Setup (each Note #)
The data of each key (Note #) of Drums Setup.

Offset address	Description	
00H	0000 aaaa	Pan 0 - 15 (L7 - 0 - R7, RND)
01H	0000 000a	Reverb SW 0 - 1 (OFF, ON)
Total size	00 00 02H	

/Example of RQ1 application/
When Model 760 recieve following messages, it sends data of "Drums Memory" from Card2 Drums Modify Area.

F0 41 10 35 11 0C 02 00 00 01 00 71 F7

/Example of DT1 application/
When the Reverb of C3 key of Internal Drums write as "ON", transmit to the Model 760 following messages.

F0 41 10 35 12 0C 00 1B 01 58 F7

*4 - 6 Display Area
Model 760 deciphers incoming data and sends then to the LCD as a string of ASCII code characters.
The display data in this area cannot brought outside Model 760 though MIDI message, such as RQ1.

Offset address	Description		
00 00H	0aaa aaaa	Displayed Letter	32 - 127 (ASCII)
:	:	:	:
00 4FH	0aaa aaaa	Displayed Letter	32 - 127
Total size	00 00 50H		

/Example of DT1 application/
When display to the LCD of Model 760 "Hello!", transmit to the Model 760 following messages.

F0 41 10 35 12 10 00 00 48 65 6C 6C 6F 21 5B F7

Address Map for Model 760

Address	Block	Sub Block	Reference
00 00 00			
00 01 00	System Temp.		4-1
00 01 1A			
01 00 00	Part1 Temp.		4-2
01 00 06	Part2 Temp.		
01 00 0C	Part3 Temp.		
01 00 12	Part4 Temp.		
01 00 18	Part5 Temp.		
01 00 1E	Part6 Temp.		
01 00 24			
02 00 00	Patch A-1 Mem.	System Memory	4-3-1
02 04 34	Patch A-2 Mem.	Part Memory	4-3-2
02 08 68			
02 23 20	Patch B-1 Mem.	Tone Memory	4-3-3
02 27 54			
02 60 78	Patch C-7 Mem.	Drums Memory	4-3-4
08 65 2C	Patch C-8 Mem.		
08 69 60		Patch Name	4-3-6
09 00 00	Int #1 Mod.		4-4
09 00 10	Int #2 Mod.		
09 00 20			
09 07 70	Int #64 Mod.		
09 08 00			
09 0F 50	Int #126 Mod.		
09 0F 60	Int #127 Mod.		
09 0F 70			
0A 00 00	Card1 #1 Mod.		4-4
0A 00 10	Card1 #2 Mod.		
0A 00 20			
0A 07 70	Card1 #64 Mod.		
0A 08 00			
0A 0F 60	Card1 #127 Mod		
0A 0F 70	Card1 #128 Mod		
0A 10 00			
0B 00 00	Card2 #1 Mod.		4-4
0B 00 10	Card2 #2 Mod.		
0B 00 20			
0B 07 70	Card2 #64 Mod.		
0B 08 00			
0B 0F 60	Card2 #127 Mod		
0B 0F 70	Card2 #128 Mod		
0B 10 00			
0C 00 00	Int Drums Mod.	Setup Note# 35	4-5-1
0C 01 00	Card1 Drums Mod		
0C 02 00	Card2 Drums Mod	Setup Note# 98	
0C 03 00			
10 00 00	Display		4-6
10 00 50			

RS – PCM KEYBOARD
Model 760

MIDI Implementation Chart

Date : Nov. 17 1989
Version : 1.00

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default	1 – 16	1 – 16	Memorized
	Changed	1 – 16	1 – 16	
Mode	Default	Mode 3	Mode 3	
	Messages	×	×	
	Alterd	*********		
Note Number	True Voice	0 – 127	0 – 127	
		*********	0 – 127	
Velocity	Note ON	○ v = 1 – 127	○ v = 1 – 127	
	Note OFF	○ v = 1 – 127	×	
After Touch	Key's	×	*1	
	Ch's	*1	*1	
Pitch Bender		○	○ (0 – 12, semitone steps)	9 bit resolution
Control Change	1	○	○	Modulation
	2	×	*1	Breath
	7	×	*1	Volume
	10	×	○	Pan
	64	○	○	Hold 1
	100, 101	*2 (#1)	*2 (#0, #1)	RPN LSB, MSB
	38, 6	○	○	Data Entry LSB, MSB
	121	○	○	Reset All Controllers
Prog Change	True #	*1 0 – 127	*1 0 – 127	
		*********	0 – 127	
System Exclusive		○	*1	
System Common	Song Pos	×	×	
	Song Sel	×	×	
	Tune	×	×	
System Real Time	Clock	×	×	
	Commands	×	×	
Aux Messages	Local ON/OFF	×	○	
	All Notes OFF	×	○ (123)	
	Active Sense	○	○	
	Reset	×	×	
Notes		*1 Can be set to ○ or × manually, and memorized. *2 RPN = Registered Parameter Number RPN # 0 : Pitch Bend Sensitivity RPN # 1 : Fine Tune The value of parameter is to be determined by entering data.		

