Roland®

GENERAL midi2

RS-5
RS-9
64 VOICE SYNTHESIZER

Owner's Manual

Thank you, and congratulations on your choice of the Roland RS-5/9 64 Voice Synthesizer

> **Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 3).** 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, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

How to read this manual

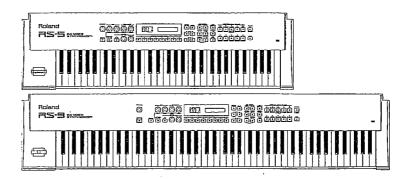The RS-5/9 Owner's Manual consists of two volumes, "Quick Start" and "Advanced Use."

"Quick Start" explains the basic functionality of the RS-5/9. By reading the Quick Start, you will gain an overall understanding of the RS-5/9's functions and features. And, for every item explained, you will find a convenient reference to the relevant page numbers in "Advanced Use," which you can turn to for additional information.

Read the material in "Advanced Use" when making detailed settings, when saving settings, and when using the RS-5/9 together with external devices.

This manual is arranged into sections, according to objective. Whenever you are curious about a certain item that can be set, and want to learn more about the function, refer to the Parameter List. The relevant reference pages are provided.

Convention Used in This Manual

- Words enclosed in square brackets [ ] indicate panel buttons.

  Example: [SPLIT] indicates the SPLIT button.
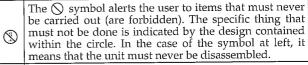
- (p. **) indicates a reference page

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 modify in any way) the unit or its AC adaptor.

....

- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

....

- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.

....

⚠WARNING

- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces.

....

- Be sure to use only the AC adaptor supplied with the unit. Also, make sure the line voltage at the installation matches the input voltage specified on the AC adaptor's body. Other AC adaptors may use a different polarity, or be designed for a different voltage, so their use could result in damage, malfunction, or electric shock.

....

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards!

....

- This unit, 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 immediately stop using the unit, and consult an audiologist.

....

2

⚠ WARNING

- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit.

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
  - The AC adaptor, the power-supply cord, or the plug has been damaged; or
  - Objects have fallen into, or liquid has been spilled onto the unit; or
  - The unit has been exposed to rain (or otherwise has become wet); or
  - The unit does not appear to operate normally or exhibits a marked change in performance.

- 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 retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ CAUTION

- The unit and the AC adaptor should be located so their location or position does not interfere with their proper ventilation.

- Always grasp only the plug or the body of the AC adaptor when plugging into, or unplugging from, an outlet or this unit.

- Whenever the unit is to remain unused for an extended period of time, disconnect the AC adaptor.

- 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 AC adaptor body, or its plugs, with wet hands when plugging into, or unplugging from, an outlet or this unit.

- Before moving the unit, disconnect the AC adaptor and all cords coming from external devices.

- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet.

- Whenever you suspect the possibility of lightning in your area, disconnect the AC adaptor from the outlet.

- Should you remove the screws used for attaching the music stand, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.

IMPORTANT NOTES

In addition to the items listed under "USING THE UNIT SAFELY" on page 2–3, 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).

- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.

- 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.

- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

- Do not allow objects to remain on top of the keyboard. This can be the cause of malfunction, such as keys ceasing to produce sound.

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 benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

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 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.

- 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.

- 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.

- 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.

What can I do with the RS-5/9? (Main features)

High-Quality Tones at a Low Price

The onboard Tones were composed using Tone resources from previous XP and JV Series models. Despite the low cost of this instrument, it features 640 high-quality internal Tones (Preset: 512, including GM and GM2 Tones; User: 128), plenty for just about any live performance.

Includes Piano Button (RS-9 Only)

Regardless of the mode, pressing this button provides you with the optimum settings for piano performances (p. 60).

16-Part, 64-Voice GM2 Sound Generator

Maximum polyphony is 64 notes, and up to 16 parts can be handled simultaneously. When working with music data that conforms to General MIDI and/or General MIDI 2 (GM scores), you can combine the RS-5/9 with a computer or sequencer, and use the RS-5/9 to play back the data (p. 128).

Includes Favorite Performance Bank Buttons

You can register the Performances you like to these eight buttons and easily call them up whenever you wish (p. 58).

Knob Controls for Adjusting the Sound in Real Time

These six convenient knobs let you can change the properties of the sound while you perform (p. 74).

Powerful Onboard Effects

Advanced DSP (Digital Signal Processor) technology provides a wide array of studio quality effects. In addition to the multiple effects section that features 42 different types of effects, the RS-5/9 also features an independent chorus unit and reverb unit (p. 79).

Arpeggiator Included

The RS-5/9's arpeggiator function allows you to produce arpeggios (broken chords) simply by playing a chord in the keyboard. You can also use these knobs for changing Patterns in real time. Additionally, you can use them to synchronize arpeggio tempos with a connected sequencer or other device (p. 75).

Tone Search and Phrase Preview Functions Included

The Tone Search function (p. 23) lets you rapidly find the tone you want simply by specifying a tone category. By pressing [PHRASE PREVIEW] button, you can then hear the selected tone play a phrase suitable for that type of tone. (Phrase Preview function, p. 33)

Stylish Aluminum Panel

The RS-5/9 features a titanium-toned aluminum panel for a great look onstage. The light weight adds to the RS-5/9's portability; and what's more, it's extremely durable.

GM/General MIDI

GENERAL midi

General MIDI is a set of recommendations which seeks to provide a way to go beyond the limitations of proprietary designs, and standardize the MIDI capabilities of sound generating devices. Sound generating devices and music files that meet the General MIDI standard bear the General MIDI logo (**GENERAL midi**). Music files bearing the General MIDI logo can be played back using any General MIDI sound generating unit to produce essentially the same musical performance.

