# Roland®

# RD-250S/300S

## Owner's Manual

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

# ■ PANEL DESCRIPTION



- ㉒ Power Switch
- ㉑ Tuning Knob
- ㉗ Output Jacks
- ㉓ Output Level Switch
- ㉔ Headphones Jack
- ⑯ MIDI THRU Connector
- ⑰ MIDI OUT Connector
- ⑱ MIDI IN Connector
- ⑲ Damper Pedal Jack
- ⑳ Soft/Remote Pedal Jack



- ❶ External Lower Volume Knob
- ❷ External Upper Volume Knob
- ❸ Volume Knob
- ❹ Brilliance Knob
- ❺ Key Transpose Switch
- ❻ Split Switch
- ❼ MIDI OUT Switch
- ❽ MIDI Lower Switch
- ❾ MIDI Upper Switch
- ❿ MIDI Receive Channel/ Internal Voice Switch
- ⑪ Voice Selectors
- ⑫ Chorus Switch
- ⑬ Tremolo Switch
- ⑭ Tremolo Rate Knob
- ⑮ Tremolo Depth Knob

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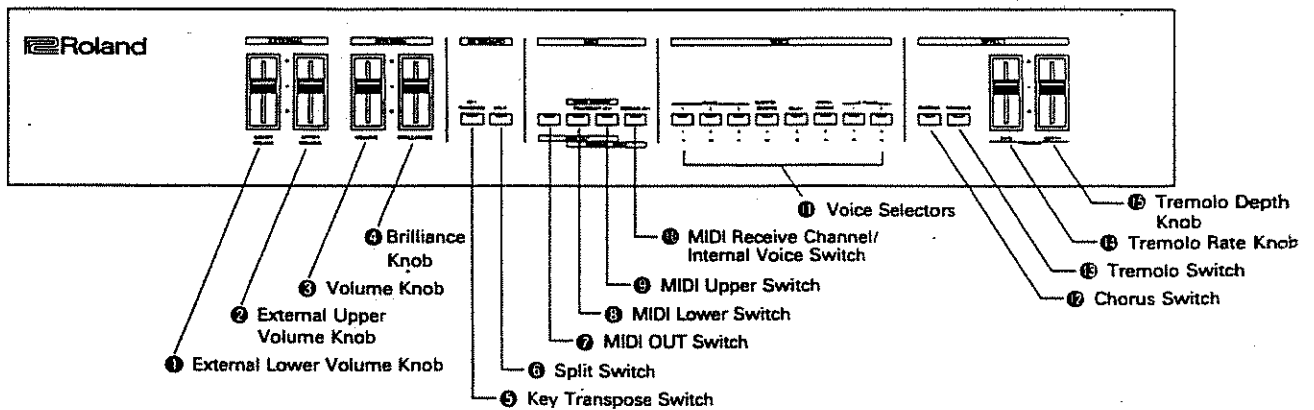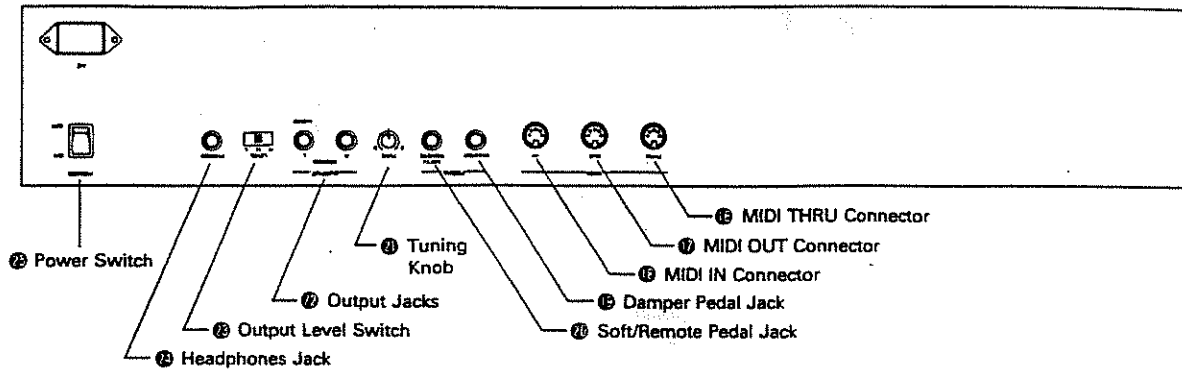
## IMPORTANT NOTES

### Power Supply

- The appropriate voltage to be used is shown on the name plate on the rear panel. Be sure that it meets the voltage system in your country.

- Do not use the same socket that is used for any noise generating device, such as motor, or variable lighting system.

- This unit might not work properly if the power cable is plugged in with the unit turned on. If this happens, simply turn the unit off, and turn it on again in few seconds.

- It is normal for the unit to be warm while operating.

### Power Cord

- When disconnecting the power cord from the socket, do not hold the cord but the plug. When the unit is not to be used for a long period, disconnect the power cord.

### Location

- Avoid using the RD-250s and RD-300s in extreme heat or humidity or where it may be affected by dust, direct sunlight or vibration.

### Cleaning

- Use a soft cloth and clean only with a mild detergent.

- Do not use solvents such as paint thinner.

# ■ CONNECTIONS

[See page 10.]

Pedal Switch
DP-2
[See page 7 and 17.]

Stereo Headphones
RH-100
RH-10
(Optional)

