





**Rhodes**

**MK-80**

OWNER'S MANUAL

	<b>CAUTION</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<b>ATTENTION</b> RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR		
<b>CAUTION:</b> TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



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



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

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

## IMPORTANT SAFETY INSTRUCTIONS

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

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the 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

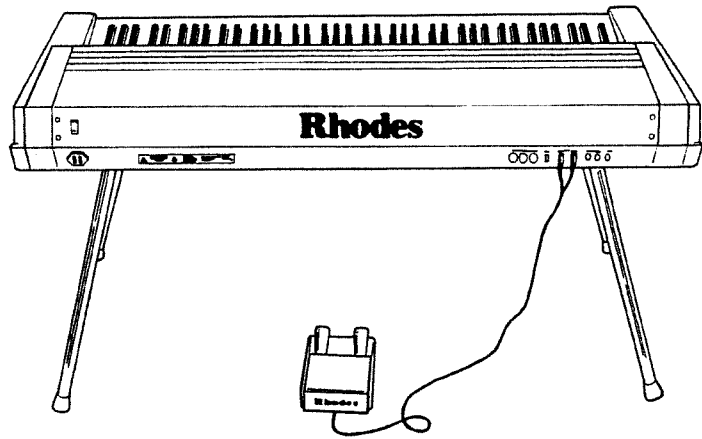
Copyright © 1989 by ROLAND CORPORATION

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

# **Rhodes MK-80**

---

## **Owner's Manual**



Thank you, and congratulations on your purchase of the Rhodes *MK-80*.

The *MK-80* is an electronic keyboard instrument that is equally suited to both live performance and recording situations.

In order that you may better understand the complete range of superior functions provided, and to assure long reliable service, we recommend that you read this owner's manual in its entirety.

### **Explanation of symbols used in this manual**



This indicates an important point that should be remembered.



This indicates that you should refer to other pages for additional information.

# CONTENTS

CONTENTS	4
PANEL DESCRIPTIONS	5
IMPORTANT NOTES	7

## 1. Outline of the MK-80

## 2. Getting Ready

1. Connections
2. Power up

## 3. Play

1. Changing timbres (variations)
  - About Variations
2. Adjusting the master tuning
3. Performance functions
  - Use of the bender lever
  - Use of the slider controllers
  - Choosing how the four control sliders work
  - Use of the supplied Pedal
  - On/Off of effects

## 4. Creation of a new variation

- Procedure
1. Changing the tone of a variation
    - Punch
    - Tightness
    - Body
    - Brightness
    - Bender Depth
    - Modulation
    - Auto Bend
  2. Changing Effects for Variations
    - Tremolo
    - Phaser
    - Chorus
    - Equalizer
  3. Changing the Stretch for a Variation
    - Stretch (Tuning Curve)
  4. Changing Performance Controls of Variations
    - Keyboard Range
    - Velocity Curve
    - Action of the Controllers
    - Control Pedal
- The Write Procedure

## 5. Use as a MIDI Keyboard

- Connections
1. Transmitting Program Changes
    - in real time
  2. Changing MIDI channels in real time
  3. Configuring outgoing MIDI communication;
    - Bulk dumping/saving
    - Transpose
    - Settings for external control
    - Bulk Dump Save
  4. Configuring outgoing MIDI communication on a per variation basis
    - Action of the Slider Controllers and Control Pedal
    - Keyboard Range
    - Transmitted Program Change Number
    - MIDI Transmit Channel
    - Transmitted Velocity Curve

## 6. Other Controls

1. Temporarily releasing settings for key range made in a variation
2. Temporarily stopping transmission of MIDI messages

## 7. Concerning MIDI

1. The MIDI message flow
  - a. Connections
  - b. MIDI Channels
2. MIDI Messages Recognized by the MK-80

## 8. Troubleshooting

## 9. Types of Data

1. Data for which settings are made in common (global memory)
2. Data for which settings are made for each variation

Reference Chart :

Functions that are assignable to the controllers

3. Preset Variation Setting Chart

Roland Exclusive Messages

MIDI Implementation Chart

MIDI Implementation

Specifications





# IMPORTANT NOTES

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

## Concerning the power supply

- Whenever you make any connections with other devices, always turn off the power to all equipment first. This will help in preventing malfunction, and damage to speakers.
- Do not force the unit to share the same power outlet as one used for distortion producing devices (such as motors, variable lighting devices). Be sure to use a separate power outlet.

## Concerning placement

- Placing the unit near power amplifiers or other equipment containing large transformers may induce hum.
- Should the unit be operated nearby television or radio receivers, TV pictures may show signs of interference, and static might be heard on radios. In such cases, move the unit out of proximity with such devices.

## Maintenance

- For everyday cleaning, wipe the unit with a soft dry cloth, or one that is dampened slightly. To remove dirt that is more stubborn, wipe using a mild, neutral detergent. Afterwards, make sure to wipe thoroughly with a soft cloth.
- Never apply benzene, thinners, alcohol or any like agents, to avoid the risk of discoloration and deformation.

## Other Precautions

- Protect the unit from strong impact.
- Never apply strong pressure to the display, or strike it in any way.
- A certain small amount of heat will be radiated from the unit, and thus should not be considered abnormal.
- Before using the unit in a foreign country, check first with your local Roland Service Station.

## Concerning memory backup

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

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

- When the battery gets weak the following will appear in the display. By this time, it is possible that the contents of memory have already been lost.  
**“Battery Low”**
- Please be aware that the contents of memory may at times be lost; when sent for repairs or when by some chance a malfunction has occurred. Important data should be saved by bulk dumping (saving) it to a sequencer, or 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.

# 1. Outline of the MK-80

---

The MK-80 is an electronic keyboard instrument offering a wealth of expression, and a great variety of functions.

## *S/A Process Sound Source*

S/A sound sources were developed in a striving for a much higher level of sensitivity and realism for sounds. It represents a uniquely new process for music synthesis, and relies on proprietary digital signal processing technology.

## *Realistic Preset Sounds*

In addition to four Rhodes type sounds, the *MK-80* includes other realistic tones including piano, clavichord, and vibraphone, to make a total of 8 presets. (Any desired changes can be made in each tone, and up to 7 of such altered sounds can be stored for each one.)

## *Effects*

Tremolo, Phaser, Chorus, Equalizer and other effects are available to enhance your performances. Moreover, you can change at will the way such effects will work while you play.

### ◇ Chorus

An effect which gives breadth and thickness to a sound.

### ◇ Tremolo

An effect which applies periodic changes to sound volume, thus allowing you to apply an undulating-sounding, or other tremolo-like effects.

### ◇ Phaser

Along with Chorus, it is used to add a feeling of depth and breadth to sound.

### ◇ Equalizer

Allows you to apply a great range of changes to sound. It is configured to include one band (MID) having a variable coefficient of resonance and variable resonance frequency; and two fixed type bands (HI, LOW), for a total of 3 bands.

## *Performance Controllers*

The four slider controllers on the front panel allow for real-time control during performance over available effects, MIDI Control Changes, and other functions. This reflects the emphasis placed on performance qualities in the design.

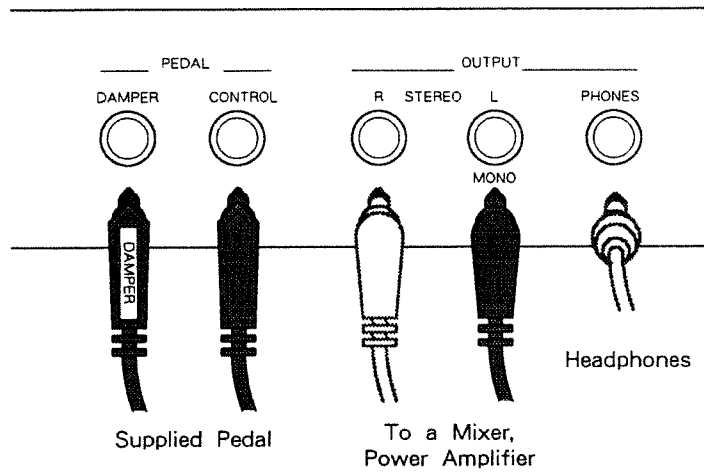
## *Performs also as MIDI keyboard*

The unit is equipped with the full range of functions useful for performing as a MIDI keyboard.



## 2. Getting Ready

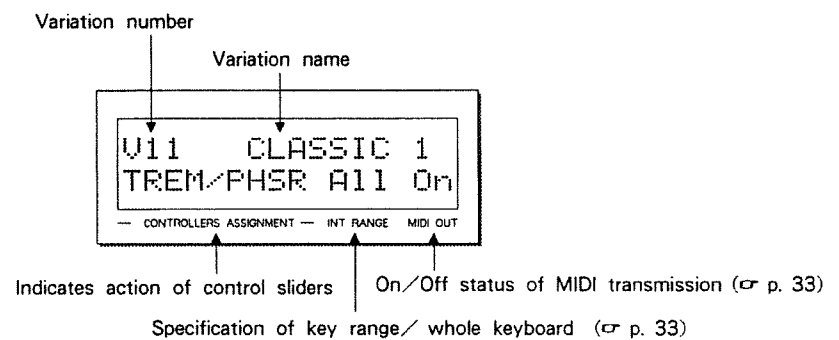
### 1. Connections



### 2. Power up

After confirming that all connections with external devices have been made properly, turn on the power switch on the unit.

You will see the following displayed:



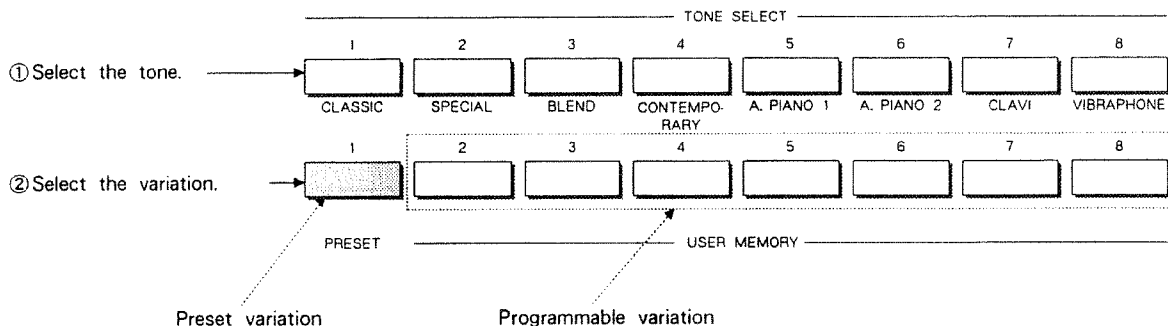
This screen is referred to as the **Play Screen**.

- 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.

# 3. Play

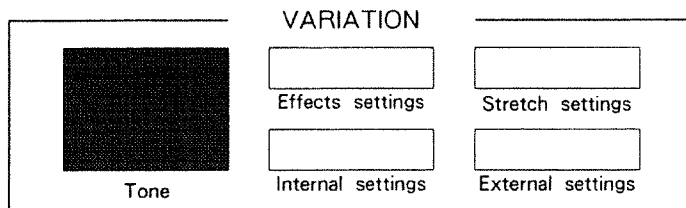
## 1. Changing timbres (variations)

To change the variation, perform the following steps:



### ● About Variations

A variation consists of a combination of a tone, information of how effects are to be applied, and other settings such as those for MIDI.



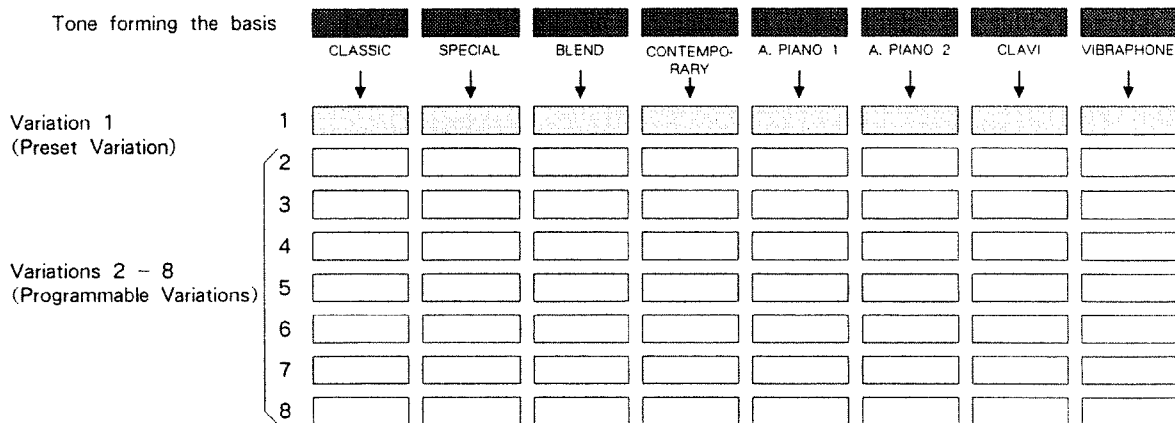
### Variation 1 (Preset Variation)

Here set are the basic effects that are applied, and settings for MIDI, with respect to each tone. Although the contents of Variation 1 can be altered, it will revert to the basic settings after power has been turned off.

**\*Except internal setting and external MIDI setting.**

### Variations 2 through 8 (Programmable Variations)

With these, you can make precision changes in the tone, and apply effects in any manner you wish. Once the variation is stored in memory, it will not change until you specifically store it again, even while power is off.



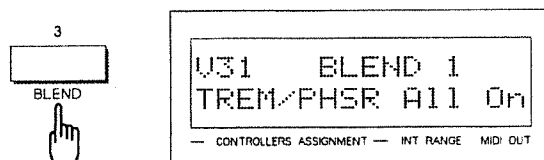
### *Procedure for switching to a different Variation*

[Example]

To change from 11 (variation 1 under CLASSIC) to 32 (variation 2 under BLEND):

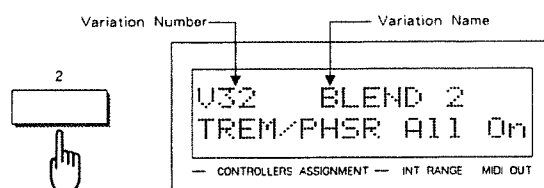
① Press **3** under TONE SELECT.