GM 2/General MIDI 2

GENERAL midi2

The upwardly compatible General MIDI 2 (**GENERAL midi2**) recommendations pick up where the original General MIDI left off, offering enhanced expressive capabilities, and even greater compatibility. Issues that were not covered by the original General MIDI recommendations, such as how sounds are to be edited, and how effects should be handled, have now been precisely defined. Moreover, the available sounds have been expanded. General MIDI 2 compliant sound generators are capable of reliably playing back music files that carry either the General MIDI or General MIDI 2 logo. In some cases, the conventional form of General MIDI, which does not include the new enhancements, is referred to as "General MIDI 1" as a way of distinguishing it from General MIDI 2.

GS Format

GS

The GS Format (**GS**) is Roland's set of specifications for standardizing the performance of sound generating devices. In addition to including support for everything defined by the General MIDI, the highly compatible GS Format additionally offers an expanded number of sounds, provides for the editing of sounds, and spells out many details for a wide range of extra features, including effects such as reverb and chorus. Designed with the future in mind, the GS Format can readily include new sounds and support new hardware features when they arrive.

Contents

Advanced Use 61

Contents

Front and Rear Panel

A   B   C

PIANO Button (RS-9 Only)

You can get the perfect settings for piano performances with the press of a single button (p. 60).

A

VOLUME Knob

Adjusts the overall volume that is output from the OUTPUT jacks, and the PHONES jack (p. 16).

LFO

RATE Knob

Changes the LFO Rate value (p. 52).

DEPTH Knob

Changes the LFO Depth value (p. 52).

ENVELOPE

ATTACK Knob

Changes the Envelope Attack Time value (p. 54).

RELEASE Knob

Changes the Envelope Release Time value (p. 54).

MANUAL Button

Sets the parameters assigned to the six knobs (LFO, ENVELOPE, FILTER) to the values at the current knob positions (p. 74).

ARPEGGIO/CONTROL Button

Allows control of other parameters with the four LFO and ENVELOPE knobs (p. 74, 78).

FILTER

LFO ON/OFF Button

This determines whether the LFO changes the filter cutoff frequency (ON), or the pitch (OFF) (p. 52).

CUTOFF Knob

Changes the Tone's Cutoff Frequency value (p. 55).

RESONANCE Knob

Changes the Tone's Resonance value (p. 55).

B

LED Display
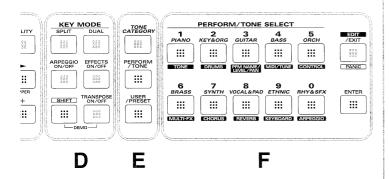
Displays the Tone number, Drum Set number, or Performance number.

Display

This displays information regarding the operation you are performing.

FAVORITE PERFORM BANK Buttons 1–8

These allow you to register and immediately call up your favorite Performances (p. 58).

D   **E**   **F**

C

PHRASE PREVIEW Button

Press this button to check the sound of a Tone or Drum Set before selecting (p. 33).

UTILITY Button

Used when saving data (p. 113), transmitting GM or GM2 Setup messages (p. 129), and restoring previous settings (p. 117).

PART ◄ / ► Button

Switches the Parts (p. 28).

VALUE -/+ Button

This is used to modify values. When one of these buttons is first held down and the other is pressed, the value then changes rapidly while [SHIFT] is held down (p. 64).

D

KEY MODE

SPLIT Button

Sets Key Mode to Split. When pressed, the keyboard is split into two separate ranges, with a different Tone played in each (p. 34).

DUAL Button

Sets Key Mode to Dual. When pressed, two different Tones are layered together (p. 36).

ARPEGGIO ON/OFF Button

This button turns the arpeggio on or off (p. 75).

EFFECTS ON/OFF Button

Switches the multi-effects, reverb, and chorus effects on and off (p. 79).

TRANSPOSE ON/OFF Button

Transposes all Parts (p. 48).

SHIFT Button

This button is used in conjunction with other buttons (p. 64, 65).

E

TONE CATEGOTY Button

Selects Tones when the Tone Search function is used (p. 23).

PERFORM/TONE Button

This button switches between the Tone Select display and the Performance Select display (p. 23, 29, 57).

USER/PRESET Button

This button switches between User Tones (or Drum Sets or Performances) and Preset Tones (or Drum Sets or Performances) (p. 26, 30, 57).

F

Numeric Keys 1–0
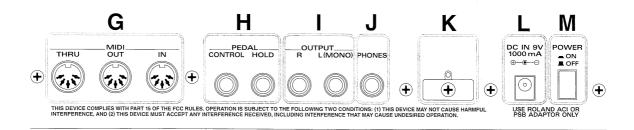
Used for inputting numbers when selecting and saving Tones and Performances (p. 27, 30, 57). When selecting Tones by category, these specify the category (p. 23). When the EDIT button is pressed, the functions printed beneath the buttons can be selected.

EDIT Button

Press this button when you wish to adjust various settings.

ENTER Button

Use this button to finalize a value or execute an operation.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

USE ROLAND ACI OR PSB ADAPTOR ONLY

G

MIDI Connectors

External MIDI devices can be connected here (p. 120, 122, 124, 127). Use MIDI cables (sold separately) to make connections.

IN:

MIDI messages from an external device are received at this connector.

OUT:

MIDI messages are transmitted from this connector to an external device.

THRU:

MIDI messages received at MIDI IN are re-transmitted without change from this connector to an external MIDI device.

H

PEDAL Jack

CONTROL:

Accepts connection of an external pedal, such as an expression pedal (the optional EV-5), pedal switch (the optional DP-2/6), or foot switch (the optional BOSS FS-5U) (p. 14).

