Roland

RD-600

OWNER'S MANUAL

Introduction

Thank you for purchasing the Roland RD-600 Digital Piano.
In order to take full advantage of the RD-600's superior functionality and enjoy long and trouble-free use, please read this owner's manual carefully.

Features

- A total of 128 different types of high quality Tones are built-in, including the great piano sounds of the past. In addition to grand piano and electric piano, the RD-600 provides a wide variety of keyboard sounds such as organ, strings and synth, and also sounds such as bass and percussion.
- The hammer action keyboard provides a touch that is close to that of a grand piano.
- Two sets of output jacks (FIXED OUT / LINE OUT) are provided. On stage you can connect separate output feeds to the main console and to the monitors.
- Digital reverb/chorus, analog 3-band equalizer, and multi-effect EFX are built-in.
- You can edit the envelope and velocity sensitivity etc. of the Tones to create original sounds.
- The RD-600 provides INT Parts to control the RD-600 itself and TX Parts to control external MIDI devices. Transmitting program change or volume messages to an external MIDI device is easy. The RD-600 is designed for superb operability.
- For the two Parts of the internal sound source, you can select either Split or Layered key modes. You can create sophisticated settings by independently specifying volume balance and transpose for each Part.
- The RD-600 provides a full array of MIDI master keyboard functionality, including a bender/modulation lever.
- The MIDI THRU connectors can be used as MIDI OUT.
- The setup memories allow up to 64 different panel settings to be stored. You can also store internal part settings or settings for the external sound source.
- The RD-600 can be controlled by an external sequencer as a 16-part multi-timbral sound source.
- Light-weight and compact design, ideal for on-stage use.

You can take advantage of these features in the following ways.

• **Select and play various Tones**	–> p.14
• **Play different Tones simultaneously (Layer)**	–> p.15
• **Play different Tones in different halves of the keyboard (Split)**	–> p.16
• **Transpose without changing your keyboard fingering (Transpose)**	–> p.18
• **Try out the multi-effect EFX**	–> p.21
• **Select a Setup memory**	–> p.28

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p.2), "USING THE UNIT SAFELY" (p.3), and "IMPORTANT NOTES" (p.6). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, this manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE 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. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. 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.
11. 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.

─────────────────────────── For the USA ─

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.

This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded.
Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

─────────────────────────── 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 LINE PLUG must be grounded.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
⃠	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
⬤	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

-------------------------------- **ALWAYS OBSERVE THE FOLLOWING** --------------------------------

⚠WARNING

• Before using this unit, make sure to read the instructions below, and the Owner's Manual.

• Do not open or perform any internal modifications on the unit.

• When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.

• Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.

• In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

• Protect the unit from strong impact. (Do not drop it!)

• Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

• Before using the unit in a foreign country, consult with your dealer, or qualified Roland service personnel.

⚠ CAUTION

• Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.

• Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.

• Never climb on top of, nor place heavy objects on the unit.

• Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.

• Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices.

• Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p.10).

• Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

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Contents

Printing conventions in this manual

In order to present information as clearly as possible, the following conventions are used in this manual.

- Texts or numerals enclosed in square brackets [ ] indicate buttons on the panel.

- Indications such as [INC/YES] [DEC/NO] mean that you may press either button.

- References such as (p.**) indicate pages in this manual to which you can refer.

- The dark/lit status of an indicator is distinguished as follows.

lit (red)	lit (green)	dark

Important Notes

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).

- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.

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

- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.

Maintenance

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

- Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). 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 not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display. Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To

have the battery replaced, consult with your dealer, or qualified Roland service personnel.

Battery Low!

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).

- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory or another MIDI device (e.g., a sequencer) once it has been lost. Roland Corporation assumes no liability concerning such loss of data.

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.

- Never strike or apply strong pressure to the display.

- A small amount of noise may be heard from the display during normal operation.

- When connecting/disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.

- A small amount of heat will radiate from the unit during normal operation.

- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).

- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

- All screens shown in this manual were designed for explaining operations, and may differ somewhat from the actual screens that you see.

- Use only the specified expression pedal (EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

Front and rear panel

Front Panel

Volume slider
This adjusts the volume of the entire RD-600.

Effect section
- 3-band equalizer
- Reverb button
- Chorus button
- EFX

INT/TX Control section (Internal/Transmit control)
Here you can specify how you wish to control "the internal sound source of the RD-600" and "an external MIDI sound source connected to the RD-600."

Display
This shows information such as the names of Tones and the values of settings, etc.

```
A11:St.Concert 1
B67:Heaven
```

Use this button when you wish to use the sliders to adjust sound settings.
TONE MODIFY button

Use this button when you wish to transpose the pitch.
TRANSPOSE button

Use this button when you wish to divide the keyboard to play more than one sound.
SPLIT button

EDIT section
Use these buttons to modify settings in Edit mode.

SOUND section
These buttons control sound sources.
In Edit mode you can modify the settings of parts and sounds etc.

Rear Panel

Damper pedal jack

The included pedal switch (DP-6) can be connected here and used as a damper pedal.

This switches on or off the unit.

POWER switch

Connect a power cord to this socket.

AC inlet

An optional expression pedal (EV-5) can be connected here.
Various parameters or functions can be assigned to a connected expression pedal.

FC1/FC2 jacks

These are used for connecting other MIDI devices.

MIDI connectors

Headphone jack

A set of headphones can be connected here. Audio signals will still be output from the OUTPUT and FIXED OUTPUT jacks even if headphones are connected.

A keyboard amp or power amp etc. can be connected here.
If you connect only the L jack, the output will be monaural.
These jacks also provide balanced output.

Output jacks (R/L (MONO))

The volume slider or equalizer of the RD-600 does not affect the output from these jacks.
A mixer can be connected to these jacks to allow more accurate mixing.
These jacks also provide balanced output.

Output jacks (FIXED R/L (MONO))

Try out the sounds

Connections

PEDAL — DAMPER FC 1 FC 2

MIDI — THRU/OUT 2 OUT 1 IN

OUTPUT — FIXED R L(MONO) — R L(MONO) — BALANCED — TIP HOT / RING COLD / SLEEVE GND

PHONES

MIDI device (page 24, 44, 47)

Pedal switch

Expression pedal (EV-5)

Pedal switch

Headphones

Mixer, MTR, etc.

Stereo set, radio cassette, etc.

Power amplifier

* To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

* Use only the specified expression pedal (EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

Connecting the output jacks

The outputs of the RD-600 can be used either as balanced outputs or as unbalanced outputs. To use them for balanced output, use a cable with a balanced-type phone plug (TRS type). To use them for unbalanced output, use a cable with a regular phone plug (TS type).

TRS

SLEEVE (Ground)

TIP (Hot)

RING (Cold)

TS

SLEEVE (Ground)

TIP (Hot)
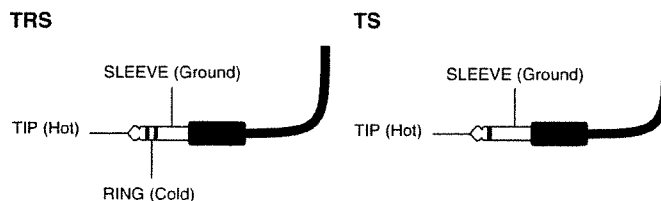
Turning on the power

Once the connections have been completed (p.9), turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

1. Make sure that the volume controls of the RD-600 and of the connected amp or stereo system are turned to the minimum position.

> * *Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.*

2. Turn on the power switch located on the rear panel.

3. Immediately after the power switch has been turned on, the following display will appear.

POWER


```
A11:St.Concert 1
B67:Heaven
```

> * *This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.*

4. Turn on the power of the amp or mixer.

Adjusting the volume

While playing the keyboard, move the volume slider to adjust the volume to a suitable level. Adjust the volume of the amp or mixer to an appropriate level.
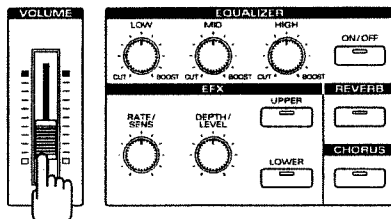
Creating smooth changes in pitch (Bender / Mudulation lever)

Move the bender toward the right (left) and the pitch will rise (fall). Push it away from yourself and a modulation effect (vibrato) will be applied.
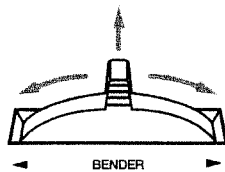
> * *The width of the pitch change can be specified independently for each sound. For the setting, refer to p.33.*
> * *This effect cannot be applied to a Rhythm Set.*

Turning off the power

1. Before turning off the power, make sure that the volume controls of the RD-600 and your amp system are turned to the minimum position.

2. Turn off the power of the connected amp and/or mixer.

3. Turn off the power of the RD-600.

Listening to the demo songs

The RD-600 contains 3 demo songs which demonstrate its capabilities, and these can be played automatically.

1. Simultaneously press the [EDIT] button and the PAGE [◄] button. After a brief wait, playback will begin.
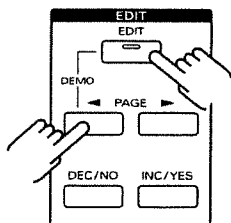
2. To select a different song for playback, press the PAGE [◄][►] buttons.

To stop playback, press the [EDIT] button.

* *While the demo songs are playing back, the other functions of the RD-600 will not operate, so it will not be possible to use the keyboard or buttons/sliders.*

* *No data for the music that is played will be output from MIDI OUT.*

List of demo songs

Title	Composer	
1. Piano Prologue	John Maul	Copyright © 1997, John Maul
2. Take Me There	Scott Wilkie	Copyright © 1997, Scott Wilkie Media (ASCAP)
3. Moving Waves	Mitsuru Sakaue	Copyright © 1997, Idecs Inc.

Profiles of the composers

John Maul

John Maul is a musician, composer and arranger having graduated from the Royal Academy of Music in London. John's work encompasses studio recordings and live performances including work with top UK Jazz artists. His writing credits include commercial music for BBC radio and television, as well as scoring jazz and classical works. Having been a product specialist for Roland U.K., John is now actively involved in music software composing/programming for both Roland Japan and various music publishers. Quite recently his "Musical Picture Book", a volume of original piano music encompassing all standards of musical ability, which included the piano and orchestral accompaniment data in SMF format, was published and printed.

Scott Wilkie

Scott Wilkie is a contemporary jazz recording artist, based in southern California. He tours frequently with his own band, and also appears as an artist for Roland in the U.S., Japan, Europe and South America. His debut solo album, Boundless, was released worldwide in 1999 on Narada/Virgin Records. You can find him on-line at www.scottwilkie.com.

Mitsuru Sakaue

From his college days, Mitsuru Sakaue has been active as a keyboard player and arranger in studio and commercial music production. At present he is involved in production of commercials for TV and radio as a composer, arranger, keyboard player and computer music expert. His highly acclaimed musical abilities go beyond borders of musical genre. He is the chief director of the Idecs (Inc.) group of creative musical artists.

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Trying out the functions of the RD-600

Basic operation

Selecting a Part (What is a Part?)

The RD-600 has a Part which plays the internal sounds (the INT part) and a Part to which you can assign a sound of an external sound source (the TX part).

```
┌─────────────────┐   ┌─────────────────┐
│  TX LOWER PART  │   │  TX UPPER PART  │
│ ┌─────────────┐ │   │ ┌─────────────┐ │
│ │Sound Module A│ │   │ │Sound Module B│ │
│ └─────────────┘ │   │ └─────────────┘ │
└─────────────────┘   └─────────────────┘
        ▲                     ▲
┌──────────────────────────────────────────┐
│ RD-600                                    │
│ [keyboard illustration]                   │
│          Keyboard / Controller            │
│                                           │
│   ┌─────────┐         ┌─────────┐         │
│   │  Tone   │         │  Tone   │         │
│   └─────────┘         └─────────┘         │
│  INT LOWER PART       INT UPPER PART      │
└──────────────────────────────────────────┘
```
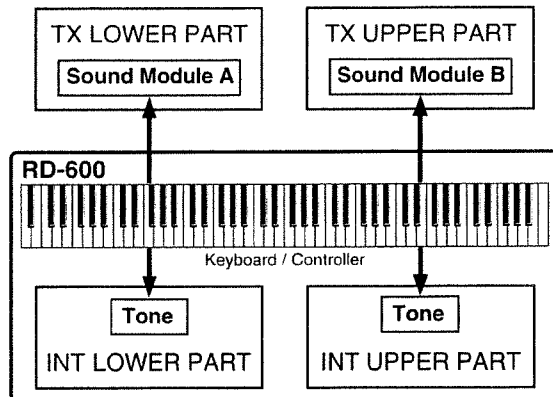
The INT part actually consists of two parts: an upper (UPPER) and a lower (LOWER). A different internal sound can be assigned to each of these parts.

```
┌─────────────────────┐
│ A11:St.Concert 1 │── UPPER PART Tone
│ B67:Heaven       │── LOWER PART Tone
└─────────────────────┘
```
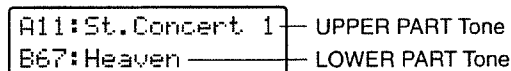
When you press a Part switch to turn on the indicator, playing the keyboard will cause the sound of that Part to be heard. On the Part switches, the INT UPPER part indicator is red, and the INT LOWER part indicator is green.

```
┌──────────── INT LOWER PART (green)
│   ┌──────── INT UPPER PART (red)
│   │   ┌──── TX LOWER PART (green)
│   │   │   ┌── TX UPPER PART (red)
[Part switch/level panel illustration] ─ Part Switch
```
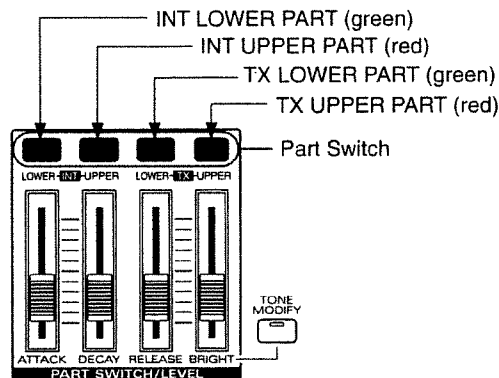
* *If the indicator of a Part switch is dark, that Part will not be heard.*

* *With the factory settings, the INT UPPER part is selected.*

The TX part also consists of two parts: an upper (UPPER) and a lower (LOWER). Each of these parts can play a sound on an external MIDI device. On the Part switches, the TX UPPER part indicator is red, and the TX LOWER part indicator is green.

* *In order to use the TX parts, an external MIDI device must be connected. For details refer to p.24.*

Selecting a sound (Tone)

The RD-600 contains a total of 128 different tones (preset sounds).

These Tones are selected by specifying the group (A/B), category (PIANO 1–CLAV/MALLET) and variation (1–8).

Rhythm Sets are assigned to B86–B88. Ordinary Tones will produce the same sound no matter which note is played, but a Rhythm Set will sound a different percussion instrument for each key.

For the built-in Tones and Rhythm Sets, and for the percussion sounds that are assigned to each key of a Rhythm Set, refer to the included Tone List and Rhythm Set List (back cover).
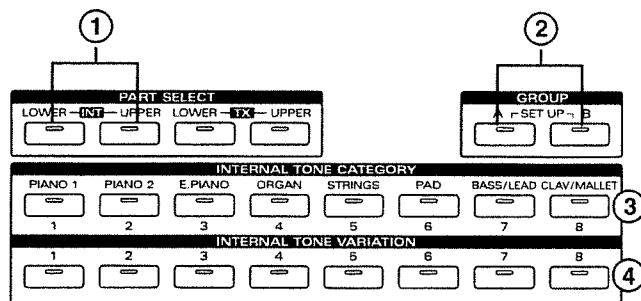
1. Press one of the PART SELECT buttons for the INT part to specify the part (Upper or Lower) for which you wish to select a Tone, making the indicator light.

   If you select the INT UPPER part, the indicators of the Part Select button and the Group/Category/Variation buttons will light red. If you select the INT LOWER part, the indicators of the Part Select button and the Group/Category/Variation buttons will light green.

2. Press a Group button to select the group of the Tone.

3. Press a Category button to select the category of the Tone.

4. Press a Variation button to select the variation of the Tone.

5. Make sure that the selected Tone appears in the display.

   * *For some Tones, the keyboard range in which the Tone will sound may be limited, or the pitch may not change when you exceed a given keyboard range.*

   * *The selected Tone cannot be played unless the Part switch indicator of the Part for which the Tone was selected is lit.*

   * *For some of the BASS/LEAD Tones, no more than one note can sound simultaneously.*

Making it easier to select a Tone (Tone Memorize function)

If you once again press the Variation button for the selected Tone, the following display will appear, and the selected variation will be memorized. When you next select the same Category, the Tone of the memorized variation number will be selected without your having to press a Variation button.

```
Tone Variation
   Memorized
```

* *This function can be used only when an INT part is selected.*

* *This setting will be remembered even if you turn the power off.*

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Linking the Part for Tone select with the Part for playing

If you rapidly press a Part Select button twice (double-click), the button indicator will light, and only that part will be selected.
Also, the Part switch indicator of only the selected part will light, and when you play the keyboard only the sound of the selected part will sound.

Press twice quickly

* *Double-click the same button once again and you will return to the previous condition.*

* *If the interval between the first click and the second click is too long or too short, it may not be detected correctly.*

Selecting a Tone

Let's play the DynoRhodes 1 (A37) Tone in the INT UPPER part.
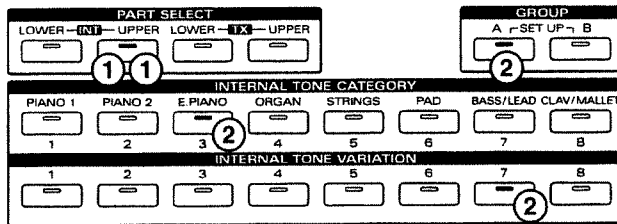
1. Double-click the INT UPPER part select button, to make the indicator light. The INT UPPER part switch indicator will also light (the indicators of other part switches will go dark). Both indicators will be red.

2. Press GROUP [A] / CATEGORY [E.PIANO] / VARIATION [7] to make the corresponding indicators light. Make sure that the upper line of the display is as shown in the diagram.

DynoRhodes 1 has now been selected for the INT UPPER part.

```
A37:DynoRhodes 1 —Selected Tone
B67:Heaven
```

•••
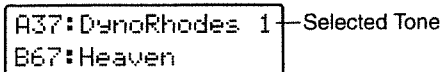
About simultaneous polyphony

The RD-600 is able to produce a maximum of 64 notes at once, but the number of notes which can actually be played will depend on the Tone.
Some Tones consist of multiple voices (sound components) which are combined in order to create the best possible sound. For example when you play one note with a Tone that consists of two voices, you will be using two voices, meaning that in actuality a maximum of 32 notes can be played. If you are playing a Layer two Tones will be sounding simultaneously, meaning that the number of simultaneous notes will be even less. For the number of voices used by each Tone, refer to the included Tone list.

•••

Playing different Tones in combination/separately — Layer/Split —

By turning on the indicators of both the INT UPPER / LOWER part switches, you can play the Tones of these parts together (layered).
You can also divide the keyboard into two halves at a specified key (Split Point) and play these Tones separately in the two areas.

Two or more Tones played together are referred to as a "layer," and a division of the keyboard into two halves is referred to as a "split."

Played simultaneously

INT LOWER PART	INT UPPER PART		INT LOWER PART	INT UPPER PART
Tone	Tone		Tone	Tone

Layer   **Split Point**
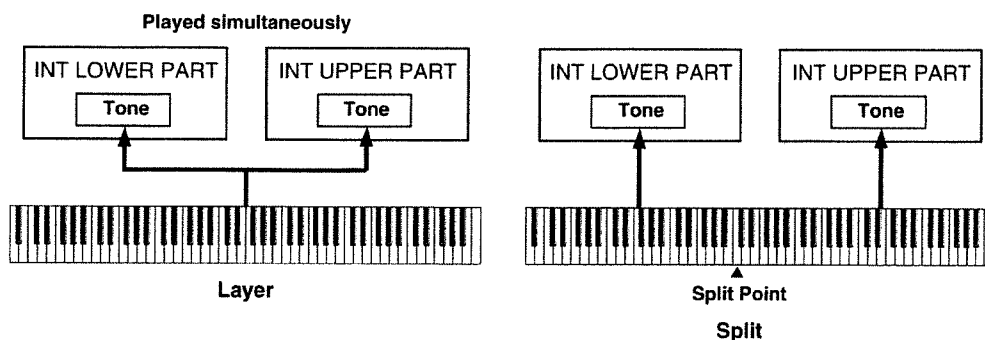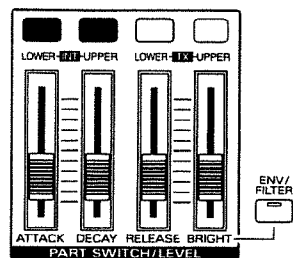
Split

When the [SPLIT] button indicator is dark, the two Tones will be "layered." When the [SPLIT] button is pressed to make the indicator light, the two Tones will be "split." At this time, the lit status of the part switches will also change.

Layer   Split

Playing two Tones together (Layer)

Let's play the Warm Vibes (B82) and Soft Pad (A62) Tones together as a layer.

1. Assign Warm Vibes (B82) to the INT UPPER part.
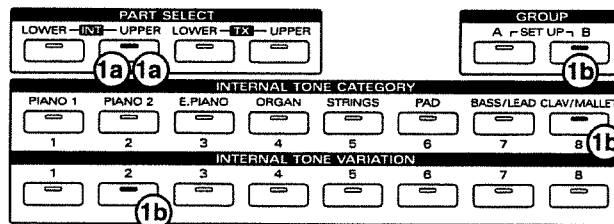
a. Double-click the INT UPPER part select button to make the indicator light. The INT UPPER part switch will also light, and the other part switches will go dark. The indicator will be red for both buttons. The group/category/variation button indicators will also light red.

b. Press GROUP [B] / CATEGORY [CLAV/MALLET] / VARIATION [2] to make the corresponding indicators light. Make sure that the upper line of the display is as shown in the figure.

Warm Vibes has now been assigned to the INT UPPER part.

```
B82:Warm Vibes ──── Selected Tone
B67:Heaven
```

15
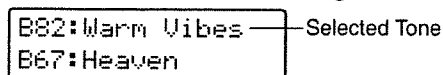
2. Assign Soft Pad (A62) to the INT LOWER part.
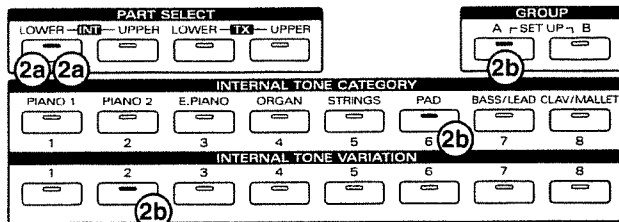
a. Double-click the INT LOWER part select button to make the indicator light. The INT LOWER part switch will also light, and the other part switches will go dark. The indicator will be green for both buttons. The group/category/variation button indicators will also light green.

b. Press GROUP [A] / CATEGORY [PAD] / VARIATION [2] to make the corresponding indicators light. Make sure that the lower line of the display is as shown in the figure.

Soft Pad has now been assigned to the INT LOWER part.