→ A change to 31 takes place.



② Press **2** in USER MEMORY.

→ The change to 32 is thus completed.



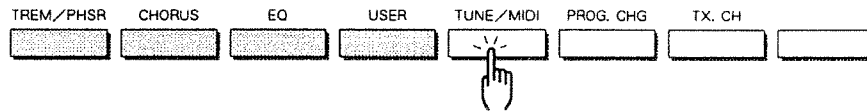
#### ● Voice Preserve function

If you change the variation while sound is being produced (while any key is depressed, or the damper pedal is down), the number and name of the newly selected variation will be displayed, but actual change of sound will not take place. Only afterwards, when no longer in a state of play (your fingers are not on the keys, and your foot is off the damper pedal) will the change in the sound take effect.

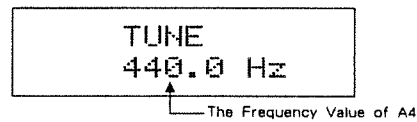
## 2. Adjusting the master tuning

The following allows you to adjust the master tuning when needed for matching the pitch with that of other instruments.

- ① Press **TUNE/MIDI**.



→ The following will then appear in the display:



- ② By pressing **▲** or **▼**, the master tuning can be adjusted within the range of 425.0 to 455.0 Hz for C4 (in units of 0.1 Hz).



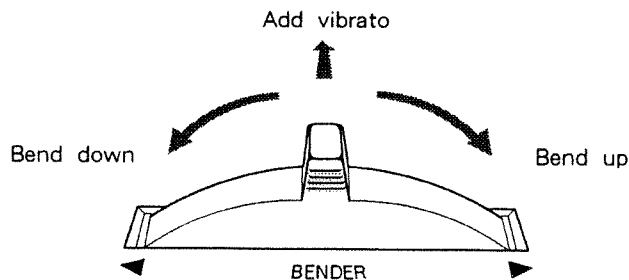
You need not perform a write of the setting made for master tuning for it to be stored; and it is retained while power is off.

- ③ Press **PLAY** to return to the play screen.

## 3. Performance functions

A variety of controllers can be used for real-time control over timbre during performance.

**Use of the bender lever** By moving the bender lever, you can makes changes in pitch or add vibrato.



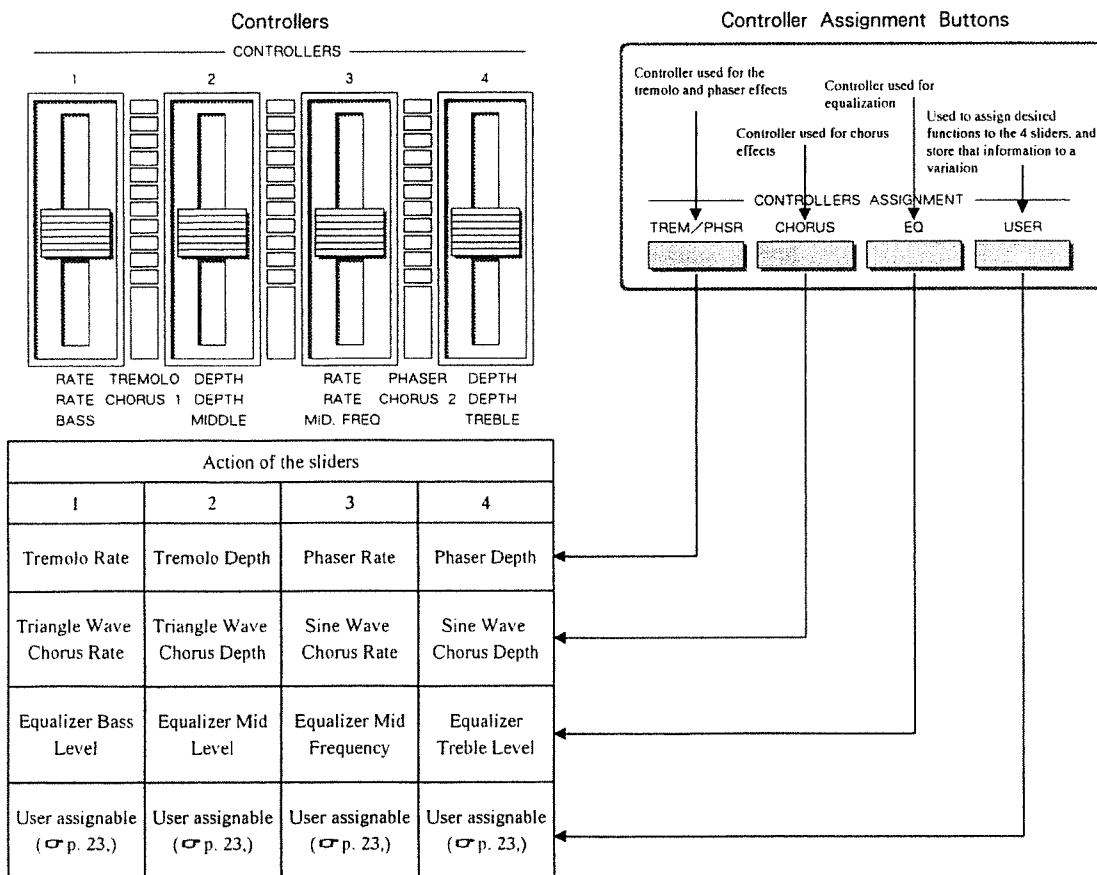
The depth of change obtained with pitch or vibrato will vary depending on the settings for the variation selected. To memorize this setting in the variation, see p.16.

**Use of the slider controllers**

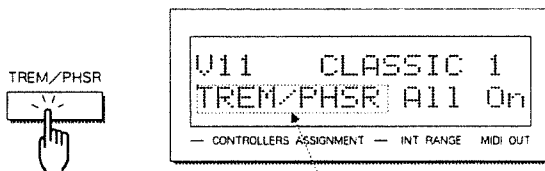
A variety of results, such as the effects obtained from the internal effects units, can be controlled in real time by means of the four controllers on the front panel.

**Choosing how the four control sliders work**

The action of the four control sliders is selected by pressing the relevant Controller Assignment buttons.



You can check which button has been pressed by viewing the display.

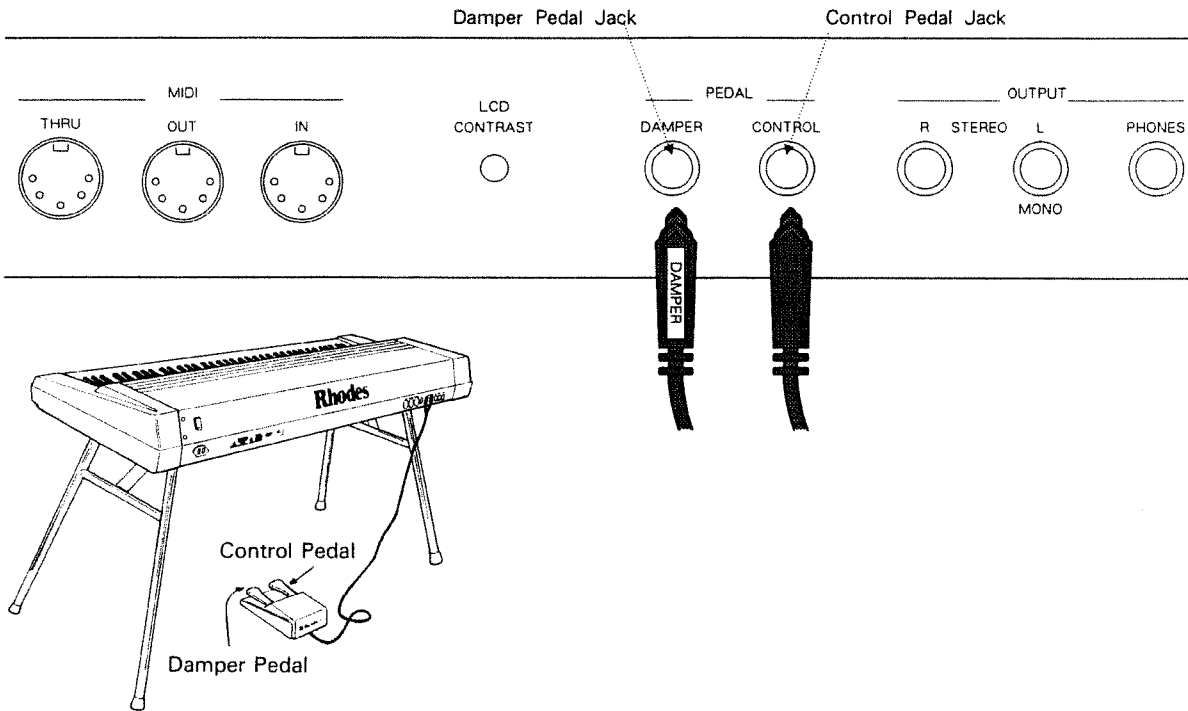


Indicates that the controller is set to TREM/PHSR (Tremolo, Phaser).



- The selections made with the buttons are retained in memory even while power is off.
- When the action of the controllers is set to TREM/PHSR, CHORUS, or EQ, their action will not change even if you switch to different variations.
- When USER is selected as the action of controllers, they can be used in different ways depending on the function assigned and stored with respect to each variation. (see page 23, 30.)

**Use of the supplied Pedal** Connect the supplied pedal to the Damper Pedal Jack and Control Pedal Jack.



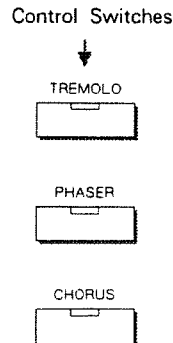
**Damper Pedal (Right)** ◇ When the pedal on the right side is depressed, the sound will decay gradually. (an effect identical to that of the pedal to the right on a piano)

**Control Pedal (Left)** ◇ The function of the pedal on the left side (control pedal) is assignable by the user. The assignable functions are shown in the table on page. 24.



● By connecting an expression pedal (Roland EV-5, BOSS EV-10) to the control pedal jack, it can be used for transmitting MIDI Control Change information. See page 31 for information on assignment of MIDI Control Change numbers.

**On/Off of effects**



The corresponding effect is obtained whenever a control switch is pressed and its red-colored indicator is lit.

**\*The action of the control switches is fixed, and cannot be changed.**

**\*These switches can not transmit MIDI Control Change Messages.**

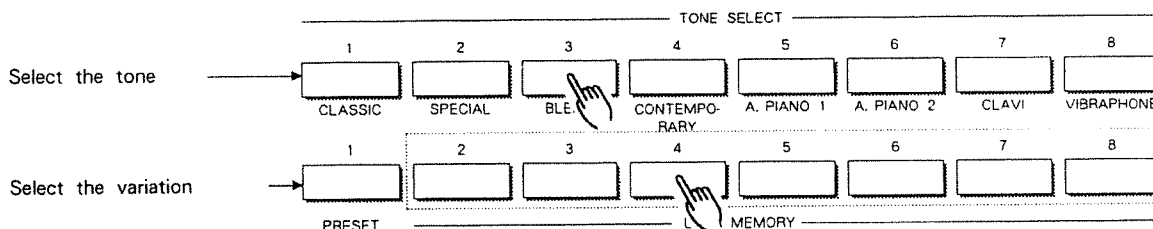
# 4. Creation of a new variation

Variations can be stored containing settings for the precise nuance you want for a tone, and with functions set to operate in the most convenient way for you. Then, simply by changing variations, those settings can be re-created. In making a variation, you first need to select an existing, source variation. Its contents are then changed (edited) and it is written to one of the variation locations, from 2 to 8.

## Procedure

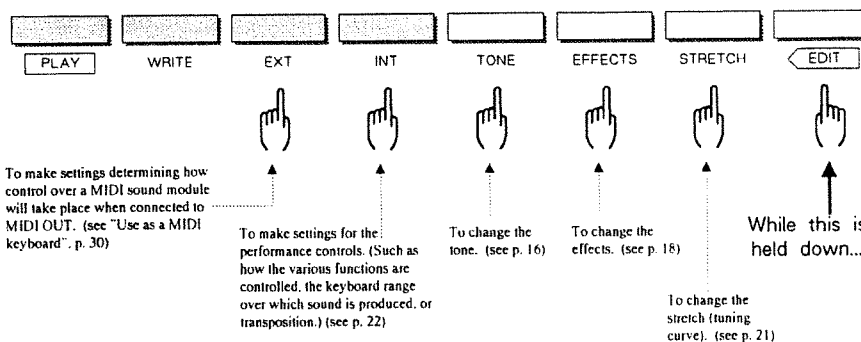
### ① Select the source variation

First select the variation that is to be the source. For example, to select BLEND number 4: Press **BLEND**, then **4**.



### ② Select the item to be changed.

Select the item for which changes are to be made. While pressing **EDIT**, press the button for the desired item.



Press either **◀** or **▶** to call up the required screen.  
For detailed explanation of each item, refer to pages 16 through 32.

### ③ Change the settings

Press **▲** or **▼** as needed to change the settings.  
To increment or decrement the value faster, first hold down **▲** (**▼**), then hold down **▼** (**▲**).

**\*The control sliders are inactive while editing.**

By repeating steps ② and ③ the variation is created to your liking.

### ④ Write it

While holding down **EDIT**, press **WRITE**. This will store (write) it into memory.  
For further details on the write procedure, refer to page 25.

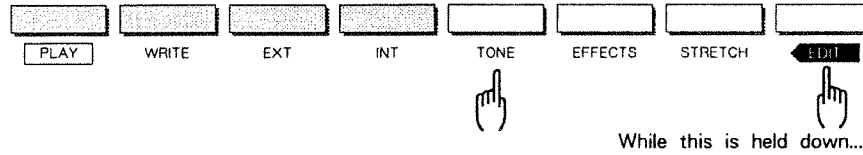


● You should always immediately write any variation once it has been edited. Otherwise, if you change to another variation, or turn off power, the variation reverts to its original settings, and thus your effort in making the settings could be wasted.