HOLD:

Allows you to use a connected pedal switch (the optional DP-2/6) or foot switch (the optional BOSS FS-5U) as a hold pedal (p. 14).

I

OUTPUT Jacks

Connect your amp or mixer to these jacks (p. 14). These jacks output the audio signal in stereo. For mono output, use the L jack.

J
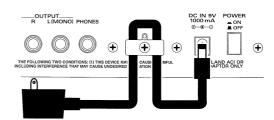
PHONES Jack

Accepts connection of headphones (p. 14).

K

Cord Hook

To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook, as shown in the illustration.

L

AC Adaptor Jack

Connect the included AC adaptor here (p. 14).

M

POWER Switch

Turns the power on/off (p. 15).
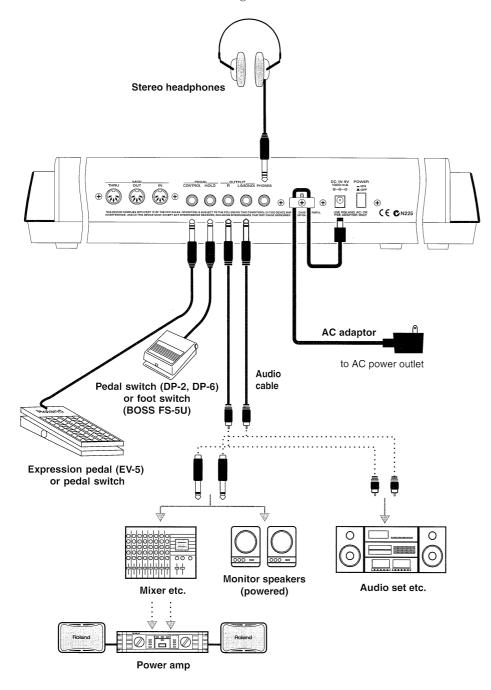
Quick Start

Getting Ready

Connecting the RS-5/9 to external equipment

The RS-5/9 does not contain an amp or speaker. You'll need to listen to it through powered monitors, a mixer and connected monitors, a stereo system, or through headphones.

Connect as follows when using the RS-5/9 as a stand-alone device.

Stereo headphones

AC adaptor

to AC power outlet

Audio cable

Pedal switch (DP-2, DP-6) or foot switch (BOSS FS-5U)

Expression pedal (EV-5) or pedal switch

Mixer etc.

Monitor speakers (powered)

Audio set etc.

Power amp

NOTE
- To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook, as shown in the illustration.

- Audio cables, MIDI cables, and stereo headphones are not included. You will need to purchase these items from your dealer.

- 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.

NOTE
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.

1 Before starting the connection procedure, make sure that the power to all devices has been turned off.

2

Connect the supplied AC adaptor to the RS-5/9, and then plug its other end into a power outlet.

3

Connect the RS-5/9 and the external device as shown in the figure.

Use audio cables to connect audio equipment, such as an amp or speakers. If you are using headphones, plug them into the PHONES jack. Connect pedal switches or expression pedals as necessary.

When you want to how to make the connections for use with another external device

- "Playing Sounds from an External MIDI Sound Generator With the RS-5/9" (p. 120)
- "Playing the RS-5/9's Sound Generator from an External MIDI Device" (p. 122)
- "Recording to an External Sequencer" (p. 124)
- "Enjoying Computer Music" (p. 126)

MEMO

- CONTROL PEDAL jack can also accommodate pedal switches.

- In order to take full advantage of the RS-5/9's performance, we recommend using a stereo amp/speaker system, If you are using a mono system, make you connections to the OUTPUT jack L (MONO).

Getting Ready

Turning On the Power

1

Before turning on the RS-5/9's power, make sure that:

- Are all devices connected properly?
- Are the volume controls of the RS-5/9 and the other connected equipment turned to the minimum position?
- Is the AC adapter correctly connected to the RS-5/9?

2

Press the RS-5/9's power switch on the rear panel to turn on the power.

```
POWER
 ━ ON
 ■ OFF
┌──────┐
│      │
│      │
└──────┘
```

NOTE

Once the connections have been completed (p. 14), 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.

NOTE

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.

3

Turn on the power of the connected audio devices.

4

Play the RS-5/9's keyboard and gradually raise the volume controls of the RS-5/9, or the connected audio equipment to an appropriate volume level.

VOLUME

NOTE
Turn up the RS-5/9's volume level carefully. Excessive volume can damage connected audio devices, your hearing, or annoy your neighbors.

Turning the power off

1
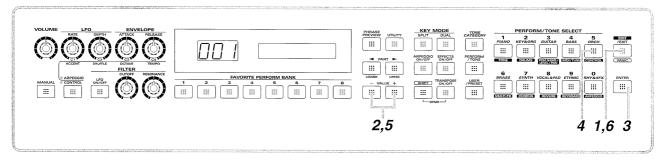
Before you turn off the power, make sure of the following points.

- Are the volume controls of the RS-5/9 and the other connected equipment turned to the minimum position?
- Have you saved the sounds or other data you've created? (p. 113)

2

Turn off the power for all connected audio devices.

3

Turn off the RS-5/9 power switch.

Adjusting the display contrast (LCD CONTRAST)
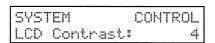
The characters in the display may be difficult to view immediately after turning on the power or after extended use; this may also be because of where and how the display is situated. Follow the steps below to adjust the display's contrast.

MEMO
The LCD CONTRAST setting affects the RS-5/9 as a whole (i.e., is a system setting). This setting remains stored in memory even while the power is off.