— Selected Tone
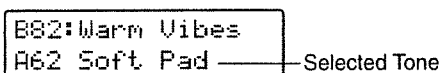
3. Press the INT UPPER part switches so that the indicators of both the INT UPPER and the LOWER part switches are lit.
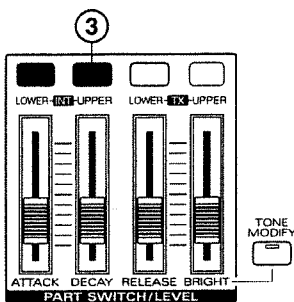
Play the keyboard, and the two Tones will sound as a layer.

Dividing the keyboard (Split)

Now let's split the E.Organ 3 (A43) and Ac.Bass (A74) Tones across the keyboard.

1. Press the [SPLIT] button. The indicators of the INT UPPER and INT LOWER part switches will light, and the keyboard will be divided into two ranges (the UPPER part is the high range, and the LOWER part is the low range). You will be able to play different Tones with the left hand and right hand.

2. Assign E.Organ 3 (A43) to the INT UPPER part.
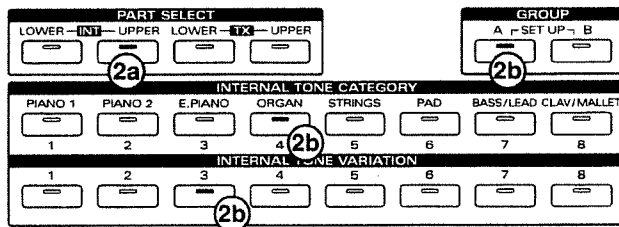
a. Press the INT UPPER part select button to make the indicator light.

b. Press GROUP [A] / CATEGORY [ORGAN] / VARIATION [3] to make the corresponding indicators light. Make sure that the upper line of the display is as shown in the figure.

E.Organ 3 has now been assigned to the INT UPPER part.

```
A43: E.Organ 3 ————— Selected Tone
B67: Heaven
```
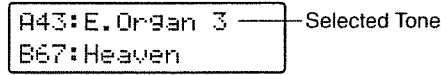
3. Assign Ac.Bass (A74) to the INT LOWER part.
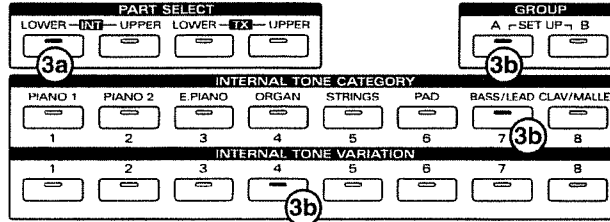
a. Press the INT LOWER part select button to make the indicator light.

b. Press GROUP [A] / CATEGORY [BASS/LEAD] / VARIATION [4] to make the corresponding indicators light. Make sure that the lower line of the display is as shown in the figure.

Ac.Bass has now been assigned to the INT LOWER part.

```
A43: E.Organ 3
A74: Ac.Bass ————— Selected Tone
```
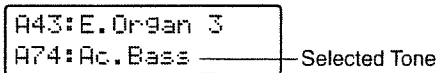
You can play E.Organ 3 in the right-hand area of the keyboard, and the Ac.Bass sound in the left-hand area.

Specifying the dividing key (Split Point)

The split point can be freely changed.

◆ Hold down the [SPLIT] button and press the key that you wish to specify as the split point.
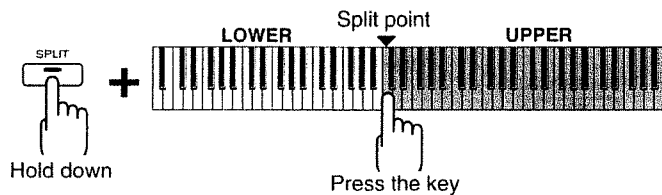
When you press the [SPLIT] button the following display will appear, and when you press the note the split point setting will be modified.
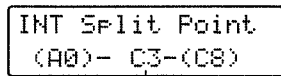
```
INT Split Point
(A0)- C3-(C8)
```
Split Point

(with the factory setting, this is set to C4.)

The Tone of the LOWER part will be assigned below the split point, and the Tone of the UPPER part will be assigned above the split point. The key at the split point itself will be included in the UPPER part.

* *When the [SPLIT] button indicator is dark, this setting will have no effect.*

* *By setting the Key Range, you can freely specify the keyboard range for the INT LOWER / INT UPPER / TX LOWER / TX UPPER parts. For the procedure, refer to p.40.*

17

Adjusting the volume of a part

You can use the four sliders to adjust the volume of the INT UPPER/LOWER and TX UPPER/LOWER parts.
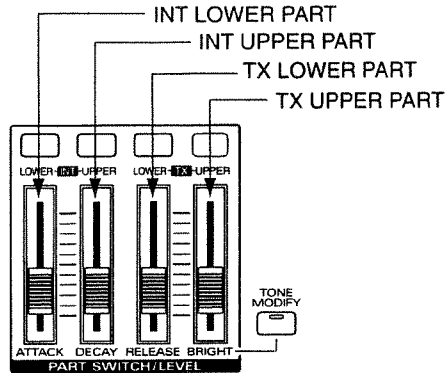
* To adjust the volume of the entire instrument, use the master volume (p.10).

* When the indicator of a part switch is dark, adjusting the volume of that part will not cause sound to be heard, but the setting is still valid. When the indicator is once again turned on, the adjusted volume will be in effect.

Transposing without changing your keyboard fingering — Transpose —

You can transpose the pitch without changing the notes that you play.
This setting is made relative to middle C (C4).

◆ Hold down the [TRANSPOSE] button and play a note.

Press the note F

TRANSPOSE
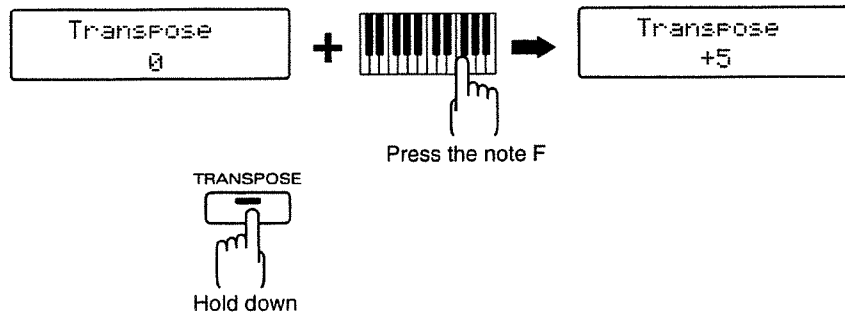
Hold down

When you play C4, the pitch of the key you pressed will sound. For example if you held down the [TRANSPOSE] button and pressed the C5 note, the pitch will be one octave higher.
To restore the original pitch, press the [TRANSPOSE] button once again to make the indicator go dark.

* When the [TRANSPOSE] button indicator is dark, the Transpose setting has no effect.

* If the amount of transposition is 0, no transposition will take place even if the [TRANSPOSE] button is pressed. In this case, the [TRANSPOSE] indicator will blink.

* Depending on the settings, there may be an area of the keyboard in which the pitch does not change.

Using the Transpose function

If a song is written in the key of E and you wish to play it in C, hold down the [TRANSPOSE] button and press E, which is the tonic of the key of E.

TRANSPOSE

Hold down   Press the note E

18

When you play a C on the keyboard, a pitch of E will now be sounded.

Adjusting the level of the low/mid/high frequency ranges — Equalizer —

The RD-600 contains a 3-band equalizer.
After pressing the EQUALIZER [ON/OFF] button to turn on the indicator, use the LOW / MID / HIGH knobs to adjust the low, mid, and high frequency ranges of the sound.

Rotate the konbs to make adjustments
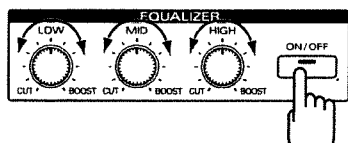
* *When the EQUALIZER [ON/OFF] button indicator is dark, the equalizer settings will have no effect.*

* *The equalizer affects only the output of the OUTPUT jacks. It does not affect the output of the FIXED OUTPUT jacks.*

Adding reverberation to the sound — Reverb effect —

Press the [REVERB] button to turn on the indicator, and a reverb effect will be added to the sound.
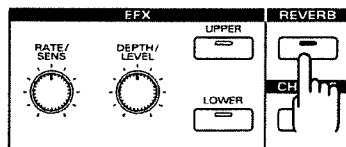
* *The depth of the reverb can be adjusted independently for each Tone. If this setting is 0, there will be no effect even if reverb is turned on (p.33). In this case, the indicator will blink.*

* *For details on reverb settings, refer to p.34.*

Adding spaciousness or modulation to the sound — Chorus effect —

Press the [CHORUS] button to make the indicator light, and a chorus effect will be added to the sound.
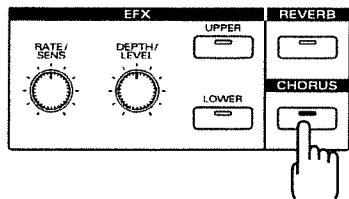
* *The depth of the chorus can be adjusted independently for each Tone. If this setting is 0, there will be no effect even if chorus is turned on (p.33). In this case, the indicator will blink.*

* *For details on chorus settings, refer to p.34.*

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Applying other effects — EFX —

EFX is a multi-effector which provides 40 types of effect.

Some of these 40 types consist of a single effect unit, and others consist of several effect units in combination. EFX can be set for each Tone, and when the RD-600 was shipped from the factory, appropriate EFX settings were made for each Tone. You can take advantage of the EFX settings for each Tone in the following ways.

A. Using the Tone settings of the INT UPPER part to apply an effect to the Tone of the INT UPPER part

◆ Press the EFX [UPPER] button to make the indicator light. The indicator will light red.
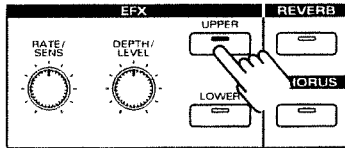
B. Using the Tone settings of the INT LOWER part to apply an effect to the Tone of the INT LOWER part

◆ Press the EFX [LOWER] button to make the indicator light. The indicator will light green.
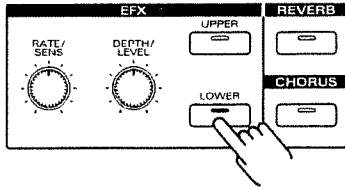
C. Using the Tone settings of the INT UPPER part to apply an effect to the Tones of both the INT UPPER and LOWER parts

◆ Hold down the EFX [UPPER] button and press the EFX [LOWER] to make both indicators light. Both indicators will light red.
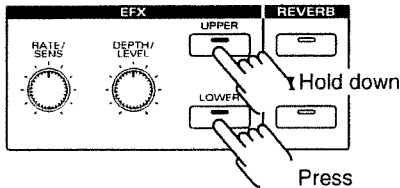
D. Using the Tone settings of the INT LOWER part to apply an effect to the Tones of both the INT UPPER and LOWER parts

◆ Hold down the EFX [LOWER] button and press the EFX [UPPER] button to make both indicators light. Both indicators will light green.
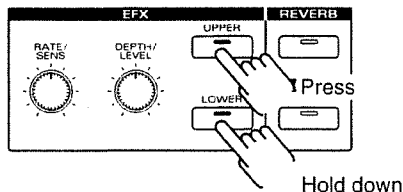
When you select EFX, you will be able to use the RATE/SENS and DEPTH/LEVEL knobs to adjust the parameters of that effect, so that rotating the knobs will directly change the way in which the effect is applied. For the parameters assigned to the RATE/SENS and DEPTH/LEVEL knobs, refer to p.56.
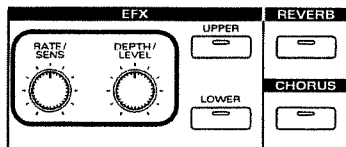
* *The type and level of EFX can be specified independently for each Tone. If the EFX type is set to BYPASS or the EFX Level is set to 0, the EFX button indicator will blink (p.34).*

* *The settings that you make with the EFX knobs are remembered independently for each Tone.*

* *For some types of EFX, a slight amount of noise may be heard when you move the RATE/SENS and DEPTH/LEVEL knobs, but this is not a malfunction.*

Let's try using EFX

Here we will apply a ROTARY effect to the E.Organ 8 (A48) Tone. (ROTARY is an effect which simulates the sound of a rotating speaker.)
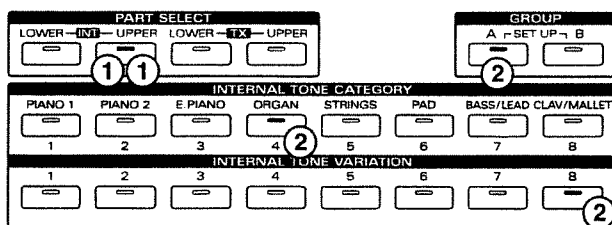
1. Double-click the INT UPPER part select button to make the indicator light. The indicator of the INT UPPER part switch will also light. (The indicators of the other part switches will be dark.)

2. Press GROUP [A] / CATEGORY [ORGAN] / VARIATION [8] to make the corresponding indicators light. Make sure that the upper line of the display is as shown in the figure.

```
A48:E.Organ 8 ———— Selected Tone
B67:Heaven
```
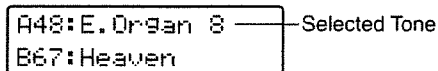
E.Organ 8 has now been assigned to the INT UPPER part.

3. Press the EFX [UPPER] button to make the indicator light.

The RATE/SENS knob is assigned as the switch that selects the rotational speed of the rotor. Rotating the knob to the right of center will speed up the rotational speed. Rotating the knob to the left of center will slow down the rotational speed.

The DEPTH/LEVEL knob is assigned to control separation (the spatial spread of the sound). If you are listening in stereo, rotating this knob toward the right will increase the spatial spread of the sound.
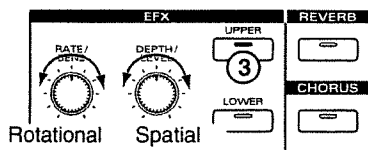
Rotational speed of the rotor   Spatial spread of the sound

Using the sliders to modify the expression of the sound (Tone Modify)

By pressing the [TONE MODIFY] button you can use the sliders to adjust the expressive quali-
ties of the Tone selected by the part select buttons. The value can also be adjusted by using the
[INC/YES][DEC/NO] buttons, so you can use the slider to make broad adjustments and then
use the [INC/YES][DEC/NO] buttons to make fine adjustments. The value of the settings will
appear in the display.The various settings will remain in effect even when you exit Tone
Modify condition. When a TX part is selected, you can simultaneously press the [INC/YES]
and [DEC/NO] buttons to turn the setting OFF. When the setting is turned OFF, Tone Modify
data will no longer be transmitted from MIDI OUT.

* This has no effect when a Rhythm Set (B86, B87, B88) is selected.

* The changes you make will disappear when the power is turned off. However if Powerup Mode (p.52)
  is set to LAST, they will be remembered even when the power is turned off.

Setting Values
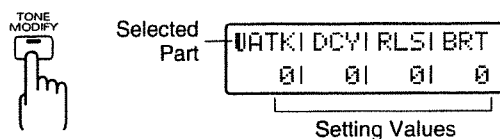
Adjusting the attack or decay of the sound — Envelope —

The left three sliders respectively adjust Attack, Decay, and Release.
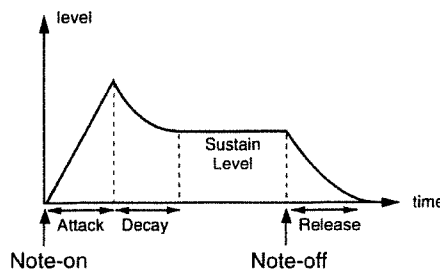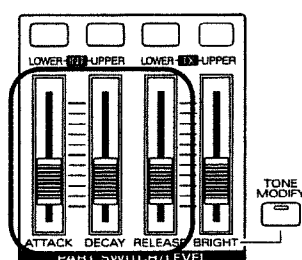
Attack: This adjusts the sharpness of the beginning
of the sound. Raising the slider will make
the sound begin more gradually, and low-
ering it will make the sound begin more
sharply.
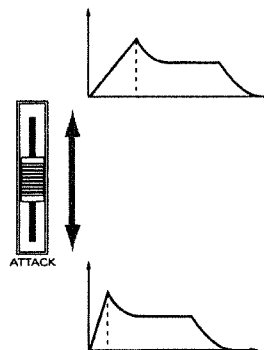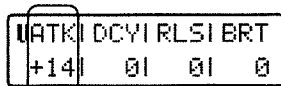
Decay: This adjusts the time from when the sound
has completed its attack until when it
reaches the sustain level. Raising the slider
will lengthen the time until the sustain level
is reached, and lowering it will shorten the
time.
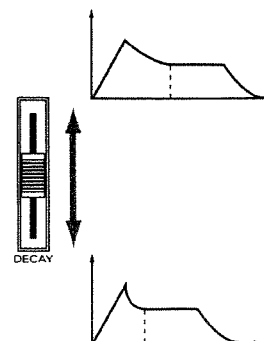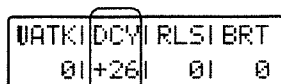
Release: This adjusts the time from when you take your finger off a note until when the sound decays to silence. Raising the slider will lengthen the release, and lowering it will make the articulation crisper.

```
UATKI DCYI RLS  BRT
  01   01  -8   0
```
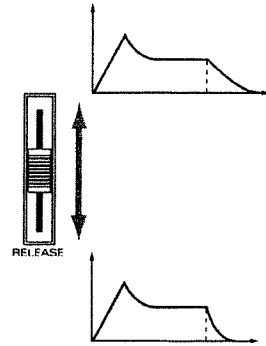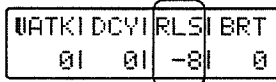
Adjusting the brightness of the sound — Filter —

The right-most slider adjust the brightness of the sound.

```
UATKI DCYI RLSI BRT
  01   01   01  +9
```
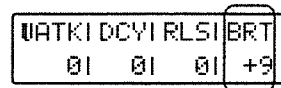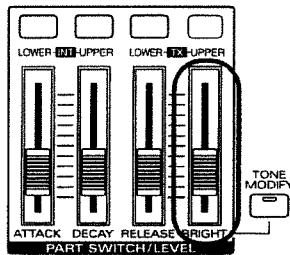
Resetting the modified settings to 0

If you want the settings modified by the sliders to be set to 0, press and hold the [TONE MODI-FY] button. The indicator located above the sliders that were modified will blink. Press the desired indicator to set its value to 0.

The indicators of sliders
you modified will blink

```
UATKI DCYI RLSI BRT
  01   01   01   0
```
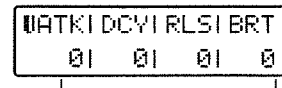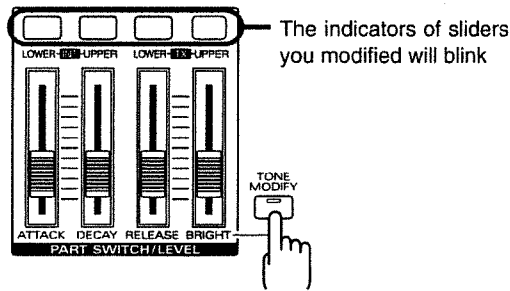
Continue pressing

Connecting external MIDI devices

Using the RD-600 as a master keyboard

A MIDI sound source can be connected to the rear panel MIDI OUT, and controlled by the RD-600.

MIDI OUT   MIDI IN   MIDI THRU

Transmit channel : 1   Sound Module A   Receive channel : 1

Sound Module B   Receive channel : 2   MIDI IN
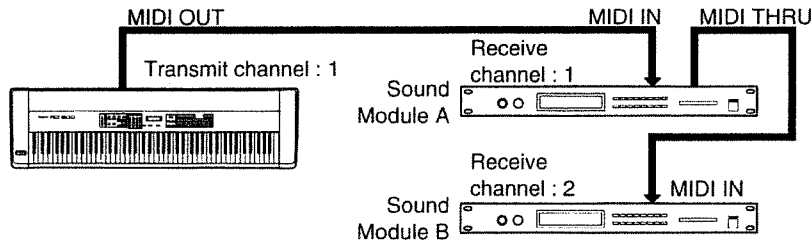
About MIDI channels

Similarly to television broadcasting, MIDI uses the concept of "channels." (These are called "MIDI channels.") MIDI messages will be received only by devices whose channel is set to match the transmitting device. There are sixteen MIDI channels (1–16), and when the channel of the receiving device matches the channel of the transmitting device, the messages will be received.

* For details on how to set MIDI channels, refer to p.40.

MIDI OUT   MIDI IN   MIDI THRU

Transmit channel : 1   Sound Module A   Receive channel : 1

Sound Module B   Receive channel : 5   MIDI IN

MIDI OUT   MIDI IN   MIDI THRU

Transmit channel : 5   Sound Module A   Receive channel : 1

Sound Module B   Receive channel : 5   MIDI IN
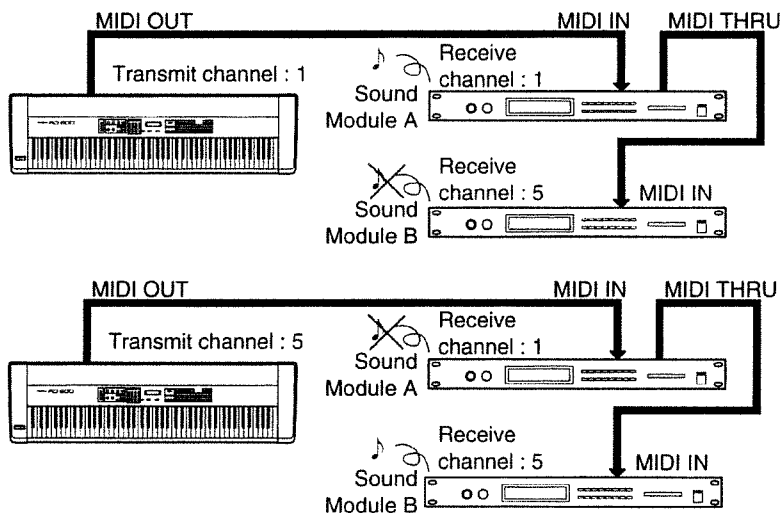
Selecting a Tone on an external MIDI device

By transmitting a MIDI program change message, you can select Tones on an external MIDI device.

On the RD-600, you can select Tones on an external MIDI device by specifying the Group/Category/Variation, just as when selecting a Tone for an INT part. (On external MIDI devices which use a GBN scheme to manage Tones, this corresponds to the Group/Bank/Number.)

Also, you can assign Tones of the external MIDI device to the TX UPPER/LOWER parts, and use them in the same way as Tones of an INT part, in layers or splits.

When you specify a Group/Category/Variation combination, the corresponding program change message (program number) will be transmitted to the external MIDI device. A Tone corresponding to this program number will be selected on the external MIDI device, and you can play the Tone of the external MIDI device from the keyboard of the RD-600.

* For details on the Tone that will be selected by each program number, refer to the owner's manual of the MIDI device that you have connected.

The Groups/Categories/Variations of the RD-600 correspond to program numbers as follows.