Audio Amplifier

Keyboard Amplifier

Output Level Switch

| | |
|---|---|
| Keyboard Amp. | M/H |
| Audio Amp. | H |
| Recording Equipment | H |
| P.A. Mixer | L/M/L |
| Guitar Amp. | L/M |
| | etc. |
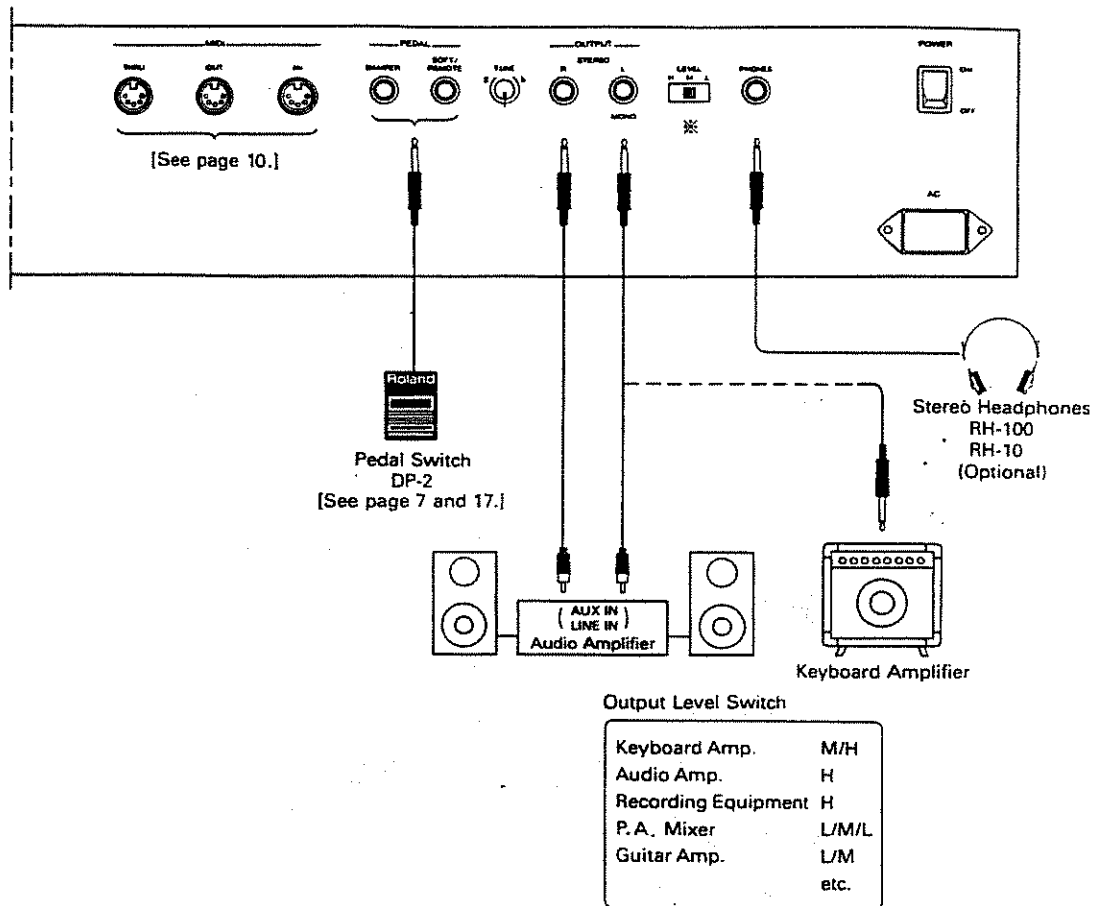
# ■ HOW TO SET UP THE PIANO

1. Connect the supplied power cord to the Receptacle on the rear panel.

2. Connect the plug to the wall socket.

* Be sure to take the step 1 then 2. Do not do it the other way round.

Roland has developed a new type of digital synthesis technology -- Structured Adaptive (SA) Sound Synthesis. SA Sound Synthesis employs a technique which neither approximates nor simulates acoustic sounds, but actually recreates these sounds. Note for note, nuance for nuance, harmonic characteristics and timbre variations are faithfully replicated across the entire range of the keyboard. Sounds respond to playing dynamics with extraordinary accuracy and warmth. SA Sound Synthesis far surpasses sampling technology in its ability to reproduce and articulate astoundingly realistic acoustic sounds.

# ■ FEATURES

● The Roland RD-250s and RD-300s MIDI Digital Pianos feature 8 studio quality keyboards created by SA Sound Synthesis.

● The RD-250s and RD-300s include built-in Chorus and Tremolo effects.

● The RD-250s and RD-300s can be used as excellent MIDI Keyboard Controllers or as MIDI Sound Modules.

# ■ CONTENTS

# ① RD-250s or RD-300s as a Piano

① **Turn the piano on.**

The indicator of Piano 1 lights up.

* For about 2 seconds after turned on, the piano cannot be played because of the muting circuit.

② **Adjust the volume with the Volume Knob .**
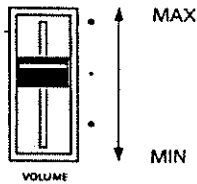


## a. Voice Selection

The RD-250s and RD-300s feature 8 keyboard sounds; two acoustic grand pianos, electric grand piano, harpscichord, clavi, vibraphone and two electric pianos. To select one of these voices, press one of the Tone Selector buttons numbered 1 through 8. One keyboard sound can be selected at a time.
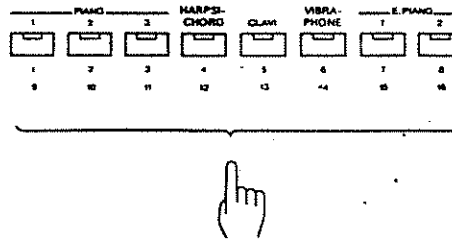


### VOICE PRESERVE FUNCTION

The RD-250s and RD-300s feature the Voice Preserve Function, that is, while you are playing the keyboard using a certain tone color, you can request the next tone color to be used, without the tone actually changeing until you release all the keys.

When the piano is being played with the Note or Damper ON, the tone color does not change. (the indicator of the corresponding sound flashes.) To change the voices, lift all Notes and the Damper OFF. (Now, the indicator of the new voice is constantly lighted.)

This Voice Preserve function applies to the external Program Change received by the RD-250s or RD-300s.

## b. Tuning

The Tune Knob ㉑ is provided for controlling the overall tuning center of the RD-250s or RD-300s. This is especially useful for tuning to other acoustic instruments, synthesizers, and synthesizer sound modules. Since the RD-250s and RD-300s incorporate S/A Synthesis, the tuning of individual notes will never be necessary. At its center position:

Middle A = 442Hz, and the variable range is ± 15 cents.

TUNE

♯ ⊙ ♭
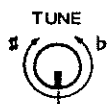
## c. Damper/Soft Pedal

The Damper Pedal Jack ⑲ and Soft Pedal Jack ⑳ are provided to connect to the DP-2. These pedals function just like the damper and soft pedal on an acoustic piano.

\* The Soft Pedal can be used as a Sostenuto pedal.

&lt;Sostenuto Pedal&gt;

How to turn the Soft Pedal to Sostenuto Pedal.

Connect the DP-2 to the Soft Pedal Jack, and turn the piano on while holding the pedal down.

POWER

ON
OFF

While holding down

Power On
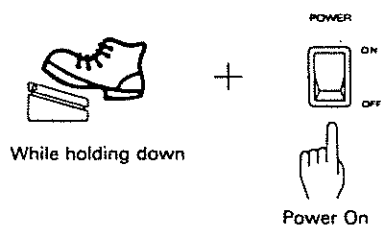
Now, the Soft Pedal works as a Sostenuto Pedal.

When the pedal is turned to a Sostenuto Pedal, it loses the Soft Pedal function.

Pressing the Sostenuto Pedal will turn on the Damper of the note currently played. The following notes will not take on any effect.

\* To return the pedal to the Soft Pedal, turn the piano off once, then turn it on again.

## d. Brilliance

As you raise the Brilliance knob ❹, the tone will be brighter, and mellower when lowered.



**BRIGHT**

**MELLOW**

BRILLIANCE
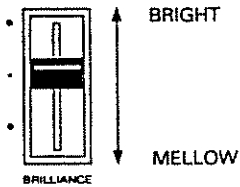
## e. Chorus/Tremolo

The piano includes built-in Chorus and Tremolo effects.

### ● Chorus

By pressing the Chorus switch ⑫, a lush stereo chorus effect can be obtained through the instrument's internal speaker/amplifier system or via the stereo outputs.



CHORUS

### ● Tremolo

The Tremolo switch ⑬ engages the tremolo effect. The Tremolo circuit is stereo and is especially useful when used with the electric piano and vibraphone sounds.



TREMOLO

**Rate**
The Tremolo Rate knob ⑭ is used to increase or decrease the speed of the tremolo effect. Raising it increases the tremolo speed while lowering it decreases the speed of the effect.