2,5

4 1,6 3

1   Press [EDIT], getting the indicator to light.

2   Use VALUE [-]/[+] to select "System Setup."

3   Press [ENTER].

4   Press [5] a number of times to select "LCD Contrast."
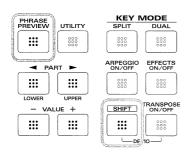
```
SYSTEM        CONTROL
LCD Contrast:       4
```

HINT
If you hold down [SHIFT]
and press [5], you will
return to the previous item.

5   Press VALUE [-]/[+] to set the value (1–8).

6   Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.
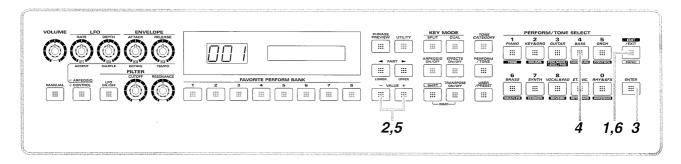
Easily Setting the LCD Contrast

If you hold down [SHIFT] while you press [PHRASE PREVIEW], you can
select the "LCD Contrast" screen directly. Make settings as explained in
steps 5–6 of the above procedure.

Adjusting the pitch to other instruments (Master Tuning)

When playing the RS-5/9 together with other instruments, the pitch of all instruments must be adjusted to match—otherwise you will be out of tune! In general, the tuning of an instrument is indicated by the pitch in Hertz (Hz) of the middle "A" note.

2,5   **4** **1,6** **3**

1 Press [EDIT], getting the indicator to light.

2 Use VALUE [-]/[+] to select "System Setup."

3 Press [ENTER].

4 Press [4] a number of times to select "Master Tune."

```
SYSTEM            TUNE
Master Tune: 440.0Hz
```

5 Press VALUE [-]/[+] to set the value (415.3–440.0–466.2).

Match the pitch of the middle "A" note on the RS-5/9 to the other instruments.

6 Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

MEMO
The Master Tune setting is a system setting that is applied to the entire RS-5/9 (i.e., is a system setting). This setting remains stored in memory even while the power is off.

HINT
If you hold down [SHIFT] and press [4], you will return to the previous item.

?
The process of putting the standard pitches in tune is called "**Tuning**."
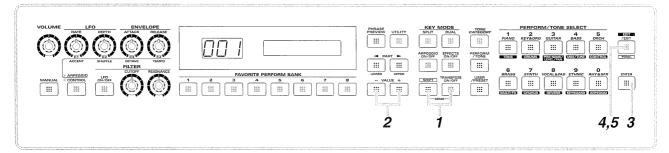
Listening to the Demo (DEMO)

The RS-5/9 contains Demo songs.

Here's how to hear the demo songs and experience the superb sounds and effects of the RS-5/9.

1

Press [SHIFT] and [TRANSPOSE ON/OFF] at the same time.

The following display will appear.

```
DEMO  Press [ENTER]
  All Songs
```

2

Press VALUE [-]/[+] to select the song that you wish to hear.

If you want to listen to all of the songs played in order, select "All Songs."

3

Press [ENTER] to start demo song playback.

The selected song is played back repeatedly.

When "All Songs" is selected, the entire selection of songs is played back repeatedly.

4

Press [EXIT] to stop playback.

5

To return the keyboard to performance mode, press [EXIT] once more.

NOTE
- While the demo songs are playing back, playing the keyboard will not produce sound.

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

HINT
- In Step 4, the performance stops even when [ENTER] is pressed instead of [EXIT].

- In Step 5, the keyboard is returned to performance mode even when [ENTER] is pressed instead of simultaneously pressing [SHIFT] and [TRANSPOSE ON/OFF].

Listening to the Demo (DEMO)

Demo Songs List

The RS-5/9 comes with 3 demos.

1. The Groove's Up

Copyright © 2000, Roland Corporation

2. RS Fanfare

Copyright © 2000, Roland Corporation

3. Journey To RS

Copyright © 2000, Roland Corporation

Playing the Sounds

Restoring the Factory Settings (Factory Reset)

When learning how to use the RS-5/9, it's a good idea to reset it to its factory settings to ensure that its operation matches the behavior described in its manuals.

Notes

🚫

When data is being written to the User Memory, the message "KEEP POWER ON!" appears in the display; be sure not to turn off the power while this message is displayed.

If the power is turned off or interrupted while data is being written to memory, the internal data may become corrupted, and you may not be able to turn the power back on. If you have confirmed that internal data has been lost, or if a similar problem exists, consult your Roland dealer or Roland Service. Note, however, that Roland assumes no liability, including compensation, for consequences arising from loss of data.

NOTE

When this operation is executed, the settings stored in the User Area (where the User Tones and other Tones you have created are stored) as well as the System setup settings are lost. If you want to keep this data, save it to an external sequencer or computer using "Bulk Dump" (p. 115).

1 Press [UTILITY], getting the indicator to light.
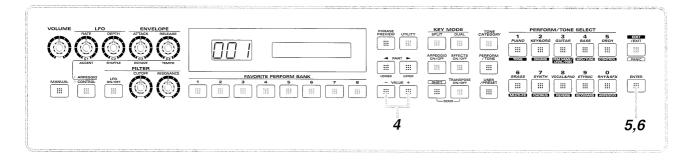
2 Use VALUE [-]/[+] to select "Factory Reset."

```
UTILITY        [ENTER]
Factory Reset
```

3 Press [ENTER].

4

Use VALUE [-]/[+] to select "All."

```
FACTORY        [ENTER]
All
```

5

Press [ENTER].

The confirmation message appears.

```
Are you sure?
YES=[ENTER]NO=[EXIT]
```

6

Press [ENTER] once again to start the Factory Reset operation.

After the Factory Reset operation is finished, the display will indicate "Completed."

The [UTILITY] indicator goes out, and you are returned to the previous screen.

MEMO
* To cancel the Factory Reset, press [EXIT].