A11	1	A12	2	A13	3	A14	4	A15	5	A16	6	A17	7	A18	8
A21	9	A22	10	A23	11	A24	12	A25	13	A26	14	A27	15	A28	16
A31	17	A32	18	A33	19	A34	20	A35	21	A36	22	A37	23	A38	24
A41	25	A42	26	A43	27	A44	28	A45	29	A46	30	A47	31	A48	32
A51	33	A52	34	A53	35	A54	36	A55	37	A56	38	A57	39	A58	40
A61	41	A62	42	A63	43	A64	44	A65	45	A66	46	A67	47	A68	48
A71	49	A72	50	A73	51	A74	52	A75	53	A76	54	A77	55	A78	56
A81	57	A82	58	A83	59	A84	60	A85	61	A86	62	A87	63	A88	64
B11	65	B12	66	B13	67	B14	68	B15	69	B16	70	B17	71	B18	72
B21	73	B22	74	B23	75	B24	76	B25	77	B26	78	B27	79	B28	80
B31	81	B32	82	B33	83	B34	84	B35	85	B36	86	B37	87	B38	88
B41	89	B42	90	B43	91	B44	92	B45	93	B46	94	B47	95	B48	96
B51	97	B52	98	B53	99	B54	100	B55	101	B56	102	B57	103	B58	104
B61	105	B62	106	B63	107	B64	108	B65	109	B66	110	B67	111	B68	112
B71	113	B72	114	B73	115	B74	116	B75	117	B76	118	B77	119	B78	120
B81	121	B82	122	B83	123	B84	124	B85	125	B86	126	B87	127	B88	128

The screen display

When you use the part select buttons to select the TX UPPER / LOWER part, the display shown below will appear.
The Tone selected for the TX UPPER part will be displayed in the upper line, and the Tone selected for the TX LOWER part will be displayed in the lower line.
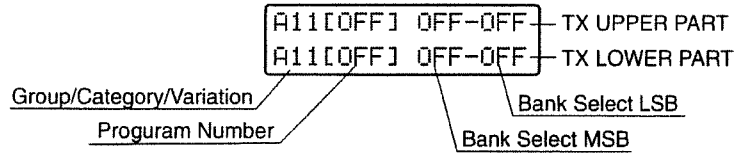
Selecting a Tone

Here's how to select the Group / Category / Variation that corresponds to the program number of the desired Tone.
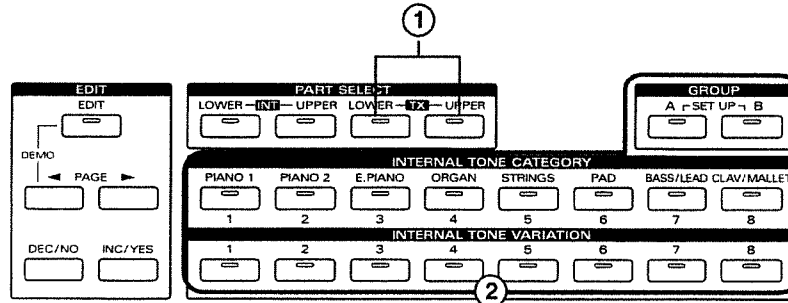
1. Press either the TX UPPER or LOWER part select button to make the indicator light for the part to which the external MIDI device Tone will be assigned. If you select the TX UPPER part, the indicators of the part select and Group/Category/Variation buttons will light red. If you select the TX LOWER part, the indicators of the part select and Group/Category/Variation buttons will light green.

2. Press the Group/Category/Variation buttons.

The program number in the [ ] of the display will change, and a program change message will be transmitted from MIDI OUT. Make sure that the selected Group/Category/Variation and the program number are shown in the display.

25

* Instead of using Group/Category/Variation, you can use the [INC/YES] [DEC/NO] buttons to direct-ly specify the program number. When you press the [INC/YES] and [DEC/NO] buttons simultane-ously, the setting will be turned off, and program numbers will no longer be transmitted.

Example: Selecting the Tone of program number 20 on an external MIDI device
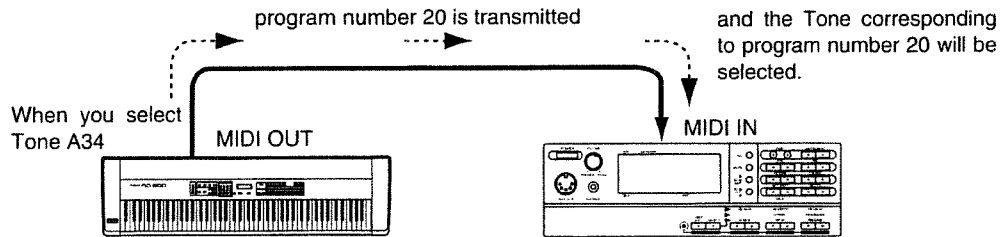
Play the keyboard of the RD-600, and the Tone of the external MIDI device will sound.

Selecting a greater number of Tones (Bank Select)

By specifying a program number you can select 128 different Tones. However many MIDI instruments have more than 128 sounds.

For such instruments, you can select Tones by combining Bank Select messages with Program Change messages. Bank Select messages consist of an MSB (a value 0–127 for controller number 0) and a LSB (a value 0–127 for controller number 32). Some devices recognize the LSB while other devices do not.

* Some MIDI devices cannot use Bank Select messages. For details refer to the owner's manual for the MIDI device that you wish to connect.

Using Bank Select to select a Tone

Let's assign Bank Select MSB: 8, LSB: 0, and Program Number 5 to the TX UPPER part.
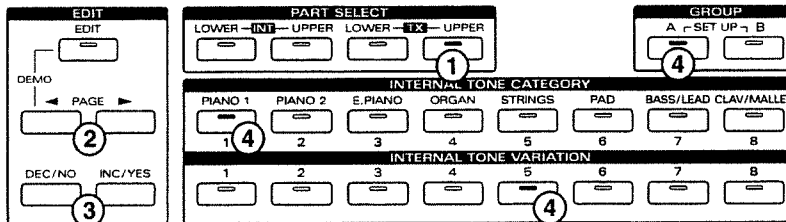
1. Press the TX UPPER part select button to make the indicator light.

2. Use the PAGE [◄][►] buttons to move the cursor to the Bank Select MSB location.

3. Use the [INC/YES] [DEC/NO] buttons to set the value to 8.

Move the cursor

```
A11[OFF]    8-  0
A11[OFF] OFF-OFF
```
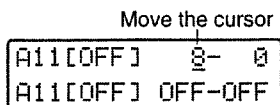
Bank Select LSB can be left at 0, so next you will specify the program number.

* If you wish to specify the LSB, use the PAGE [◄][►] buttons to move the cursor to the Bank Select LSB location, and use the [INC/YES] [DEC/NO] buttons to modify the value.

4. Press the Group/Category/Variation (A15) buttons to select the program number.

The program number display in the [ ] of the screen will change, and the Bank Select MSB, LSB and a program change message will be transmitted from MIDI OUT.

```
A15[  5]    8-  0
A11[OFF] OFF-OFF
```
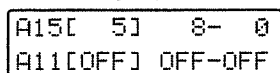
Make sure that the selected program number appears in the display.

* *Instead of using the Group/Category/Variation buttons, you can use the [INC/YES] [DEC/NO] buttons to directly select the program number. When you press the [INC/YES] and [DEC/NO] buttons simultaneously, the setting will be turned off, and Bank Select messages will no longer be transmitted.*

Using settings that you stored (Setup Memory)

The RD-600's settings can be stored in a setup memory.

This memory remembers the Tones that are assigned to the INT UPPER/LOWER parts, the effect settings, and the program change messages of the TX parts, etc. If you store your favorite settings or settings that are suitable for a particular song, you will always be able to play the RD-600 using those settings whenever you wish.

Setup memories are selected using the eight Category buttons and the eight Variation buttons. This means that you can store a total of 64 different setups.

For the storing procedure, refer to p.52.

Recalling a Setup Memory

With the factory settings, setup memories 11–18 already contain settings. Let's try recalling one of these setup memories.
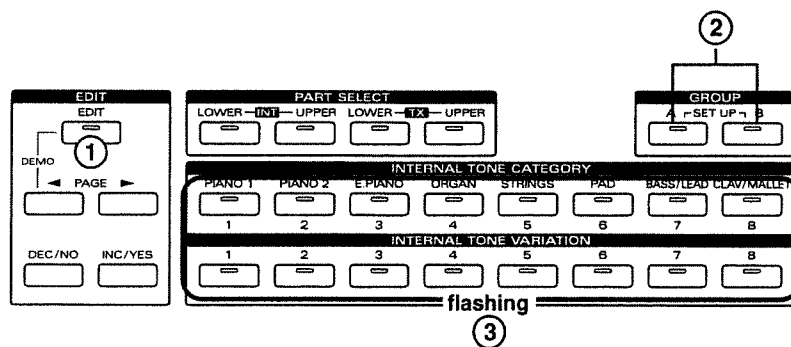
1. Make sure that the [EDIT] button indicator is dark.

If it is lit, press the [EDIT] button to make the indicator go dark.

2. Simultaneously press the GROUP [A] button and [B] button.

All of the Group/Category/Variation button indicators will blink orange.

```
Please Select
        SETUP
```

3. Use Category 1–8 and Variation 1–8 to select the setup memory that you wish to recall.

While the Group/Category/Variation button indicators are blinking orange, the Category and Variation buttons will function to select setups. If you wish to exit this setup selection mode, press one of the Group buttons. You will return to the condition in which a Tone is selected.

* *For the factory settings of setup memories 11–18, refer to p.28.*

* *If the TX part tone setting is OFF (p.31), TX part tone data will not be transmitted from MIDI OUT when a setup memory is selected.*

* *When a setup memory is recalled, the current settings will be lost. If you wish to keep the current settings, save them to another setup memory beforehand (p.52, Storing various settings in a setup memory).*

* *By setting the System parameter Control Ch. (p.51) you can use one of the MIDI receive channels as the Control Channel for selecting setup memories. Normally when a program change message is received, a Tone is selected. However when a program change message is received on the channel specified as the Control Channel, a setup memory will be selected instead.*

Selecting a Setup Memory

Let's select setup memory 14.
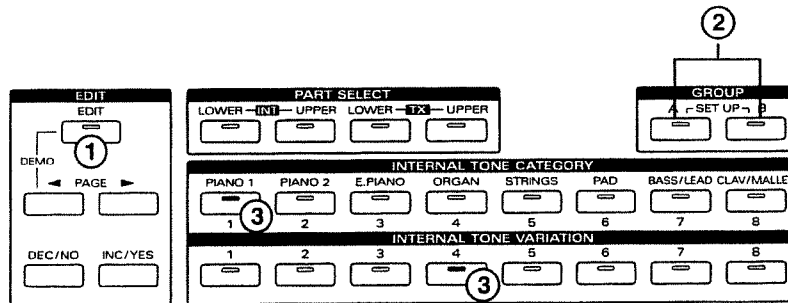
1. Make sure that the [EDIT] button indicator is dark.

   If it is lit, press the [EDIT] button to make the indicator go dark.

2. Simultaneously press the GROUP [A] button and [B] button.

   All of the Group/Category/Variation button indicators will blink orange.

3. Press CATEGORY [PIANO 1] / VARIATION [4] to make their indicators light.

   Setup memory 14 has now been selected.

About the factory settings for setup memories 11-18

11: The same settings as when the power is turned on for the first time. You can play a piano sound by itself.

12: Two types of piano sound are layered, with their pitch slightly detuned to simulate a honky-tonk piano.

13: A tone with a strong attack is layered with a sustained sound.

14: Two pad-type tones are layered to create a thick ensemble.

15: The keyboard is split, with piano in the upper part and bass in the lower part. You can play different tones in the right hand and left hand.

16: The keyboard is split, with a lead-type tone assigned to the upper part and strings to the lower part. You can play backing with the left hand and a solo with the right hand.

17: The keyboard is split, with bass assigned to the upper part and a drum set to the lower part.

18: The Transmit Ch. of the TX UPPER/LOWER parts is set to INT (p.40). This setting is convenient when you wish to record on a sequencer.

Adjusting settings which affect the sound

Overview

The RD-600 allows you to combine and modify preset Tones as desired, and to change the settings of various functions. The action of modifying such settings is referred to as "editing" (EDIT).

By pressing the [EDIT] button to make the indicator light, you can enter "Edit mode."

Edited settings can be stored in one of the 64 setup memories.

After you have modified various items (parameters) in Edit mode, the modified settings will still remain in effect after you leave Edit mode. However when you turn off the power, your changes will be lost. If you wish to keep the changes you have made, you must save them to a setup memory (p.52, Storing various settings ino a setup memory).

* If the Powerup Mode setting is set to Last, the modified settings will be preserved even when the power is turned off (p.52).

About the items (parameters) which can be set

The various items in Edit mode which can be set are referred to as "parameters."
The parameters are categorized as follows:

Settings for the overall system	**p.49–p.52**
Settings for the Local parts	**p.39–p.44**
Settings for the Internal parts	**p.44–p.46**
Reverb/Chorus settings	**p.34–p.37**
Tone settings	**p.31–p.34**
Utility	**p.52–p.55**

The parameters shown in the following table are available, and can be selected using the PAGE [◄][►] buttons. For details of each parameter and the procedures for editing, refer to the pages given above.

About the screen display

Parameter

```
$Master Tune      ►
        ►440.0Hz
```

$: System settings group
L: Local part settings group
R: Internal part settings group
E: Reverb/Chorus settings group
T: Tone settings group
U: Utility group

Setting value

When [►] is displayed
This indicates that there are other pages following this screen

When [◄] is displayed
This indicates that there are other pages preceding this screen

When [◄►] is displayed
This indicates that there are other pages preceding and following this screen

(EDIT)

PAGE ◄
PAGE ►

Parameter		Value
Master Tune		
Key Touch		
Foot Controller 1 Assign		11
Foot Controller 1 Polarity		
Foot Controller 2 Assign		12
Foot Controller 2 Polarity		
Damper Pedal Polarity		10
Control Ch.		
Device ID		
MIDI Thru /Out2		
Powerup Mode		
LCD Contrast		

Settings for the overall system

Parameter		Value
Internal Part Assign	Transmit Ch.	
Key range	Key range	5
Keyboard Transpose	Keyboard Transpose	6
Velocity Max	Velocity Max	
Velocity Sensitivity	Velocity Sensitivity	
Damper Pedal SW	Damper Pedal SW	10
FC1 Pedal SW	FC1 Pedal SW	11
FC2 Pedal SW	FC2 Pedal SW	12
Modulation Lever SW	Modulation Lever SW	7
Bend Lever SW	Bend Lever SW	8, 9

Settings for the Local parts

Parameter	
Part MIDI Rx Ch.	
Rx PGM	
Rx Modulation	
Rx Volume	
Rx HOLD-1	
Rx Bender	

Settings for the Internal parts

Parameter	Value
Reverb Type	3
Reverb Level	3
Reverb Time	3
Reverb HF Damp	3
Delay Feedback	3
Chorus Level	4
Chorus Rate	4
Chorus Depth	4
Chorus Pre-Delay	4
Chorus Feedback	4
Chorus Output	4

Reverb/Chorus settings

Parameter		Value
Tone Pan	Tone Pan	
Coarse Tune	Coarse Tune	6
Fine Tune	Fine Tune	
Reverb Amount	Reverb Amount	3
Chorus Amount	Chorus Amount	4
Bend Range Up	Bend Range	8
Bend Range Down		9
EFX Type		1, 2
EFX Output Level		1, 2

Tone settings

Parameter	Value
Write SETUP	13
Bulk Dump Current	
Bulk Dump All	
Initialize Current	
Initialize All	

Utility

*   Numbered parameters can be accessed by a short-cut key. Refer to p.63.

*   By holding down the PAGE [◄] ([►]) button and pressing the PAGE[►] ([◄]) button you can move rapidly through the parameters. At this time, you will stop briefly at the first or last parameter in each group of settings.

Tone settings

You can modify not only the Tone settings of the 128 internal Tones, but also of the Tones of an external MIDI device assigned to the TX part.

* *For some external MIDI devices it will not be possible to modify their Tone settings. For details refer to the owner's manual for the external MIDI device that is connected.*
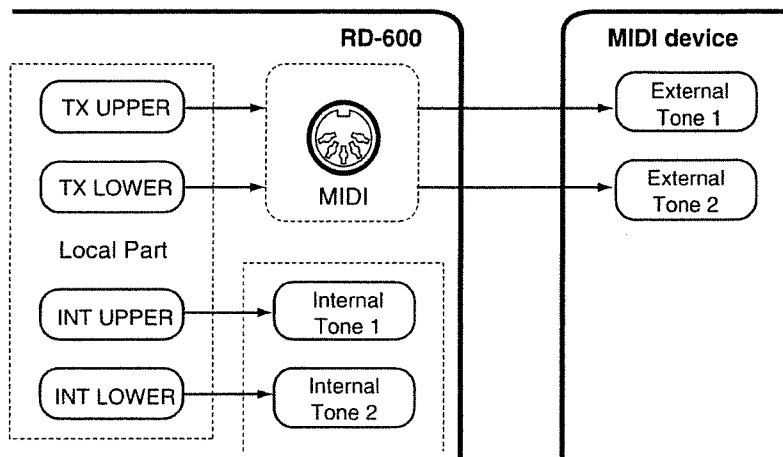
Procedure
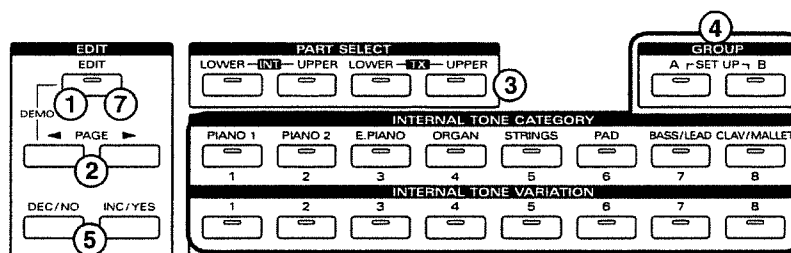
1. Press the [EDIT]. The indicator will light, and you will enter Edit mode.

2. Use the PAGE [◄][►] buttons to select the parameter that you wish to modify.

   Select a parameter prefixed by a "T" character. The setting value and the Tone name are displayed below the parameter name.

   * *By holding down the PAGE [►] ([◄]) button and pressing the PAGE [◄] ([►]) button, you can move rapidly in the [►] ([◄]) direction.*
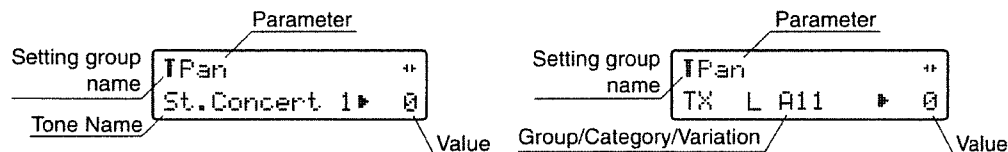
(for an INT part)   **(for a TX part)**

3. Select the Part that you wish to modify.

   Press one of the part select buttons and the indicator will light, and the name of the currently-assigned Tone will appear. If you have selected one of the TX parts, the Group/Category/Variation will be displayed.

4. Select the Tone that you wish to modify.

Press the Group/Category/Variation buttons to make the indicators light, and the name of the selected Tone will appear in the display.

If you have selected one of the TX parts, the Group/Category/Variation will be displayed.

5. Press the [INC/YES] [DEC/NO] buttons to modify the value of the setting.

* *By holding down the [INC/YES] ([DEC/NO]) button and pressing the [DEC/NO] ([INC/YES]) button you can rapidly increment (decrement) the value.*

6. As necessary, repeat steps 2–5.

7. When you are finished, press the [EDIT] button to make the indicator go dark. You will return to the normal playing mode.

Tone parameters

Tone settings include the following parameters.

Tone parameters for an INT part	Tone parameters for a TX part
Pan	Pan
Coarse Tune	Coarse Tune
Fine Tune	Fine Tune
Reverb Amount	Reverb Amount
Chorus Amount	Chorus Amount
Bend Range Up	Bend Range
BendRangeDown	
EFX	
EFX Level	

Setting the stereo location (Pan)

Pan determines the location of the sound when you are listening in stereo.
For example you might want to adjust this setting to place the drum set and bass in the center, the guitar at the right, and the keyboard at the left.
Pressing the [INC/YES] button will move the sound toward the right, and pressing the [DEC/NO] button will move the sound toward the left.
If a TX part Tone is selected, you can simultaneously press the [INC/YES] [DEC/NO] buttons to turn the setting OFF, so that Pan messages will no longer be transmitted from MIDI OUT. To restore the original setting, press the [INC/YES] or [DEC/NO] button.

* *For some Tones, slight leakage of sound may be heard from the opposite speaker even with a setting of fully left (or right). Also in some cases, the result of this setting may be difficult to notice.*

* *If you are listening to the RD-600 in monaural, the pan setting will have no effect.*

```
 TPan          ＋
 St.Concert 1▶  0
```
Range of values: INT: L64–63R, TX: OFF, L64–63R

Setting the amount of transposition (Coarse Tune)

This setting transposes the pitch of the sound in semitone steps. Pressing the [INC/YES] button will raise the key (pitch), and pressing the [DEC/NO] button will lower the key (pitch).
If a TX part Tone is selected, you can simultaneously press the [INC/YES] [DEC/NO] buttons to turn the setting OFF, so that Coarse Tune messages will no longer be transmitted from MIDI OUT. To restore the original setting, press the [INC/YES] or [DEC/NO] button.

* *This has no effect when a Rhythm Set (B86, B87, B88) is selected.*

```
 TCoarse Tune  ＋
 St.Concert 1▶  0
```
Range of values: INT: -48– +48, TX: OFF, -48– +48

Making fine adjustments to the pitch (Fine Tune)

This setting lets you make extremely fine adjustments to the pitch, in steps of 1/100th of a semi-tone.

Pressing the [INC/YES] button will raise the pitch, and pressing the [DEC/NO] button will lower the pitch.

If a TX part Tone is selected, you can simultaneously press the [INC/YES] [DEC/NO] buttons to turn this setting OFF, so that Fine Tune messages will no longer be transmitted from MIDI OUT. To restore the original setting, press the [INC/YES] or [DEC/NO] button.

```
TFine Tune        +
St.Concert 1▶+48
```

Range of values: INT: -50– +50, TX:OFF, -50– +50

Adjusting the depth of reverb that is applied to a Tone (Reverb Amount)

This sets the depth of the reverb effect.

If a TX part Tone is selected, you can simultaneously press the [INC/YES] [DEC/NO] buttons to turn this setting OFF, so that Reverb Amount message will no longer be transmitted from MIDI OUT. To restore the original setting, press the [INC/YES] or [DEC/NO] button.

If the Reverb Amount is set to 0, there will be no effect even if reverb is turned on. In this case, the [REVERB] button indicator will blink.

```
TReverb Amount   +
St.Concert 1▶100
```

Range of values: INT: 0–127, TX: OFF, 0–127

Adjusting the depth of chorus that is applied to a Tone (Chorus Amount)

This sets the depth of the chorus effect.

If a TX part Tone is selected, you can simultaneously press the [INC/YES]/[DEC/NO] buttons to turn this setting OFF, so that Chorus Amount message will no longer be transmitted from MIDI OUT. To restore the original setting, press the [INC/YES] or [DEC/NO] button.

If the Chorus Amount is set to 0, there will be no effect even if chorus is turned on. In this case, the [CHORUS] button indicator will blink.

```
TChorus Amount   +
St.Concert 1▶127
```

Range of values: INT: 0–127, TX: OFF, 0–127

Bend Range settings

You can specify the amount (upper limit / lower limit) of pitch change that will occur when the bender is operated or when Pitch Bend messages are received via MIDI.

For INT part Tones, the upper limit and lower limit can be specified independently.