**Depth**
Using the Tremolo Depth knob ⑮, the depth of the Tremolo effect can be changed.



**FAST**

**SLOW**

RATE

**DEEP**

**SHALLOW**

DEPTH
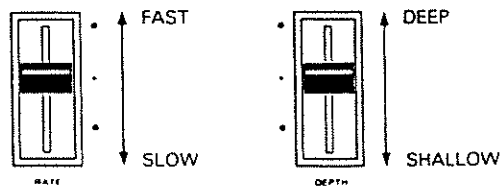
* On/Off of the Tremolo and/or the Chorus effect can be separately set in each voice and is retained until the piano is turned off.

## f. Key Transpose

By using the appropriate key, you can shift the pitch of the entire keyboard.

\* The RD-250s and RD-300s default to C.

While holding the Key Transpose Switch ❺ down, press either of the following switches as many times as necessary.



While holding down          Press as many times as necessary for the amount of transposition.
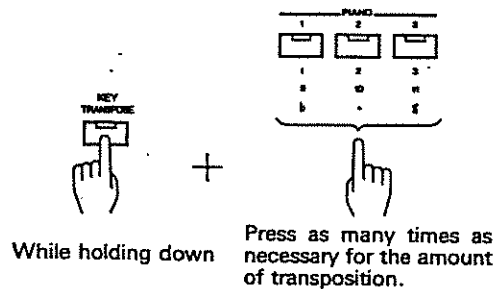
### ♯ Switch (= Piano 3 Switch)

Pressing this switch will increase the pitch in semi-tone steps. (This switch can be used up to 5 times.)

### ♭ Switch (= Piano 1 Switch)

Pressing this switch will decrease the pitch in semi-tone steps. (This switch can be used up to 6 times.)

### • Switch (= Piano 2 Switch)

This switch returns the key to the normal condition.
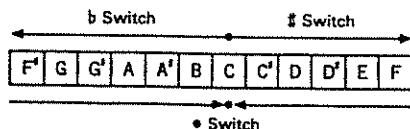


When the key other than C is set, the indicator of the Key Transpose will glow.

Once the key is transposed, the Transpose On or Off can be selected by pushing the Key Transpose Switch ❺.

The Key Transpose operation cannot be done if any key is pressed on the keyboard. Be sure no key is pushed when you are transposing the key.

While you are taking the transposing operation, the RD-250s or RD-300s cannot be played.

9

## 2 RD-250s or RD-300s as a MIDI Device

### 1. RD-250s or RD-300s as a MIDI Keyboard Controller

Part of the power of your RD-250s and RD-300s is in the use of the MIDI (Musical Instrument Digital Interface). To learn more about MIDI and the various music systems that can be added to your RD-250s and RD-300s, refer to the enclosed booklet "MIDI" and the MIDI implementation chart in the back of this owner's manual.

The RD-250s and RD-300s can be used as perfect MIDI Keyboard Controllers.

The RD-250s and RD-300s default to as follows.

### MIDI Connectors

The RD-250s and RD-300s have MIDI IN, MIDI OUT and MIDI THRU Connectors on the rear panel.

| Function | | Setting |
|---|---|---|
| Split Point | | C₄ (Split Off) |
| Transmit Channel | LOWER | 2 |
| | UPPER | 1 |
| MIDI OUT (On/Off) | LOWER | ON |
| | UPPER | ON |
| Internal Voice (On/Off) | LOWER | ON |
| | UPPER | ON |
| Receive Channel | | 1 (OMNI ON) |

MIDI IN Connector ⑱

MIDI OUT Connector ⑰

MIDI THRU Connector ⑯
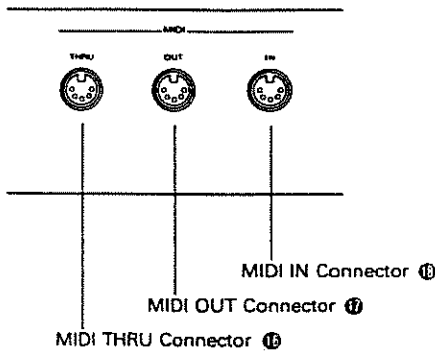
### ■ MIDI IN Connector ⑱

When using the piano as a MIDI sound module controlled by the external MIDI device, connect the MIDI IN Connector to the MIDI OUT or MIDI THRU on the external device.

### ■ MIDI OUT Connector ⑰

When using the piano as a keyboard controller that drive the external device, connect the MIDI OUT Connector to the MIDI IN on the external device.

### ■ MIDI THRU Connector ⑯

Through this, the exact copy of the signal fed into the MIDI IN is sent out.

## a. Setting Transmit MIDI Channel

To use the RD-250s or RD-300s as a MIDI keyboard controller, it is necessary to match the RD-250s or RD-300s's transmit channel to the receive channel of the connected MIDI sound module.

The transmit channels of the Lower and the Upper should be set separately.

► While holding the MIDI Lower Switch ❸ down, push the key on the keyboard which corresponds to the MIDI channel you want. (from A0 to C2).

► While holding the MIDI Upper Switch ❾ down, take the same procedure as above.

(Flashing)



While holding down

+
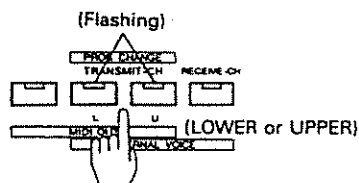
Push the key that corresponds to the MIDI channel you want.

* The Upper and the Lower Channels cannot be set to the same number.

When setting the Transmit channel of 1 to 8, the indicator of the corresponding Voice Selector flashes.

(e.g. 1) When MIDI channel 4 is set.

(Flashing)
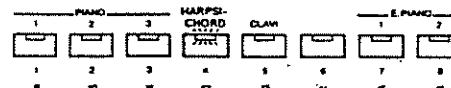


When setting the Transmit Channel of 9 to 16, the indicator of the corresponding Voice Selector flashes and the other Voice Selectors glow.

(e.g. 2) When MIDI channel 13 is set.

(Flashing)



(Light up)           (Light up)
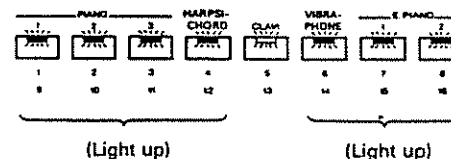
## b. Setting Split Point

**Split Function**

The RD-250s and RD-300s Split Functions allow to split the keyboard into the Upper and the Lower sections at any key (Split Point) you like. The Upper and the Lower keyboard can have individual MIDI channel numbers on which different performance information can be simultaneously transmitted to the external sound module.

Split On is called Split Mode, and Split Off Whole Mode.

▶ While holding the Split Switch ❻ down, push the key for the Split Point on the keyboard.

\* The key of the Split Point is included in the Upper section.



(Flahsing)

╋ Push the key for the Split Point

While holding down
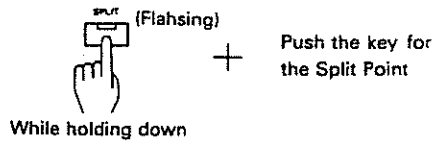
When the Split Point is set, the indicator of the Split Switch ❻ lights up.

Once the Split Point is set, the Split mode or the Whole mode can be selected by pushing the Split Switch.