* Even if the Factory Reset operation is executed, the display may be difficult to read, depending on the angle at which the RS-5/9 is placed. When this occur, adjust depth of the display (p. 16).

When you want to return a portion of the User memory to factory settings

* "Restoring the Factory Settings (Factory Reset)" (p. 117)

Selecting Tones By Category
(TONE CATEGORY)
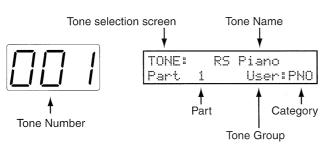
The RS-5/9 features a **Tone Search function** that allows you to rapidly select and call up Tones by specifying the type of tone (Category). The 35 categories are organized into 10 groups.

1

Press [PERFORM/TONE] to call up the Tone Search screen.

2

Make sure that the [TONE CATEGORY] indicator is lit.

If the [TONE CATEGORY] indicator is not lit, press [TONE CATEGORY] once more.

HINT
Should "PERFORM" be displayed, simply press [PERFORM/TONE] once more, and the Tone selection screen is

Tone selection screen   Tone Name


```
TONE:    RS Piano
Part   1      User:PNO
```

Tone Number

Part   Category

Tone Group

3

Press the numeric keys ([1]–[0]) a number of times until you can select the Category you want.

4

Press VALUE [-]/[+] to select a Tone in the currently selected Category.

Selecting Categories from the Full List

In Step 3, if you hold down [TONE CATEGORY] and press a numerical key ([1]–[0]), the Category selection screen is displayed.

The indicator will begin blinking, instead of lighting steadily.

```
Category Select  PNO
Piano:      AC.PIANO
```

Press the numeric keys ([1]–[0]) a number of times, or press VALUE [-]/[+], to select the Category.

Pressing [TONE CATEGORY] or [EXIT] returns you to the original screen (the screen displayed in Step 2).

The indicator changes from blinking to lit.

When a Drum Set is Selected

"DRM" appears in the display if a Drum Set is selected when [TONE CATEGORY] is on (p. 29).

Note that, in this case, the numerical keys ([1]–[10]) are disabled.

```
DRUM1:   RS Pop Kit 1
Part 10      User:(DRM)
```

The following categories can be selected.

Category Group	Category		Contents
Piano	PNO	AC.PIANO	Acoustic Piano
	EP	EL.PIANO	Electric Piano
Keys&Organ	KEY	KEYBOARDS	Other Keyboards (Clav, Harpsichord etc.)
	BEL	BELL	Bell, Bell Pad
	MLT	MALLET	Mallet
	ORG	ORGAN	Electric and Church Organ
	ACD	ACCORDION	Accordion
	HRM	HARMONICA	Harmonica, Blues Harp
Guitar	AGT	AC.GUITAR	Acoustic Guitar
	EGT	EL.GUITAR	Electric Guitar
	DGT	DIST.GUITAR	Distortion Guitar
Bass	BS	BASS	Acoustic & Electric Bass
	SBS	SYNTH BASS	Synth Bass
Orchestral	STR	STRINGS	Strings
	ORC	ORCHESTRA	Orchestra Ensemble
	HIT	HIT&STAB	Orchestra Hit, Hit
	WND	WIND	Winds (Oboe, Clarinet etc.)
	FLT	FLUTE	Flute, Piccolo
Brass	BRS	AC.BRASS	Acoustic Brass
	SBR	SYNTH BRASS	Synth Brass
	SAX	SAX	Sax
Synth	HLD	HARD LEAD	Hard Synth Lead
	SLD	SOFT LEAD	Soft Synth Lead
	TEK	TECHNO SYNTH	Techno Synth
	PLS	PULSATING	Pulsating Synth
	FX	SYNTH FX	Synth FX (Noise etc.)
	SYN	OTHER SYNTH	Poly Synth
Vocal&Pad	VOX	VOX	Vox, Choir
	BPD	BRIGHT PAD	Bright Pad Synth
	SPD	SOFT PAD	Soft Pad Synth
Ethnic	PLK	PLUCKED	Plucked (Harp etc.)
	ETH	ETHNIC	Other Ethnic
	FRT	FRETTED	Fretted Inst (Mandolin etc.)
Rhythm&SFX	PRC	PERCUSSION	Percussion
	SFX	SOUND FX	Sound FX

Selecting Tones by Specifying the Group and Number

Tones are separated into the following two groups. You can select Tones by specifying the group and number.

User
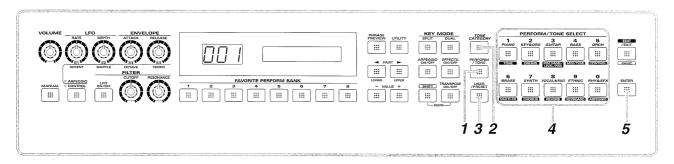
128 Tones can be stored here. You can overwrite the Tones already stored here, replacing them with Tones you create (p. 113).

Preset
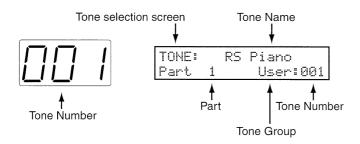
This area holds 512 Tones; these cannot be overwritten or replaced. However you may modify the settings of the currently selected tone, and then store the modified tone in User memory.

1–256 are the RS-5/9's original Tones.

Tones 257–512 provide compliance with GM2.

1   Press [PERFORM/TONE] to display the Tone selection screen.

2   Press [TONE CATEGORY] to make the indicator goes out.

The following screen appears.