* *This has no effect when a Rhythm Set (B86, B87, B88) is selected.*

Bend Range Up

This sets the maximum pitch change that will occur when the bender is moved toward the right.

```
TBend Range Up   +
St.Concert 1▶+12
```

Range of values: 0– +12

Bend Range Down

This sets the maximum pitch change that will occur when the bender is moved toward the left.

```
TBendRangeDown   +
St.Concert 1▶-48
```

Range of values: -48–0

33

Bend Range

For Tones assigned to a TX part, setting the maximum value will assign that value to both the upper and lower limits. You can simultaneously press the [INC/YES] [DEC/NO] buttons to turn this setting OFF, so that Pitch Bend message will no longer be transmitted from MIDI OUT.

```
↑Bend Range      ⊹
TX  L A11    ▶  2
```
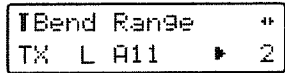
Range of values: OFF, 0–±24

Selecting the type of EFX (EFX)

This setting specifies the effect that will be applied.
For details on the different EFX types, refer to p.56.

```
↑E.Organ 1       ⊹
EFX▶       Rotary
```
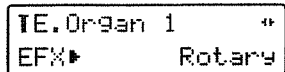
* *EFX effects cannot be applied to Tones of the TX parts.*

* *If the EFX type is set to BYPASS, there will be no effect.*

Setting the depth of the EFX effect (EFX Level)

For some types of EFX, turning the EFX on will cause the volume to increase. This setting allows you to set the level of the effect so that the volume balance will be maintained even when the EFX is turned off.

```
↑E.Organ 1       ⊹
EFX Level    ▶127
```
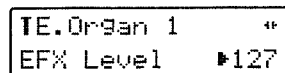
Range of values: 0–127

* *If this parameter is set to 0, there will be no sound.*

Reverb/Chorus settings

Reverb is an effect which adds reverberance and ambiance to the sound, creating a feeling of space. It simulates the impression that is produced when you play in a concert hall.
Chorus broadens the spatial image of the sound, adding depth and luster.
For each of the effects you can specify parameters such as Type, Depth and Rate.

Procedure
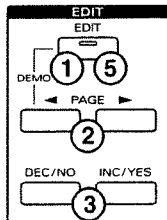
1. Press the [EDIT] button to make the indicator light, and you will enter Edit mode.

2. Use the PAGE [◄][►] buttons to select the parameter that you wish to modify.

Select a parameter prefixed by a "E" character. The setting value is displayed below the parameter name.

* *By holding down the PAGE [►] ([◄]) button and pressing the PAGE [◄] ([►]) button you can move rapidly in the [►] ([◄]) direction.*

Parameter

```
Setting group   ↑Reverb Level    ⊹
name          ▶ 20
```
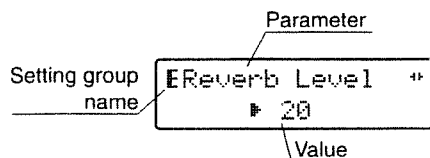
Value

3. Use the [INC/YES] [DEC/NO] buttons to modify the value of the setting.

  * *By holding down the [INC/YES] ([DEC/NO]) button and pressing the [DEC/NO] ([INC/YES]) button you can increase (decrease) the value more rapidly.*

4. Repeat steps 2–3 as necessary.

5. When you are finished, press the [EDIT] button to make the indicator go dark. You will return to normal playing condition.

Reverb parameters

Reverb settings include the following parameters.

Reverb Type
Reverb Level
Reverb Time
Reverb HF Dump
Delay Feedback

Type (Reverb Type)

You can choose from the following eight types of reverb.

ROOM1, ROOM2: These reverbs simulate the reverberance of a room. They provide a well-defined and spacious reverberance.

STAGE1, STAGE2: These reverbs simulate the reverberance of a stage. They provide a reverberance with strong presence.

HALL, HALL2: These reverbs simulate the reverberance of a hall. They provide a deep reverberance.

DELAY: This is a conventional delay. It produces an echo effect.

PAN-DELAY: This is a special delay in which the delayed sounds jump between left and right. It is effective when stereo connections are used.

```
EReverb Type    ⁺⁺
 ▶    STAGE2
```

Depth (Reverb Level)

This sets the depth of the reverb. The reverb will become deeper as the setting is increased.

```
EReverb Level   ⁺⁺
 ▶ 20
```
Range of values: 0–127

Reverb Time

This sets the length of time that the reverb will continue. The reverb time will become longer as the setting is increased.

```
EReverb Time    ⁺⁺
 ▶ 60
```
Range of values: 0–127

High frequency attenuation (Reverb HF Dump)

This specifies the frequency at which the high range will be cut. As the frequency is lowered, more of the high frequency range will be cut, producing a more mellow reverberation.
If you do not wish to cut the high frequency range, set this to BYPASS.

```
EReverb HF Dump↔
    ▶1600Hz
```

Setting values: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS (Hz)

Number of delay repeats (Delay Feedback)

This adjusts the number of delay repeats. Increasing this setting will increase the number of times that the delay sound is repeated. This parameter is valid only when a Reverb Type of Delay or Pan-Delay is selected.

```
EDelay Feedback↔
    ▶    0
```

Range of values: 0–127

About the Chorus parameters

Chorus settings include the following parameters.

Chorus Level
Chorus Rate
Chorus Depth
ChorusPreDelay
ChorusFeedback
Chorus Output

Level (Chorus Level)

This sets the amount of the chorus sound. Increasing this value will increase the chorus sound.

```
EChorus Level  ↔
    ▶127
```

Range of values: 0–127

Modulation speed (Chorus Rate)

This sets the speed (frequency) at which the chorus sound will be modulated. Modulation will become faster as this value is increased.

```
EChorus Rate   ↔
    ▶   2
```

Range of values: 0–127

Modulation depth (Chorus Depth)

This sets the depth at which the chorus sound will be modulated. Modulation will become deeper as this value is increased.

```
EChorus Depth  ↔
    ▶106
```

Range of values: 0–127

Time until modulation begins (ChorusPreDelay)

This adjusts the time from when the original sound is heard until when the chorus sound is heard. The sound will become more spacious as this value is increased.
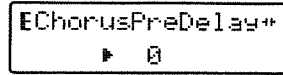
```
EChorusPreDelay*
  ▶ 0
```
Range of values: 0–127

Making modulation more distinctive (ChorusFeedback)

This setting adjusts the amount of the chorus sound that is returned (fed back) into the chorus. Increasing this value will produce a more distinctive modulation.
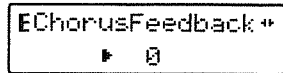
```
EChorusFeedback*
  ▶ 0
```
Range of values: 0–127

Specifying the output destination (Chorus Output)

This setting determines how chorus and reverb will be connected.

```
EChorus Output *
  ▶MIX+REV
```
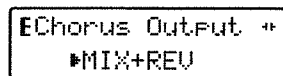
MIX: The chorus sound and reverb sound will be mixed.
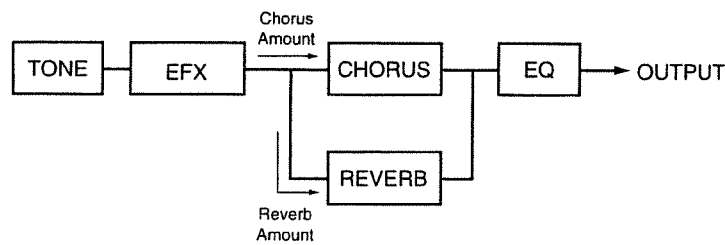
REV: Reverb will be applied to the chorus sound.
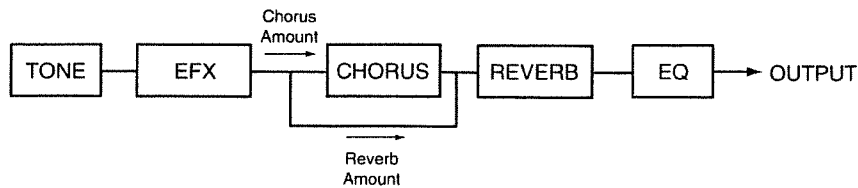
MIX+REV: Chorus sound without reverb will be mixed with chorus sound to which reverb has been applied.
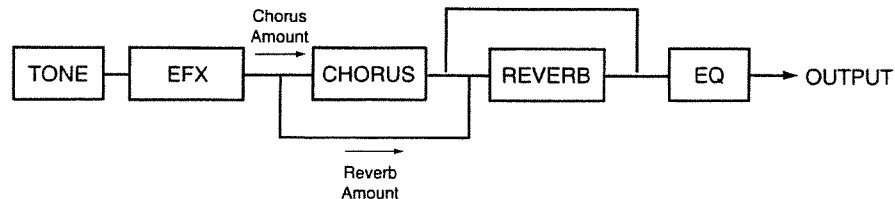
* *If Chorus Output is set to MIX+REV, reverb will be applied to the output of the chorus sound, meaning that the sound will have reverb even if the Reverb Amount setting is 0.*

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Adjusting settings related to the performance functions

How the RD-600 is organized internally

The RD-600 is able to play 16 types of sounds simultaneously. Sound sources such as the RD-600 which are able to play multiple types of sound simultaneously are called "multi-timbral sound sources." In this case, "timbre" refers to a particular instrument (or non-instrumental sound). Since up to 16 different sounds can be played simultaneously, you have the capability of creating a large ensemble with up to 16 individual musical parts.

On the RD-600, these 16 musical parts are referred to as "internal parts," and the sound which is assigned to each internal part is referred to as a "Tone."

Internal parts can be played by MIDI messages received from an external MIDI device.

Of the 16 parts, two parts can be assigned to INT UPPER and LOWER so that they can be played from the keyboard.
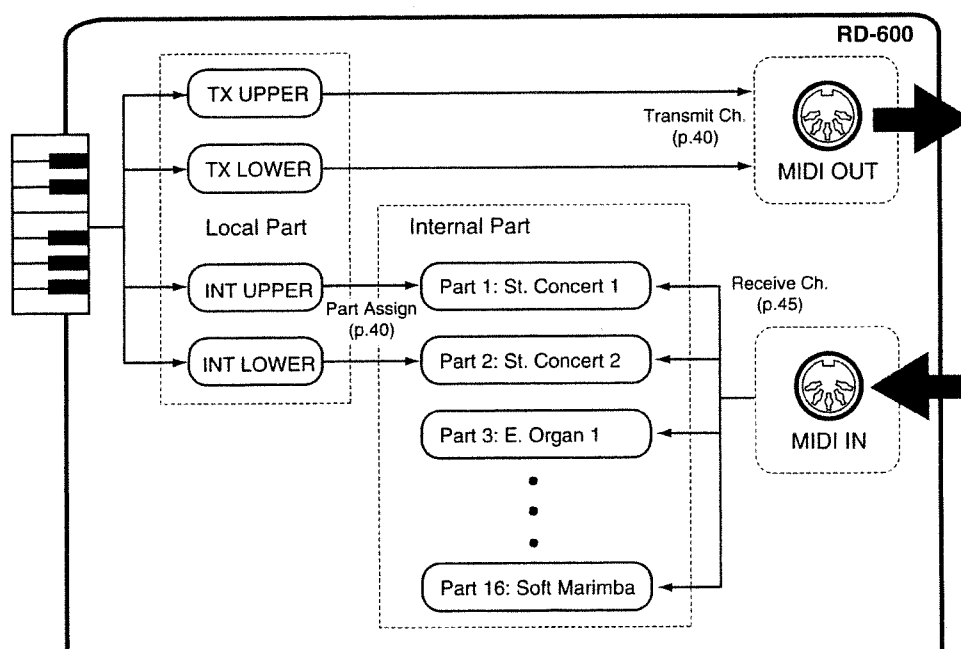
About the Local parts

The RD-600 provides two parts (INT UPPER / INT LOWER) which are used for playing internal parts, and these allow you to use any two Tones. Another two parts (TX UPPER and TX LOWER) are provided for use with an external MIDI device, and a rich array of controllers is provided so that you can control your MIDI system freely.

The parts which control the internal sound source or an external MIDI sound source in this way are referred to as the "local parts."

For each local part you can make detailed settings such as transposition and how the volume will change in response to your keyboard dynamics.

Layering the sounds of the four parts

You can use the part switches to turn each of the RD-600's local parts on/off. The controllers and keyboard will not transmit musical data for parts which are turned off. If all four part switches are turned on, the Tones of the four parts will sound simultaneously.
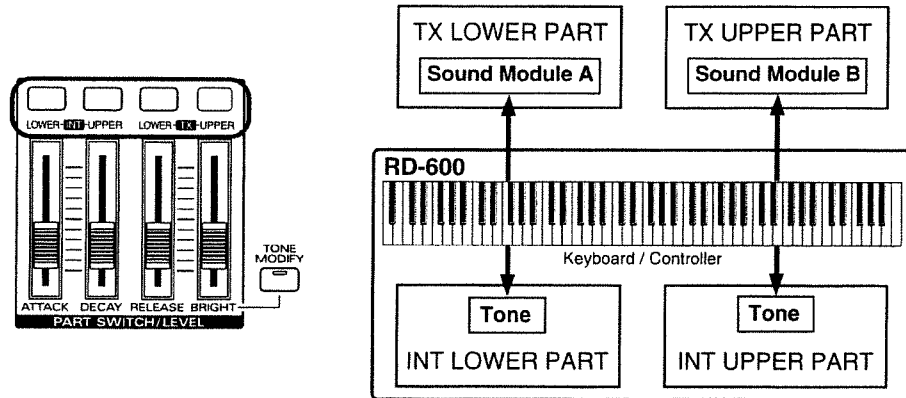
Local part settings

Basic procedure
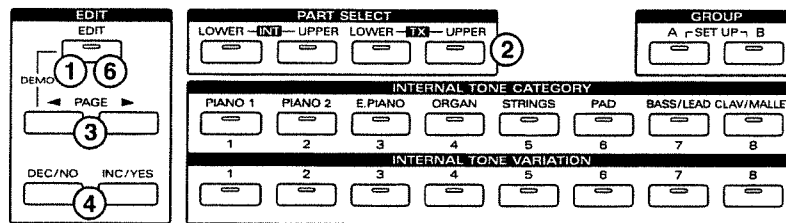
1. Press the [EDIT] button to make the indicator light, and you will enter Edit mode.

2. Select the local part that you wish to modify.

Press a part select button to make the indicator light, and your selection will appear in the display.

3. Use the PAGE [◄][►] buttons to select the parameter that you wish to adjust.

Select a parameter prefixed by a "L" character. The setting value is displayed below the parameter name.

> * By holding down the PAGE [►] ([◄]) button and pressing the PAGE [◄] ([►]) button you can move rapidly in the [►] ([◄]) direction.
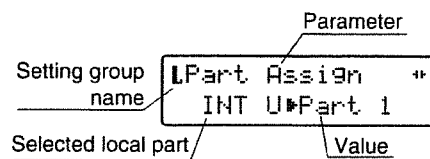
4. Press the [INC/YES] [DEC/NO] buttons to modify the value of the setting.

> * By holding down the [INC/YES] ([DEC/NO]) button and pressing the [DEC/NO] ([INC/YES]) button you can increase (decrease) the value rapidly.

5. Repeat steps 3–4 as necessary.

6. When you are finished, press the [EDIT] button to make the indicator go dark. You will return to normal playing condition.

Local part parameters

Local part settings include the following parameters.

When an INT part is selected	When a TX part is selected
Part Assign	Transmit Ch.
Key Range	Key Range
Transpose	Transpose
Velocity Sens	Velocity Sens
Velocity Max	Velocity Max
DamperPedalSw	DamperPedalSw
FC1 Pedal Sw	FC1 Pedal Sw
FC2 Pedal Sw	FC2 Pedal Sw
Mod Lever Sw	Mod Lever Sw
Bend Lever Sw	Bend Lever Sw

Setting the MIDI transmit channel
(Transmit Ch.) ....Default value: TX UPPER=1, TX LOWER=2

In order to play an external MIDI sound source from the RD-600, you will first need to "set the MIDI channels."

Unless the transmitting device (RD-600) and the receiving device (the external MIDI sound source) are set to the same MIDI channel, there will be no sound.

Also, the RD-600 transmits MIDI messages from the TX local parts, but receives MIDI messages for the internal parts. When you are recording your own playing on an external sequencer, you will need to set the same channels for the TX parts as for internal parts which are assigned to the INT parts. If this is not done, the recorded performance will not be played back correctly.

If this parameter is set to INT, the TX part will transmit MIDI messages on the same channel as the internal part that is assigned to the INT part, making it easy for you to record/playback on a sequencer.

In other words, the TX UPPER part will transmit the messages of the INT UPPER part from MIDI OUT, and the TX LOWER part will transmit the messages of the INT LOWER part.

* *This parameter exists only for the TX part (UPPER / LOWER).*

* *For MIDI channels of the receiving device, refer to the owner's manual for the external MIDI sound source that is connected.*

* *For sequencer recording/playback, refer to p.47.*

```
LTransmit Ch.    ⊕
   TX  U⊁  1Ch
```
Range of values: 1–16 (Ch), INT

Assigning an internal part to a local part
(Part Assign).......Default value: INT UPPER=Part 1, INT LOWER=Part 2

Specify which internal part will be controlled by the INT part.
Pressing the [INC/YES] button will increase the part number of the internal part that is assigned, and pressing the [DEC/NO] button will decrease it.

* *This parameter exists only for the INT part (UPPER / LOWER).*

```
LPart Assign     ⊕
   INT L⊁Part 2
```
Range of values: 1–16 (Part)

Shifting the keyboard range (Zoning) (Key Range)

In normal playing condition, pressing the split button will divide the keyboard at the split point, allowing a single keyboard to play different Tones.

The Key range setting allows you to divide the keyboard in greater detail.

Does not sound   **Key Range**   Does not sound
(Sound)
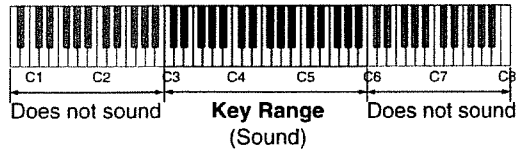
* *This setting will have no effect unless the [SPLIT] button is pressed in normal playing mode.*

* *When you set the Split Point, the Key Range will be set automatically.*

The keyboard is used to make the setting.

(Procedure 1)

1. Select the local part for which you wish to make settings.

2. Press the PAGE [◄][►] buttons to move the cursor (the blinking underline) to the lower limit of the key range.

```
LKey Range      ◄►
   INT U► C4-► C7
```
Range of values: A0–C8

3. Press a note on the keyboard. The note number of the key you pressed will appear in the display (the display will blink).

4. If the displayed note is correct, press the [INC/YES] button (the blinking display will change to steadily lit). To cancel the note that you input, press the [DEC/NO] button.

5. Press the PAGE [◄][►] buttons to move the cursor to the upper limit of the key range.

```
LKey Range      ◄►
   INT U► C3-► C7
```
Range of values: A0–C8

6. Press a note on the keyboard. The note number of the key you pressed will appear in the display (the display will blink).

* *It is not possible to specify a key that is lower than the key specified as the lower limit.*

7. If the displayed note is correct, press the [INC/YES] button (the blinking display will change to steadily lit). To cancel the note that you input, press the [DEC/NO] button.

(Procedure 2)

1. Select the local part for which you wish to make settings.

2. Press notes to indicate the desired upper limit and lower limit.

Key Range

Hold down   Press the highest key
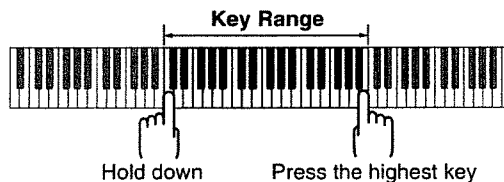
3. The upper limit and lower limit note numbers will appear in the display (the display will be blinking).

```
LKey Range      ◄►
   INT L► C3-► C8
```
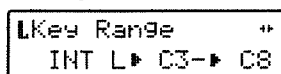
4. If the display notes are correct, press the [INC/YES] button (the blinking display will change to steadily lit). To cancel the input, press the [DEC/NO] button.

Changing the amount of transposition (Transpose)

Each local part can be transposed by a different amount.
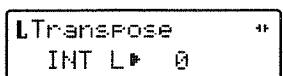
```
LTranspose      +
  INT L▶  0
```

Range of values: -36– +36

By combining the Key Range and Transpose settings of the INT UPPER / LOWER parts and the TX UPPER / LOWER parts, you can even create complex setups such as the following.
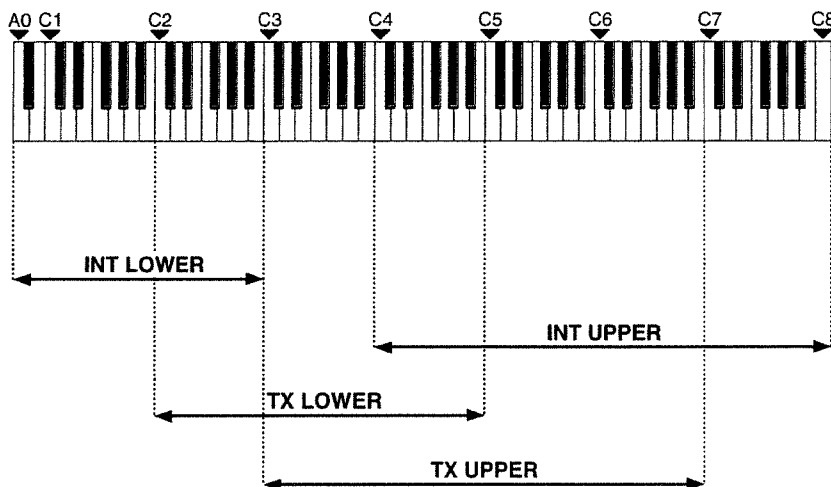
Part	Tone	Transpose	Key Range
INT LOWER	Bass	+12	A0–B2
INT UPPER	Piano	0	C4–C8
TX LOWER	Strings	-12	C2–B4
TX UPPER	Bell	0	C3–B6

Specifying how keyboard dynamics will affect the volume (Velocity Sens)..Default value: +32

This setting determines how the strength (velocity) with which you play the keyboard will affect the volume. With positive (+) setting values, the volume will become louder as you play more strongly. With negative (-) setting values, the volume will decrease as you play more strong. With a setting of 0, the volume will remain constant regardless of how strongly you play.

* *For some Tones this function will not be usable.*

```
LVelocity Sens  +
  INT L▶+32
```

Range of values: -63–63

When Velocity Sensitibity is
set to a positive value (+)

When Velocity Sensitibity is
set to a negative value (-)
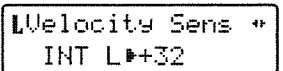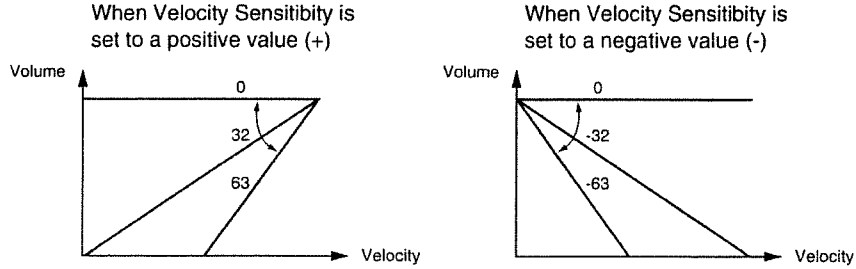
Specifying the maximum volume produced by keyboard dynamics (Velocity Max) ....Default value: 127

This setting specifies the maximum volume that can be produced in response to your keyboard dynamics. With lower settings, the volume will not increase very much even if you play the keyboard strongly.