(e.g. 1) When C₄ is selected for the Split Point.



RD-250s

RD-300s
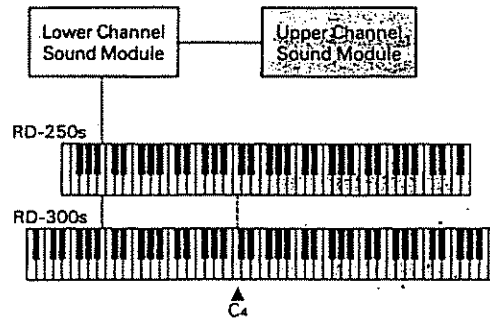
$A_0 - B_3 \rightarrow$ Transmits the Key Information on the Lower Channel.
$C_4 - C_8 \rightarrow$ Transmit the Key Information on the Uppoer Channel.

In the Whole Mode (Split Off), all the performance information is sent on the both Upper and Lower channels.

(e.g. 2) When the Split is Off (Whole Mode)
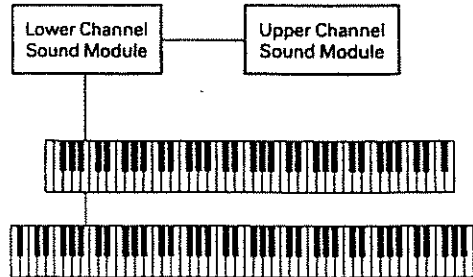


All the Key Information is sent on the both Upper and Lower Channels.

## c. MIDI OUT (On/Off)

MIDI OUT On/Off selects whether or not to send the performance information on the Lower and/or the Upper channels.

▶ While holding the MIDI OUT Switch ❼ down, push the MIDI Lower Switch ❽ (and/or MIDI Upper Switch ❾).



(Flashing)

(LOWER or UPPER)

While holding down
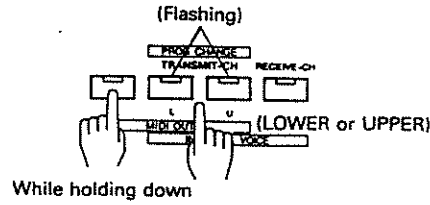
* Even in the Whole Mode, MIDI OUT On/Off can be individually set for each Lower and Upper.

(e.g. 1) Lower Off, Upper On in the Whole Mode



| | Upper Channel Sound Module |
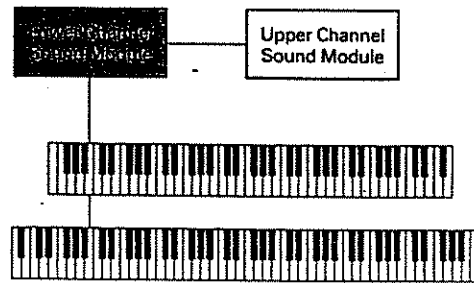
All the performance Information is sent on the Upper Channel.

(e.g. 2) Lower On, Upper Off in the Whole Mode



| Lower Channel Sound Module | |
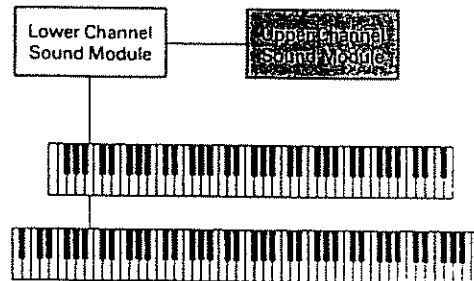
All the Performance Information is sent on the Lower Channel.

## d. Internal Voice (On/Off)

You can select whether or not to transmit the Key information of the Upper and/or the Lower to the internal sound module.

▶ While holding the Internal Voice Switch ❿ down, push the MIDI Lower Switch ❽ (or the MIDI Upper Switch ❾).



(Flashing)

(LOWER or UPPER)

While holding down
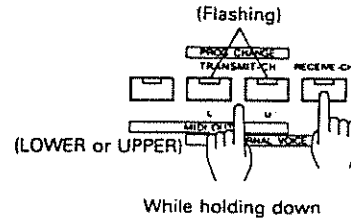
(e.g. 1) Split Point: C₄ (ON)
Internal Voice: Lower Off, Upper On



▲
$C_4$

$A_0 \sim B_3 \rightarrow$ No Sound
$C_4 \sim C_8 \rightarrow$ Sound
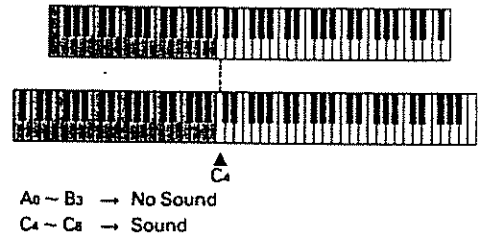
(e.g. 2) Split Point: C₄ (ON)
Internal Voice: Lower On, Upper Off



▲
$C_4$

$A_0 \sim B_3 \rightarrow$ Sound
$C_4 \sim C_8 \rightarrow$ No Sound
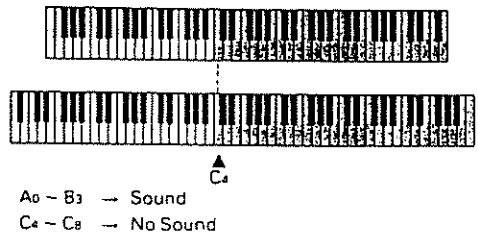
* While in the Whole Mode, the Internal Voice cannot be turned off unless both the Lower and the Upper are off.

## e. Transmitting MIDI Information

* When the MIDI OUT is off (see page 13), no MIDI information can be transmitted.

### • External Volume

With the External Lower Volume Knob ❶ and the External Upper Volume Knob ❷, the volume on the external MIDI sound module can be controlled.
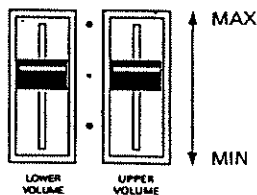


* The above function cannot be obtained on some external MIDI devices. Please refer to the Implimentation Chart shown in the owner's manual of the external MIDI sound module.

### • Chorus, Tremolo (On/Off)

On/Off of the Chorus and/or Tremolo can be transmitted on the Lower and/or the Upper Channels.

▶ While holding the MIDI Lower Switch ❽ (and/or the MIDI Upper Switch ❾) down, push the Chours Switch ⓬ or the Tremolo Switch ⓭.



While holding down.

+

(Chorus or Tremolo)
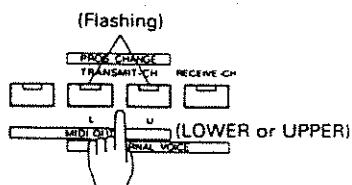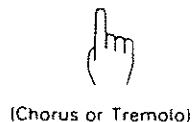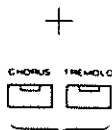
### • Program Change

The RD-250s and RD-300s can transmit the Program change message 1 to 128 on the Lower and/or the Upper channels.

The table below shows how the Group/Bank/Voice Number on the RD-250s and RD-300s correspond to the Program Change numbers.