● You can press **PLAY** during the editing process to return to the play screen.

## 1. Changing the tone of a variation.

① While holding down **EDIT**, press **TONE**.



② Press either **◀** or **▶** to call up the relevant screen, then make the changes in the settings by pressing either **▲** or **▼**.

### Punch

U11 Punch 16

Sets the level of the attack. The lower the value, the softer the attack becomes.

\*This function do not work for CONTEMPORARY and VIBRAPHONE sound.

Range: [0] - [32]

### Tightness

U11 Tightness 5

Sets the length of time sound will linger. (attenuating time)The lower the value, the shorter the time sound lingers.

Range: [0] - [32]

### Body

U11 Body 16

Sets the amplitude of the fundamental and a few of the overtones in the proximity of the fundamental.

As a result, the formants and the harmonic composition will change.

Higher values produce sounds that are thicker.

Range: [0] - [32]

### Brightness

U11 Brightness 1

Sets the amplitude of the upper harmonics.

As a result, the formants and the harmonic composition will change.

The higher the value, the brighter the sound.

Range: [0] - [32]

### Bender Depth

U11 Bender Depth 12

Pitch is changed by moving the bender-modulation lever to the right or left. Set here is the limit of change obtained at the extreme positions; as selected in semitone steps.

Range:[0] - [12]

### MODULATION

When the bender-modulation lever is pushed forward, you can apply vibrato (periodic changes in pitch) to the sound.

#### ● Modulation Rate

U11 Modulation Rate 100

Sets the speed of the vibrato pulsations obtained when the lever is pushed to the extreme.

Range:[1] - [100]

#### ● Modulation Depth

U11 Modulation Depth 12

Sets the depth of the vibrato pulsations obtained when the lever is pushed to the extreme.

Range: [0] - [12]



**AUTO BEND**

Using “auto bend”, a change in pitch can be obtained whenever the keyboard is played. At the instant a key is pressed, the note is sounded at an altered pitch, and then following a natural curve it returns to the normal pitch. It is useful for expressing sounds such as that of a plucked string.

● **Auto Bend On/Off**

```
U11 Auto Bend
                        Off
```

Determines whether auto bend is to be used or not.  
Range: [On] / [Off]

● **Auto Bend Depth**

```
U11 Auto Bend
Depth +100
```

Sets the amount of pitch alteration obtained at the instant a key is depressed. At 100, the note starts an octave above, then descends toward the normal pitch. At -100 the note starts an octave below normal, then ascends.  
Range: [-100] – [+100]

● **Auto Bend Time**

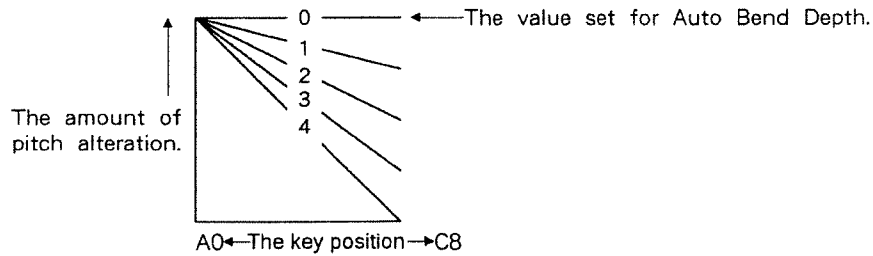
```
U11 Auto Bend
Time 100
```

Sets the span of time over which the return to the normal pitch occurs. At 100, it will take about 4 second.  
Range: [0] – [100]

● **Auto Bend Key Follow**

```
U11 Auto Bend
KeyFollow 0
```

Adjusts the amount of pitch alteration for auto bend depending on the location of the key being played.  
Range:[0] – [4]

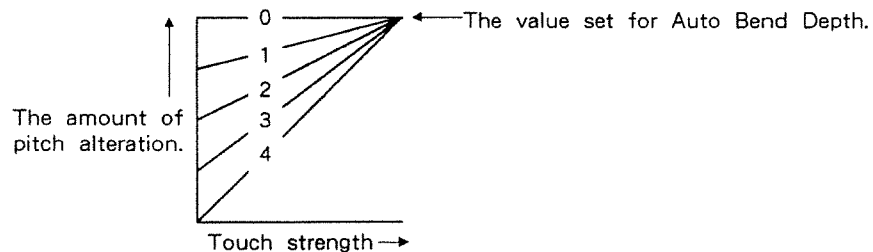


● **Auto Bend Velocity**

```
U11 Auto Bend
Velo Type 0
```

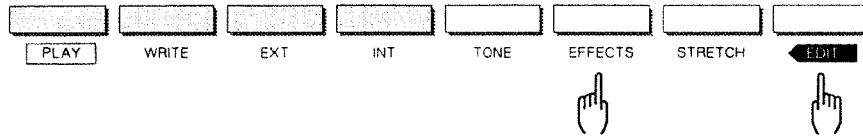
Accepts setting determining whether or not changes in the depth of the pitch alteration will occur depending on the velocity (strength at which a key is pressed). When set to “0”, regardless of any variety of playing strengths, the alteration will conform exactly to that set for Auto Bend Depth. When set to from 1 through 4, the alteration in the pitch will vary as shown in the illustration below, with the least change obtained when the keys are lightly depressed.

Range: [0] – [4]



## 2. Changing Effects for Variations

① While holding down **EDIT**, press **EFFECTS**.



While this is held down....

② Press either **◀** or **▶** to call up the screen you need, then make changes by pressing **▲** or **▼**.

### TREMOLO

Tremolo is an effect which applies periodic changes to sound volume.

● **Tremolo On/Off**

```
U11 Tremolo
                                Off
```

Determines whether the tremolo effect is to be on or off.

Range: [On] / [Off]

● **Tremolo Rate**

```
U11 Tremolo
Rate                               10
```

Sets the speed of the tremolo effect.

Range: [1] - [100]

● **Tremolo Depth**

```
U11 Tremolo
Depth                              50
```

Sets the depth of the tremolo effect.

Range: [0] - [100]

### PHASER

The phaser is an effect which applies changes in the phase of a sound. As a result, you can obtain sounds with a feeling of gyration, and greater depth. It provides you with the means for controlling a rich palette of vibrant, pulsating sounds; from jet-like sounds to those similar to a tremolo effect.

● **Phaser On/Off**

```
U11 Phaser
                                Off
```

Determines whether the phaser is to be on or off.

Range: [On] / [Off]

● **Phaser Rate**

```
U11 Phaser
Rate                               10
```

Sets the speed of the phaser effect.

Range: [1] - [100]

● **Phaser Depth**

```
U11 Phaser
Depth                              50
```

Sets the depth of the phaser effect.

Range: [0] - [100]

● **Phaser Feedback**

```
U11 Phaser
Feed Back                          7
```

Sets the amount of feedback for the phaser effect.

Range: [0] - [7]

**CHORUS**

Chorus is an effect which applies breadth and thickness to a sound. Mellow sounds, in comparison with the phaser, can be obtained.

Two LFOs are provided for obtaining the chorus effect (triangle wave, sine wave), which can be combined in any desired way to obtain a wide range of effects. (The ratio between the triangle wave and sine wave, when the depth is at the maximum value, is 80 : 20.)

● **Chorus On/Off**

```
U11 Chorus
                               Off
```

Turns chorus on or off.  
Range: [On]/[Off]

● **Chorus Mode**

```
U11 Chorus
    Mode           1
```

With Mode 1, stereo-chorus is created. This is apt for a situation where two speakers being used are wide apart or the room is acoustically dead.

With Mode 2, only output L gets the chorusing effect. This mode is apt for a situation where two speakers used are close together, or the room is acoustically alive.

When the output is MONO only (output L), the mode is irrelevant.

Range: [1]/[2]

● **Triangle Wave Chorus Rate**

```
U11 Chorus
    ^\ Rate       10
```

Sets the speed of the effect obtained with the triangle wave chorus.

Range: [1] - [100]

● **Triangle Wave Chorus Depth**

```
U11 Chorus
    ^\ Depth      80
```

Sets the depth of the effect obtained with the triangle wave chorus.

Range: [0] - [80]

● **Sine Wave Chorus Rate**

```
U11 Chorus
    ~\ Rate       31
```

Sets the speed of the chorus effect obtained with the sine wave chorus.

Range: [1] - [100]

● **Sine Wave Chorus Depth**

```
U11 Chorus
    ~\ Depth      20
```

Sets the depth of the chorus effect obtained with the sine wave chorus.

Range: [0] - [20]

**EQUALIZER**

The equalizer is an effect which allows you to make changes in volume specific to certain ranges in frequency.

\* The Mid range equalizer of MK-80 is a parametric equalizer which provides for alteration within the range of 200 Hz to 4000 Hz for the frequency at mid-range.

● **Equalizer Bass Level**

```
U11 Equalizer
    Bass          -50
```

Sets the volume of the lower range respective to other ranges.

Range: [-100] - [+100]

● **Equalizer Mid Level**

```
U11 Equalizer
    Mid           +50
```

Sets the volume of the middle range respective to other ranges.

Range: [-100] - [+100]

● **Equalizer Mid Frequency**

```
U11 Equalizer
    Mid Freq     4000 Hz
```

Sets the frequency of the middle range.

Range: [200] - [4000] hertz

● **Equalizer Mid Bandwidth**

```
U11 Equalizer  
Mid B. Width Q=1
```

Accepts setting for Q, the bandwidth of the middle range. The higher the value is set, the narrower becomes the frequency range to which equalization is applied; and thus a steeper frequency response is obtained.

Range: [1] – [8]

● **Equalizer Treble Level**

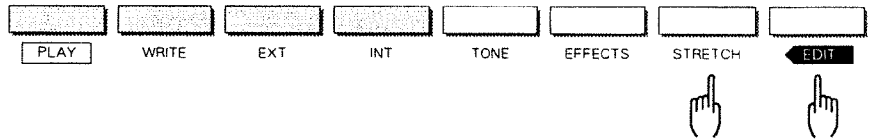
```
U11 Equalizer  
Treble -50
```

Sets the volume of the upper range respective to other ranges.

Range: [-100] – [+100]

### 3. Changing the Stretch (tuning curve) for a Variation

① While holding down **EDIT**, press **STRETCH**.



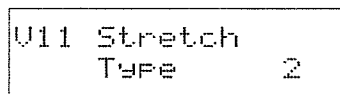
While this is held down...

② Make the change in the setting by pressing either **▲** or **▼**.

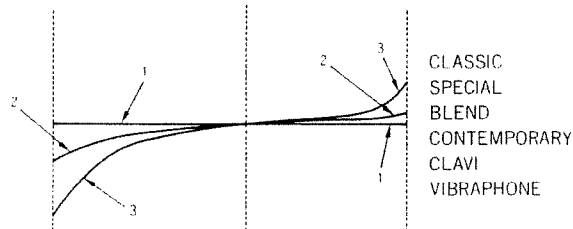
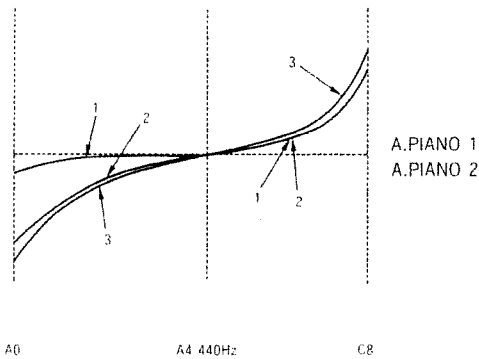
#### **STRETCH** (Tuning Curve)

You can select from a choice of 3 tuning curves. By changing the tuning curves the consonancy of the chords will change subtly. Select the tuning curve of your liking.

Selecting a tuning curve

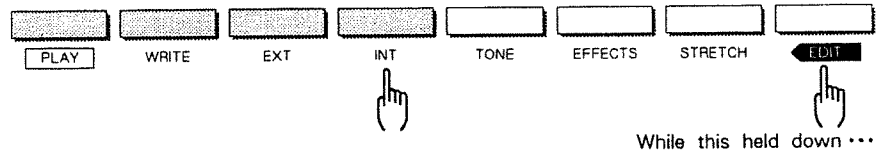


Range: [1] - [3]



## 4. Changing Performance Controls of Variations

① While holding down **EDIT**, press **INT**.



② Press **◀** or **▶** to call up the screen you need, then make setting changes using **▲** or **▼**.

### Keyboard Range

Eighty-eight keys are provided on the *MK-80*, ranging from A0 to C8. Ordinarily (while at “All”) all keys can be sounded. You can, however, specify the range over which sound will be produced.



Any altered keyboard range settings you have made can be cancelled during performance (be reverted to “All”). See page 33.

#### ● Lowest key

```
U11 Int Zone
    From key #A4
```

This key and those above will sound.  
Range: [A0] – [C8]

#### ● Uppermost key

```
U11 Int Zone
    To key #A6
```

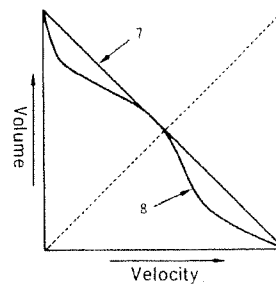
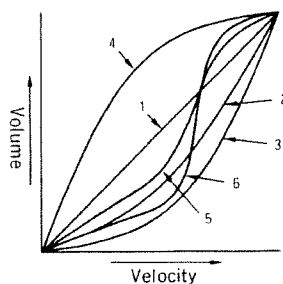
This key and those below will sound.  
Range: [A0] – [C8]

### Velocity Curve

Provides selection of 8 types of curves which relate the velocity of a keypress to the volume obtained.

```
U11 Velocity
    Curve      8
```

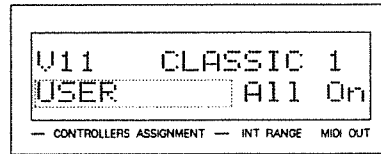
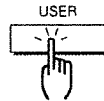
Range: [1] – [8]



**Action of the Controllers** The action assignment of each of the four control sliders can be stored in memory as part of a variation.