* *For some Tones this function will not be usable.*

```
LVelocity Max   +
    INT L+127
```

Range of values: 1–127

Damper pedal setting (DamperPedalSw)..................Default value: ON

For each of the local parts, this setting specifies whether or not operations of a damper pedal connected to the damper pedal jack will control the internal sound source or external MIDI devices. Press the [INC/YES] button to turn this ON, or press the [DEC/NO] button to turn it OFF. With a setting of OFF, the damper pedal will not control the part.

```
LDamperPedalSw   +
    INT L+ ON
```

Range of values: ON/OFF

Foot controller 1 setting (FC1 Pedal Sw) ....Default value: ON

For each of the local parts, this setting specifies whether or not operations of a foot controller connected to the FC1 jack will control the internal sound source or external MIDI devices. Press the [INC/YES] button to turn this ON, or press the [DEC/NO] button to turn it OFF. With a setting of OFF, the foot controller will not control the part.

* *For a list of the functions which can be assigned to Foot controller 1, refer to p.50.*

```
LFC1 Pedal Sw   +
    INT L+ ON
```

Range of values: ON/OFF

Foot controller 2 setting (FC2 Pedal Sw) ....Default value: ON

For each of the local parts, this setting specifies whether or not operations of a foot controller connected to the FC2 jack will control the internal sound source or external MIDI devices. Press the [INC/YES] button to turn this ON, or press the [DEC/NO] button to turn it OFF. With a setting of OFF, the foot controller will not control the part.

* *For a list of the functions which can be assigned to Foot controller 2, refer to p.50.*

```
LFC2 Pedal Sw   +
    INT L+ ON
```

Range of values: ON/OFF

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Modulation lever setting (Mod Lever Sw)..................Default value: ON

For each of the local parts, this setting specifies whether or not operations of the modulation lever will control the internal sound source or external MIDI devices. Press the [INC/YES] button to turn this ON, or press the [DEC/NO] button to turn it OFF. With a setting of OFF, the modulation lever will not control the part.

```
LMod Lever Sw    ◂▸
  INT L▸ ON
```
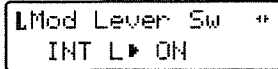
Range of values: ON/OFF

Bender setting (Bend Lever Sw)...............................Default value: ON

For each of the local parts, this setting specifies whether or not operations of the bend lever will control the internal sound source or external MIDI devices. Press the [INC/YES] button to turn this ON, or press the [DEC/NO] button to turn it OFF. With a setting of OFF, the bend lever will not control the part.

```
LBend Lever Sw   ◂▸
  INT L▸ ON
```
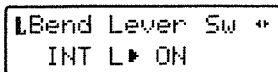
Range of values: ON/OFF

Using an external MIDI device to play the RD-600's internal sound source (Internal Part settings)

If you connect an external MIDI device to the RD-600, MIDI messages from the external MIDI device can be received to play the Tones that are assigned to internal parts.
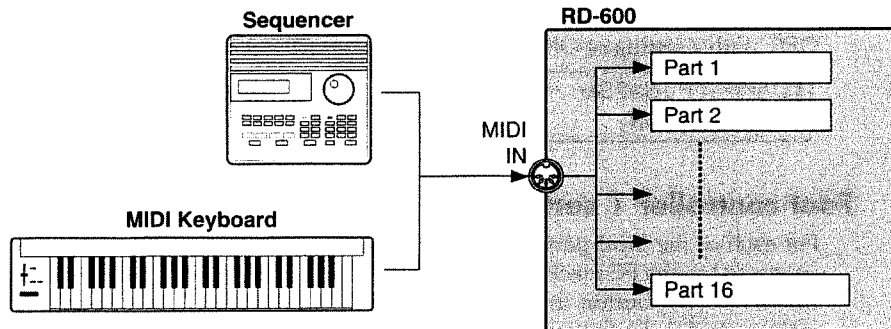
Procedure
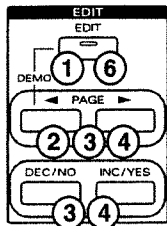
1. Press the [EDIT] button to make the indicator light, and you will enter Edit mode.

2. Use the PAGE [◂][▸] buttons to select the parameter that you wish to modify.

Select a parameter prefixed by a "R" character. The setting value is displayed below the parameter name.

* By holding down the PAGE [▸] ([◂]) button and pressing the PAGE [◂] ([▸]) button you can move rapidly in the direction of [▸] ([◂]).

```
                        Parameter
                           │
  Setting group    ┌──────────────────┐
        name       │ ▌Receive Ch.    ⁌│
    ───────────────│ IU▶Part 2▶   1Ch │
  Name of local part└──────────────────┘
  that was assigned /        │    \Value
                    /  Selected internal part
```

IU: INT UPPER
IL: INT LOWER
UL: INT UPPER/LOWER
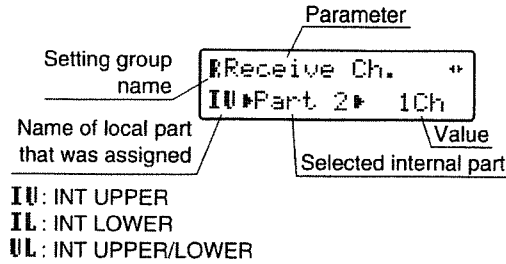
3. Select the internal part that you wish to modify.

Use the PAGE [◄][►] buttons to move the cursor (the blinking underline), and use the [INC/YES] [DEC/NO] buttons to select an internal part. The selected internal part will appear in the display.

```
┌──────────────────┐
│ ▌Receive Ch.    ⁌│
│ IU▶Part 2▶   1Ch │
└──────────────────┘
```
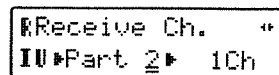
4. Modify the value of the setting.

Use the PAGE [◄][►] buttons to move the cursor, and press the [INC/YES] [DEC/NO] buttons to modify the value of the setting.

```
┌──────────────────┐
│ ▌Receive Ch.    ⁌│
│ IU▶Part 2▶   1Ch │
└──────────────────┘
```
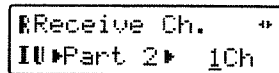
* *By holding the [INC/YES] ([DEC/NO]) button while you press the [DEC/NO] ([INC/YES]) button you can increase (decrease) the value rapidly.*

5. Repeat steps 2–4 as necessary.

6. When you are finished, press the [EDIT] button to make the indicator go dark. You will return to normal playing mode.

Internal part parameters

Internal part settings include the following parameters.
Receive Ch.
Rx PGM
Rx Modulation
Rx Volume
Rx Hold-1
Rx Bender

Setting the MIDI receive channel (Receive Ch.)

In order to play the RD-600 from an external MIDI device, the MIDI channels of the two devices must be set to match.

When the MIDI transmit channel of the transmitting device (external MIDI device) is set to the same setting as the MIDI receive channel of the receiving device (the RD-600), notes played by the transmitting device will be sounded by the receiving device.

If you simultaneously press both the [INC/YES] [DEC/NO] buttons, the setting will be turned OFF, so that MIDI messages from the external MIDI device will be ignored.

* *For details on setting the MIDI channels of the transmitting device, refer to the owner's manual of the connected external MIDI device.*
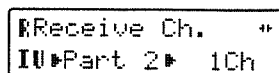
```
┌──────────────────┐
│ ▌Receive Ch.    ⁌│      Range of values: OFF, 1–16
│ IU▶Part 2▶   1Ch │
└──────────────────┘
```

Ignoring specific messages from the external MIDI device

For each internal part, you can specify whether it will receive (ON) or ignore (OFF) the following types of message.

Press the [INC/YES] button to turn reception ON, or press the [DEC/NO] button to turn reception OFF. With a setting of OFF, any messages of that category transmitted from the external MIDI device will be ignored.

Program change (Rx PGM)...Default value: ON

These messages are used to select Tones. When this setting is ON, program change messages from the external MIDI device will select Tones for the internal parts.

```
┌─────────────────────┐
│ ▌Rx PGM          ⁴▸ │    Range of values: ON/OFF
│ I▮▸Part 2▸ ON       │
└─────────────────────┘
```

* *The RD-600 will ignore any bank select messages that are received.*

Modulation (Rx Modulation)...Default value: ON

These messages control modulation. When this setting is ON, control change messages (controller number 1) from the external MIDI device will be able to control modulation effects.

```
┌─────────────────────┐
│ ▌Rx Modulation  ⁴▸ │    Range of values: ON/OFF
│ I▮▸Part 2▸ ON       │
└─────────────────────┘
```

Volume of each internal part (Rx Volume)...............................Default value: ON

These messages control the volume of each internal part. When this setting is ON, control change messages (controller number 7) from the external MIDI device will be able to control the volume of the internal parts.

```
┌─────────────────────┐
│ ▌Rx Volume       ⁴▸ │    Range of values: ON/OFF
│ I▮▸Part 2▸ ON       │
└─────────────────────┘
```

Hold 1 (RX Hold-1)..Default value: ON

These messages are transmitted to indicate when a damper pedal was pressed or released. When this setting is ON, control change messages (controller number 64) from the external MIDI device can control the damper pedal effect.

```
┌─────────────────────┐
│ ▌Rx Hold-1       ⁴▸ │    Range of values: ON/OFF
│ I▮▸Part 2▸ ON       │
└─────────────────────┘
```

Bender (RX Bender)..Default value: ON

These messages control pitch bending. When this setting is ON, pitch bend messages from the external MIDI device can control the pitch bend effect.

```
┌─────────────────────┐
│ ▌Rx Bender       ⁴▸ │    Range of values: ON/OFF
│ I▮▸Part 2▸ ON       │
└─────────────────────┘
```

Changing the Tone of an internal Part

In Edit mode when you are modifying the settings of an internal Part (when a parameter prefixed by an "R" character is selected), you can change the Tone that is assigned to the internal Part.

1. Use the PAGE [◄][►] buttons to move the cursor (the blinking underline) to the part number, and use the [INC/YES] [DEC/NO] buttons to select the internal Part whose sound you want to change.

```
RReceive Ch.    ⊕
IU►Part 2►  1Ch
```

2. Press the Group/Category/Variation buttons to select the desired Tone.
When you press the buttons, the screen display will temporarily change to indicate the Tone. Make sure that the selected Tone appears in the display.

```
  Part13 Tone
A11:St.Concert 1
```

* *After a short time, the previous display will reappear.*

3. If desired, repeat steps 1–2.

Recording/playing your performance on a sequencer

Connections with the sequencer

Connect the RD-600's MIDI OUT to the sequencer's MIDI IN, connect the RD-600's MIDI IN to the sequencer's MIDI OUT, and turn on the sequencer's Thru function.
This will allow you to listen to the sounds that you are playing as you record.
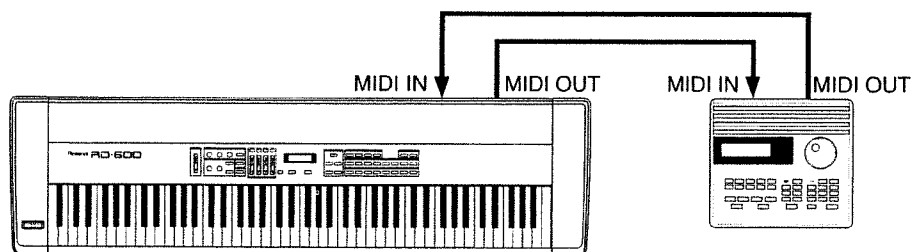
* *For details on setting the Thru function, and on operating your sequencer for recording and playback, refer to the owner's manual of the sequencer that you are using.*

RD-600 settings

1. Set the Transmit Ch. settings of the TX UPPER/LOWER parts to INT (p.40).

```
LTransmit Ch.    ⊕
  TX  L►INT
```

If the TX LOWER part is selected

2. Turn off the part switches for the INT parts (make the indicators go dark). Turn on the part switches for the TX parts (make the indicators light).
* *This is so that the messages from the INT parts and the messages returned by the sequencer via its Thru function do not cause notes to be sounded in duplicate.*

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OFF OFF ON ON

Since notes will sound via both route (1) and (2), turn (2) off.
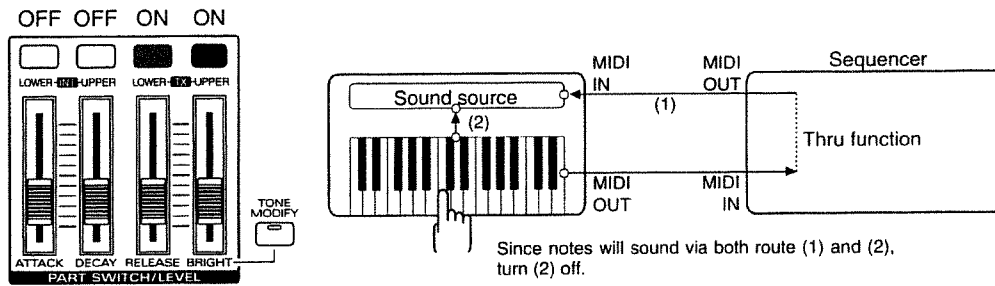
3. Press a part select button for an INT part to make the indicator light.

4. Begin recording on the sequencer.

5. Select a Tone, and begin playing.

6. When you finish playing, stop the sequencer.

7. When you play back the sequencer, your performance will be reproduced.

* *If the receive channel of the internal part corresponding to the selected INT part is turned OFF, there will be no sound. If this is the case, change the receive channel setting (p.45).*

Setting the operating environment

System settings

Here you can set parameters which affect the entire RD-600. These parameters are referred to as System parameters.

Procedure
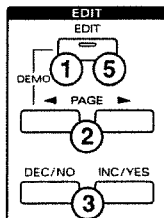
1. Press the [EDIT] button to make the indicator light, and you will enter Edit mode.

2. Press the PAGE [◄][►] buttons to select the parameter that you wish to modify.

   Select a parameter prefixed by a "S" character. The setting value is displayed below the parameter name.

   * *By holding down the PAGE [►] ([◄]) button and pressing the PAGE [◄] ([►]) button you can move rapidly in the [►] ([◄]) direction.*
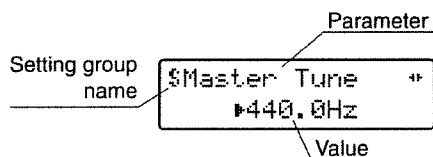
3. Press the [INC/YES]/[DEC/NO] buttons to modify the setting.

   * *By holding down the [INC/YES] ([DEC/NO]) button and pressing the [DEC/NO] ([INC/YES]) button, you can increase (decrease) the setting rapidly.*

4. Repeat steps 2–3 as necessary.

5. When you are finished, press the [EDIT] button to make the indicator go dark. You will return to normal playing mode.

System parameters

System settings include the following parameters.

Master Tune
Key Touch
FC Assign (FC1)
FC Polarity (FC1)
FC Assign (FC2)
FC Polarity (FC2)
DamperPolarity
Control Ch.
Device ID
MIDI Thru/Out2
Powerup Mode
LCD Contrast

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Setting the pitch to match other instruments
(Master Tune) ....Default value: 440.0 Hz

When you are playing in an ensemble with other instruments, or need to set the RD-600 to match the pitch of another instrument, adjust the Master Tune. The displayed value is the frequency of A4 (middle A).

```
$Master Tune    ⁺ᵇ
     ▶440.0Hz
```

Range of values: 427.4–452.6 (Hz)

Adjusting the key weight (Key Touch) ....Default value: MEDIUM

The RD-600 allows you to adjust the touch of the keyboard. This is a feature found only on digital pianos, that would not be possible on an acoustic piano.

LIGHT: Fortissimo (ff) can be produced by a lighter touch than usual, creating the impression that the keyboard is lighter.

MEDIUM: This is the normal setting, and allows you to play with the most natural touch.

HEAVY: Fortissimo will not be produced unless you play more strongly than usual, creating the impression that the keyboard is heavier. By playing dynamically, you will be able to put more emotion into your music.

```
$Key Touch      ⁺ᵇ
     ▶MEDIUM
```

Foot controller 1 function setting (FC1 Assign).....Default value: Sosten

Foot controller 2 function setting (FC2 Assign).........Default value: Soft

An expression pedal or pedal switch connected to the rear panel FC1 and FC2 jacks can be used to control the internal sound source or an external MIDI sound source.
The following functions can be assigned to a pedal. (CC indicates the controller number.)

CC1: Mod	Modulation
CC7: Volume	Volume
CC10: Pan	Panpot
CC11: Expres	Expression
CC64: Hold 1	Hold
CC66: Sosten	Sostenuto
CC67: Soft	Soft
CC91: RevSend	Reverb amount
CC93: ChoSend	Chorus amount
EFX: Rate/Sns	EFX rate/sensitivity
EFX: Dept/Lvl	EFX depth/level
EFX: Level	EFX level

```
$FC Assign      ⁺ᵇ
FC1▶CC 7: Volume
```

* *If in the local part settings, the Transmit Ch. of a TX part is set to INT (p.40), EFX: Rate/Sens, EFX: Dept/Lvl and EFX: Level messages will also be transmitted from MIDI OUT.*

Foot controller 1 polarity setting (FC1 Polarity)

Foot controller 2 polarity setting (FC2 Polarity)   Default value: STANDARD

This setting lets the RD-600 match the polarity of the expression pedal or pedal switch that is connected to the rear panel FC1 or FC2 pedal jack. If you are using a Roland pedal switch (such as the DP-2), set this to STANDARD.

If you are using a pedal switch with opposite polarity made by another manufacturer, set this to REVERSE.

```
$FC Polarity    ↟
FC1▸STANDARD
```

Range of values: STANDARD, REVERSE

Damper pedal polarity setting (DamperPolarity)......Default value: STANDARD

This setting lets the RD-600 match the polarity of the pedal switch that is connected to the rear panel damper pedal jack. If you are using a Roland pedal switch (such as the DP-2), set this to STANDARD.

If you are using a pedal switch with opposite polarity made by another manufacturer (i.e., if the damper effect is applied even though you are not pressing the pedal), set this to REVERSE.

```
$DamperPolarity↟
      ▸STANDARD
```

Range of values: STANDARD, REVERSE

Using MIDI program changes to select setup memories
(Control Ch.) ....Default value: OFF

You can specify a channel that will be used for selecting setup memories. If this channel coincides with the receive channel of an internal part, program change messages received on that channel will select setup memories instead of selecting Tones. If this parameter is turned OFF, incoming program change messages will not select setup memories.

* The receive channel for each part is specified by the internal part parameters (p.45).

```
$Control Ch.    ↟
      ▸OFF
```

Range of values: OFF, 1–16

Setup memories correspond to program number as follows.

S11	1	S12	2	S13	3	S14	4	S15	5	S16	6	S17	7	S18	8
S21	9	S22	10	S23	11	S24	12	S25	13	S26	14	S27	15	S28	16
S31	17	S32	18	S33	19	S34	20	S35	21	S36	22	S37	23	S38	24
S41	25	S42	26	S43	27	S44	28	S45	29	S46	30	S47	31	S48	32
S51	33	S52	34	S53	35	S54	36	S55	37	S56	38	S57	39	S58	40
S61	41	S62	42	S63	43	S64	44	S65	45	S66	46	S67	47	S68	48
S71	49	S72	50	S73	51	S74	52	S75	53	S76	54	S77	55	S78	56
S81	57	S82	58	S83	59	S84	60	S85	61	S86	62	S87	63	S88	64

Device ID number settings (Device ID) ....Default value: 17

The device ID number is an identification number that is used when transmitting and receiving exclusive messages. The RD-600 is able to receive exclusive data that carries the same device ID number as its own setting. When using exclusive messages to transfer data, the device ID numbers of both devices must be set to match.

```
$Device ID      ↟
      ▸17(10H)
```

Range of values: 17–32

Using the MIDI THRU connector as MIDI OUT
(MIDI Thru/Out2) ....Default value: THRU

If you wish to use the MIDI THRU connector as a MIDI OUT connector, set this to OUT2.

```
$MIDI Thru/Out2◆
  ▶THRU
```
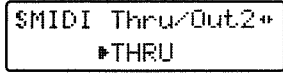
Range of values: THRU, OUT2

Preserving the power-off condition
(Powerup Mode) ....Default value: DEFAULT

If this is set to LAST, the settings that were last in effect when the power was turned off will be recalled when the power is next turned on.

```
$Powerup Mode  ◆
  ▶DEFAULT
```

Range of values: DEFAULT, LAST

Adjusting the brightness of the display
(LCD Contrast) ....Default value: 8

This adjusts the contrast of the display screen.

```
$LCD Contrast  ◆
  12
```
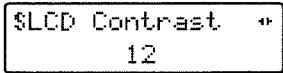
Range of values: 1 (Dark) −16 (Light)

Convenient functions (Utility)

The RD-600 provides various convenient functions such as transmitting data via MIDI, and initializing various types of setting (Initialize).

About the utility functions

Utility functions include the following.

Write SETUP
Bulk Dump (Current)
Bulk Dump (All)
Initialize (Current)
Initialize (All)

Storing various settings in a setup memory (Write SETUP)

The settings that you modify in Edit mode are remembered even when you exit Edit mode. However if you make new changes in Edit mode, or if you recall a Setup Memory, the previous settings will be lost.
For this reason, you may wish to store (write) settings into a setup memory. The settings that are stored in a setup memory can be recalled at any time. 64 different setups can be stored.
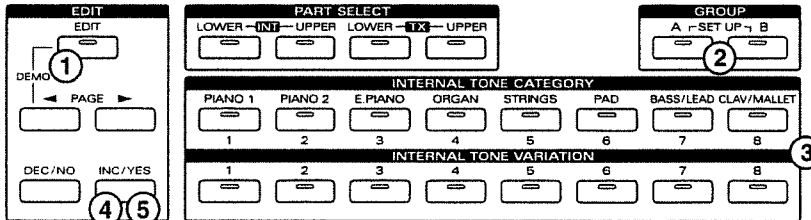
1. Press the [EDIT] button to make the indicator light, and you will enter Edit mode.

2. For the Write operation, simultaneously press the GROUP [A] and [B] buttons in Edit mode.

The following display will appear.

```
Write SETUP    ◄►
to S11
```

3. Use the Category/Variation buttons to select a setup number as the writing destination (S11–S88).

```
Write SETUP    ◄►
to S24
```

4. When you have selected the writing destination, press the [INC/YES] button.

A message will ask you to confirm the operation.

```
Write SETUP    ◄►
to S24 Sure?
```

5. If you wish to write the data, press the [INC/YES] button. To cancel without writing, press the [DEC/NO] button.

6. When the data has been written into memory, the display will indicate Complete!, and you will return to normal playing condition.

Now the settings that were saved in this setup memory can be recalled at any time.

```
Write SETUP    ◄►
      Complete!
```

A setup memory contains the following data.