**Program Change Table**

| | BANK\NO | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| A | 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 |
| B | 1 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
| | 2 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| | 3 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 |
| | 4 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| | 5 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| | 6 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 |
| | 7 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| | 8 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |

▶ While holding the MIDI Lower Switch ❽ (or the MIDI Upper Switch ❾) down, push the key that corresponds to the Group/Bank/Voice number.



While holding down

+
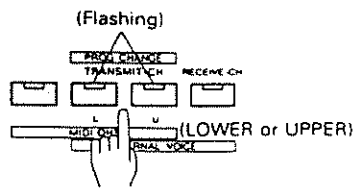
Push the key that corresponds to the Group/Bank/Voice Number.

## 2. RD-250s or RD-300s as MIDI Sound Module

### a. Setting Receive Channel

When using the RD-250s or RD-300s as a MIDI sound module, you should set the receive MIDI channel of the RD-250s or RD-300s to the same number as the transmit channel of the MIDI device that controls the RD-250s or RD-300s.

▶ While holding the MIDI Receive Channel Switch ⑩ down, push the key (from A0 to C2) that corresponds to the MIDI channel you want.



While holding down.

+
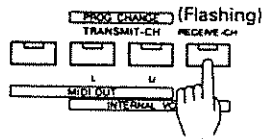
Push the key that corresponds to the MIDI Channel you want.

When setting the Receive MIDI channel, the indicator o the Voice Selectors will react just like when setting the Transmit MIDI channel. (See page 11 "a. Setting Transmit MIDI Channel".)

### b. Receiving MIDI Information

● **Program Change**

The RD-250s and RD-300s can receive the Program Change from 1 to 32 but ignore 33 to 128.

* The detailed explanation on the tramsitting and receiving messages follows in the next section "3. MIDI Functions".

# 3. MIDI Functions

The RD-250s and RD-300s can select any of the following three modes that decide how the messages are received and transmitted.

(I)  By taking the procedure shown from page 11 to 15, Note On/Off, Program Change and Control Change are transmitted and received.

(II)  Note On/Off, Program Change and Control Change are transmitted and received.
*  The moment a new voice is selected on the RD-250s or RD-300s, the corresponding program change number is transmitted. The chorus or tremolo On/Off is transmitted as a control change message. This setting may be used when recording the data into a MIDI sequencer and play it back.

(III)  Note On/Off, Program Change and Control Change are transmitted. Program Change, Chorus On/Off and Tremolo On/Off cannot be received.

* Refer to MIDI Implimentation Chart in the back of this owner's manual.

**How to select the above communication mode**

Mode (I):   Turning the RD-250s or RD-300s on will automatically selects this mode.
Mode (II):  Turn the RD-250s or RD-300s on while holding the MIDI OUT Switch ❼ down.
Mode (III): Turn the RD-250s or RD-300s on while holding down the Voice Selector Piano-1.

# ■ Other Function

## ● Remote Pedal

Connect the supplied pedal switch DP-2 to the Remote Pedal Jack ㉚, and the DP-2 can be used as a remote switch for the Key Transpose, Split, MIDI OUT, MIDI Lower, MIDI Upper, Receive Channel/Internal Voice, Chorus or Tremolo switch.

▶ While holding down the relevant switch (Key Transpose, Split, MIDI OUT, MIDI Lower, MIDI Upper, Receive Channel/Internal Voice Chorus or Tremolo), press the Pedal Switch.



While holding down.

Press the pedal
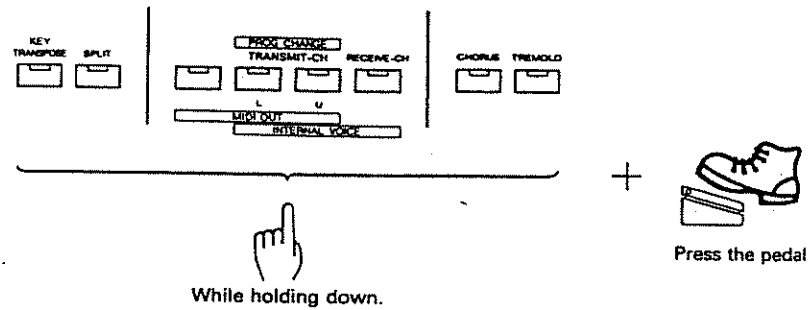
* When the pedal is used as a remote pedal, it does not function as a soft pedal. If you wish to use it as a soft pedal, turn the RD-250s or RD-300s off once, then turn it on again.