When **USER** is pressed, the screen as shown below will be visible (“USER” is displayed). The settings made here will determine the action the four controllers will have.



● **Controller 1**

```
U11 Int Ctrl 1
Tremolo Depth
```

Determines the action of controller 1.

● **Controller 2**

```
U11 Int Ctrl 2
Tremolo Depth
```

Determines the action of controller 2.

● **Controller 3**

```
U11 Int Ctrl 3
Tremolo Depth
```

Determines the action of controller 3.

● **Controller 4**

```
U11 Int Ctrl 4
Tremolo Depth
```

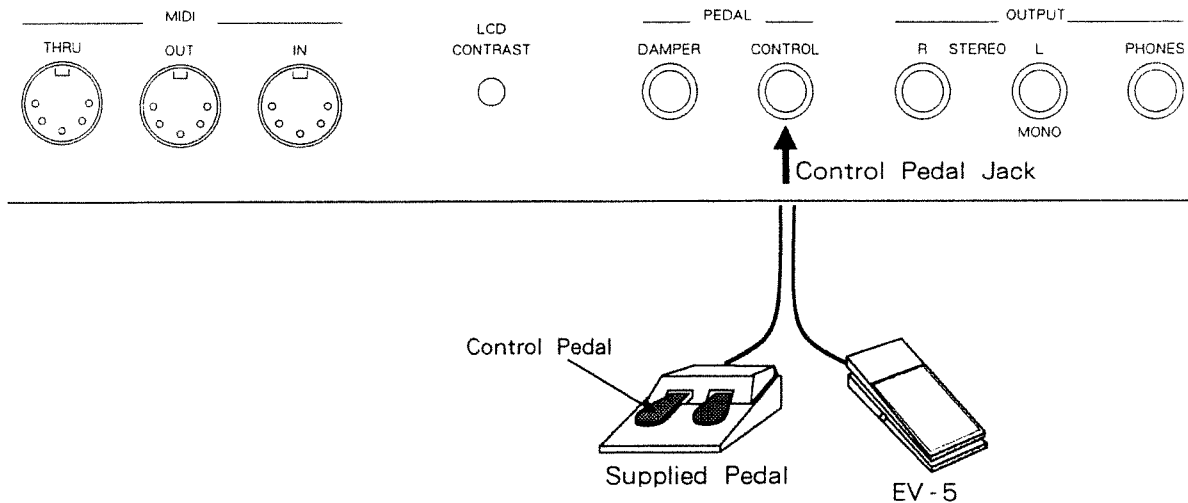
Determines the action of controller 4.

Functions assignable to Controllers 1 – 4	
● Off	Inactive
<ul style="list-style-type: none"> <li>● Punch</li> <li>● Tightness</li> <li>● Body</li> <li>● Brightness</li> <li>● Auto Bend Depth</li> <li>● Auto Bend Time</li> <li>● Tremolo Rate</li> <li>● Tremolo Depth</li> <li>● Phaser Rate</li> <li>● Phaser Depth</li> <li>● Phaser Feed Back</li> <li>● Chorus TRI. Rate</li> <li>● Chorus TRI. Depth</li> <li>● Chorus Sine Rate</li> <li>● Chorus Sine Depth</li> <li>● Equalizer Bass</li> <li>● Equalizer Mid</li> <li>● Equalizer Mid Freq</li> <li>● Equalizer Mid B. Width</li> <li>● Equalizer Treble</li> </ul>	<p>Maximum value at full up. Minimum value at full down.</p>

**Control Pedal**

V11 Int Pedal  
Phaser Depth

Determines the action of the control pedal.



Functions assignable to the control pedal.	With the supplied pedal connected.	With expression pedal (Roland EV-5, BOSS EV-10) connected.
● Off	Inactive	Inactive
● Punch ● Body ● Brightness ● Equalizer Mid Freq ● Modulation Depth	Pressing pedal sets parameter to maximum. Releasing the pedal sets the parameter to the minimum.	Value changes in proportion to the angle to which the pedal is pressed. With the pedal fully down the value is maximum, and it is minimum with the pedal fully up.
● Auto Bend INV.	**	**
● Tremolo On/Off ● Phaser On/Off ● Chorus On/Off	On and off alternates each time the pedal is pressed down.	Each time the pedal is fully pressed down or released, on and off alternates.

\*\* With Auto Bend INV., while a variation's Auto Bend On/Off is "off", the Auto Bend is  off when the pedal is released and  on when the pedal is pressed down.  
On the other hand, when Auto Bend On/Off is "on", the Auto Bend is  off when the pedal is pressed down and  on when the pedal is released. (When the supplied pedal is connected.)

● Whenever a different variation is selected, any effects obtained will be in accord with the values set for the particular variation — until a controller is moved, or a pedal is depressed.



\*By operating the 4 slider controllers and the control pedal, Control Change Messages can be transmitted from MIDI OUT while functions described above are carried out. See page 30, 31 for the assignment of Control Change Numbers.



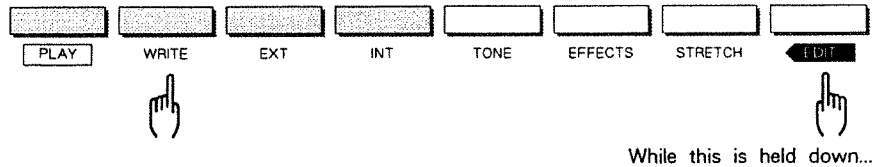
## The Write Procedure

Whenever the contents of a variation have been changed, a “ \* ” (edit symbol) will appear to the right of the variation number. This symbol indicates that changes have been made in a variation’s contents which have as yet not been written.

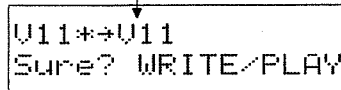
If you do not perform the write procedure after editing changes have been made, the variation will return to its original status whenever you switch to a different variation, or the power is turned off.

Should you wish to save the contents after being edited, you need to give the variation a name, and carry out the write procedure, as follows.

① While holding down **EDIT**, press **WRITE**.

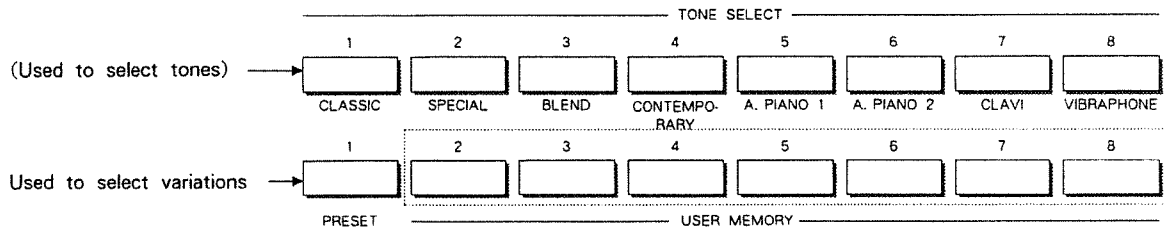


The number of the location where the variation is to be stored.



① Select the destination

③ When you wish to store it as a variation with a different number, you need to select the number of the destination to which the variation is to be stored.



You are able to have the contents of the variation stored under a different tone, but since the tone forming the core of the sound will change, it will no longer sound as it did when edited.

To cancel the write procedure partway through, press **PLAY**.

② Give the variation a name

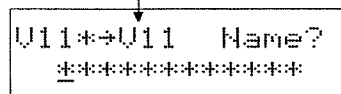
② If you wish to replace the variation name (using up to 12 characters) with another, do as follows:

Press **WRITE** once again.

Move the “\_” so it appears at the character you want to change by pressing **◀** or **▶**.

By pressing **▲** or **▼** select the characters you need. The characters that are available are the space, period, numbers, and small and capital letters.

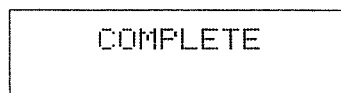
The number of the location where the variation is to be stored.



③ Writing

③ Press **WRITE** twice, and the write is performed.

The following display will appear momentarily, then it will return to the original condition.



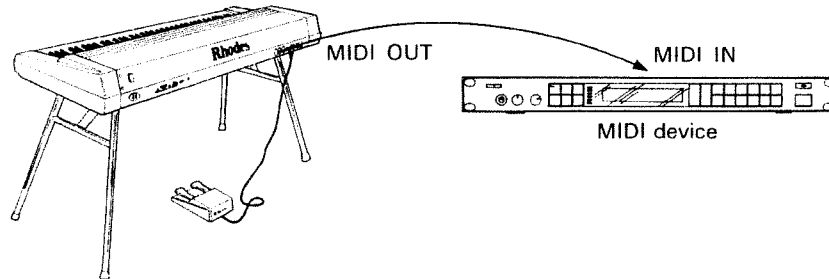
# 5. Use as a MIDI Keyboard

The MK-80 is also equipped to offer a full range of MIDI functions.

What follows should be read first if you intend to connect any MIDI devices to the MIDI OUT connector, and control them while playing this unit.

\* Those using MIDI for the first time should refer to "Concerning MIDI", page 34.

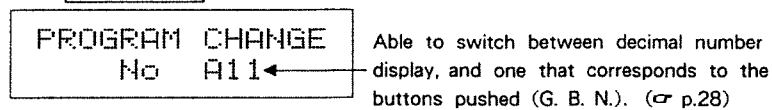
## Connections



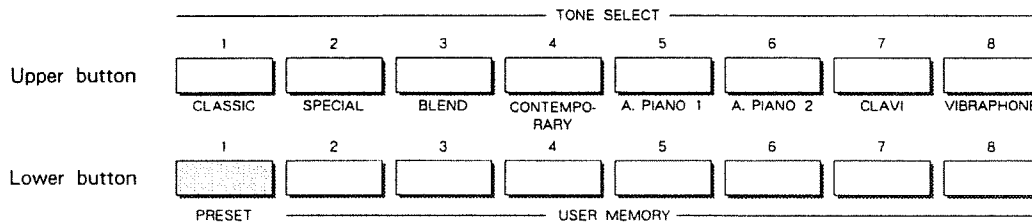
## 1. Transmitting Program Changes in real time

When you wish to transmit MIDI Program Change messages on the MIDI channel (p. 27, 32, 35) currently being used during performance, do as follows:

Press **PROG. CHG**.



Using the 16 buttons shown below, Program Change numbers 1 through 64 can be transmitted.



For example, by pressing upper **4** and lower **5** the program change number 29 (in decimal) will be transmitted. Please see the table below for the relation between the buttons pressed and the program change number transmitted.

		Lower button								The transmitted program change number.
		1	2	3	4	5	6	7	8	
Upper button	1	1	2	3	4	5	6	7	8	
	2	9	10	11	12	13	14	15	16	
	3	17	18	19	20	21	22	23	24	
	4	25	26	27	28	29	30	31	32	
	5	33	34	35	36	37	38	39	40	
	6	41	42	43	44	45	46	47	48	
	7	49	50	51	52	53	54	55	56	
	8	57	58	59	60	61	62	63	64	

### ● Voice Preserve function

If the buttons were pressed while the sound was being emitted (any key is depressed, the damper pedal is down) the display will change, but the program change messages are held back until the playing stops (fingers are off all keys, foot is away from damper pedal).

\* Even should the MIDI OUT switch be at OFF, a Program Change is transmitted momentarily when **PROG. CHG** is pressed.

Press **PLAY** to return to the play screen.

## 2. Changing MIDI channels in real time

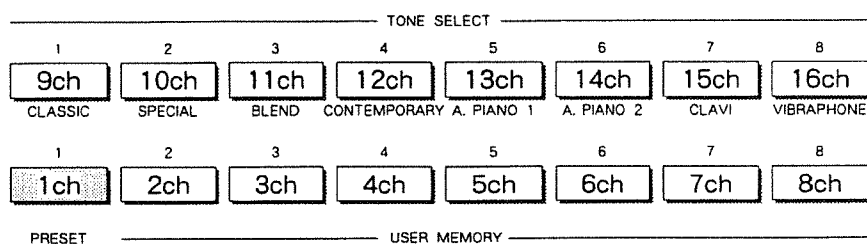
To change the MIDI channel currently being used in the course of a performance, do as follows:

Press **TX. CH**.

```

  Tx MIDI Ch
    Ch   16
  
```

Press the button corresponding to the desired channel.



### ● Voice Preserve function



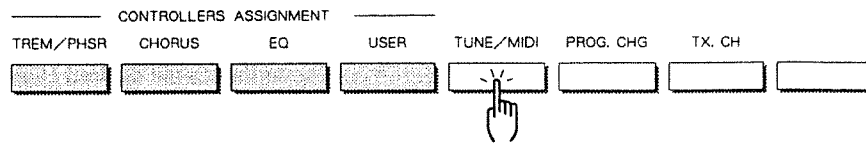
Whenever the MIDI channel is changed while sound is being produced (any key is depressed, the damper pedal is down) the newly selected MIDI channel will appear in the display, but the MIDI channel will as yet not have been changed. The actual change in the channel will take place afterwards, at the moment that the unit is not playing (fingers are off all keys, foot is away from damper pedal).

Press **PLAY**, and you are returned to the play screen.

### 3. Configuring outgoing MIDI communication; Bulk dumping/saving

When the *MK-80* is to be used as a MIDI keyboard, you need to make settings that determine how the unit will handle the MIDI communication. Such settings consist of two types, those made for the *MK-80* as a whole, and those made on an individual variation basis. Explained here are those that affect the unit as a whole. In addition, the method of performing bulk dumps and saving all settings stored in the unit, as data transmitted from MIDI OUT, is covered here.

① Press **TUNE/MIDI**.

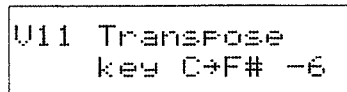


② Press either **◀** or **▶** to call up the relevant screen, then make the changes in the settings by pressing either **▲** or **▼**.