Tone selection screen   Tone Name

TONE: RS Piano
Part 1   User:001

Tone Number   Part   Tone Number

Tone Group

3   Press [USER/PRESET] to select the group (User or Preset).

HINT
Should "PERFORM" be displayed, simply press [PERFORM/TONE] once more, and the Tone selection screen is

4   Press the numeric keys ([1]–[0]) to specify the Tone number (User: 1–128, Preset: 1–512).

5   Press [ENTER] to finalize the entry.

MEMO

If you make a mistake, press [EXIT] and specify the number once more.

HINT

Instead of using Steps 4 and 5, you can also switch Tones by pressing VALUE [-]/[+].

Changing values by large amounts

When changing values on the RS-5/9, press VALUE [-]/[+]. You can change values by large amounts using the methods described below.

To increase the value, hold down VALUE [+] and press VALUE [-].

To decrease the value, hold down VALUE [-] and press VALUE [+].

To increase the value in units of ten, hold down [SHIFT] and press VALUE [+].

To decrease the value in units of ten, hold down [SHIFT] and press VALUE [-].

When you want to know the name and number of the Tone

* "Tone List" (p. 148)

When you want to know how to switch Tones with Key Mode set to Split or Dual

* "Selecting Tones and Drum Sets" (p. 37)

To create Tones by yourself

* "Creating a Tone" (p. 110)

When you want to store a Tone you have created to User memory

* "Saving Tone / Drum Set / Performance" (p. 113)

When you want to switch Tones from an external MIDI device

* "Selecting RS-5/9 Sounds from an External MIDI Device" (p. 123)

Playing the Sounds

Easy Tone Selection (Switching Parts)
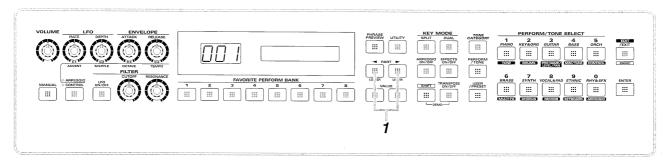
By switching Parts, you can select Tones easily.

The RS-5/9 has 16 Parts. Parts are the equivalent of performers playing instruments, and you can assign a different Tone to each individual Part.

* Selecting Tones By Category (TONE CATEGORY)

* Selecting Tones by Specifying the Group and Number
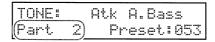
The two methods of selecting Tones shown above are used to change Tones while a single Part is selected.

Here, let's select a Tone easily by switching Parts.

1

Press PART [◄]/[►] and select one of the Parts 1–16.

```
TONE:     Atk A.Bass
(Part  2)    Preset:053
```

HINT

By selecting a Tone (p. 23, 26) or Drum Set (p. 29, 30) after selecting a Part, you can then switch the Tone or Drum Set for that Part.

When you want to perform in ensemble using multiple parts

* "Recording to an External Sequencer" (p. 124)

* "Enjoying Computer Music" (p. 126)

When you want to know how to switch Parts with Key Mode set to Split or Dual

* "Changing the Two Parts Being Used" (p. 39)

Playing Percussion Instruments (Drum Sets)
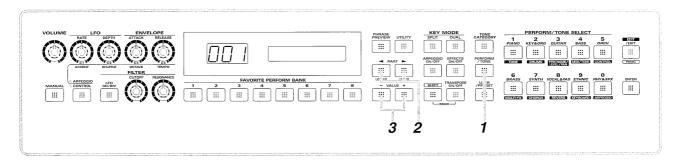
The RS-5/9 contains Drum Sets that allow you to play different percussion instruments or sound effects from each key of the keyboard.
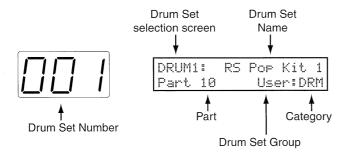
Changing a Drum Set

Factory settings have a Drum Set assigned to Part 10, so you can immediately use the keyboard to play percussion instrument sounds by pressing PART [◀]/[▶] to select Part 10.

Here, let's select Part 10 and learn how to switch Drum Sets.

1
Press [PERFORM/TONE] to call up the Tone/Drum Set selection screen.

HINT
Should "PERFORM" be displayed, simply press [PERFORM/TONE] once more, and the Tone/Drum Set selection screen is displayed.

2
Press PART [◀]/[▶] to select Part 10.

Drum Set selection screen →
Drum Set Name →

```
DRUM1:   RS Pop Kit 1
Part 10        User:DRM
```

Drum Set Number
Part
Category
Drum Set Group

3
Press VALUE [-]/[+] to switch the Drum Set.

Selecting Drum Sets by Specifying the Group and Number

Just as are Tones, Drum Sets are separated into two groups. You can also select Drum Sets by specifying the group and number.

User
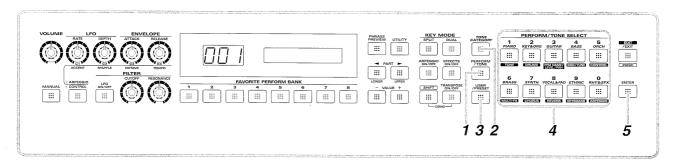
Two Drum Sets can be stored here. You can overwrite these, replacing them with Drum Sets you create (p. 113).

Preset
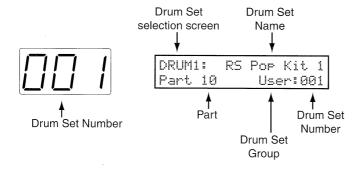
This area holds twenty Drum Sets; these cannot be overwritten or replaced. However, you can change the settings of a currently selected Drum Set, and then store those settings in User memory.

1–11 are the RS-5/9's original Drum Sets.

Drum Sets 12–20 provide compliance with GM2.

1
Press [PERFORM/TONE] to call up the Tone/Drum Set selection screen.

2
Press [TONE CATEGORY] to make the indicator goes out.

The following screen appears.