# ■ Sound Range Diagram

**RD-250s**
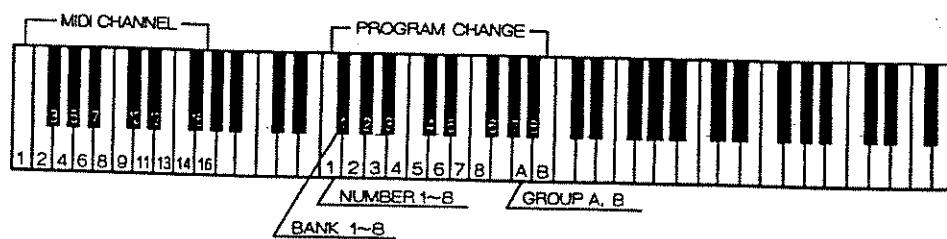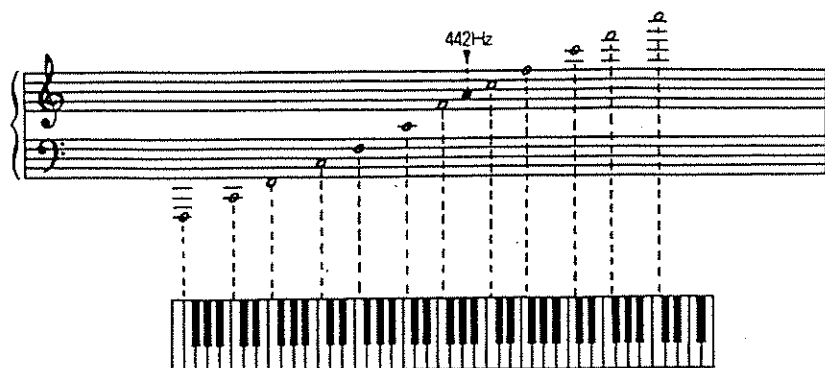


**RD-300s**

# ■ Setting Memo

| SET No. | KEY TRANS. | SPLIT ON/OFF | MIDI OUT | | | | VOICE | CHORUS | INTERNAL VOICE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | LOWER | | UPPER | | | | TREMOLO RATE/DEPTH | LOWER ON/OFF | UPPER ON/OFF |
| | | | ch/SET | P.C. | ch/SET | P.C. | | | | | |
| DEMO1 | C | C4 | 2/MKS20 | A 15 (CLAVI) | 1/EM 101 | A 11 (Strings) | E.PIANO1 | ON | OFF | OFF | ON |
| DEMO2 | C | OFF | " | A 11 (PIANO 1) | " | A 25 (Flute) | HARPSI | OFF | OFF | OFF | ON |
| DEMO3 | C | F4 | OFF | — | " | A 17 (Brass) | PIANO3 | ON | OFF | ON | ON |
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Digital piano
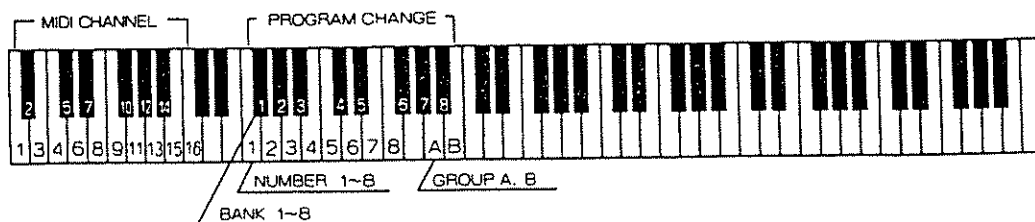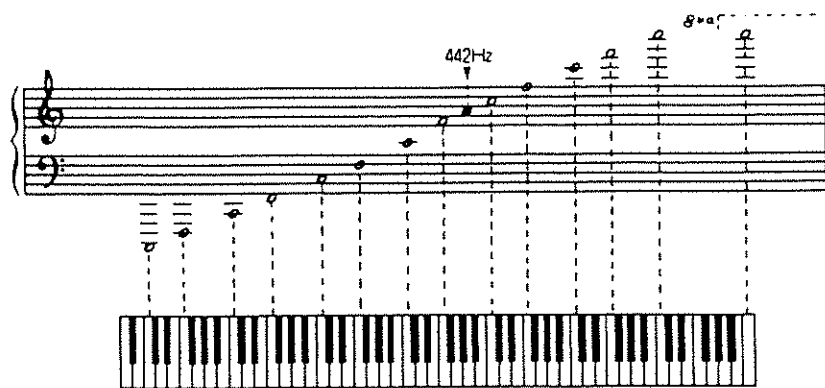
# MODEL  RD-250s/300s  MIDI Implementation

## 1. TRANSMITTED DATA

| Status | Second | Third | Description | |
|--------|--------|-------|-------------|---|
| 1001 nnnn | Okkk kkkk | 0000 0000 | Note OFF | |
| 1001 nnnn | Okkk kkkk | Ovvv vvvv | Note ON<br>kkkkkkk = 15 - 113 / RD-300s<br>22 - 108 / RD-250s<br>vvvvvvv = 1 - 127 | *1 |
| 1011 nnnn | 0000 0111 | Ovvv vvvv | Volume<br>vvvvvvv = 0 - 127 | *6 |
| 1011 nnnn | 0100 0000 | 0111 1111 | Hold1 ON | |
| 1011 nnnn | 0100 0000 | 0000 0000 | Hold1 OFF | |
| 1011 nnnn | 0100 0010 | 0111 1111 | Sostenuto ON | *2 |
| 1011 nnnn | 0100 0010 | 0000 0000 | Sostenuto OFF | |
| 1011 nnnn | 0100 0011 | 0111 1111 | Soft ON | *2 |
| 1011 nnnn | 0100 0011 | 0000 0000 | Soft OFF | |
| 1011 nnnn | 0101 1100 | 0111 1111 | Tremolo ON | *3 |
| 1011 nnnn | 0101 1100 | 0000 0000 | Tremolo OFF | *3 |
| 1011 nnnn | 0101 1101 | 0111 1111 | Chorus ON | *3 |
| 1011 nnnn | 0101 1101 | 0000 0000 | Chorus OFF | *3 |
| 1100 nnnn | Oppp pppp | | Program Change<br>ppppppp = 0 - 127 | *4 |
| 1011 nnnn | 0111 1011 | 0000 0000 | ALL NOTES OFF | *5 |
| 1011 nnnn | 0111 1100 | 0000 0000 | OMNI OFF | *6 |
| 1011 nnnn | 0111 1111 | 0000 0000 | POLY ON | *6 |
| 1111 1110 | | | Active Sensing | |

Notes :
    nnnn : MIDI Channel number ( 0000 - 1111 ), ch-1 = 0000
    The Basic Transmit Channel can be changed by panel operation.
    Refer to 3. BASIC CHANNEL IN TRANSMITTING.

    Lower and Upper are both enable,
    when the power has been applied.
    Each of Lower and Upper can be set to enable
    or set to disable by panel operation.

  *1 The range can be changed by panel operation.
     Refer to 5. KEY TRANSPOSE.

  *2 If the power has been applied with the Soft pedal being
     trodden, Soft pedal is regarded as Sostenuto pedal.

  *3 Refer to 6. TREMOLO, CHORUS IN TRANSMITTING.

  *4 Refer to 7. PROGRAM CHANGE IN TRANSMITTING.

  *5 When all held-keys on the keyboard are released, the
     ALL NOTES OFF (Bn 7B 0) is sent.

  *6 When the power is first applied, following messages are
     transmitted.
        a. OMNI OFF, POLY ON message for Lower and Upper
           Basic Channel.
        b. LOWER Volume data (B1 07 VV) for Lower Basic
           Channel.
        c. UPPER Volume data (B0 07 VV) for Upper Basic
           Channel.

## 2. RECOGNIZED RECEIVE DATA

| Status | Second | Third | Description | |
|--------|--------|-------|-------------|---|
| 1000 nnnn | Okkk kkkk | Ovvv vvvv | Note OFF, velocity ignored | |
| 1001 nnnn | Okkk kkkk | 0000 0000 | Note OFF<br>kkkkkkk = 0 - 127 (15 - 113) | *1 |
| 1001 nnnn | Okkk kkkk | Ovvv vvvv | Note ON<br>kkkkkkk = 0 - 127 (15 - 113)<br>vvvvvvv = 1 - 127 | *1 |
| 1011 nnnn | 0100 0000 | Ovvv vvvv | Hold1 OFF   vvvvvvv = 0 - 63<br>Hold1 ON   vvvvvvv = 64 - 127 | |
| 1011 nnnn | 0100 0010 | Ovvv vvvv | Sostenuto OFF vvvvvvv = 0 - 63<br>Sostenuto ON  vvvvvvv = 64 - 127 | |
| 1011 nnnn | 0100 0011 | Ovvv vvvv | Soft OFF   vvvvvvv = 0 - 63<br>Soft ON   vvvvvvv = 64 - 127 | |
| 1011 nnnn | 0101 1100 | Ovvv vvvv | Tremolo OFF  vvvvvvv = 0 - 63  *2<br>Tremolo ON   vvvvvvv = 64 - 127 *2 | |
| 1011 nnnn | 0101 1101 | Ovvv vvvv | Chorus OFF  vvvvvvv = 0 - 63  *2<br>Chorus ON   vvvvvvv = 64 - 127 *2 | |
| 1100 nnnn | Oppp pppp | | Program Change<br>ppppppp = 0 - 31 | *3 |
| 1011 nnnn | 0111 1011 | 0000 0000 | ALL NOTES OFF | *4 |
| 1011 nnnn | 0111 1100 | 0000 0000 | OMNI OFF | *5 |
| 1011 nnnn | 0111 1101 | 0000 0000 | OMNI ON | *5 |
| 1011 nnnn | 0111 1110 | 0000 mmmm | MONO ON | *5 |
| 1011 nnnn | 0111 1111 | 0000 0000 | POLY ON | *5 |
| 1111 1110 | | | Active Sensing | |

Notes :
    nnnn : MIDI Channel number ( 0000 - 1111 ), ch-1 = 0000
    The Basic Channel can be changed by panel operation.
    Refer to 4. BASIC CHANNEL IN RECEIVING .