• **Split on/off**	• **Transpose on/off (and setting value if on)**
• **EFX UPPER on/off**	• **EFX LOWER on/off**
• **Equalizer on/off**	• **Reverb on/off**
• **Chorus on/off**	

• **Local part settings**

INT parts	TX parts
Part Assign	Transmit Ch.
Key Range	Key Range
Transpose	Transpose
Velocity Sens	Velocity Sens
Velocity Max	Velocity Max
DamperPedalSw	DamperPedalSw
FC1 Pedal Sw	FC1 Pedal Sw
FC2 Pedal Sw	FC2 Pedal Sw
Mod Lever Sw	Mod Lever Sw
Bend Lever Sw	Bend Lever Sw
	Volume of each part

• **Internal part settings (Part 1–Part 16)**

Receive Ch.
Rx PGM
Rx Modulation
Rx Volume
Rx Hold-1

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Rx Bender
Volume of each part
Program number for each part

• **Tone settings**

Tone settings that are assigned to the 16 internal parts	Tone settings that are assigned to the TX parts
Pan	Pan
Coarse Tune	Coarse Tune
Fine Tune	Fine Tune
Reverb Amount	Reverb Amount
Chorus Amount	Chorus Amount
Bend Range Up	Bend Range
BendRangeDown	Program number
EFX	Bank Select
EFX Level	Attack
RATE/SENS and DEPTH/LEVEL knob condition	Decay
Attack	Release
Decay	Bright
Release	
Bright	

* *Tone settings which are not assigned to any internal part are not saved as part of the setup memory.*

• **Reverb/Chorus settings**

Reverb setting	Chorus setting
Reverb Type	Chorus Level
Reverb Level	Chorus Rate
Reverb Time	Chorus Depth
Reverb HF Damp	Chorus PreDelay
Delay Feedback	ChorusFeedback
	Chorus Output

• **Overall system settings**

Key Touch

Saving internal settings on an external sequencer (Bulk Dump Current / Bulk Dump All)

Internal settings of the RD-600 (exclusive data) can be transmitted (bulk dump) to an external sequencer for recording and storage.
Bulk Dump All will transmit all RD-600 data other than the Device ID, LCD Contrast, and Powerup Mode.
Bulk Dump Current will transmit the same contents as the data that is saved in a setup memory. This allows a sequencer to be used as an external setup memory.

* *In order for exclusive data to be transferred between the RD-600 and an external MIDI device, the device ID numbers of the two devices must match (p.51).*

1. Connect the RD-600's MIDI OUT to the sequencer's MIDI IN, and connect the RD-600's MIDI IN to the sequencer's MIDI OUT.

2. Press the [EDIT] button. The indicator will light, and you will enter Edit mode.

3. Use the PAGE [◄][►] buttons to move through the pages, and select either Bulk Dump Current or Bulk Dump All.
The following display will appear.

‖Bulk Dump ◄►	‖Bulk Dump ◄►
Current	All
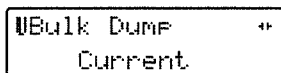
Bulk Dump Current display   **Bulk Dump All display**
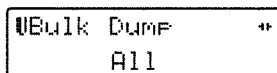
4. Press the [INC/YES] button.

The display will ask you to confirm the operation.

```
▮Bulk Dump      ◂▸
        Sure?
```

5. Start recording on your sequencer.

6. Press the [INC/YES] button once again, and exclusive data will be transmitted from the RD-600. To cancel the operation press the [DEC/NO] button.

7. When transmission is finished, the display will indicate Complete!

Stop recording on your sequencer.

```
▮Bulk Dump 100%◂▸
        Complete!
```

The RD-600 settings have now been recorded onto the sequencer. When the sequencer is played back, the RD-600 that receives the data will switch to the corresponding settings.

Receiving exclusive data from a sequencer

When you wish to receive exclusive data that was recorded on a sequencer, you must put the RD-600 in normal playing condition. Such data cannot be received when the RD-600 is in Edit mode. For the procedure of transmitting the exclusive data, refer to the owner's manual for the sequencer that you are using.

Restoring the factory settings (Initialize Current / Initialize All)

Initialize All will restore (initialize) all parameters of the RD-600 to their factory settings. The contents of all setup memories will also be initialized.

Initialize Current will initialize the settings of the local parts, internal parts, and Tones. All 128 of the internal Tones will be initialized. However since the contents of the setup memories will not be initialized, Tone settings that are saved in the setup memories will not be initialized.

1. Press the [EDIT] button. The indicator will light, and you will enter Edit mode.

2. Use the PAGE [◂][▸] buttons to move through the pages, and select either Initialize Current or Initialize All.

The following display will appear.

```
▮Initialize    ◂▸
        Current
```
Initialize Current display

```
▮Initialize    ◂▸
        All
```
Initialize All display

3. Press the [INC/YES] button.

A message will appear in the display, asking you to confirm the operation.

```
▮Initialize    ◂▸
        Sure?
```

4. Press the [INC/YES] button once again, and the data will be initialized. To cancel the operation, press the [DEC/NO] button.

5. When initialization has been completed, the display will indicate Complete!, and you will return to normal playing condition.

```
▮Initialize    ◂▸
        Complete!
```

EFX effect types and the parameters assigned to each knob

EFX provides the 40 effect types described below.
Some of the effect types are compound effects in which two kinds of effects are linked together.
The RATE/SENS knob and the DEPTH/LEVEL knob are assigned parameters suitable for the selected effect type, as described below.

1. RESONANCE

This simulates the resonance that occurs when the damper pedal is pressed.

RATE/SENS: Sensitivity
This adjusts the amount of the effect relative to how far the pedal is pressed.

DEPTH/LEVEL: Level
This adjusts the amount of the resonance effect.

2. OVERDRIVE

This produces natural distortion similar to that produced by a vacuum-tube amp.

RATE/SENS: Drive
This sets the strength of the distortion.

DEPTH/LEVEL: Amp Type
This simulates the characteristics of four types of guitar amp.
From a full-left knob setting, this will change through four stages.
SMALL: a compact amp
BUILT-IN: a built-in amp
2-STACK: a large two-stack amp
3-STACK: a large three-stack amp

3. DISTORTION

This increases the odd-numbered harmonics to add strong distortion to the original sound.

RATE/SENS: Drive
This sets the strength of the distortion.

DEPTH/LEVEL: Amp Type
This simulates the characteristics of four types of guitar amp.
From a full-left knob setting, this will change through four stages.
SMALL: a compact amp
BUILT-IN: a built-in amp
2-STACK: a large two-stack amp
3-STACK: a large three-stack amp

4. PHASER

This adds a phase-shifted sound to the original sound to make the tone change over time, producing modulation in the sound.

RATE/SENS: Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Depth
This sets the depth of the modulation.

5. SPECTRUM

This is a type of filter, which creates a distinctive sound by modifying the level at a specific frequency.

RATE/SENS: Band
Adjust the frequency at which the level will be adjusted.

DEPTH/LEVEL: Level
Adjust the level of the frequency being controlled.

6. ENHANCER

Enhancer controls the overtone structure of the high frequency range, adding sparkle to the sound and improving the definition.

RATE/SENS: Sensitivity
This sets the depth to which the Enhancer is applied.

DEPTH/LEVEL: Mix
This sets the ratio at which the original sound is mixed with the generated harmonics.

7. AUTO-WAH

This lets you obtain an Auto-Wah effect in which the sound is changed cyclically by cyclic movement of a filter.

RATE/SENS: Rate
This sets the speed of modulation of the wah effect.

DEPTH/LEVEL: Depth
This sets the depth of the modulation of the wah effect.

8. ROTARY

This simulates an old-fashioned rotary speaker which adds modulation to the sound by rotating the speaker. This is most effective when used with an organ sound.

RATE/SENS: Speed
This switches the rotational speed of the rotary effect.

DEPTH/LEVEL: Separation
This sets the spatial width of the sound.

9. COMPRESSOR

This stabilizes the overall level by suppressing high levels and boosting low levels.

RATE/SENS: Sustain Time
This sets the time over which a low-level signal is boosted to a uniform volume.

DEPTH/LEVEL: Attack Level
This sets the force of attack when sound is input.

10. LIMITER

Whereas the Compressor acts on both low-level and high-level signals, the Limiter compresses only high-level signals that exceed a set level. You can eliminate unwanted distortion by setting this to work only on peak input.

RATE/SENS: Release Time

This sets the interval from the time when the signal drops below the threshold level until the time that the effect ceases.

DEPTH/LEVEL: Threshold

This sets the level at which the Limiter effect appears. Input signals above the specified level are compressed.

11. HEXA-CHORUS

This is a six-phase chorus (six layered chorused sounds) which adds depth and spaciousness to the sound.

RATE/SENS: Rate

This sets the speed of the modulation.

DEPTH/LEVEL: Depth

This sets the depth of the modulation.

12. TREMOLO-CHORUS

This is a chorus which adds a tremolo effect (cyclic modulation of the volume).

RATE/SENS: Tremolo Rate

This sets the speed of modulation of the Tremolo effect.

DEPTH/LEVEL: Balance

This sets the balance for the levels of the original sound and the effect sound (chorus sound).

13. SPACE-D

This is a multiple chorus with two-phase modulation applied in stereo. It does not produce a sense of modulation, but creates a transparent-sounding chorus effect.

RATE/SENS: Rate

This sets the speed of the modulation.

DEPTH/LEVEL: Depth

This sets the depth of the modulation.

14. STEREO-CHORUS

This is a chorus with full stereo output.

RATE/SENS: Rate

This sets the speed of the modulation.

DEPTH/LEVEL: Depth

This sets the depth of the modulation.

15. STEREO-FLANGER

This is a Flanger with full stereo output (the left and right LFOs are in phase). The depth of the effect can be increased to obtain a sound that moves up and down, like a jet taking off or landing.

RATE/SENS: Rate

This sets the speed of the modulation.

DEPTH/LEVEL: Depth

This sets the depth of the modulation.

16. STEP-FLANGER

This is a flanger in which the pitch of the flanger changes in steps.

RATE/SENS: Step Rate

This sets the cycle for the changes in pitch.

DEPTH/LEVEL: Depth

This sets the depth of the flanger modulation.

17. STEREO-DELAY

This is a full-stereo delay.

RATE/SENS: Delay Time

This adjusts the time from the original sound until when the delay sound is heard.

DEPTH/LEVEL: Feedback Level

This adjusts the proportion of the effect sound that is once again returned to the input.

18. MODULATION-DELAY

This effect adds modulation to the delayed sound.

RATE/SENS: Rate

This sets the speed of the modulation.

DEPTH/LEVEL: Depth

This sets the depth of the modulation.

19. TRIPLE-TAP-DELAY

This delay sets different delay times for the three directions of center (C) / left (L) / and right (R).

RATE/SENS: Delay Time

This adjusts the time from the original sound until when the delay sound is heard.

DEPTH/LEVEL: Feedback Level

This adjusts the proportion of the effect sound that is once again returned to the input.

20. QUADRUPLE-TAP-DELAY

This delay uses four independent delay times.

RATE/SENS: Delay Time

This adjusts the time from the original sound until when the delay sound is heard.

DEPTH/LEVEL: Feedback Level

This adjusts the proportion of the effect sound that is once again returned to the input.

21. TIME-CONTROL-DELAY

This lets you control the delay time in real-time. When you change the delay time, the pitch and delay time of the delayed sound will change. If you assign foot controller 1/2 to control EFX: Rate/Sns or EFX: Dept/Lvl (p.50), you can use an expression pedal or pedal switch connected to the FC1 or FC2 jack to control the delay time or feedback level.

RATE/SENS: Delay Time
This adjusts the time from the original sound until when the delay sound is heard.

DEPTH/LEVEL: Feedback Level
This adjusts the proportion of the effect sound that is once again returned to the input.

22. 2VOICE-PITCH-SHIFTER
This effect shifts the pitch of the original sound. This is a two-voice pitch shifter which creates two pitch shifts, and allows the pitch-shifted sound to be layered onto the original sound.

RATE/SENS: Fine Pitch A
This is a fine adjustment of pitch shift A pitch in 2-cent steps.

DEPTH/LEVEL: Fine Pitch B
This is a fine adjustment of pitch shift B pitch in 2-cent steps.

23. FBK-PITCH-SHIFTER
This is a pitch shifter with a feedback loop.

RATE/SENS: Coarse Pitch
This is a fine adjustment of the pitch shift in semitone steps.

DEPTH/LEVEL: Feedback Level
This adjusts the proportion of the effect sound that is once again returned to the input.

24. REVERB
This adds lingering reverberations to the original sound to simulate sounds played in a spacious setting.

RATE/SENS: Reverb Time
This adjusts the length of the reverberation.

DEPTH/LEVEL: Effect Balance
This sets the balance between the levels of the original sound and the effect (reverb) sound.

25. GATE-REVERB
This reverb mutes the lingering reverberations before they have completed their natural decay.

RATE/SENS: Reverb Time
This adjusts the length of the reverb.

DEPTH/LEVEL: High Gain
This sets the treble sound quality.

26. OVERDRIVE -> CHORUS
With this type, the Overdrive is connected in series with the Chorus.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

27. OVERDRIVE -> FLANGER
With this type, the Overdrive is connected in series with the Flanger.

RATE/SENS: Flanger Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Flanger Depth
This sets the depth of the modulation.

28. OVERDRIVE -> DELAY
With this type, the Overdrive is connected in series with the Delay.

RATE/SENS: Drive
This adjusts the amount of distortion for the overdrive. The volume will change together with the amount of distortion.

DEPTH/LEVEL: Delay Time
This adjusts the time from the original sound until when the delay sound is heard.

29. DISTORTION -> CHORUS
With this effect type, Distortion is connected in series with the Chorus.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

30. DISTORTION -> FLANGER
With this effect type, Distortion is connected in series with the Flanger.

RATE/SENS: Flanger Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Flanger Depth
This sets the depth of the modulation.

31. DISTORTION -> DELAY
With this effect type, Distortion is connected in series with the Delay.

RATE/SENS: Drive
This adjusts the amount of distortion. The volume will change together with the amount of distortion.

DEPTH/LEVEL: Delay Time
This adjusts the time from the original sound until when the delay sound is heard.

32. ENHANCER -> CHORUS
With this effect type, the Enhancer is connected in series with the Chorus.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

33. ENHANCER -> FLANGER

With this effect type, the Enhancer is connected in series with the Flanger.

RATE/SENS: Flanger Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Flanger Depth
This sets the depth of the modulation.

34. ENHANCER -> DELAY

With this effect type, the Enhancer is connected in series with the Delay.

RATE/SENS: Delay Time
This adjusts the time from the original sound until when the delay sound is heard.

DEPTH/LEVEL: Feedback Level
This adjusts the proportion of the effect sound that is once again returned to the input.

35. CHORUS -> DELAY

This effect type connects Chorus and Delay in series.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

36. FLANGER -> DELAY

This effect type connects the Flanger and Delay in series.

RATE/SENS: Flanger Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Flanger Depth
This sets the depth of the modulation.

37. CHORUS -> FLANGER

This effect type connects the Chorus and Flanger in series.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

38. CHORUS/DELAY

This effect type connects the Chorus and Delay in parallel.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

39. FLANGER/DELAY

This effect type connects the Flanger and Delay in parallel.

RATE/SENS: Flanger Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Flanger Depth
This sets the depth of the modulation.

40. CHORUS/FLANGER

This effect type connects the Chorus and Flanger in parallel.

RATE/SENS: Chorus Rate
This sets the speed of the modulation.

DEPTH/LEVEL: Chorus Depth
This sets the depth of the modulation.

41. BYPASS

No effect will apply.

Troubleshooting

If the instrument does not operate as you expect, first check the following points.

No sound

- Is the power of the RD-600, amp and mixer turned on? (p.10)
- Have connections been made correctly and firmly? (p.9)
- Are the connecting cables defective?
- Is the amp or mixer volume lowered? (p.10)
- Is the volume slider at the MIN position? (p.10)
- Are the part switches of the INT UPPER / LOWER parts turned off? (p.12)
- Are the INT UPPER / LOWER part levels set to an appropriate value? (p.18)
- If control change number 7 (volume) is assigned to the pedal, check the position of the pedal. (p.50)
- Is Key Range set correctly? (p.40)
- Some Tones have a limited pitch range in which sound can be produced. Set the Transpose setting to an appropriate value. (p.18, 42)
- Is the EFX Level of the Tone set to 0? (p.34)

Pitch is incorrect

- Is the tuning setting wrong? (p.50)
- Is the Transpose setting correct? (p.18)
- Is the Part Transpose setting correct? (p.42)
- Is Fine Tune set to an appropriate value? (p.33)
- Is Coarse Tune setting to an appropriate value? (p.32)
- Is the pitch bender being operated? (p.10)

Volume dynamics of the sound are not as you expect

- Check the Velocity Sens setting. (p.42)
- Check the Velocity Max setting. (p.43)

Controllers do not have an effect as you expect

- Check the pedal settings. (p.50, 51)
- Are the Bend Lever Sw / Mod Lever Sw / DamperPedalSw / FC1, FC2 Pedal Sw settings turned OFF? (p.43, 44)

When using an external sound source

No sound from the external sound source

- Is the volume lowered on the external sound source?
- Is the Transmit Ch. set correctly? (p.40)
- Is a part switch of the TX UPPER / LOWER part turned off? (p.12)
- Are the TX UPPER / LOWER part levels set to appropriate values? (p.18)
- If control change number 7 (volume) is assigned to the pedal, check the position of the pedal. (p.50)

Pitch is incorrect

* Are the transpose settings of the TX UPPER / LOWER parts set correctly? (p.42)
* Is the pitch bender being operated? (p.10)
* If control change number 1 (modulation) is assigned to the pedal, check the position of the pedal. (p.50)

Cannot transmit program change / bank select messages

* Is the Program Change / Bank Select setting turned OFF? (p.25, 26)
* Is the Transmit Ch. setting correct? (p.40)

When using a sequencer

No sound

* If the receive channel of the internal part corresponding to the INT part is turned OFF, there will be no sound. Change the receive channel setting. (p.45)

Cannot record a performance

* If the part switch of the TX part is turned off, your performance data will not be output from MIDI. (p.12)

Performance is recorded on the wrong channel

* Are the receive channel and transmit channel set correctly? (p.40, 45, 47)

When you play the RD-600 the sound is wrong / notes are sounded twice

* If the Thru function of the sequencer is turned on and a part switch of an INT part is turned on, each note will be sounded twice on the internal sound source. Turn off the part switches of the INT part. (p.12, 47)

Error message list

If an operation was incorrect or could not be executed correctly, an error message will appear in the display. Make a note of the error message and take the appropriate action.

Messages which appear when the power is turned on

Battery Low!
Cause: The internal backup battery has run down.
Action: Contact a nearby Roland service center.

Battery None!
Cause: The internal backup battery is missing.
Action: Contact a nearby Roland service center.

Memory-related messages

Memory Damaged!
Cause: Memory data could not be read correctly.
Action: Contact a nearby Roland service center.

MIDI-related messages

MIDI Rx Error!
Cause: It is possible that a MIDI cable has been disconnected or broken.
Action: Check the MIDI cables.

MIDI Buff. Full!
Cause: More data was received in a short time than the RD-600 was able to process.
Action: On the transmitting device, reduce the amount of MIDI data being transmitted.

Rx Data Error!
Cause: Exclusive data that was received was incorrect.
Action: If the same message appears repeatedly, there is a problem with the contents of the MIDI data. Check the MIDI data that is being transmitted.

Check Sum Error!
Cause: The exclusive data that was received has an incorrect check sum.
Action 1: Check the check sum of the data that is being transmitted. If it is incorrect, correct it and re-transmit the data.

If the check sum of the transmitted data is correct, try the following measures.

Action 2: Using as short a MIDI cable as possible, transmit the data once again.
Action 3: If another MIDI device (such as a device with a MIDI Thru function) is connected between the transmitting device and the RD-600, disconnect that device and use a MIDI cable to connect the transmitting device directly to the RD-600, and transmit the data once again.

If the same message still appears, contact a nearby Roland service center or your dealer.

List of shortcuts

By using shortcuts you can jump directly to the desired parameter of Edit mode.

1 **Select the INT UPPER part and jump to the EFX Type/Level parameter**
[EDIT]+EFX [UPPER] (When you repeat this operation, Type and Level will alternate.)

2 **Select the INT LOWER part and jump to the EFX Type/Level parameter**
[EDIT]+EFX [LOWER] (When you repeat this operation, Type and Level will alternate.)

3 **Jump to the Reverb Amount of the selected Tone or reverb settings group**
[EDIT]+[REVERB] (When you repeat this operation, the individual parameters will alternate.)

4 **Jump to the Chorus Amount of the selected Tone or chorus settings group**
[EDIT]+[CHORUS] (When you repeat this operation, the individual parameters will alternate.)

5 **Jump to the Key Range of the selected local part**
|EDIT]+[SPLIT]

6 **Jump to the Transpose setting of the selected local part, or to the Coarse Tune setting of the selected Tone**
[EDIT]+[TRANSPOSE] (When you repeat this operation, Transpose and Coarse Tune will alternate.)

7 **Jump to the Mod Lever Sw of the selected local part**
Hold down the [EDIT] button and move the bend lever away from yourself

8 **Jump to the Bend Lever Sw of the selected local part, or to the BendRangeUp setting of the selected Tone**
Hold down the [EDIT] button and move the bend lever toward the right.
(If you continue holding down the [EDIT] button and once again move the bend lever to the right, Bend Lever Sw and BendRangeUp will alternate.)
* *If a TX part is selected, you will jump to the Bend Lever Sw or to the Bend Range.*

9 **Jump to the Bend Lever Sw of the selected local part, or to the BendRangeDown of the selected Tone**
Hold down the [EDIT] button and move the bend lever toward the left.
(If you continue holding down the [EDIT] button and once again move the bend lever to the left, Bend Lever Sw and BendRangeDown will alternate.)
* *If a TX part is selected, you will jump to the Bend Lever Sw or to the Bend Range.*

10 **Jump to the DamperPedalSw of the selected local part, or to DamperPolarity**
Hold down the [EDIT] and press a connected damper pedal.
(When you repeat this operation, DamperPedalSw and DamperPolarity will alternate.)

11 **Jump to the FC1 Pedal Sw of the selected local part, or to FC1 Assign (function assign for foot controller 1)**
Hold down the [EDIT] button and operate the pedal that is connected to FC1.
(When you repeat this operation, FC1 Pedal Sw and FC1 Assign will alternate.)

12 **Jump to the FC2 Pedal Sw of the selected local part, or to FC2 Assign (function assign for foot controller 2)**
Hold down the [EDIT] button and operate the pedal that is connected to FC2.
(When you repeat this operation, FC2 Pedal Sw and FC2 Assign will alternate.)

13 **Jump to Write SETUP (saving a setup memory)**
In Edit mode, simultaneously press both Group buttons [A] and [B].

Section 1. Receive data

■ Channel Voice Messages

● Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H-FH (ch.1-ch.16)
kk = note number: 00H-7FH (0-127)
vv = note off velocity: 00H-7FH (0-127)

* Not received when Rx.NOTE MESSAGE = OFF. (Initial value is ch.1-ch.16)
* The velocity values of Note Off messages are ignored.

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
kk = note number: 00H-7FH (0-127)
vv = note on velocity: 01H-7FH (1-127)

* Not received when Rx.NOTE MESSAGE = OFF. (Initial value is ch.1-ch.16)

● Control Change

* The value specified by a Control Change message will not be reset even by a Program Change, etc.

○ Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

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

* Not received when Rx.MODULATION = OFF. (Initial value is ON)

○ Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm, ll = the value of the parameter specified by RPN/NRPN
mm = MSB, ll = LSB

○ Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

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

* Volume messages are used to adjust the volume balance of each Part.
* Not received when Rx.VOLUME = OFF. (Initial value is ON)

○ Pan (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = pan: 00H-40H-7FH (Left-Center-Right)

○ Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

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

* It can be used independently from Volume messages. Expression messages are used for musical expression within a performance; e.g., expression pedal movements, crescendo and decrescendo.

○ Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

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

* Not received when Rx.HOLD1 = OFF. (Initial value is ON)

○ Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

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

○ Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

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

○ Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

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

* This message adjusts the Reverb Send Level (Reverb Amount) of each Tone.