\* In cases such as this, any changes made in settings are stored without the need for performing a write for them.

#### Transpose

This allows you to shift the intervals at which sound is produced either above or below, in semitone units. You can thus play using familiar keys, yet what is heard will be in a different key.



Sets the transposition value.  
Range: [F# (-6)] – [F (+5)]

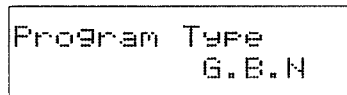
#### Settings for external control

##### ● Local On/Off



When set at Off, no sound will be produced when the *MK-80*'s keyboard is played.  
Range: [On] / [Off]

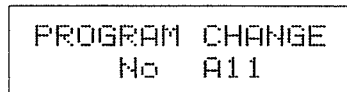
##### ● Program Type



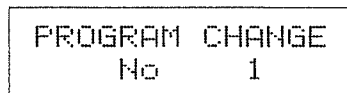
Provides for selection of the method of display for program change numbers. This applies at times when program change messages are transmitted in real time, or when program change numbers are stored as part of a variation.  
[DEC.](in decimal)/[G.B.N.](button correspondence)

Example)

When **PROG. CHG** is pressed...  
G.B.N.



DEC.



		The first number of G.B.N.							
		1	2	3	4	5	6	7	8
The second number of G.B.N.	1	1	2	3	4	5	6	7	8
	2	9	10	11	12	13	14	15	16
	3	17	18	19	20	21	22	23	24
	4	25	26	27	28	29	30	31	32
	5	33	34	35	36	37	38	39	40
	6	41	42	43	44	45	46	47	48
	7	49	50	51	52	53	54	55	56
	8	57	58	59	60	61	62	63	64

DEC.

- |  |                        |  |
|--|------------------------|--|
| ● <b>Program Change</b><br>(Transmission On/Off) | TxProgram Change<br>On | Accepts setting determining whether or not MIDI Program Change messages will be transmitted when variations are changed.<br>Range: [On] / [Off]                  |
| ● <b>Control Change</b><br>(Transmission On/Off) | TxControl Change<br>On | Determines whether or not Control Change messages will be transmitted. (Control Change Message for the damper pedal is not affected here)<br>Range: [On] / [Off] |
| ● <b>Damper</b><br>(Transmission On/Off)         | TxDamper<br>Hold 1 On  | Determines whether or not Damper pedal messages (Control change No. 64 : hold 1) will be transmitted.<br>Range: [On]/[Off]                                       |
| ● <b>MIDI Receive Channel</b>                    | RxMidi ch Omni<br>1 On | Sets the channel on which reception takes place.<br>Range: [1] – [16]  |
| ● <b>Program Change</b><br>(Reception On/Off)    | RxProgram Change<br>On | Determines whether or not Program Change messages will be received.<br>Range: [On] / [Off]   |
| ● <b>Exclusive</b><br>(Reception On/Off)         | RxEXCLUSIVE<br>On      | Determines whether or not Exclusive messages will be received (Bulk Load).<br>Range: [On] / [Off]  |
| ● <b>Bender</b><br>(Reception On/Off)            | RxBender<br>On         | Determines whether or not Bender messages will be received.<br>Range: [On] / [Off]   |
| ● <b>Control Change</b><br>(Reception On/Off)    | RxControl Change<br>On | Determines whether or not Control Change messages will be received.<br>Range: [On] / [Off]   |
| ● <b>All Notes Off</b><br>(Reception On/Off)     | RxAll Note Off<br>Off  | Determines whether or not All Notes Off messages will be received.<br>Range: [On] / [Off]  |

**Bulk Dump Save**

The Bulk Dump Save function allows you to transfer data representing the complete range of data stored in the *MK-80*, as MIDI data which is then stored externally.

```
Bulk Dump Save
Sure? Save/Play
```

Up to this point, if **PLAY** was pressed, you return to play screen.

By pressing **▲** the Bulk Dump Save procedure is started.

The following will momentarily appear in the display, then you are returned to the play mode.

```
COMPLETE
```

## 4. Configuring outgoing MIDI communication on a per variation basis

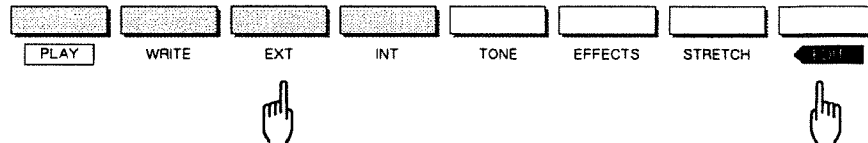
When the *MK-80* is to be used as a MIDI keyboard, you need to make settings that determine how the unit will handle the MIDI communication. Such settings consist of two types, those made for the *MK-80* as a whole, and those made on an individual variation basis. Explained here are those that are set on an individual variation basis.

① Select the variation becoming the source.

First, select a tone. For example, if you wish to make a variation of "BLEND", press **BLEND**.

Next, select a source variation.

② While holding down **EDIT**, press **EXT**.



While this is held down...

③ Press either **◀** or **▶** to call up the relevant screen, then make the changes in the settings by pressing either **▲** or **▼**.

### Action of the Slider Controllers and Control Pedal

Control Change messages can be transmitted from MIDI OUT through operating the control sliders and control pedal. The Control Change Numbers that will be transmitted can be stored in each variation.

#### ● Slider Controller 1

```
U11 Ext Ctr1 1
---- Off ----
```

Sets the Control Change Number that will be transmitted when Slider Controller 1 is moved.

Range: [Off], [0] - [31], [64] - [120]

#### ● Slider Controller 2

```
U11 Ext Ctr1 2
---- Off ----
```

Sets the Control Change Number that will be transmitted when Slider Controller 2 is moved.

Range: [Off], [0] - [31], [64] - [120]

#### ● Slider Controller 3

```
U11 Ext Ctr1 3
---- Off ----
```

Sets the Control Change Number that will be transmitted when Slider Controller 3 is moved.

Range: [Off], [0] - [31], [64] - [120]

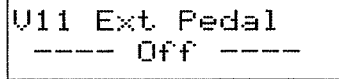
#### ● Slider Controller 4

```
U11 Ext Ctr1 4
---- Off ----
```

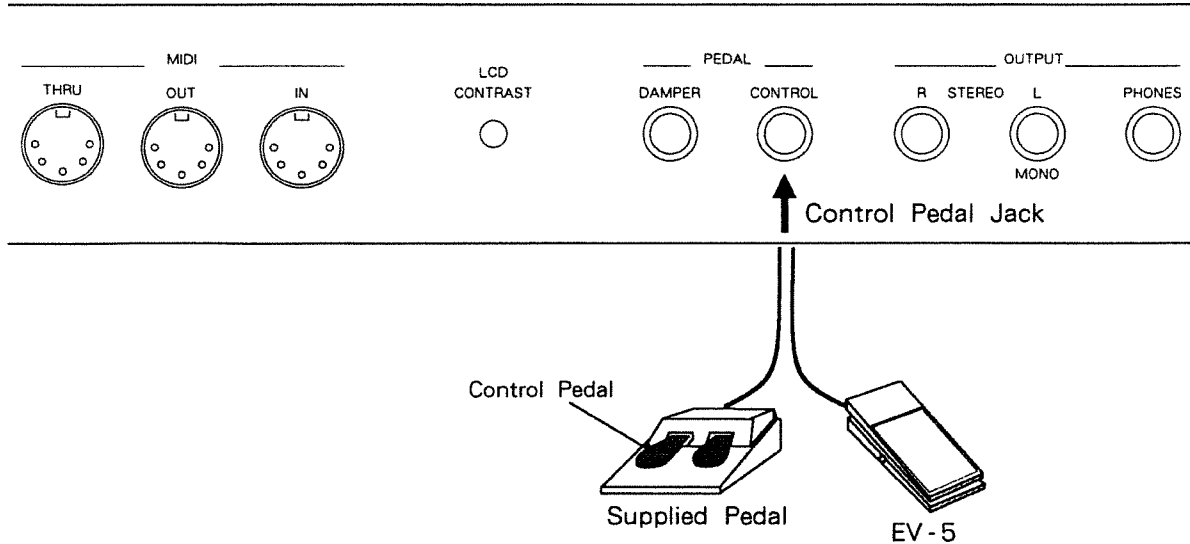
Sets the Control Change Number that will be transmitted when Slider Controller 4 is moved.

Range: [Off], [0] - [31], [64] - [120]

● Control Pedal



Sets the Control Change Number that will be transmitted when the Control Pedal is depressed.  
Range: [Off], [0] – [31], [64] – [120]



Function that can be set	Slider Controllers 1 – 4	When the supplied pedal is connected to the control pedal jack	When an expression pedal (Roland EV-5, BOSS EV-10) is connected to the control pedal jack
● Off	Do not function.	Do not function.	Do not function.
● Transmission of Control Change No. 0 : No. 31 : No. 64 : Transmission of Control Change No. 120	Values determined by the position of the sliders are transmitted. When the slider is fully up the maximum value (127) is transmitted, and when it's fully down the minimum value (0) is transmitted.	Each time the pedal is pressed, there will alternately be transmitted the maximum value (127) and the minimum value (0).	A value dependent on the angle at which the pedal is depressed will be transmitted. The maximum value of 127 is transmitted when the pedal is fully depressed, and the minimum value of 0 is transmitted when the pedal is fully up.

● Whenever a different variation is selected, any effects obtained will be in accord with the values set for the particular variation — until a controller is moved or a pedal depressed.



\*By operating the 4 Slider Controllers or Control Pedal it is possible to adjust the tone or the setting of the effectors, while simultaneously transmitting Control Change messages, Refer to page 13, 23 for assigning the adjustment for the tones and effectors.

**Keyboard Range**

The *MK-80* keyboard has 88 keys, from A0 to C8. Ordinarily, note messages will be transmitted from all of the keys. However, you can also specify the range from which transmission will occur.

● **Lowest key**

```
U11 Ext Zone
From key #C4
```

Note messages will be transmitted from MIDI OUT for the key set here and those above it.  
Range: [A0] – [C8]

● **Highest key**

```
U11 Ext Zone
To key #C6
```

Note messages will be transmitted from MIDI OUT for the key set here and those below it.  
Range: [A0] – [C8]

**Transmitted Program Change Number**

```
U11 Tx Prog CHG
No 128
```

Sets the Program Change Number that will be output when the variation is selected.  
Range: [1] – [128]

**MIDI Transmit Channel**

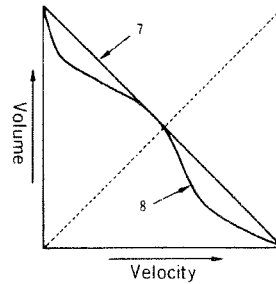
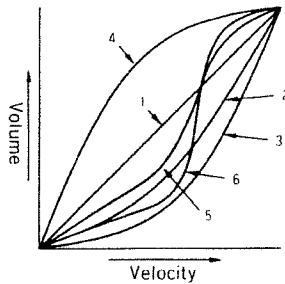
```
U11 Tx Midi Ch
Ch 16
```

Here setting is made for the MIDI channel that will be selected for use when the variation is selected.  
Range: [1] – [16]

**Transmitted Velocity Curve**

```
TxVelocity
Curve 8
```

Here selection is made for the velocity curve transmitted over MIDI.  
Range: [1] – [8]



Whenever changes have been made in the content of a variation, “\*” (edit symbol) will appear to the right of the variation number. This symbol indicates that a variation has not yet been written after its content has been edited.

If you do not perform the write procedure after editing changes have been made, the variation will return to its original status whenever you switch to a different variation, or the power is turned off.

Should you wish to save the contents after being edited, you need to give the variation a name, and carry out the write procedure. For details of the write procedure, see page 25.

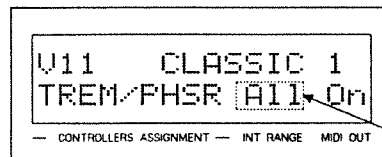


## 6. Other Controls

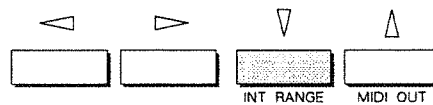
### 1. Temporarily releasing settings for key range made in a variation

When needed, you can have all 88 keys made available to play, by temporarily releasing the settings for key range (range of keys which sound) made in a variation.

From the **PLAY** screen, press **INT RANGE**.



At "All", all 88 keys will sound.



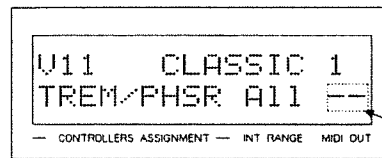
When **INT RANGE** is pressed a second time, "All" will change to " — — — ". In this condition, only keys within the keyboard range specified in the variation will sound.

\* This setting will remain as is until changed, even if the power is turned off, or you switch to another variation.

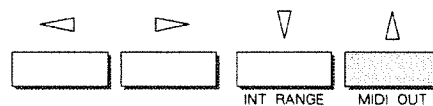
### 2. Temporarily stopping transmission of MIDI messages

When you wish, you can temporarily stop the transmission of note and other MIDI messages.

From the **PLAY** screen, press **MIDI OUT**.



While " — — " is visible, no MIDI messages are transmitted.



When **MIDI OUT** is again pressed, the " — " will change back to "On", and transmission of MIDI messages will resume.

\* This setting will remain as is until changed, even if the power is turned off, or you switch to another variation.

# 7. Concerning MIDI

This section provides an explanation of the basic concepts behind MIDI that should be understood for using the *MK-80* as a MIDI keyboard. It should be read before starting out with use of MIDI.

MIDI is an acronym for the Musical Instrument Digital Interface. It is an international standard that defines the way a variety of musical data is exchanged. Such musical data can be greatly varied, and includes information such as that of the performance itself, and about changes in sound.

As long as they are MIDI compatible, all devices, regardless of differences in model or manufacturer, can carry out exchange of musical data simply by connecting them together by cable.