Drum Set selection screen

Drum Set Name

DRUM1: RS Pop Kit 1
Part 10   User:001

Drum Set Number

Part

Drum Set Number

Drum Set Group

3
Press [USER/PRESET] to select the group (User or Preset).

4
Press the numeric keys ([1]–[0]) to specify the Drum Set number (USER: 1, 2, Preset: 1–20).

HINT
Should "PERFORM" be displayed, simply press [PERFORM/TONE] once more, and the Tone/Drum Set selection screen is displayed.

MEMO
If you make a mistake, press [EXIT] and specify the number once again.
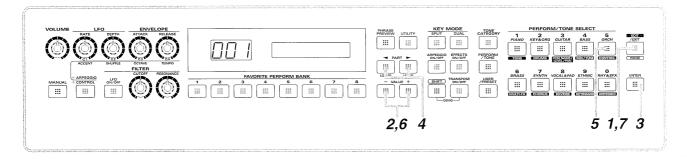
5
Press [ENTER] to finalize the entry.

Playing a Drum Set in a Part Other Than Part 10

You can also Play Drum Sets in Parts other than Part 10.

1
Press [EDIT], getting the indicator to light.

2
Use VALUE [-]/[+] to select "Performance Part."

MEMO
Separate Tone Type settings can be made for each individual Part in a Performance (p. 56).

3
Press [ENTER].

4
Press PART [◄]/[►] to select the Part to which the Drum Set is to be assigned.

NOTE
When Key Mode (p. 34) is set to Split or Dual, you can select only the Upper Part and the Lower Part.

5
Press [5] a number of times to select "Tone Type."

```
PART 1          CONTROL
Tone Type:        DRUM1
```

HINT
If you hold down [SHIFT] and press [5], you will return to the previous item.

6
Press VALUE [-]/[+] to select "DRUM1" or "DRUM2."

7
Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

MEMO
• If you wish to make settings for other Parts, repeat steps 4–6.

• If you want to go from Drum Sets back to regular Tones, press "TONE" in Step 6.

Playing the Sounds
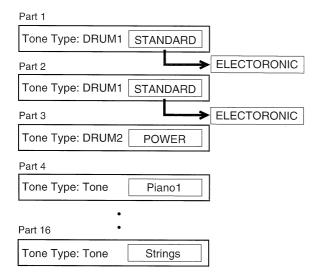
Notes when selecting a Drum Set

Whether a Tone or a Drum Set is played in any Part is determined with the selection of TONE, DRUM1, or DRUM2 in the Tone Type setting as described in Step 6 of "Playing a Drum Set in a Part Other Than Part 10" (p. 31).

Up to 2 Drum Sets can be assigned to the Parts. The same Drum Set will be selected for each Part whose Tone Type is set to DRUM1. The same is true for a setting of DRUM2.

Example:

DRUM1 has been specified for Parts 1 and 2, and the STANDARD Drum Set is selected. In this situation if you change Part 1 from STANDARD to ELECTRONIC, Part 2 will automatically be set to ELECTRONIC.

Part 1

| Tone Type: DRUM1 | STANDARD |

→ ELECTORONIC

Part 2

| Tone Type: DRUM1 | STANDARD |

→ ELECTORONIC

Part 3

| Tone Type: DRUM2 | POWER |

Part 4

| Tone Type: Tone | Piano1 |

Part 16

| Tone Type: Tone | Strings |

When you want to play a percussion instrument assigned to a key outside the key range

- "Transposing All the Parts (TRANSPOSE ON/OFF)" (p. 48)

When you want to know a Drum Set's name and number

- "Drum Set List" (p. 151)

To create your own Drum Sets

- "Creating a Drum Set" (p. 112)

When you want to store a Drum Set you have created to User memory

- "Saving Tone / Drum Set / Performance" (p. 113)
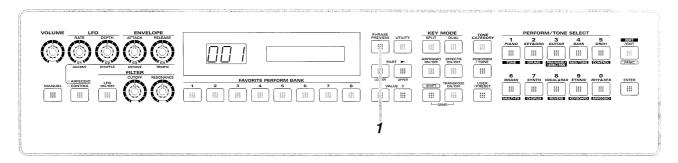
When you want to switch Drum Sets from an external MIDI device

- "Selecting RS-5/9 Sounds from an External MIDI Device" (p. 123)

Trying out tones (PHRASE PREVIEW)

You can check out Tones using specially prepared phrases in each Tone Category.

1
Select a Tone or Drum Set (p. 23, 26, 29, 30).

2
Press and hold [PHRASE PREVIEW].

3
Release your finger from [PHRASE PREVIEW], and the phrase will stop playing.

MEMO
The selected Tone or Drum Set plays when Key Mode (p. 34) is set to Split or Dual.

NOTE
Tone and Drum Set categories are set; they cannot be modified.

Playing Two Tones on the Keyboard

The setting that determines whether one or two Tones are played by a key is referred to as "**Key Mode**." There are three Key modes.

Single: The same Tone is played by all keys on the keyboard. This is the normal playing mode.

Split: One key acts as the division point (the "split point") separating the keyboard into left- and right-hand sides, with a different Tone played in each.
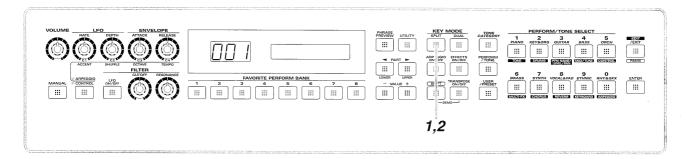
Dual: Two Tones can be layered together.