○ Effect 3 (Chorus Send Level) (Controller number 93)

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

* This message adjusts the Chorus Send Level (Chorus Amount) of each Tone.

○ NRPN MSB/LSB (Controller number 98, 99)

Status	2nd byte	3rd byte
BnH	63H	mmH
BnH	62H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm = upper byte of the parameter number specified by NRPN
ll = lower byte of the parameter number specified by NRPN

* The value set by NRPN will not be reset even if Program Change or Reset All Controllers is received.

NRPN
The NRPN (Non Registered Parameter Number) message allows an extended range of control changes to be used.
To use these messages, you must first use NRPN MSB and NRPN LSB messages to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an NRPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter. Refer to Section 4. Supplementary material "Examples of actual MIDI messages" <Example 4> (page 72). On the RD-600, Data entry LSB (llH) of NRPN is ignored, so it is no problem to send Data entry MSB (mmH) only (without Data entry LSB).

On the RD-600, NRPN can be used to modify the following parameters.

NRPN	Data entry		
MSB LSB	MSB	Description	
01H 20H	mmH	TVF cutoff frequency (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)	
01H 63H	mmH	TVF&TVA Env. Attack time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)	
01H 64H	mmH	TVF&TVA Env. Decay time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)	
01H 66H	mmH	TVF&TVA Env. Release time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)	

* Parameters marked "relative change" will change relative to the preset value.

○ RPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm = upper byte of parameter number specified by RPN
ll = lower byte of parameter number specified by RPN

* The value specified by RPN will not be reset even by messages such as Program Change or Reset All Controller.

"RPN"

The RPN (Registered Parameter Number) messages are expanded control changes, and each function of an RPN is described by the MIDI Standard.
To use these messages, you must first use RPN MSB and RPN LSB messages to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an RPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter.Refer to Section 4. "Examples of actual MIDI messages" <Example 4> (page 72).

On the RD-600, RPN can be used to modify the following parameters.

RPN	Data entry	
MSB LSB	MSB LSB	Explanation
00H 00H	mmH —	Pitch Bend Sensitivity mm: 00H-0CH (0-12 semitones). Initial Value = 02H (2 semitones) ll: ignored (processed as 00H) specify up to 1 octaves in semitone steps The Bend Range Up parameter, Bend Range Down parameter will also be changed
00H 01H	mmH llH	Master Fine Tuning mm, ll: 20 00H - 40 00H - 60 00H (-50 - 0 - +50 cents). Initial Value = 40 00H (±0 cent) When this message is received on Rx Part MIDI Channel, it will be added to Master Tune and the Fine Tuning will change. If Control Channel matches the Rx Part MIDI Channel, the Master Tune setting will change.
00H 02H	mmH —	Master Coarse Tuning mm: 10H-40H-70H (-48 - 0 - +48 semitones), Initial Value = 40H (±0 semitone) ll: ignored (processed as 00H) The Coarse Tune of tone parameter will be changed
7FH 7FH	— —	RPN null Set condition where RPN and NRPN are unspecified. The data entry messages after set RPN null will be ignored. (No Data entry messages are required after RPN null). Settings already made will not change. mm, ll: ignored

● Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
pp = Program number: 00H-7FH (prog.1-prog.128)

* Not received when Rx.PROGRAM CHANGE = OFF. (Initial value is ON)
* After a Program Change message is received, the sound will change beginning with the next Note-on. Voices already sounding when the Program Change message was received will not be affected.

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm, ll = Pitch Bend value: 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

* Not received when Rx.PITCH BEND = OFF. (Initial value is ON)

■ Channel Mode Messages

● All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

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

* When this message is received, all currently-sounding notes on the corresponding channel will be turned off immediately.

● Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

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

* When this message is received, the following controllers will be set to their reset values.

Controller	Reset value
Pitch Bend Change	±0 (center)
Modulation	0 (off)
Expression	127 (max)
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

● All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

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

* When All Notes Off is received, all notes on the corresponding channel will be turned off. However if Hold 1 or Sostenuto is ON, the sound will be continued until these are turned off.

● OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

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

* The same processing will be carried out as when All Notes Off is received.

65

● OMNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

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

* OMNI ON is only recognized as "All notes off"; the Mode doesn't change (OMNI OFF remains).

■ System Realtime Message

● Active Sensing

Status
FEH

* When Active Sensing is received, the unit will begin monitoring the intervals of all further messages. While monitoring, if the interval between messages exceeds 420ms, the same processing will be carried out as when All Sounds Off, All Notes Off and Reset All Controllers are received, and message interval monitoring will be halted.

■ System Exclusive Message

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

F0H:	System Exclusive Message status
ii = ID number:	an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd,...,ee = data:	00H-7FH (0-127)
F7H:	EOX (End Of Exclusive)

The System Exclusive Messages received by the RD-600 are; Universal Realtime System Exclusive messages, Data Requests (RQ1), and Data Set (DT1).

● Universal Realtime System Exclusive Messages

○ Identity Request Message

Status	Data byte	Status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
dev	Device ID (dev: 10H-1FH (17-32), the initial value is 10H (17).)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* The "dev" is own device number or 7FH (Broadcast)

● Data transmission

RD-600 can transmit and receive the various parameters using System Exclusive messages.
The model ID of the exclusive messages used by RD-600 is 00H 09H.

○ Request data 1   RQ1

This message requests the other device to send data. The Address and Size determine the type and amount of data to be sent.
When a Data Request message is received, if the device is ready to transmit data and if the address and size are appropriate, the requested data will be transmitted as a "Data Set 1 (DT1)" message. If not, nothing will be transmitted.

Status	Data byte	Status
F0H	41H, dev, 00H, 09H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H-1FH, Initial value is 10H (17))
00H	Model ID (RD-600)
09H	Model ID (RD-600)
11H	Command ID (RQ1)
aaH	Address MSB: upper byte of the starting address of the requested data
bbH	Address
ccH	Address
ddH	Address LSB: lower byte of the starting address of the requested data
ssH	Size MSB
ttH	Size
uuH	Size
vvH	Size LSB
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at once time will depend on the type of data, and data must be requested using a specific starting address and size. Refer to the Address and Size listed in Section 3 (page 68).
* Regarding the checksum please refer to Section 4 (page 72).
* Not received when EDIT mode.

○ Data set 1   DT1

This is the message that actually performs data transmission, and is used when you wish to transmit the data.

Status	Data byte	Status
F0H	41H, dev, 00H, 09H, 12H, aaH, bbH, ccH, ddH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H-1FH, Initial value is 10H))
00H	Model ID (RD-600)
09H	Model ID (RD-600)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the transmitted data
bbH	Address
ccH	Address
ddH	Address LSB: lower byte of the starting address of the transmitted data
eeH	Data: the actual data to be transmitted.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data can be received only from the specified starting address and size. Refer to the Address and Size given in Section 3 (page 68).
* Data larger than 128 bytes must be divided into packets of 128 bytes or less. If "Data Set 1" is transmitted successively, there must be an interval of at least 40 ms between packets.
* Regarding the checksum please refer to section 4 (page 72).
* Not received when EDIT mode.

Section 2. Transmit data

■ Channel Voice Messages

* When Tx.Part Channel = INT, transmitted MIDI channel number is Rx.Part Channel number linking INT Part.

● Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH

n = MIDI channel number:	0H-FH (ch.1-ch.16)
kk = note number:	00H-7FH (0-127)
vv = note off velocity:	40H (64)

● Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
kk = note number: 00H-7FH (0-127)
vv = note on velocity: 00H-7FH (0-127)

* Not transmitted if Tx.Part Switch = OFF.
* If you play the key within the range of a Part,the Note On/Off message will be sent with the MIDI channel set to the Part.
* The value figured out with the strength of playing keyboard, velocity sensitivity and velocity max of the Part is transmitted as "Velocity".
* Each Part allows the transposition to +-36 semitones.
* Note message transposed exceeding 0-127 range will be converted to the Note message of the closest octave that is out of the range.

● Control Change

○ Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm, ll = Bank number: 00H, 00H-7FH, 7FH (bank.1-bank.16384)
* Not transmitted if Bank Select parameter or Program Change parameter is OFF.(Initial Value = OFF)

○ Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

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

* Not transmitted if Modulation lever Switch = OFF.(Initial Value = ON)
* This message is transmitted if Modulation is assigned to FC1 or FC2.
  (Not transmitted if FC1,2 Pedal Switch = OFF)

○ Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm, ll = the value of the parameter specified by RPN/NRPN
mm = MSB, ll = LSB

○ Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

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

○ Pan (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = pan: 00H-40H-7FH (Left-Center-Right)

* This message is transmitted if Pan is assigned to FC1 or FC2.
  (Not transmitted if FC1,2 Pedal Switch = OFF)

○ Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Expression: 00H-7FH (0-127)
* This message is transmitted if Expression is assigned to FC1 or FC2.
  (Not transmitted if FC1,2 Pedal Switch = OFF)

○ Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Control value: 00H-7FH (0-127)
* This message is transmitted if Hold1 is assigned to FC1 or FC2.
  (Not transmitted if FC1,2 Pedal Switch = OFF)

○ Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON
* This message is transmitted if Sostenuto is assigned to FC1 or FC2.
  (Nottransmitted if FC1,2 Pedal Switch = OFF)

○ Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON
* This message is transmitted if Soft is assigned to FC1 or FC2.
  (Nottransmitted if FC1,2 Pedal Switch = OFF)

○ Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Control value: 00H-7FH (0-127)
* This message is transmitted if Reverb Amount is assigned to FC1 or FC2.
  (Nottransmitted if FC1,2 Pedal Switch = OFF)

○ Effect 3 (Chorus Send Level) (Controller number 93)

Status	2nd byte	3rd byte
BnH	5DH	vvH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
vv = Control value: 00H-7FH (0-127)
* This message is transmitted if Chorus Amount is assigned to FC1 or FC2.
  (Nottransmitted if FC1,2 Pedal Switch = OFF)

○ NRPN MSB/LSB (Controller number 98, 99)

Status	2nd byte	3rd byte
BnH	63H	mmH
BnH	62H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm = upper byte of the parameter number specified by NRPN
ll = lower byte of the parameter number specified by NRPN

On the RD-600, NRPN can be used to modify the following parameters.

NRPN MSB LSB	Data entry MSB	Description
01H 20H	mmH	TVF cutoff frequency (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)
01H 63H	mmH	TVF&TVA Env. Attack time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)
01H 64H	mmH	TVF&TVA Env. Decay time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)
01H 66H	mmH	TVF&TVA Env. Release time (relative change on specified channel) mm: 0EH-40H-72H (-50 - 0 - +50)

◯ RPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm = upper byte of parameter number specified by RPN
ll = lower byte of parameter number specified by RPN

On the RD-600, RPN can be used to modify the following parameters.

RPN	Data entry	
MSB LSB	MSB LSB	Explanation
00H 00H	mmH —	Pitch Bend Sensitivity
		mm: 00H-18H (0-24 semitones)
		ll: 00H
		specify up to 2 octaves in semitone steps
00H 01H	mmH llH	Master Fine Tuning
		mm, ll: 20 00H - 40 00H - 60 00H (-50 - 0 - +50 cents)
00H 02H	mmH —	Master Coarse Tuning
		mm: 10H-40H-70H (-48 - 0 - +48 semitones)
		ll: 00H
7FH 7FH	— —	RPN null

● Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
pp = Program number: 00H-7FH (prog.1-prog.128)

● Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H-FH (ch.1-ch.16)
mm, ll = Pitch Bend value: 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

■ System Realtime Message

● Active sensing

Status
FEH

* This will be transmitted constantly at intervals of approximately 250 ms.

■ System exclusive messages

"Identity Reply" and "Data Set 1 (DT1)" are the only System Exclusive messages transmitted by RD-600.
When an appropriate "Identity Request Message" and "Data Request 1 (RQ1)" message are received, the requested internal data will be transmitted.

◯ Identity Reply

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 09H, 01H, 00H, 00H, 00H, 01H, 00H, 00H, F7H	

Byte	Explanation
F0H	Exclusive status
7EH	ID number (universal non-realtime message)
dev	Device ID (use the same as the device ID of Roland)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
09H	Device family code (LSB)
01H	Device family code (MSB)
00H	Device family number code (LSB)
00H	Device family number code (MSB)
00H	Software revision level
01H	Software revision level
00H	Software revision level
00H	Software revision level
F7H	EOX (End of Exclusive)

* Reply the message by the unique device ID (dev) when the device has received the "Identity Request Message" in the Broadcast.

◯ Data set 1   DT1

Status	Data byte	Status
F0H	41H, dev, 00H, 09H, 12H, aaH, bbH, ccH, dd, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H-1FH, Initial value is 10H)
00H	Model ID (RD-600)
09H	Model ID (RD-600)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the data to be sent
bbH	Address
ccH	Address
ddH	Address LSB: lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the Address and Size given in Section 3 (page 68).
* Data larger than 128 bytes will be divided into packets of 128 bytes or less, and each packet will be sent at an interval of about 40 ms.
* Regarding the checksum please refer to page 72.

Section 3. Parameter Address Map (Model ID = 00H 09H)

This map indicates address, size, Data (range), Parameter, Description, and Default Value of parameters which can be transferred using "Request data 1 (RQ1)" and "Data set 1 (DT1)."
All the numbers of address, size, Data, and Default Value are indicated in 7-bit Hexadecimal-form.

■ Parameter Address Block

RD-600 < MODEL ID = 00 09H >

Start address	Description	
00 00 00 00	System Common	*3-1
01 00 00 00	Temporary Setup	*3-2
02 00 00 00	Setup1	*3-3
:	:	
02 3F 00 00	Setup	*3-3
03 00 00 00	Tone1	*3-4
:	:	
03 7F 00 00	Tone128	*3-4
04 00 00 00	Tx Upper Tone	*3-5
04 01 00 00	Tx Lower Tone	*3-5

3-1 System Common

Offset address		Description	
00 00	0aaa aaaa	Setup number	0 - 63 (1-64)
00 01	0aaa aaaa	Master tune	1 - 127 (427.4-452.6Hz)
00 02	0000 000a	MIDI thru sw	0 - 1 (THRU, OUT2)
00 03	0000 000a	Control channel switch	0 - 1 (OFF, ON)
00 04	0000 aaaa	Control channel value	0 - 15 (1 - 16)
00 05	0aaa aaaa	Foot controller1 assign	0 - 10 (CC1,7,10,11,64,66,67,91,93, EFX Rate,Depth,Level)
00 06	0000 000a	Foot controller1 polarity	0 - 1 (STANDARD, REVERSE)
00 07	0aaa aaaa	Foot controller2 assign	0 - 10 (CC1,7,10,11,64,66,67,91,93, EFX Rate,Depth,Level)

Offset address		Description	
00 09	0000 000a	Foot controller2 polarity	0 - 1 (STANDARD,REVERSE)
00 09	0000 000a	Damper pedal polarity	0 - 1 (STANDARD,REVERSE)
00 0A	0000 0aaa	Variation of Category1	0 - 7 (1 - 8)
00 19	0000 0aaa	Variation of Category16	
Total size	0F 00 00 1A		

3-2 Tempolary Setup

Offset address	Description	
00 00	Setup common	*3-2-1
10 00	Local part (Internal upper)	*3-2-2
11 00	Local part (Internal lower)	*3-2-2
12 00	Local part (Tx upper)	*3-2-3
13 00	Local part (Tx lower)	*3-2-3
20 00	Rx part 1	*3-2-4
2F 00	Rx part 16	*3-2-4
30 00	Effect	*3-2-5
40 00	Current EFX	*3-2-6

3-2-1 Setup common

Offset address		Description	
00	0000 00aa	Keyboard touch	0 - 2 (LIGHT,MEDIUM,HEAVY)
01	0000 000a	Keyboard mode	0 - 1 (LAYER,SPLIT)
02	0000 000a	Transpose switch	0 - 1 (OFF,ON)
03	0aaa aaaa	Transpose value	28 - 100 (-36 - +36)
04	0000 000a	EFX source	0 - 1 (UPPER,LOWER)
05	0000 000a	Internal upper EFX switch	0 - 1 (OFF,ON)
06	0000 000a	Internal lower EFX switch	0 - 1 (OFF,ON)
07	0000 000a	Equalizer switch	0 - 1 (OFF,ON)
08	0000 000a	Reverb switch	0 - 1 (OFF,ON)
09	0000 000a	Chorus switch	0 - 1 (OFF,ON)
Total size	00 00 00 0A		

3-2-2 Local part (Internal)

Offset address		Description	
00	0aaa aaaa	Keyboard range upper	21 - 108 (A0 - C8)
01	0aaa aaaa	Keyboard range lower	21 - 108 (A0 - C8)
02	0aaa aaaa	Velocity sensitivity	1 - 127 (-63 - +63)
03	0aaa aaaa	Velocity Max	1 - 127
04	0aaa aaaa	Keyboard Transpose	16 - 112 (-48 - +48)
05	0000 000a	Part switch	0 - 1 (OFF,ON)
06	0000 000a	Part switch(Split)	0 - 1 (OFF,ON)
07	0000 000a	Damper switch	0 - 1 (OFF,ON)
08	0000 000a	Foot controller1 switch	0 - 1 (OFF,ON)
09	0000 000a	Foot controller2 switch	0 - 1 (OFF,ON)
0A	0000 000a	Modulation switch	0 - 1 (OFF,ON)
0B	0000 000a	Bender switch	0 - 1 (OFF,ON)
0C	0000 aaaa	Local part assign	0 - 15 (1 - 16)
Total size	00 00 00 0D		

* The values of key range upper must be greater than or equal to values of the key range lower.

3-2-3 Local part (Tx)

Offset address		Description	
00	0aaa aaaa	Keyboard range upper	21 - 108 (A0 - C8)
01	0aaa aaaa	Keyboard range lower	21 - 108 (A0 - C8)
02	0aaa aaaa	Velocity sensitivity	1 - 127 (-63 - +63)
03	0aaa aaaa	Velocity Max	1 - 127
04	0aaa aaaa	Keyboard Transpose	16 - 112 (-48 - +48)
05	0000 000a	Part switch	0 - 1 (OFF,ON)
06	0000 000a	Part switch(Split)	0 - 1 (OFF,ON)
07	0000 000a	Damper switch	0 - 1 (OFF,ON)
08	0000 000a	Foot controller1 switch	0 - 1 (OFF,ON)
09	0000 000a	Foot controller2 switch	0 - 1 (OFF,ON)
0A	0000 000a	Modulation switch	0 - 1 (OFF,ON)
0B	0000 000a	Bender switch	0 - 1 (OFF,ON)
0C	000a aaaa	Transmit channel	0 - 16 (1 - 16,INT)
0D	0000 000a	Transmit program change switch	0 - 1 (OFF,ON)
0E	0aaa aaaa	Transmit program number	0 - 127 (1 - 128)
0F	0aaa aaaa	Transmit part level	0 - 127
10	0000 000a	Transmit bankselect switch	0 - 1 (OFF,ON)
11	0aaa aaaa	Transmit bankselect MSB	0 - 127
12	0aaa aaaa	Transmit bankselect LSB	0 - 127
Total size	00 00 00 13		

* The values of key range upper must be greater than or equal to values of the key range lower.

3-2-4 Rx part(1..16)

Offset address		Description	
00	0aaa aaaa	Receive program number	0 - 127 (1 - 128)
01	0aaa aaaa	Receive part level	0 - 127
02	0000 000a	Receive switch	0 - 1 (OFF,ON)
03	0000 aaaa	Receive channel	0 - 15 (1 - 16)
04	0000 000a	Receive program change switch	0 - 1 (OFF,ON)
05	0000 000a	Receive modulation switch	0 - 1 (OFF,ON)
06	0000 000a	Receive volume switch	0 - 1 (OFF,ON)
07	0000 000a	Receive hold1 switch	0 - 1 (OFF,ON)
08	0000 000a	Receive bender switch	0 - 1 (OFF,ON)
Total size	00 00 00 09		

3-2-5 Effect

Offset address		Description	
00	0000 0aaa	Reverb type	0 - 7 (ROOM1,ROOM2,STAGE1,STAGE2, HALL1,HALL2,DELAY,PAN-DLY)
01	0aaa aaaa	Reverb level	0 - 127
02	0aaa aaaa	Reverb time	0 - 127
03	000a aaaa	Reverb HF damp	0 - 17 (200,250,315,400,500,630,800,1000,1250,1600, 2000,2500,3150,4000,5000,6300,8000,BYPASS)
04	0aaa aaaa	Delay feedback	0 - 127
05	0aaa aaaa	Chorus level	0 - 127

06	0aaa aaaa	Chorus rate	0 - 127
07	0aaa aaaa	Chorus depth	0 - 127
08	0aaa aaaa	Chorus pre-delay	0 - 127
09	0aaa aaaa	Chorus feedback	0 - 127
0A	0000 00aa	Chorus output	0 - 2 (MIX,REV,MIX+REV)
Total size	00 00 00 0B		

02	0aaa aaaa	Fine tune	14 - 114 (-50 - +50)
03	0aaa aaaa	Reverb send level	0 - 127
04	0aaa aaaa	Chorus send level	0 - 127
05	0aaa aaaa	Bend range	0 - 12 (0 - +12)
06	0aaa aaaa	Attack	14 - 114 (-50 - +50)
07	0aaa aaaa	Decay	14 - 114 (-50 - +50)
08	0aaa aaaa	Release	14 - 114 (-50 - +50)
09	0aaa aaaa	Bright	14 - 114 (-50 - +50)
0A	0000 000a	Transmit panpot switch	0 - 1 (OFF,ON)
0B	0000 000a	Transmit coarse tune switch	0 - 1 (OFF,ON)
0C	0000 000a	Transmit fine tune switch	0 - 1 (OFF,ON)
0D	0000 000a	Transmit reverb send switch	0 - 1 (OFF,ON)
0E	0000 000a	Transmit chorus send switch	0 - 1 (OFF,ON)
0F	0000 000a	Transmit bend range switch	0 - 1 (OFF,ON)
10	0000 000a	Transmit attack switch	0 - 1 (OFF,ON)
11	0000 000a	Transmit decay switch	0 - 1 (OFF,ON)
12	0000 000a	Transmit release switch	0 - 1 (OFF,ON)
13	0000 000a	Transmit bright switch	0 - 1 (OFF,ON)
Total size	00 00 00 14		

3-2-6 Current EFX

Offset address		Description	
00	00aa aaaa	EFX type	0 - 40
01	0aaa aaaa	EFX level	0 - 127
02	0aaa aaaa	EFX rate/sens	0 - 127 (-64 - +63)
03	0aaa aaaa	EFX depth/level	0 - 127 (-64 - +63)
Total size	00 00 00 04		

3-3 Setup(1..64)

Offset address	Description	
00 00	Setup Common	*3-2-1
10 00	Local part (Internal upper)	*3-2-2
11 00	Local part (Internal lower)	*3-2-2
12 00	Local part (Tx upper)	*3-2-3
13 00	Local part (Tx lower)	*3-2-3
20 00	Rx part 1	*3-2-4
:	:	
2F 00	Rx part 16	*3-2-4
30 00	Effect	*3-2-5
40 00	Rx part 1 tone backup	*3-4
:	:	
4F 00	Rx part 16 tone backup	*3-4
50 00	Tx upper tone backup	*3-5
51 00	Tx lower tone backup	*3-5

3-4 Tone (1..128,Rx part1-16 tone backup)

Offset address		Description	
00	0aaa aaaa	Panpot	0 - 127 (L64 - 63R)
01	0aaa aaaa	Coarse tune	16 - 112 (-48 - +48)
02	0aaa aaaa	Fine tune	14 - 114 (-50 - +50)
03	0aaa aaaa	Reverb send level	0 - 127
04	0aaa aaaa	Chorus send level	0 - 127
05	0aaa aaaa	Bend range up	0 - 12 (0 - +12)
06	0aaa aaaa	Bend range down	16 - 64 (-48 - 0)
07	0aaa aaaa	Attack	14 - 114 (-50 - +50)
08	0aaa aaaa	Decay	14 - 114 (-50 - +50)
09	0aaa aaaa	Release	14 - 114 (-50 - +50)
0A	0aaa aaaa	Bright	14 - 114 (-50 - +50)
0B	00aa aaaa	EFX type	0 - 40
0C	0aaa aaaa	EFX level	0 - 127
0D	0aaa aaaa	EFX rate/sens	0 - 127 (-64 - +63)
0E	0aaa aaaa	EFX depth/level	0 - 127 (-64 - +63)
Total size	00 00 00 0F		

3-5 Tx Tone (Upper,Lower,Tx upper.lower tone backup)

Offset address		Description	
00	0aaa aaaa	Panpot	0 - 127 (L64 - 63R)
01	0aaa aaaa	Coarse tune	16 - 112 (-48 - +48)

■ Address Block map

An outlined address map of the Exclusive Communication is as follows;

Address(H)	Block	Sub block	Refernce
00 00 00 00	System common		*3-1
10 00 00 00	Temporary Setup	*3-2 Setup common	*3-2-1
		Local part (INT U)	*3-2-2
		Local part (INT L)	*3-2-2
		Local part (Tx U)	*3-2-3
		Local part (Tx L)	*3-2-3
		Rx part 1	*3-2-4
		:	:
		Rx part 16	*3-2-4
		Effect	*3-2-5
		Current EFX	*3-2-6
20 00 00 00	Setup 1	*3-3 Setup common	*3-2-1
20 01 00 00	Setup 2	Local part (INT U)	*3-2-2
		Local part (INT L)	*3-2-2
		Local part (Tx U)	*3-2-3
		Local part (Tx L)	*3-2-3
		Rx part 1	*3-2-4
	:	:	:
		Rx part16	*3-2-4
		Effect	*3-2-5
		Rx part 1 tone bak	*3-4
	:	:	:
		Rx part16 tone bak	*3-4
		Tx upper tone back	*3-5
20 3F 00 00	Setup 64	Tx lower tone back	*3-5
30 00 00 00	Tone 1		*3-4
30 01 00 00	Tone 2		*3-4
	:		:
30 7F 00 00	Tone 128		*3-4
40 00 00 00	Tx upper tone		*3-5
40 01 00 00	Tx lower tone		*3-5

Section 4. Supplementary material

● Decimal and Hexadecimal table

In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.