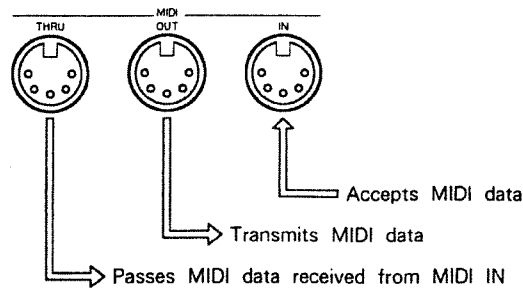
The MIDI standard defines the variety of events that occur during performance, such as presses or releases of keys, or the press of a pedal, as particular MIDI messages. When an instrument is played, a stream of MIDI messages is generated that corresponds to the events happening during play. A MIDI device receiving these messages can then produce sound as if it were being played directly.

## 1. The MIDI message flow

The exchange of MIDI messages takes place as explained below.

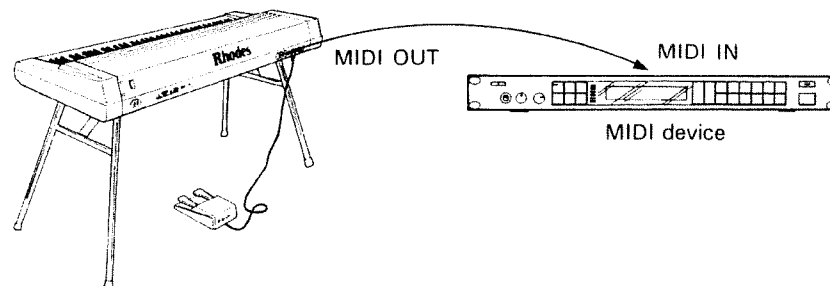
### a. Connections

MIDI compatible devices ordinarily are equipped with three connectors, IN, OUT, and THRU. MIDI cables are connected to these connectors in various ways depending on the method they are to be used.



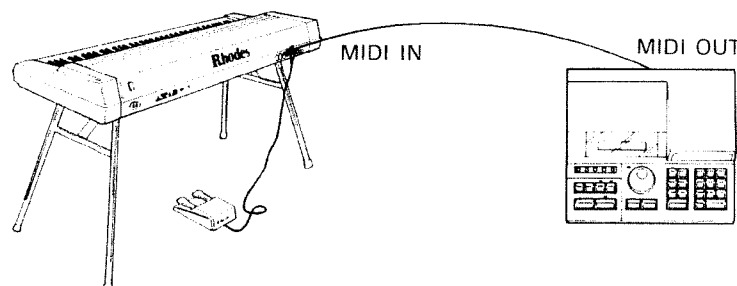
**When using the *MK-80* to control an external MIDI sound module**

Connections should be made as illustrated below when using the *MK-80* to control an external MIDI sound module.



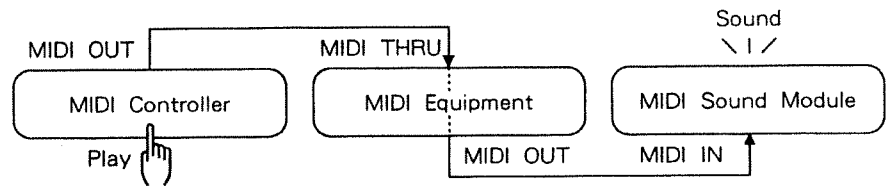
**When an external MIDI controller is to be used to control the *MK-80***

When a MIDI sequencer or another MIDI keyboard is going to be used to control the *MK-80*, connections should be made as illustrated below.



### Usage of MIDI THRU

Through use of the MIDI THRU connector, multiple MIDI devices can be connected up together.

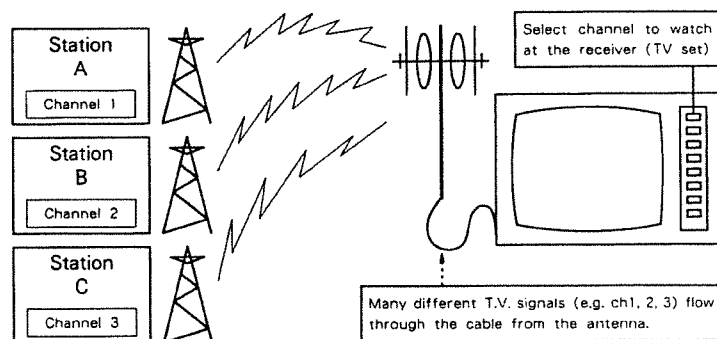


\* In theory, any number of MIDI devices could be connected up by using MIDI THRU, but it is best to consider 4 to 5 devices as being the practical limit. This is because the further down the line a device is located, the more delay there is that could occur, and more error due to a deterioration in signal quality.

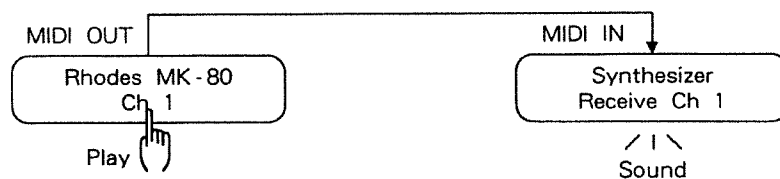
### b. MIDI Channels

With MIDI, a single cable can be used for carrying differing sets of performance information, for a number of 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 T.V., a variety of programs can be viewed by switching channels. This is because the information on a particular channel is conveyed only when the receiving end is set to the same channel that is being used for transmission.



The channels available with MIDI range from 1 to 16. And with MIDI as well, when the channels used on both the transmission and receiving ends match, the exchange of performance information takes place, and, in the case of MIDI, sound is produced.



## 2. MIDI Messages Recognized by the MK-80

In order to convey the great variety of expression possible with music, MIDI has been provided with a large range of data types (messages). The types of MIDI messages recognized by the *MK-80* are as follows:

Channel voice messages	Note messages Program Change messages Control Change messages Pitch Bend messages
System messages	Exclusive messages (used for bulk dumps)

**Channel Voice Messages** Channel voice messages are handled on an individual MIDI channel basis. They include the basic MIDI messages concerned with the expression of a performance.

### Note messages

#### *Keyboard messages*

Note messages are the most basic messages, and serve in representing what is played on the keyboard. They include messages for which key (note number) that is pressed (note on), at what strength (velocity), and when it is released (note off).

### Program Change messages

#### *Tone change messages*

These messages are used mainly for making tone changes. On the *MK-80*, when Program Change messages are received at MIDI IN, a variation is changed to another. Also, the *MK-80* transmits Program Change messages when a different variation is switched to, or when **PROG. CHG** is pressed. Depending on the manufacturer or particular model of instrument, the correspondence between tones and program change numbers will vary. You should check to determine how devices may or may not correspond when used together.

### Control Change messages

#### *Messages for expression of a performance*

These messages are used to enhance the expressivity of a performance, and include vibrato, hold, volume, and pan. On the *MK-80*, Control Changes can be transmitted by means of the four slider controllers and the control pedal. The interpretation of control changes will vary depending on the manufacturer or particular model of instrument. This should be checked by referring to the MIDI Implementation Chart for each device.

### Pitch Bend messages

These messages convey the effect obtained by moving the pitch bender. Since the messages only pass on information about how far the bender was moved, the actual amount of change in the pitch is determined by settings made on the receiving end (sound module, etc.)

## System Messages

System messages are concerned with information related to the entire sphere of connected devices, and are communicated regardless of settings for MIDI channels. In addition to Exclusive messages, there are also messages necessary for automatic play, and those serving to prevent problems.

### Exclusive messages

Exclusive messages consist of information such as that related to a device's unique tones. Generally, such messages can be exchanged only between devices of the same model and by the same manufacturer. Through use of the bulk dump save function (see page. 29), exclusive messages enable transfer of tone data to another *MK-80*, or allow tone data to be saved in a sequencer.

# 8. Troubleshooting *(before taking it to repair)*

---

## ■ If the MK-80 does not make any sound:

- Is the volume up?

Please turn up the volume of the MK-80 and the amplifier connected to it.

- Is the output connected properly?

If sound could be heard using a headphone, then amplifier or the cord connected to the MK-80 could be the problem. Please refer to P. 9.

- Is the Local Control "on" ?

Please refer to P.28

## ■ The sound is out of tune:

- Is the Key Transpose "off"?

Please refer to P.28

- Is the Master Tune in correct tuning?

Please refer to P.12

## ■ The Tone can not be changed properly:

- Is it not in the Edit Mode?

If so, please return to the Play mode by pressing the Play button.

- Is it not in the Voice Preserve condition?

Please refer to P.11

## ■ MIDI data from a sequencer is not received properly:

- Is the receiver channel set correctly?

Please verify it on the screen of the Tune/MIDI function.

Please refer to P.35,32,27

## ■ Want to change the variation back to the factory preset.

- Please proceed as follows.

① Press **WRITE** while holding down **EDIT**.

② Press **▲** While holding down **◀** and **▶** simultaneously.

→ All the variations will return back to the factory preset.

The screen will return to normal, after a while.

# 9. Types of Data

---

1. Data for which settings are made in common (global memory)

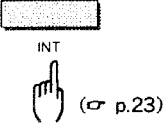
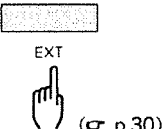
TUNE/MIDI	TUNE	425.0 - 455.0Hz
	TRANSPOSE	-6 - +5
	LOCAL	ON/OFF
	PROGRAM TYPE	DEC. or G.B.N.
	Tx PROGRAM CHANGE	ON/OFF
	Tx CONTROL CHANGE	ON/OFF
	Tx DAMPER	ON/OFF
	Rx CH	1 - 16
	OMNI	ON/OFF
	Rx PROGRAM CHANGE	ON/OFF
	Rx EXCLUSIVE	ON/OFF
	Rx BENDER	ON/OFF
	Rx CONTROL CHANGE	ON/OFF
	Rx ALL NOTE OFF	ON/OFF

## 2. Data for which settings are made for each variation

TONE	—	PUNCH	0 - 32
		TIGHTNESS	0 - 32
		BODY	0 - 32
		BRIGHTNESS	0 - 32
		BENDER DEPTH	0 - 12
		MODULATION RATE	1 - 100
		MODULATION DEPTH	0 - 12
		AUTO BEND	ON/OFF
		AUTO BEND DEPTH	-100 - +100
		AUTO BEND TIME	0 - 100
		AUTO BEND KEY FOLLOW	0 - 4
STRETCH	—	AUTO BEND VELOCITY	0 - 4
	—	STRETCH TYPE	1 - 3
EFFECTS	—	TREMOLO	ON/OFF
		RATE	1 - 100
		DEPTH	0 - 100
		PHASER	ON/OFF
		RATE	1 - 100
		DEPTH	0 - 100
		FEED BACK	0 - 7
		CHORUS	ON/OFF
		CHORUS MODE	1/2
		TRI. RATE	1 - 100
		TRI. DEPTH	0 - 80
		SINE RATE	1 - 100
		SINE DEPTH	0 - 20
		BASS LEVEL	-100 - +100
		MID LEVEL	-100 - +100
		MID FREQ	200 - 4K Hz
		MID BAND WIDTH	1 - 8
	TREBLE LEVEL	-100 - +100	
EXT	—	EXT ZONE FROM KEY	A0 - C8
		EXT ZONE TO KEY	A0 - C8
		TX PROGRAM CHANGE NO.	1 - 128
		TX MIDI CH	1 - 16
		TX VELOCITY CURVE	1 - 8
		CONTROL SLIDER 1	(*1)
		CONTROL SLIDER 2	(*1)
		CONTROL SLIDER 3	(*1)
		CONTROL SLIDER 4	(*1)
	FOOT CONTROL PEDAL	(*2)	
INT	—	INT ZONE FROM KEY	A0 - C8
		INT ZONE TO KEY	A0 - C8
		VELOCITY CURVE	1 - 8
		CONTROL SLIDER 1	(*3)
		CONTROL SLIDER 2	(*3)
		CONTROL SLIDER 3	(*3)
		CONTROL SLIDER 4	(*3)
	FOOT CONTROL PEDAL	(*4)	

Refer to Reference Chart for those indicated with “\*”.

## Reference Chart : Functions that are assignable to the controllers

	4 Slider Controllers	Control Pedal
<p>While holding down <b>EDIT</b> ...</p>  <p>INT (p.23)</p>	<ul style="list-style-type: none"> <li>● Off</li> <li>● Punch</li> <li>● Tightness</li> <li>● Body</li> <li>● Brightness</li> <li>● Auto Bend Depth</li> <li>● Auto Bend Time</li> <li>● Tremolo Rate</li> <li>● Tremolo Depth</li> <li>● Phaser Rate</li> <li>● Phaser Depth</li> <li>● Phaser Feed Back</li> <li>● Chorus TRI. Rate</li> <li>● Chorus TRI. Depth</li> <li>● Chorus Sine Rate</li> <li>● Chorus Sine Depth</li> <li>● Equalizer Bass</li> <li>● Equalizer Mid</li> <li>● Equalizer Mid Freq</li> <li>● Equalizer Mid B. Width</li> <li>● Equalizer Treble</li> </ul>	<ul style="list-style-type: none"> <li>● Off</li> <li>● Punch</li> <li>● Body</li> <li>● Brightness</li> <li>● Auto Bend On/Off</li> <li>● Tremolo On/Off</li> <li>● Phaser On/Off</li> <li>● Chorus On/Off</li> <li>● Equalizer Mid Freq</li> <li>● Modulation Depth</li> </ul>
<p>While holding down <b>EDIT</b> ...</p>  <p>EXT (p.30)</p>	<ul style="list-style-type: none"> <li>● Off</li> <li>● Control Change No.0 Transmission : No.31 : No.64 :</li> <li>● Control Change No.120 Transmission</li> </ul>	<ul style="list-style-type: none"> <li>● Off</li> <li>● Control Change No.0 Transmission : No.31 : No.64 :</li> <li>● Control Change No.120 Transmission</li> </ul>



If **INT** and **EXT** were both set to any condition besides off, then the two are carried out at the same time, so take caution.