  *1 Note numbers outside of the range 15 - 113 are transposed
     to the nearest octave inside this range.
     The Key Transpose operation from the panel does not affect
     MIDI IN NOTE numbers

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  *2 If the power has been applied with the PIANO 1 switch
     being held down, this message is ignored.

  *3 Refer to 8. PROGRAM CHANGE IN RECEIVING.

  *4 When the ALL NOTES OFF is recognized, all MIDI-on notes
     are turned OFF. However, if the damper pedal is being
     pressed, these ON notes will not be turned OFF until the
     damper pedal is released. Similarly, if the MIDI Hold1 ON
     message has been received, the notes will not be turned off
     until the Hold1 OFF message is received.

  *5 These Mode Messages (2nd byte = 123 - 127) are also
     recognized as the ALL NOTES OFF.

     Mode Messages are recognized as follows:

| | POLY ON (127) | MONO ON (126)<br>mmmm = 1 | MONO ON (126)<br>mmmm <> 1 |
|---|---|---|---|
| OMNI OFF (124) | OMNI = OFF<br>POLY | OMNI = OFF<br>POLY | OMNI = ON<br>POLY |
| OMNI ON (125) | OMNI = ON<br>POLY | OMNI = ON<br>POLY | OMNI = ON<br>POLY |

## 3. BASIC CHANNEL IN TRANSMITTING

When the power is first applied, the Lower Basic Channel is
normally set to 2, and Upper Basic Channel is normally set
to 1.

However, the Basic Channel may be changed when the following
key on the keyboard is pressed while the Lower (or Upper)
PROGRAM CHANGE switch being held down. Lower and Upper can not
be set at same channel.

| Key | Basic Channel |
|-----|---------------|
| A 0 | 1 |
| A# 0 | 2 |
| B 0 | 3 |
| C 1 | 4 |
| C# 1 | 5 |
| D 1 | 6 |
| D# 1 | 7 |
| E 1 | 8 |
| F 1 | 9 |
| F# 1 | 10 |
| G 1 | 11 |
| G# 1 | 12 |
| A 1 | 13 |
| A# 1 | 14 |
| B 1 | 15 |
| C 2 | 16 |

When Lower (or Upper) Basic Channel is changed, following
message are transmitted.

    In the previous Basic Channel.

    a. Hold1 OFF       (If Damper pedal is trodden.)
    b. Sostenuto OFF   (If Sostenuto pedal is trodden.)
    c. Soft OFF        (If Soft pedal is trodden.)
         When set to MIDI OUT OFF by panel operation, these
         messages are not sent.

    In the new Basic Channel.
    a. OMNI OFF
    b. POLY ON
    c. Volume
    d. Hold1 ON        (if Damper pedal is trodden)
    e. Sostenuto ON    (if Sostenuto pedal is troddden)
    f. Soft ON         (if Soft pedal is trodden)
         When set to MIDI OUT OFF by panel operation, c.d.e
         and f messages are not sent.

## 4. BASIC CHANNEL IN RECEIVING

When the power is first applied, the Basic Channel is normally
set to 1, and the receiver is set to the MODE 1 (OMNI ON, POLY ).

However, the Basic Channel may be changed when the following
key on the keyboard is pressed while the RECEIVE-CH switch being held
down.
The receiver will be set to the MODE 3 (OMNI OFF, POLY ).

| Key | Basic Channel | OMNI |
|-----|---------------|------|
| Power-up | 1 | ON |
| A 0 | 1 | OFF |
| A# 0 | 2 | OFF |
| B 0 | 3 | OFF |
| C 1 | 4 | OFF |
| C# 1 | 5 | OFF |
| D 1 | 6 | OFF |
| D# 1 | 7 | OFF |
| E 1 | 8 | OFF |
| F 1 | 9 | OFF |
| F# 1 | 10 | OFF |
| G 1 | 11 | OFF |
| G# 1 | 12 | OFF |
| A 1 | 13 | OFF |
| A# 1 | 14 | OFF |
| B 1 | 15 | OFF |
| C 2 | 16 | OFF |

## 5. KEY TRANSPOSE

When the power is first applied, transpose value is 0.
The following chart shows the relationship between key positions
and transposed values. ( Set when a key is pressed while the KEY
TRANSPOSE switch is being held down.)

| Key | Transposed value (semitone) | Transmitted note range |
|-----|------------------------------|------------------------|
| power-up | 0 | 21 - 108 |
| F# 6 | -6 | 15 - 102 |
| G 6 | -5 | 16 - 103 |
| G# 6 | -4 | 17 - 104 |
| A 6 | -3 | 18 - 105 |
| A# 6 | -2 | 19 - 106 |
| B 6 | -1 | 20 - 107 |
| C 6 | 0 | 21 - 108 |
| C# 6 | +1 | 22 - 109 |
| D 6 | +2 | 23 - 110 |
| D# 6 | +3 | 24 - 111 |
| E 6 | +4 | 25 - 112 |
| F 6 | +5 | 26 - 113 |

## 6. TREMOLO, CHORUS IN TRANSMITTING

When the CHORUS (TREMOLO) switch is pressed while the Lower (or Upper)
PROGRAM CHANGE switch is being held down, the CHORUS (TREMOLO) ON
or OFF message is sent.
If the power has been applied with the MIDI OUT switch being held down,
pressing CHORUS (TREMOLO) switch sends CHORUS (TREMOLO) ON or OFF
message, whichever appropriate.

## 7. PROGRAM CHANGE IN TRANSMITTING

The following table shows the GROUP, BANK and NUMBER values related
with key position which is set while the Lower(or Upper) PROGRAM CHANGE
switch being held down.

| Key | Related value |
|-----|---------------|
| A 3 | GROUP A |
| B 3 | GROUP B |
| F# 2 | BANK 1 |
| G# 2 | BANK 2 |
| A# 2 | BANK 3 |
| C# 3 | BANK 4 |
| D# 3 | BANK 5 |
| F# 3 | BANK 6 |
| G# 3 | BANK 7 |
| A# 3 | BANK 8 |
| F 2 | NUMBER 1 |
| G 2 | NUMBER 2 |
| A 2 | NUMBER 3 |
| B 2 | NUMBER 4 |
| C 3 | NUMBER 5 |
| D 3 | NUMBER 6 |
| E 3 | NUMBER 7 |
| F 3 | NUMBER 8 |

When one of the above-mentioned keys is pressed while the Lower
(or Upper) PROGRAM CHANGE switch being held down, a Program Change
message will be transmitted.
The transmitted program change numbers are related with the GROUP,
BANK and NUMBER values as follows.