The following table shows how these correspond to decimal numbers.

Dec.	Hex.	Dec.	Hex.	Dec.	Hex.	Dec.	Hex.
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

* Decimal values such as MIDI channel, bank select, and program change are listed as one (1) greater than the values given in the above table.
* A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128 + bb.
* In the case of values which have a ± sign, 00H = -64, 40H = ±0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = ±0, and 7F 7FH = +8191. For example if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128 + bb - 64 x 128.

<Example 1> What is the decimal expression of 5AH ?

From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?

From the preceding table, since 12H = 18 and 34H = 52

18 x 128 + 52 = 2356

● Examples of actual MIDI messages

<Example 1> 92 3E 5F

9n is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example 2> CE 49

CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74 (B22:SA E.Grand 2 in RD-600).

<Example 3> EA 00 28

EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 128 - 0 = 8192) is 0, so this Pitch Bend Value is 28 00H - 40 00H = 40 x 128 + 0 - (64 x 128 + 0) = 5120 - 8192 = -3072

If the Pitch Bend Sensitivity is set to 2 semitones, -8192 (00 00H) will cause the pitch to change -200 cents, so in this case -200 x (-3072) / (-8192) = -75 cents of Pitch Bend is being applied to MIDI channel 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F

BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

```
B3    64 00   MIDI ch.4, lower byte of RPN parameter number: 00H
(B3)  65 00   (MIDI ch.4) upper byte of RPN parameter number: 00H
(B3)  06 0C   (MIDI ch.4) upper byte of parameter value: 0CH
(B3)  26 00   (MIDI ch.4) lower byte of parameter value: 00H
(B3)  64 7F   (MIDI ch.4) lower byte of RPN parameter number: 7FH
(B3)  65 7F   (MIDI ch.4) upper byte of RPN parameter number: 7FH
```

In other words, the above messages specify a value of 0C 00H for RPN parameter number 00 00H on MIDI channel 4, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to ±12 semitones (1 octave). (On RD-600 sound sources the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B3) 64 7F (B3) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound source will then misinterpret the data. Take care to give each event its own status.

It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN = 96, and about 5 ticks for TPQN = 480).

' TPQN: Ticks Per Quarter Note

●Example of an Exclusive message and calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted exclusive message.

◇ How to calculate the checksum (hexadecimal numbers are indicated by 'H')

The checksum is a value derived by adding the address, size and checksum itself and inverting the lower 7 bits.
Here's an example of how the checksum is calculated. We will assume that in the exclusive message we are transmitting, the address is aa bb cc ddH and the data or size is ee ff gg hhH.

aa + bb + cc + dd + ee + ff + gg + hh = sum
sum / 128 = quotient ... remainder
128 - remainder = checksum

<Example 1> Setting "Effect Reverb type" of "Tempolary" to "ROOM1" (DT1).

The "Parameter address map" indicates that the starting address of the Temporary is 01 00 00 00H, that the Effect Parameter offset address is 30 00H, and that the "Reverb type" type address is 00H. Thus, the address is:

```
 01 00 00 00H
       30 00H
+)        00H
 01 00 30 00H
```

Since "ROOM1" is parameter value 00H,

```
F0  41  10  00 09 12   01 00 30 00   00H    ??      F7
(1) (2) (3) (4) (5)     address      data  checksum (6)
```

| (1) Exclusive status | (2) ID number (Roland) | (3) device ID(17) |
| (4) model ID (RD-600) | (5) command ID (DT1) | (6) EOX |

Next we calculate the checksum.

01H + 00H + 30H + 00H + 00H = 1 + 0 + 48 + 0 + 0 = 49(sum)

49 (total) ÷ 128 = 0 (quotient) ... 49 (remainder)
checksum = 128 - 49 (quotient) = 79 = 4FH

This means that the message transmitted will be F0 41 10 00 09 12 01 00 30 00 00 4F F7.

<Example 2> Retrieving data for Temporary Rx.Part2 Parameter (RQ1)

The "Parameter address map" indicates that the starting address of Temporary is 01 00 00 00H, and that the offset address of Rx.Part2 Parameter is 20 01H. Thus, the address is:

```
 01 00 00 00H
+)       20 01H
 01 00 20 01H
```

Since the size of the Performance Part is 00 00 00 09H,

```
F0  41  10  00 09 11   01 00 20 01   00 00 00 09   ??       F7
(1) (2) (3) (4) (5)     address       size         checksum (6)
```

| (1) Exclusive status | (2) ID number (Roland) | (3) Device ID (17) |
| (4) Model ID (RD-600) | (5) Command ID (RQ1) | (6) EOX |

Next we calculate the checksum.

01H + 00H + 20H + 01H + 00H + 00H + 00H + 09H =
1 + 0 + 32 + 1 + 0 + 0 + 0 + 9 = 43(sum)

43(total) ÷ 128 = 0(product) ... 43(remainder)
checksum = 128 - 43(remainder) = 85 = 55H

Thus, a message of F0 41 10 00 09 11 01 00 20 01 00 00 00 09 55 F7 would be transmitted.

DIGITAL PIANO

Model RD-600

MIDI Implementation Chart

Date : Jan. 30, 1997

Version : 1.00

Function...		Transmitted	Recognized		Remarks
Basic Channel	Default Changed	1 – 16 1 – 16	1 – 16, OFF 1 – 16, OFF		Memorized
Mode	Default Messages Altered	Mode 3 X ****************	Mode 3 X		
Note Number :	True Voice	0 – 127 ****************	0 – 127 0 – 127		
Velocity	Note ON Note OFF	O X 8n v = 64	O X		
After Touch	Key's Ch's	X X	X X		
Pitch Bend		O	O	* 1	
Control Change	0, 32 1 6, 38 7 10 11 64 66 67 91 93 98, 99 100, 101	O O O O O O O O O O O O O	X O O O O O O O O O (Reverb) O (Chorus) O O	* 1 * 1 * 1	Bank Select Modulation Data entry Volume Panpot Expression Hold 1 Sostenuto Soft Effect 1 depth Effect 3 depth NRPN LSB, MSB RPN LSB, MSB
Prog Change	: True #	O ****************	O 0 – 127	* 1	Program Number 1 – 128
System Exclusive		O	O	* 2	
System Common	: Song Pos : Song Sel : Tune	X X X	X X X		
System Real Time	: Clock : Commands	X X	X X		
Aux Message	: All sound off : Reset all controllers : Local ON / OFF : All Notes OFF : Active Sense : Reset	X X X X O X	O (120, 126, 127) O X O (123 – 127) O X		
Notes		* 1 O X is selectable * 2 Not received when EDIT mode.			

Mode 1 : OMNI ON, POLY   Mode 2 : OMNI ON, MONO

Mode 3 : OMNI OFF, POLY   Mode 4 : OMNI OFF, MONO

O : Yes

X : No

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Specifications

RD-600: Digital Piano

Keyboard
88 keys (Hammer-action mechanism with Velocity)

Parts
Internal (local): 2

External (local): 2

Multitimbral Parts (via MIDI): 16

Maximum Polyphony
64 voices

Effects
Reverb, Chorus, EFX (Stereo multi-effect), Analog 3-band EQ

Internal Memory
Setup: 64
Tones: 128 (include 3 rhythm set)

Display
16 characters, 2 lines (backlit LCD)

Nominal Output Level
Output (balanced): -10 dBm

Output (unbalanced): -10 dBm

Output Impedance
Output (balanced): 600 Ω

Output (unbalanced): 300 Ω

Recommended Load Impedance
Output (balanced): 10 kΩ or greater

Output (unbalanced): 10 kΩ or greater

Connectors
Balanced Output Jacks (1/4 inch T/R/S phone type)

Fixed Balanced Output Jacks (1/4 inch T/R/S phone type)

Headphone Jack (stereo)

MIDI Connectors (IN: 1, THRU/OUT: 1, OUT: 1)

Pedal Jacks (Damper, FC1, FC2)

AC Inlet

Power Supply
AC 117/230/240V

Power Consumption
16 W

Dimensions
1419 (W) x 391 (D) x 141 (H) mm

55-7/8 (W) x 15-3/8 (D) x 5-1/2 (H) inches

Weight
24.5 kg / 54 lbs., 1 oz.

Accessories
Pedal Switch: DP-6

Owner's Manual

Power Cord

0 dBm = 0.775 Vrms

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Index

MEMO

Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

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EGYPT
Al Fanny Trading Office
P.O. Box 2904,
El Horrieh Heliopolos, Cairo,
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TEL: (02) 4185531

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Maison FO - YAM Marcel
25 Rue Jules MermanZL
Chaudron - BP79 97491
Ste Clotilde REUNION
TEL: 28 29 16

SOUTH AFRICA
That Other Music Shop (PTY) Ltd.
11 Melle Street (Cnr Melle and Juta Street)
Braamfontein 2001
Republic of SOUTH AFRICA
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.
17 Werdmuller Centre Claremont
7700
Republic of SOUTH AFRICA

P.O. Box 23032
Claremont, Cape Town
SOUTH AFRICA, 7735
TEL: (021) 64 4030

ASIA

CHINA
Beijing Xinghai Musical Instruments Co., Ltd.
6 Huangmuchang Chao Yang District, Beijing, CHINA
TEL: (010) 6774 7491

HONG KONG
Tom Lee Music Co., Ltd. Service Division
22-32 Pun Shan Street, Tsuen Wan, New Territories,
HONG KONG
TEL: 2415 0911

INDIA
Rivera Digitec (India) Pvt. Ltd.
409, Nirman Kendra Mahalaxmi Flats Compound Off. Dr. Edwin Moses Road, Mumbai-400011,
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TEL: (022) 498 3079

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Cosmos Corporation Service Station
261 2nd Floor Nak-Won Arcade Jong-Ro ku, Seoul, KOREA
TEL: (02) 742 8844

MALAYSIA
Bentley Music SDN BHD
140 & 142, Jalan Bukit Bintang
55100 Kuala Lumpur, MALAYSIA
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339 Gil J. Puyat Avenue
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150 Sims Drive,
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As of June 11, 1999

Tone List

TONE	P#	V#	TONE	P#	V#
PIANO 1 [A]			**PIANO 1 [B]**		
1 St.Concert 1	1	2	1 St.SemiGrd 1	65	2
2 St.Concert 2	2	2	2 St.SemiGrd 2	66	2
3 St.Concert 3	3	2	3 St.SemiGrd 3	67	2
4 St.Concert 4	4	2	4 St.SemiGrd 4	68	2
5 St.Concert 5	5	2	5 Euro Piano 1	69	1
6 St.Concert 6	6	2	6 Euro Piano 2	70	1
7 St.Concert 7	7	2	7 Euro Piano 3	71	2
8 St.Concert 8	8	2	8 Euro Piano 4	72	2
PIANO 2 [A]			**PIANO 2 [B]**		
1 Full Grand 1	9	2	1 SA E.Grand 1	73	1
2 Full Grand 2	10	2	2 SA E.Grand 2	74	3
3 Full Grand 3	11	2	3 CP E.Grand 1	75	2
4 Full Grand 4	12	2	4 CP E.Grand 2	76	2
5 Semi Grand 1	13	1	5 Comp Piano 1	77	2
6 Semi Grand 2	14	1	6 Comp Piano 2	78	2
7 Semi Grand 3	15	2	7 Comp Piano 3	79	2
8 Semi Grand 4	16	2	8 Comp Piano 4	80	1
E.PIANO [A]			**E.PIANO [B]**		
1 Suitcase	17	1	1 SA Rhodes 1	81	2
2 Mr.Suitcase	18	2	2 SA Rhodes 2	82	3
3 STAGE Rhodes	19	1	3 Wurly	83	1
4 Wide Rhodes	20	1	4 Dist Wurly	84	1
5 ChorusRhodes	21	3	5 D-50 EPiano1	85	1
6 Phase Rhodes	22	2	6 D-50 EPiano2	86	2
7 DynoRhodes 1	23	3	7 FM EPiano 1	87	2
8 DynoRhodes 2	24	3	8 FM EPiano 2	88	2
ORGAN [A]			**ORGAN [B]**		
1 E.Organ 1	25	3	1 E.Organ 9	89	1
2 E.Organ 2	26	1	2 E.Organ 10	90	4
3 E.Organ 3	27	1	3 E.Organ 11	91	3
4 E.Organ 4	28	1	4 E.Organ 12	92	3
5 E.Organ 5	29	1	5 Br.BalladBee	93	1
6 E.Organ 6	30	1	6 Bookin' B	94	1
7 E.Organ 7	31	1	7 Rock Steady	95	1
8 E.Organ 8	32	1	8 Wide Theatre	96	2
STRINGS [A]			**STRINGS [B]**		
1 St.Strings	33	2	1 Synth Brass1	97	2
2 Warm Strings	34	2	2 Synth Brass2	98	1
3 Slow Strings	35	2	3 Synth Brass3	99	1
4 Strings	36	1	4 Synth Brass4	100	1
5 SynStrings 1	37	2	5 Beauty Vox	101	2
6 SynStrings 2	38	2	6 Syn Vox 1	102	1
7 SynStrings 3	39	1	7 Syn Vox 2	103	1
8 LFO Strings	40	2	8 Angel Ooohz	104	2
PAD [A]			**PAD [B]**		
1 Thick Pad	41	3	1 Sweep Pad	105	2
2 Soft Pad	42	3	2 RD Prologue	106	2
3 Pulse Pad	43	4	3 RD Rand Pad	107	2
4 After Rave	44	2	4 RD Aurora	108	3
5 Dawn 2 Dusk	45	3	5 RD Waltz	109	4
6 Square Pad	46	2	6 RD Strobe	110	2
7 EPno Pad	47	2	7 Heaven	111	1
8 7th Sand	48	4	8 Like Dee	112	2
BASS/LEAD [A]			**BASS/LEAD [B]**		
1 Finger Bass1	49	1	1 Pulse Lead	113	4
2 Finger Bass2	50	2	2 Synth Lead 1	114	2
3 Pick Bass	51	1	3 Synth Lead 2	115	1
4 Ac.Bass	52	2	4 GR Lead	116	2
5 Wonder Bass	53	2	5 20 Years ago	117	3
6 Super JX Bs	54	2	6 SquareLead	118	2
7 Synth Bass	55	1	7 Sawteeth	119	3
8 Rubber Bass	56	2	8 Pulse Key	120	3
CLAV/MALLTE [A]			**CLAV/MALLTE [B]**		
1 Clav 1	57	2	1 Vibe	121	2
2 Clav 2	58	2	2 Warm Vibes	122	2
3 Clav 3	59	2	3 AmbienceVibe	123	3
4 Juno Clav	60	1	4 Dyna Marimba	124	1
5 Comp Clav	61	2	5 Soft Marimba	125	1
6 Phase Clav	62	2	6 Standard Set	126	-
7 WahWah Clav1	63	2	7 Jazz Set	127	-
8 WahWah Clav2	64	2	8 Brush Set	128	-

P#: Program Number   V#: Number of Voice

Rhythm Set List

Key		Standard Set (P# 126)	Jazz Set (P# 127)	Brush Set (P# 128)
C#1	25	Snare Roll	Snare Roll	Snare Roll
D1	26	—	—	—
:	:	:	:	:
A#1	34	—	—	—
B 1	35	Standard Kick 2	Jazz Kick 2	Jazz Kick 2
C2	36	Standard Kick 1	Jazz Kick 1	Jazz Kick 1
C#2	37	Side Stick	Side Stick	Side Stick
D 2	38	Standard Snare 1	Jazz Snare 1	Brush Tap
D#2	39	Hand Clap	Hand Clap	Brush Slap
E 2	40	Standard Snare 2	Jazz Snare 2	Brush Swirl
F 2	41	Low Tom 2	Low Tom 2	Brush Low Tom 2
F#2	42	Closed Hi-Hat	Closed Hi-Hat	Brush Closed Hi-Hat
G 2	43	Low Tom 1	Low Tom 1	Brush Low Tom 1
G#2	44	Pedal Hi-Hat	Pedal Hi-Hat	Pedal Hi-Hat
A 2	45	Mid Tom 2	Mid Tom 2	Brush Mid Tom2
A#2	46	Open Hi-Hat	Open Hi-Hat	Brush Open Hi-Hat
B 2	47	Mid Tom 1	Mid Tom 1	Brush Mid Tom1
C 3	48	High Tom 2	High Tom 2	Brush High Tom 2
C#3	49	Crash Cymbal 1	Crash Cymbal 1	Brush Crash Cymbal
D 3	50	High Tom 1	High Tom 1	Brush High Tom 1
D#3	51	Ride Cymbal 1	Ride Cymbal 1	Brush Ride Cymbal 1
E 3	52	Chinese Cymbal	Chinese Cymbal	Chinese Cymbal
F 3	53	Ride Bell	Ride Bell	Brush Ride Bell
F#3	54	Tambourine	Tambourine	Tambourine
G 3	55	Splash Cymbal	Splash Cymbal	Splash Cymbal
G#3	56	Cowbell	Cowbell	Cowbell
A 3	57	Crash Cymbal 2	Crash Cymbal 2	Crash Cymbal 2
A#3	58	—		
B 3	59	Ride Cymbal 2	Ride Cymbal 2	Ride Cymbal 2
C 4	60	High Bongo	High Bongo	High Bongo
C#4	61	Low Bongo	Low Bongo	Low Bongo
D 4	62	Mute High Conga	Mute High Conga	Mute High Conga
D#4	63	Open High Conga	Open High Conga	Open High Conga
E 4	64	Low Conga	Low Conga	Low Conga
F 4	65	High Timbale	High Timbale	High Timbale
F#4	66	Low Timbale	Low Timbale	Low Timbale
G 4	67	High Agogo	High Agogo	High Agogo
G#4	68	Low Agogo	Low Agogo	Low Agogo
A 4	69	Cabasa	Cabasa	Cabasa
A#4	70	Maracas	Maracas	Maracas
B 4	71	—	—	—
:	:	:	:	:
D 5	74	—		
D#5	75	Claves	Claves	Claves
E 5	76	High Wood Block	High Wood Block	High Wood Block
F 5	77	Low Wood Block	Low Wood Block	Low Wood Block
F#5	78	—	—	—
G 5	79	—	—	—
G#5	80	Mute Triangle	Mute Triangle	Mute Triangle
A 5	81	Open Triangle	Open Triangle	Open Triangle
A#5	82	Shaker	Shaker	Shaker

EFX	RATE/SENS	LEVEL/DEPTH	EFX	RATE/SENS	LEVEL/DEPTH
1. Resonance	Sens	Level	22. 2Voice-Pitch-Shifter	Fine Pitch A	Fine Pitch B
2. OverDrive	Drive	Amp Type	23. Fbk-Pitch-Shifter	Coarse Pitch	Feedback Level
3. Distortion	Drive	Amp Type	24. Reverb	Reverb Time	Effect Balance
4. Phaser	Rate	Depth	25. Gate-Reverb	Reverb Time	Hi Gain
5. Spectram	Band	Level	26. OverDrive - Chorus	Chorus Rate	Chorus Depth
6. Enhancer	Sens	Mix	27. OverDrive - Flanger	Flanger Rate	Flanger Depth
7. Auto-Wah	Rate	Depth	28. OverDrive - Delay	Drive	Dlay Time
8. Rotary	Speed	Separation	29. Distortion - Chorus	Chorus Rate	Chorus Depth
9. Compressor	Sustain Time	Attack Level	30. Distortion - Flanger	Flanger Rate	Flanger Depth
10. Limiter	Release Time	Threshold	31. Distortion - Delay	Drive	Delay Time
11. Hexa-Chorus	Rate	Depth	32. Enhanser - Chorus	Chorus Rate	Chorus Depth
12. Tremoro-Chorus	Tremoro Rate	Blance	33. Enhanser - Flanger	Flanger Rate	Flanger Depth
13. Space-D	Rate	Depth	34. Enhanser - Delay	Delay Time	Feedback Level
14. Stereo-Chorus	Rate	Depth	35. Chorus - Delay	Chorus Rate	Chorus Depth
15. Stereo-Flanger	Rate	Depth	36. Flanger - Delay	Flanger Rate	Flanger Depth
16. Step-Flanger	Step Rate	Depth	37. Chorus - Flanger	Chorus Rate	Chorus Depth
17. Stereo-Delay	Delay Time	Feedback Level	38. Chorus / Delay	Chorus Rate	Chorus Depth
18. Modulation-Delay	Rate	Depth	39. Flanger / Delay	Flanger Rate	Flanger Depth
19. Triple-Tap-Delay	Delay Time	Feedback Level	40. Chorus / Flanger	Chorus Rate	Chorus Depth
20. Quadruple-Tap-Delay	Delay Time	Feedback Level	41. Bypass	—	—
21. Time-Control-Delay	Delay Time	Feedback Level			

RD-600

Roland Corporation

01127434   '00-2-A3-72K

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