### 3. Preset Variation Setting Chart

		11	21	31	41	51	61	71	81	
TONE	PUNCH	16	16	16	(16)	16	16	16	(16)	
	TIGHTNESS	16	16	16	16	16	16	16	16	
	BODY	16	16	16	16	16	16	16	16	
	BRIGHTNESS	16	16	16	16	16	16	16	16	
	BENDER DEPTH	2	2	2	2	2	2	2	2	
	MODULATION	RATE	53	53	55	55	53	53	53	55
		DEPTH	2	2	2	2	2	2	2	2
	AUTO BEND	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		DEPTH	+ 24	+ 30	+ 19	+ 19	+ 25	+ 25	- 58	+ 19
		TIME	66	40	70	70	70	70	75	70
KEYFOLLOW		4	4	3	3	4	4	4	4	
VELO TYPE		3	3	0	3	3	3	3	3	
EFFECTS	TREMOLO	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	
		RATE	40	39	31	50	52	52	31	52
		DEPTH	22	50	35	40	23	23	100	20
	PHASER	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		RATE	3	3	3	1	1	1	7	3
		DEPTH	100	100	100	50	45	45	100	68
		F.BACK	3	4	4	0	0	0	6	0
	CHORUS	ON/OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
		MODE	1	1	1	1	1	1	1	1
		TRI. RATE	13	19	15	13	11	11	15	13
		TRI. DEPTH	80	70	80	80	50	50	80	63
		SINE RATE	8	11	11	11	3	3	20	1
		SINE DEPTH	5	19	20	20	7	7	20	2
	EQ	BASS LEVEL	0	0	0	0	0	0	0	0
		MID LEVEL	0	0	0	0	0	0	0	0
		MID FREQ	400	400	400	400	400	400	400	400
		MID Q	1	1	1	1	1	1	1	1
TREBLE LEVEL		0	0	0	0	0	0	0	0	
STRETCH TYPE		1	1	1	1	1	1	1	1	

# 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 version 1.0).

### = 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

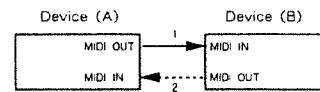
Address mapping is a technique for transferring messages conforming to the data format given in Section 1. It assigns a series of memory resident records-waveform and tone data, switch status, and parameters, for example-to specific locations in a machine dependent address space, thereby allowing access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

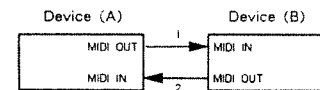


Connection at point 2 is essential for "Request data" procedures. (See Section 3.)

### = 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

## Roland Exclusive Messages

- \*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.

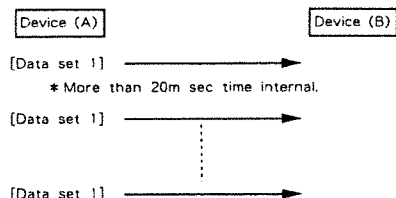
The MIDI standards inhibit non-real time messages from interrupting an exclusive one. This fact is inconvenient for the devices that support a "soft-through" mechanism. To maintain compatibility with such devices, Roland has limited the DT1 to 256 bytes so that an excessively long message is sent out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

Byte	Description
FOH	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

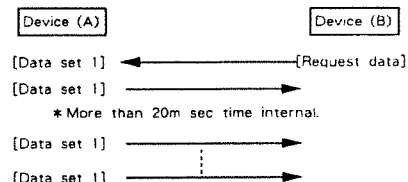
- \*A DT1 message is capable of providing only the valid data among those specified by an RQ1 message.
- \*Some models are subject to limitations in data format used for a single transaction. Requested data, for example, may have a limit in length or must be divided into predetermined address fields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

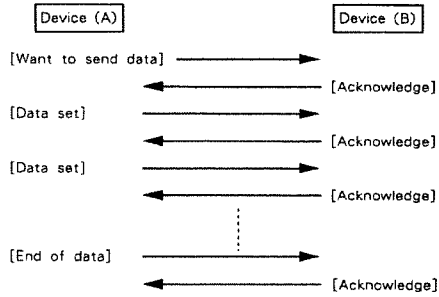
An ERR message may be sent out by a device on either side of the interface. Communication must be terminated immediately when either side triggers an ERR message.

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

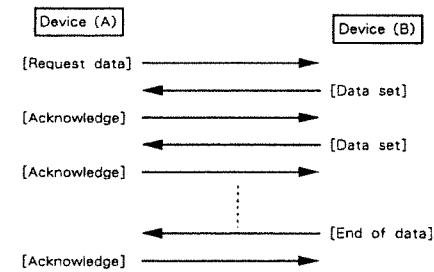
## Roland Exclusive Messages

### Example of Message Transactions

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

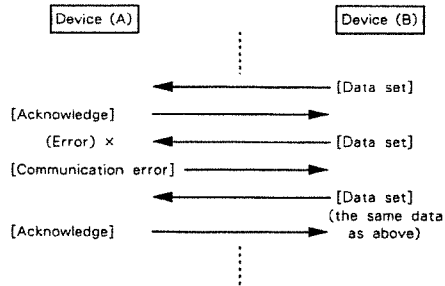


- Device (A) requests and receives data from device (B).

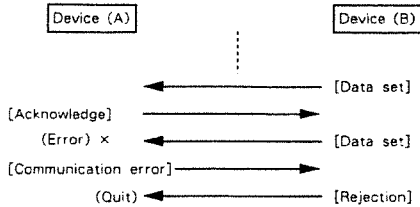


- Error occurs while device (A) is receiving data from device (B).

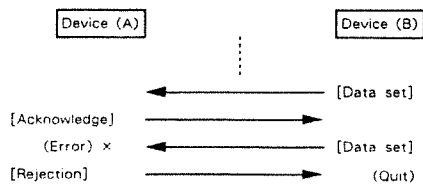
- 1) Data transfer from device (A) to device (B).



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



- 3) Device (A) immediately quits data transfer.



# MIDI Implementation Chart

Function ...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1 1 - 16 each	1 1 - 16 each	* 3
Mode	Default Messages Altered	Mode 3 OMNI OFF, POLY *****	mode 3 ×	* 2
Note Number	True Voice	15 - 113 *****	0 - 127 15 - 113	
Velocity	Note ON Note OFF	○ × 9n v = 0	○ × 9n v = 0	v = 1 - 127
After Touch	Key's Ch's	× ×	× ×	
Pitch Bender		○	* 1	
Control Change	0 - 31, 64 - 120	1 * 1	* 1	Modulation Hold 1 Tremolo Chorus Phaser
		64 * 1	○	
		92	* 1	
		93	* 1	
	95	* 1	* 1	
	121	×	○	Slider Contoroller  Reset All Contorollers
Prog Change	True #	* 1 (0 - 127) *****	* 1 (0 - 63) 0 - 63	
System Exclusive		○	* 1	
System Common	Song Pos Song Sel Tune	× × ×	× × ×	
System Real Time	Clock Commands	× ×	× ×	
Aux Message	Local ON/OFF All Notes OFF Active Sense Reset	× × ○ ×	○ * 1 ○ ×	
Notes		* 1 Switchable between ○ and ×. * 2 At default, transmitted to the channel memorized in the variation. * 3 Able to memorize the Basic channels for transmtion of the Variaton and reception of the groval memory.		

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

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

○ : Yes  
× : No

**1. TRANSMITTED DATA****■ Channel Voice Messages****● Note Off**

Status	Second	Third
9nH	kkH	00H

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 kk = Note number : FH - 7FH (15 - 113)

**● Note On**

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 kk = Note number : FH - 7FH (15 - 113)  
 vv = Velocity : 01H - 7FH (1 - 127)

\* Note on/off is sent only to the keys inside range of the zone, and the Basic Channel.

\* Note number's range can be changed by key transpose.

**● Contorol Change****○ Slider Contorollers**

Status	Second	Third
BnH	ccH	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 cc = 01H - 1FH (1 - 31) , 40H - 78H (64 - 120)  
 vv = 00H - 7FH (0 - 127)

\* By moving the slider contorollers, up to five Control Messages can be transmitted. (However those five Contorollers should be assign to the same channel)

\* The Control Number (the second byte) can be changed by panel operations.

\* If a same number was assigned to multiple contorollers, the value of last moved contoroller will be transmitted.

\* The Control Message is transmitted when a contoroller is moved.

**○ Modulation**

Status	Second	Third
BnH	01H	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Contorol value : 00H - 7FH (0 - 127)

**○ Damper (Hold 1)**

Status	Second	Third
BnH	40H	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Contorol value : 00H , 7FH (0 , 127) 0 = OFF 127 = ON

\* The Damper (Hold 1) reception/transmission can be selected independent of other Control Changes.

\* With MK 80, all the control Changes except Damper, are transmitted when TX Control Change was set to "ON" in the MIDI setting.

**● Program Change**

Status	Second
CnH	ppH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 pp = Program number : 00H - 7FH (0 - 127)

\* Transmitted when TX Program Change was set to "ON" in the MIDI setting.

**● Pitch Bend Change**

Status	Second	Third
EnH	llH	mmH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 mm, ll = Value : 00H, 00H - 7FH, 7FH (- 8192 - + 8191)

**■ Channel Mode Messages****● OMNI OFF**

Status	Second	Third
BnH	7CH	00H

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

\* Transmitted to the MIDI receive channel set to variation 11, when the power switch was turned on.

**● POLY**

Status	Second	Third
BnH	7FH	00H

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

\* Transmitted to the MIDI receive channel set to variation 11, when the power switch was turned on.

**■ System Realtime Messages****● Active sensing**

Status
FEH

\* This message will be transmitted, when there is no message to be transmitted, to prevent the interval of data to be more than 300 m sec.

**■ System Exclusive Messages**

Status	Data Byte
F0H	iiH, ddH, ..., eeH
F7H	

F0H : System Exclusive

ii = ID number : 41H (65)

dd, ..., ee = Data : 00H - 7FH (0 - 127)

F7H : EOX (End of Exclusive/System common)

\* For farther details, refer to the "Roland Exclusive Message" and/or the section 3 of this MIDI Implementation and what follows.

\* With the Exclusive Message, following data will be transmitted.  
 Patch 11a - Patch 88a, Patch 11b - Patch 88b

**2. RECOGNIZED RECEIVE DATA****■ Channel Voice Messages****● Note Off**

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

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

kk = Note number : 00H - 7FH (0 - 127)

vv = Velocity : 01H - 7FH (0 - 127)

\* The Velocity will be ignored.

**● Note On**

Status	Second	Third
9nH	kkH	vvH

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

kk = Note number : 00H - 7FH (0 - 127)

vv = Velocity : 01H - 7FH (1 - 127)

\* When a Note Number out side the range of 15 - 113 was received, that will be octave shifted to be in that range.

\* The Key Transpose setting will not affect the Note Number received.

● Control Change

○ Modulation

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	01H	vvH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Control Value : 00H - 7FH (0 - 127)

○ Damper (Hold 1)

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	40H	vvH	

\* Damper is always ready to receive messages.

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Control Value : 00H - 7FH (0 - 127)  
 0 = OFF, 1 - 63 = Half Dump, 64 - 127 = ON

○ Tremolo

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	5CH	vvH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Control Value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

○ Chorus

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	5DH	vvH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Control Value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

○ Phaser

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	5FH	vvH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Control Value : 00H - 7FH (0 - 127) 0 - 63 = OFF 64 - 127 = ON

\* MK-80 will receive all the Control Changes except Damper when MIDI setting of RX Control Change is set to "ON".  
 \* The on/off message of Tremolo, Chorus and Phaser Depth are not memorized on the Patches even if they were received, unless the write procedure had been taken on MK-80.

● Program Change

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

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 pp = Program number : 00H - 3FH (0 - 63)

\* Accepts MIDI message, when "Rx. Program Change" is set to "ON" in MIDI setting.

● Pitch Bend Range

<u>Status</u>	<u>Second</u>	<u>Third</u>	
EnH	llH	mmH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 mm, ll = Value : 00H, 00H - 7FH, 7FH (- 8192 - - 8191)

\* Accepts MIDI message, when "Rx. Bender" is set to "ON" in MIDI setting.

■ Channel Mode Messages

● Reset All Controllers

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	79H	00H	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

\* When this message was received, the values of the controllers listed below will change.

Pitch Bend Change	: 0 (middle)
Hold 1	: 0 (Off)
Modulation	: 0 (minimum)

● Local Control

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	7AH	vvH	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16  
 vv = Value : 00H - 7FH (0, 127) 0 = OFF 127 = ON

● All Note Off

<u>Status</u>	<u>Second</u>	<u>Third</u>	
BnH	7BH	00H	

n = MIDI channel number : 0H - FH (0 - 15) 0 = ch.1 15 = ch.16

\* Accepts MIDI messages when MIDI setting of "Rx All Note Off" is "ON".  
 \* When All Notes Off is received, all the on-notes of the appropriate channel will be "Off".  
 If All Notes Off was received, even though there was a note being on (an off-note made to keep emitting a sound by the use of the damper is thought to be "off"), all the on-notes received by MIDI is changed to "Off" condition, and it goes through the same process taken as when "Reset All Controllers" is received.  
 It can be set so, no reception take place here.

■ System Realtime messages

● Active sensing

<u>Status</u>	
FEH	

\* Upon receiving this message MK-80 starts measuring, the time between the end of each successive messages.  
 If no data was received within 300 m sec, MK-80 will turn off all the on-notes, and goes through the same process taken as when Reset All Controllers was received, then return to the state which do not measure the time intervals of the messages.

■ System Exclusive Messages

<u>Status</u>	Data Byte
F0H	iii,dddI.....ceH
F7H	

F0H : System Exclusive  
 ii = ID number : 41H (65)  
 dd.....ce = Data : 00H - 7FH (0 - 127)  
 F7H : EOX (End of Exclusive./System common)

\* Accepts MIDI message, when "Rx. Exclusive" is set to "ON" in MIDI setting.  
 \* For further details, refer to the "Roland Exclusive Message" and/or the section 3 of this MIDI Implementation and what follows.