GROUP A

| NUMBER : BANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------|----|----|----|----|----|----|----|----|
| 1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 3 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 4 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
| 5 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 |
| 6 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 |
| 7 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |
| 8 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 |

GROUP B

| NUMBER : BANK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 |
| 2 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 |
| 3 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 |
| 4 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| 5 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 |
| 6 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 |
| 7 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 |
| 8 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 |

If the power has been applied with the MIDI OUT switch being held
down, the following Program Change message will be sent when
respective number is selected by panel operation.

| Switch | Prog # |
|--------|--------|
| PIANO 1 | 0 |
| PIANO 2 | 1 |
| PIANO 3 | 2 |
| HARPSICHORD | 3 |
| CLAVI | 4 |
| VIBRAPHONE | 5 |
| E.PIANO 1 | 6 |
| E.PIANO 2 | 7 |

## 8. PROGRAM CHANGE IN RECEIVING

If the power has been applied with the PIANO 1 switch being held
down, this message is ignored.

The assignment of received Program Change messages are as follows.
The program numbers 32 - 127 are ignored.

| Prog # | Voice | CHORUS | TREMOLO |
|--------|-------|--------|---------|
| 0 | PIANO 1 | OFF | OFF |
| 1 | PIANO 2 | OFF | OFF |
| 2 | PIANO 3 | OFF | OFF |
| 3 | HARPSICHORD | OFF | OFF |
| 4 | CLAVI | OFF | OFF |
| 5 | VIBRAPHONE | OFF | OFF |
| 6 | E.PIANO 1 | OFF | OFF |
| 7 | E.PIANO 2 | OFF | OFF |
| 8 | PIANO 1 | ON | OFF |
| 9 | PIANO 2 | ON | OFF |
| 10 | PIANO 3 | ON | OFF |
| 11 | HARPSICHORD | ON | OFF |
| 12 | CLAVI | ON | OFF |
| 13 | VIBRAPHONE | ON | OFF |
| 14 | E.PIANO 1 | ON | OFF |
| 15 | E.PIANO 2 | ON | OFF |
| 16 | PIANO 1 | OFF | ON |
| 17 | PIANO 2 | OFF | ON |
| 18 | PIANO 3 | OFF | ON |
| 19 | HARPSICHORD | OFF | ON |
| 20 | CLAVI | OFF | ON |
| 21 | VIBRAPHONE | OFF | ON |
| 22 | E.PIANO 1 | OFF | ON |
| 23 | E.PIANO 2 | OFF | ON |
| 24 | PIANO 1 | ON | ON |
| 25 | PIANO 2 | ON | ON |
| 26 | PIANO 3 | ON | ON |
| 27 | HARPSICHORD | ON | ON |
| 28 | CLAVI | ON | ON |
| 29 | VIBRAPHONE | ON | ON |
| 30 | E.PIANO 1 | ON | ON |
| 31 | E.PIANO 2 | ON | ON |

The assignment of received Program Change messages can be set at
another mode that is set if the power is applied while the MIDI
OUT switch being held down. In this mode assignment does not
affect the TREMOLO and CHORUS.
The assignment of received Program Change messages are as follows.
The program numbers 8 - 127 are ignored.

| Prog # | Voice |
|--------|-------|
| 0 | PIANO 1 |
| 1 | PIANO 2 |
| 2 | PIANO 3 |
| 3 | HARPSICHORD |
| 4 | CLAVI |
| 5 | VIBRAPHONE |
| 6 | E.PIANO 1 |
| 7 | E.PIANO 2 |

Even if the Program Change message is recognized, the VOICE will
not be changed to the new VOICE until all on-notes are turned OFF
and Hold1 is turned OFF.

Digital piano

# MODEL RD-250s/300s MIDI Implementation Chart

Date : Aug. 20. 1987
Version : 1.0

| Function ......... | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic Channel | Default | 1,2 | 1 | |
| | Changed | 1–16 | 1–16 | |
| Mode | Default | 3 | 1 | |
| | Messages | POLY,OMNI OFF | POLY, OMNI ON/OFF | |
| | Altered | ************* | MONO(M≒1)→1, (M=1)→3 | |
| Note Number | | 15-113(RD-300s),22-108(RD-250s) | 0–127 | |
| | True voice | ************* | 15–113 | |
| Velocity | Note ON | O | O | v=1-127 |
| | Note OFF | X (9n v=0) | X | |
| After Touch | Key's | X | X | |
| | Ch's | X | X | |
| Pitch Bender | | X | X | |
| Control | 7 | O | X | Volume |
| | 64 | O | O | Hold 1 |
| | 66 | O | O | Sostenuto |
| | 67 | O | O | Soft pedal |
| Change | 92 | O | O | Tremolo |
| | 93 | O | O | Chorus |
| Prog Change | True # | O (0–127) | O(0–31) | can be ignored by |
| | | ************* | 0–31 | power-up setting |
| System Exclusive | | X | X | |
| System Common | Song Pos | X | X | |
| | Song Sel | X | X | |
| | Tune | X | X | |
| System Real Time | Clock | X | X | |
| | Commands | X | X | |
| Aux Mes-sages | Local ON OFF | X | X | |
| | All Notes OFF | O | O (123–127) | |
| | Active Sense | O | O | |
| | Reset | X | X | |
| Notes | | When power up, ch–1 OMNI OFF and POLY are sent. When Basic channel is changed. Mode is set to 3. | | |

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

O : Yes
X : No

# ■ Specifications

**RD-250s/RD-300s**
76 key (RD-250s), 88 key (RD-300s), 16 Voice Polyphonic, SA System Digital Piano
(10 Voice Polyphonic for Harpsichord, Clavi and Electric Piano 2)

**Preset Voices**
- Pinao, 1, 2, and 3
- Harpsichord
- Clavi
- Vibraphone
- Electric Piano 1, 2

**Effects**
- Chorus (On/Off)
- Tremolo (On/Off, Rate, Depth)

**Panel Switches**
- Key Transpose
- Split
- MIDI OUT
- MID Lower
- MIDI Upper
- Receive Channel/Internal Voice
- Voice Selectors × 8
- Chorus
- Tremolo

**Controls**
- External Lower Volume
- External Upper Volume
- Volume
- Brilliance
- Tremolo Rate
- Tremolo Depth

**Indicators**
- Key Transpose
- Split
- MIDI OUT
- MIDI Lower
- MIDI Upper
- Receive Channel/Internal Voice × 8
- Chours
- Tremolo

**REAR PANEL**
- Receptacle
- Power Switch
- Headphones Jack (stereo)
- Output Jacks (L and R)
- Output Level Switch (L/M/H)
- Tuning Knob
- Soft/Remote Pedal Jack
- Damper Pedal Jack
- MIDI Connectors (IN, OUT, THRU)

**Dimensions**
- RD-250s: 1242(W) × 461(D) × 133(H) mm
  48-7/8" × 18-1/8" × 5-1/4"
- RD-300s: 1405(W) × 461(D) × 133(H) mm
  55-5/16" × 18-1/8" × 5-1/4"

**Weight**
- RD-250s: 29kg/64lb
- RD-300s: 33kg/72lb 14oz

**Power Consumption:**
- 20W (117V), 25W (220V, 240V)

**Accessories:** Power Cord × 1
Connection Cord (LP-25) × 2
Pedal Switch (DP-2) × 1
Owner's Manual
Guide Book "MIDI„

**OPTIONS**
- Stand: KS-7
- Stereo Headphones: RH-100, RH-10
- MIDI Cable: MSC-07, 15, 25, 50, 100

# Roland ®

**10627**

# Roland