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 data that can be transmitted or received.
× : MIDI data that cannot be transmitted or received.

● Basic Channel

The MIDI channel for transmitting (or receiving) MIDI data can be specified over this range. The MIDI channel setting is stored even when the power is turned off.

● Mode

Most recent keyboards use mode 3 (omni off, poly).
Receive : MIDI data is received only on the specified channels, and played polyphonically.
Transmist : All MIDI data is transmitted on the specified MIDI channel.

* "Mode" refers to MIDI Mode messages.

● Note Number

This is the range of note numbers that can be transmitted (or received). Note number 60 is middle C (C4).

● Velocity

This is the range over which velocity can be transmitted (or received) by Note On and Note Off messages.

● Aftertouch

Key's : Polyphonic Aftertouch
Ch's : Channel Aftertouch

● Pitch Bender

The bender range setting of each Tone determines the range of pitch change caused by Pitch Bender messages. When set to 0, Pitch Bender messages will be ignored.

● Control Change

This indicates the control numbers that can be transmitted (or received), and what they will control. For details, refer to the MIDI Implementation.

● Program Change

The program numbers in the chart indicate the actual data.(This is one less than the Pitch and Tone program numbers.)

● Exclusive

Exclusive message reception can be turned On/Off.

● Common, Real time

These MIDI messages are used to synchronize sequencers and rhythm machines. The Model 760 does not use these messages.

● Aux messages

Mainly, these messages are of the type used to prevent problems, such as Active Sensing (Checks whether MIDI cable is in proper condition or not) ; and All Notes Off (Message which terminates the sounding of all notes).

SPECIFICATIONS

Rhodes Model 760 : RS - PCM Keyboard

● Keyboard

76 keys

(Equipped with Velocity and Channel Aftertouch function)

● Sound Source

RS - PCM Process

Number of Parts 6

Maximum polyphony 30

● Internal Memory

Patches 24

Tones : Internal 128

PCM card 1 ..... max. 128

PCM card 2 ..... max. 128

● Digital Effectors

Chorus, Reverb/Delay

● Key Effects

Harmony, Chase, Arpeggio

● Display

40 character , 2 line (Backlit)

● Dimensions

1186 (W) × 281 (D) × 84 (H) mm

46 − 11/16 (W) x 11 − 1/16 (D) x 3 − 5/16 (H) inches

● Weight

10.5 kg

23 lbs., 3 oz

● Power Consumption

19 W(117 V), 21 W(220 V / 240V)

● Supplied Accessories

AC Cord

Owner's Manual

Connection Cable (PJ - 1M)

● Options

PCM card ..... SN - U01 Series

Pedal Switch ..... DP - 2R, BOSS FS - 5U

Keyboard Stand ..... KS - 8R

Stereo Headphones ..... Roland RH - 100

MIDI/SYNC Cable ..... Roland MSC - 07, 15, 50, 100

Hard Case ..... TB - M - 760

*The specifications for this product are subject to change without prior notice.

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For Nordic Countries

Apparatus containing Lithium batteries

ADVARSEL!

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

VARNING!

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

ADVARSEL!

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

VAROITUS!

Lithiumparisto. Räjähdysvaara.
Pariston saa vaihtaa ainoastaan alan ammottimies.

For West Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

Rhodes RS-PCM Keyboard Modle 760

(Gerät. Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046/1984

(Amtsblattverfügung)

funk-entstört ist.

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

Roland Corporation Osaka/Japan

Name des Herstellers/Importeurs

For the USA

RADIO AND TELEVISION INTERFERENCE

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

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

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable. These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.
  If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures.
- Turn the TV or radio antenna until the interference stops.
- Move the equipment to one side or the other of the TV or radio.
- Move the equipment farther away from the TV or radio.
- Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
- Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV. If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission:
  "How to Identify and Resolve Radio — TV Interference Problems"
  This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402. Stock No. 004-000-00345-4.

For Canada

CLASS B **NOTICE**

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

CLASSE B **AVIS**

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

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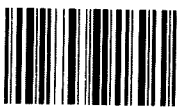

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