3. Exclusive Communications

\* MK-80 can transmit and receive patch parameters using Exclusive Messages.  
 \* Model ID Number of MK-80's Exclusive Message is 2FH, and Device ID Number is UNIT# - 1. The UNIT# takes the same value as that of the Basic Channel.

■ One Way Communication

● Data set 1 DT1 (12H)

Byte	Description
F0H	Exclusive Status
41H	Maker ID (Roland)
Dev	Device ID (Dev=UNIT#-1)
2FH	Model ID (MK-80)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address LSB
ccH	Data
:	:
ddH	Data
sum	Check Sum
F7H	EOX (End of exclusive)



#### 4. Parameter Address Map (Model ID = 2FH)

The address is expressed in 7 bits hexadecimal number.

Address	MSB	LSB
Binary	0aaa aaaa	0bbb bbbb
7 bits hexadecimal number	AA BB	

##### ■ Parameter base address

Start address	Description	Start address	Description
00 00	Patch 11a #4-1	12 40	Patch 11b #4-2
00 25	Patch 12a	12 6A	Patch 12b
00 4A	Patch 13a	13 14	Patch 13b
00 6F	Patch 14a	13 3E	Patch 14b
01 14	Patch 15a	13 68	Patch 15b
01 39	Patch 15a	14 12	Patch 16b
01 5E	Patch 17a	14 3C	Patch 17b
02 03	Patch 18a	14 66	Patch 18b
02 28	Patch 21a	15 10	Patch 21b
02 4D	Patch 22a	15 3A	Patch 22b
02 72	Patch 23a	15 64	Patch 23b
03 17	Patch 24a	16 0E	Patch 24b
03 3C	Patch 25a	16 38	Patch 25b
03 61	Patch 26a	16 62	Patch 26b
04 06	Patch 27a	17 0C	Patch 27b
04 2B	Patch 28a	17 36	Patch 28b
04 50	Patch 31a	17 60	Patch 31b
04 75	Patch 32a	18 0A	Patch 32b
05 1A	Patch 33a	18 34	Patch 33b
05 3F	Patch 34a	18 5E	Patch 34b
05 64	Patch 35a	19 08	Patch 35b
06 09	Patch 36a	19 32	Patch 36b
06 2E	Patch 37a	19 5C	Patch 37b
06 53	Patch 38a	1A 06	Patch 38b
06 78	Patch 41a	1A 30	Patch 41b
07 1D	Patch 42a	1A 5A	Patch 42b
07 42	Patch 43a	1B 04	Patch 43b
07 67	Patch 44a	1B 2E	Patch 44b
08 0C	Patch 45a	1B 58	Patch 45b
08 31	Patch 46a	1C 02	Patch 46b
08 56	Patch 47a	1C 2C	Patch 47b
08 7B	Patch 48a	1C 56	Patch 48b
09 20	Patch 51a	1D 00	Patch 51b
09 45	Patch 52a	1D 2A	Patch 52b
09 6A	Patch 53a	1D 54	Patch 53b
0A 0F	Patch 54a	1D 7E	Patch 54b
0A 34	Patch 55a	1E 28	Patch 55b
0A 59	Patch 56a	1E 52	Patch 56b
0A 7E	Patch 57a	1E 7C	Patch 57b
0B 23	Patch 58a	1F 26	Patch 58b
0B 48	Patch 61a	1F 50	Patch 61b
0B 6D	Patch 62a	1F 7A	Patch 62b
0C 12	Patch 63a	20 24	Patch 63b
0C 37	Patch 64a	20 4E	Patch 64b
0C 5C	Patch 65a	20 78	Patch 65b
0D 01	Patch 66a	21 22	Patch 66b
0E 26	Patch 67a	21 4C	Patch 67b
0E 4B	Patch 68a	21 76	Patch 68b
0E 70	Patch 71a	22 20	Patch 71b
0E 15	Patch 72a	22 4A	Patch 72b
0E 3A	Patch 73a	22 74	Patch 73b
0E 5F	Patch 74a	23 1E	Patch 74b
0F 04	Patch 75a	23 48	Patch 75b
0F 29	Patch 76a	23 72	Patch 76b
0F 4E	Patch 77a	24 1C	Patch 77b
0F 73	Patch 78a	24 46	Patch 78b
10 18	Patch 81a	24 70	Patch 81b
10 3D	Patch 82a	25 1A	Patch 82b
10 62	Patch 83a	25 44	Patch 83b
11 07	Patch 84a	25 6E	Patch 84b
11 2C	Patch 85a	26 18	Patch 85b
11 51	Patch 86a	26 42	Patch 86b
11 76	Patch 87a	26 6C	Patch 87b
12 1B	Patch 88a	27 16	Patch 88b

Notes:

\* 4 - 1 Patch Data - a

Offset address	Description
00 00	0aaaaab : aaaaa, bbbbbb, cccccc, dddddd,
00 01	0bbbbbc : eeeeee, ffffff, gggggg, hhhhhh,
00 02	0cccccdd : iiii, jjjjj, kkkkk, lllll
00 03	0dddeeee : = Name[0 - 11]
00 04	0effffff : ( 0 : <space>
00 05	0fggggk : 2 - 11: '0' - '9'
00 06	0hhhhhl : 12 - 37: 'A' - 'Z'
00 07	0iiiiijj : 38 - 63: 'a' - 'z')
00 08	0jjjjkkk
00 09	0kkkllll : m = Chorus switch (0: OFF, 1: ON)
00 0A	0llmmnnn : nnnnnn = Tri-Chorus Rate (0 - 99)
00 0B	0nnnoooo : oooooo = Tri-Chorus Depth (0 - 80)
00 0C	0ocopprr : pppppp = Sin-Chorus Rate (0 - 99)
00 0D	0pppqqqq : qqqqqq = Sin-Chorus Depth (0 - 20)
00 0E	0qqqrsss : r = Tremolo Switch (0: OFF, 1: ON)
00 0F	0ssssttt : ssssss = Tremolo Rate (0 - 99)
00 10	0ttttuuu : tttttt = Tremolo Depth (0 - 100)
00 11	0uuuuuvv : uuuuuuu = Bass EQ Level (0-100-200)
00 12	0vvvvvww : vvvvvvv = Treble EQ Level (0-100-200)
	w = Phaser Switch (0: OFF, 1: ON)
00 13	0xxxxxxx : xxxxxx = Phaser Rate (1 - 99)
00 14	0yyyyyyy : yyyyyy = Phaser Depth (0 - 100)
00 15	0zzzAAAA : zzz = Phaser Feed Back (0 - 7)
00 16	0AAABBBB : AAAAAA = Mid EQ Freq. (0 - 99)
00 17	0BBBBCCC : BBBB = Mid EQ level (0-100-200)
	CCC = Mid EQ Q (0 - 7)
00 18	0DDDEEEE : DDDD = Bender Depth (0 - 12)
	EEEE = Local Bender Depth (0 - 12)
00 19	0EFFFFGG : FFFF = Modulation Depth (0 - 12)
00 1A	0GGHHHHH : GGGG = Local Modulation Depth (0 - 12)
	HHHHHHH = Modulation Rate (0 - 99)
00 1B	0IHLILLL : I = Chorus Mode (0:Mode-1,1:Mode-2)
	LLLL = dummy(ignored if received)
00 1C	0MNOOPPP : MNOOPPP = dummy(ignored if received)
00 1D	0NNNNQQQ : NNNN = dummy(ignored if received)
00 1E	0OOOOPPP : OOOOO = Punch (0 - 32)
00 1F	0PPPPQQQ : PPPPP = Tightness (0 - 32)
00 20	0QQRRRRR : QQQQQ = Body (0 - 32)
	RRRRR = Brightness (0 - 32)
00 21	0RSTTTTT : S = Auto Bend Switch (0: OFF, 1: ON)
00 22	0TTTTUUU : TTTTTT = Auto Bend Depth (0-100-200)
00 23	0UUUVVVV : UUUUUU = Auto Bend Time (0 - 100)
	VVV = Auto Bend Velocity (0 - 4)
00 24	0WWWXX : WWW = Auto Bend Key Follow (0 - 4)
	XX = Stretch Tune (0 - 2)
Total size	00 25

Address Map

Address (Hex)	Block	Sub Block	Reference
00 00	Patch Data A	Patch 11a	*4-1
12 3F		Patch 12a	
		Patch 87a	
		Patch 88a	
12 40	Patch Data B	Patch 11b	*4-2
26 BF		Patch 12b	
		Patch 87b	
		Patch 88b	

\* 4 - 2 Patch Data - b

Offset address	Description
00 00	0000000a : abbbbbb = Slider INT.1 (0 - 19, 255)
00 01	0bbbbbbb : 255-OFF
00 02	0000000a : abbbbbb = Slider INT.2 (0 - 19, 255)
00 03	0bbbbbbb : 255-OFF
00 04	0000000a : abbbbbb = Slider INT.3 (0 - 19, 255)
00 05	0bbbbbbb : 255-OFF
00 06	0000000a : abbbbbb = Slider INT.4 (0 - 19, 255)
00 07	0bbbbbbb : 255-OFF
00 08	0000000a : abbbbbb = Slider EXT.1 (1 - 31, 64-120, 255)
00 09	0bbbbbbb : 255-OFF
00 0A	0000000a : abbbbbb = Slider EXT.2 (1 - 31, 64-120, 255)
00 0B	0bbbbbbb : 255-OFF
00 0C	0000000a : abbbbbb = Slider EXT.3 (1 - 31, 64-120, 255)
00 0D	0bbbbbbb : 255-OFF
00 0E	0000000a : abbbbbb = Slider EXT.4 (1 - 31, 64-120, 255)
00 0F	0bbbbbbb : 255-OFF
00 10	0000000a : abbbbbb = Foot Vol. INT. (0 - 8, 255)
00 11	0bbbbbbb : 255-OFF
00 12	0000000a : abbbbbb = Foot Vol. EXT (1 - 31, 64-120, 255)
00 13	0bbbbbbb : 255-OFF
00 14	0aaaaaaa : aaaaaa = From Key INT. (0 - 87)
00 15	0aaaaaaa : aaaaaa = To Key INT. (0 - 87)
00 16	0aaaaaaa : aaaaaa = From Key EXT. (0 - 87)
00 17	0aaaaaaa : aaaaaa = To Key EXT. (0 - 87)
00 18	0000aaaa : aaaa = MIDI Tx Channel (0 - 15)
00 19	0aaaaaaa : aaaaaa = Program Change (0 - 127)
00 1A	0000aaaa : aaa = TxVelocity Curve (0 - 7)
00 1B	0000aaaa : aaa = Velocity Curve (0 - 7)
00 1C	0xxxxxxx : dummy (ignored if received)
:	:
:	:
:	:
00 29	0xxxxxxx : dummy (ignored if received)
Total size	00 2A

# Specifications

## MK-80: S/A Digital Piano

● <b>Keyboard</b>	88 keys (piano touch)
● <b>Sound source</b>	S/A Process Maximum simultaneously producible tones: 16 (With CONTEMPORARY and CLAVI however, this becomes 10)
● <b>Memory</b>	Variations: 64 types Preset Tones: 8 types Programmable Tones: 56 types
● <b>Front Panel</b>	Bender-modulation Lever Volume Control Slider Slider Controllers: 4 Effector Control Buttons: 3 Cursor Buttons: 4 Display Function Buttons: 8 Tone Select Buttons: 8 Preset Button User Memory Buttons: 7
● <b>Display</b>	2-line, 16 character (backlit)
● <b>Indicators</b>	Switch Controls: 3
● <b>Rear Panel</b>	Headphone Jack Output Jacks: 2 Control Pedal Jack Damper Pedal Jack MIDI Connectors (IN/OUT/THRU) Power Switch AC Inlet
● <b>Dimensions</b>	1370(W) × 546(D) × 152(H)mm 53 15/16" (W) × 21 1/2" (D) × 6" (H) inches
● <b>Weight</b>	34.5 kg ; 76 lb 3 oz
● <b>Power Consumption</b>	27W
● <b>Supplied Accessories</b>	Owner's Manual Warranty Information Pedal Unit Power Cord
● <b>Options</b>	Stand Music Rack

\* The specifications for this product are subject to change without prior notice, in the interest of improvement.



## 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. Räjähdyksvaara.  
Pariston saa vaihtaa ainoastaan  
alan ammottimies.

## Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das

Rhodes MK-80

(Gerät. Typ. Bezeichnung)

in Übereinstimmung mit den Bestimmungen der

Amtsbl. Vfg 1046/1984

(Amtsblattverfügung)

funk-entstört ist.

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

Roland Corporation Osaka/Japan

Name des Herstellers/Importeurs

## RADIO AND TELEVISION INTERFERENCE

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

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

- Disconnect other devices and their input/output cables one at a time. If the interference stops, it is caused by either the other device or its I/O cable. These devices usually require Roland designated shielded I/O cables. For Roland devices, you can obtain the proper shielded cable from your dealer. For non Roland devices, contact the manufacturer or dealer for assistance.
- If your equipment does cause interference to radio or television reception, you can try to correct the interference by using one or more of the following measures.
  - Turn the TV or radio antenna until the interference stops.
  - Move the equipment to one side or the other of the TV or radio.
  - Move the equipment farther away from the TV or radio.
  - Plug the equipment into an outlet that is on a different circuit than the TV or radio. (That is, make certain the equipment and the radio or television set are on circuits controlled by different circuit breakers or fuses.)
  - Consider installing a rooftop television antenna with coaxial cable lead-in between the antenna and TV. If necessary, you should consult your dealer or an experienced radio/television technician for additional suggestions. You may find helpful the following booklet prepared by the Federal Communications Commission: "How to Identify and Resolve Radio — TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

### 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 Règlement des signaux parasites par le ministère canadien des Communications.

 Roland®

---

**10687**

UPC

10687



:098:

**Roland**