MEMO

Different Key Mode settings can be made for each individual Performance.
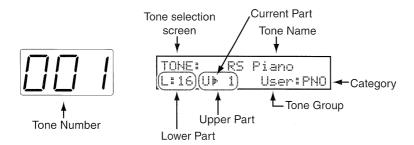
Dividing the Keyboard into Separate Ranges and Playing Different Tones in Each (SPLIT)

1

Press [SPLIT], getting the indicator to light.

Try fingering the keyboard.

Tone selection screen
Current Part
Tone Name
Tone Number
Category
Tone Group
Upper Part
Lower Part

In Split, two Parts are used. These are referred to as the "**Upper Part**" and the "**Lower Part**." The tone data for the currently selected parts appears in the display.

The above figure shows an example where Part 1 is used for the Upper Part, and Part 16 is used for the Lower Part.
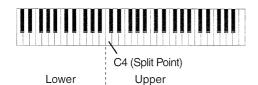
The split point is set to C4 at the factory. The upper range of the keyboard, including C4, plays the tone in the Upper Part, and the Lower Part Tone is played in the range below C4.

HINT

In some Preset Performances, Key Mode is set to Split or Dual (Performance List, p. 147). Try switching Performances (p. 56) and listening to the various combinations of tones.

MEMO

The key used as the split point plays the Tone in the Upper Part.

C4 (Split Point)

Lower   Upper

2

If you press [SPLIT] once more, the indicator light goes out, and the keyboard returns to the normal performance mode (Single).

When you want to switch Tones

- "Selecting Tones and Drum Sets" (p. 37)

When you want to change the Parts used for the Upper and Lower Parts
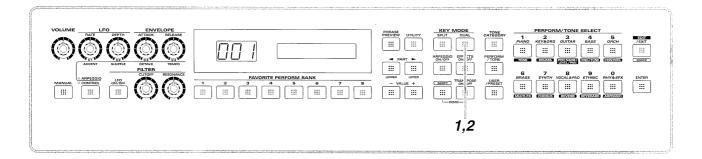
- "Changing the Two Parts Being Used" (p. 39)

When you want to change the key dividing the keyboard into two ranges
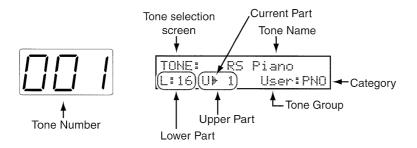
- "Changing the Split Point" (p. 40)

Playing two Tones from the keyboard (DUAL)

1

Press [DUAL], getting the indicator to light.

Try fingering the keyboard.

Tone selection screen

Current Part

Tone Name

Tone Number

Lower Part

Upper Part

Category

Tone Group

Just as in Split mode, two Parts are used.

The Tones selected for the Upper Part and Lower Part are played together when a key is pressed.

2

If you press [DUAL] once more, the indicator light goes out, and the keyboard returns to the normal performance mode (Single).

When you want to switch Tones

- "Selecting Tones and Drum Sets" (p. 37)

When you want to change the Parts used for the Upper and Lower Parts
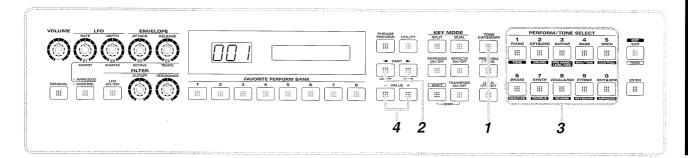
- "Changing the Two Parts Being Used" (p. 39)

Selecting Tones and Drum Sets
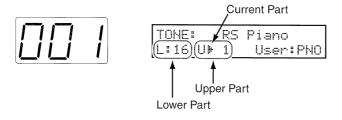
Use the following procedure to switch Tones when Key Mode is set to Split or Dual.

Selecting Tones By Category (TONE CATEGORY)

1

Make sure that the [TONE CATEGORY] indicator is lit.

If the [TONE CATEGORY] indicator is not lit, press [TONE CATEGORY] once more.

2

Press PART [◄]/[►] to move the cursor to the Part whose Tone or Drum Set you want to switch.

Current Part

Upper Part

Lower Part

The above figure is an example where the Upper Part is selected.

3

Press the numeric keys ([1]–[0]) a number of times until you can select the Category you want.

MEMO
With Drum Sets, Step 3 is not required.

4

Press VALUE [-]/[+] to select a Tone or Drum Set in the currently selected Category.

Selecting Categories from the Full List

In Step 3, if you hold down [TONE CATEGORY] and press a numerical key ([1]–[0]), the Category selection screen is displayed.

The indicator will begin blinking, instead of lighting steadily.

```
Category Select  PNO
Piano:      AC.PIANO
```

Press the numeric keys ([1]–[0]) a number of times, or press VALUE [-]/[+], to select the Category.

Pressing [TONE CATEGORY] or [EXIT] returns you to the original screen (the screen displayed in Step 2).
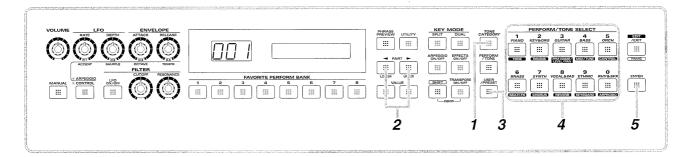
The indicator changes from blinking to lit.

Selecting Tones by Specifying the Group and Number

1
   Press [TONE CATEGORY] to make the indicator goes out.

2
   Press PART [◄]/[►] to move the cursor to the Part whose Tone or Drum Set you want to switch.

Current Part

```
TONE:  RS Piano
(L:16)(U► 1)   User:001
```

Lower Part

Upper Part

The above figure is an example where the Upper Part is selected.

3   Press [USER/PRESET] to select the group (User, Preset).

4   Press the numeric keys ([1]–[0]) to specify the Tone or Drum Set number.

5   Press [ENTER] to finalize the entry.

The Tone number or Drum Set number appears in the display.

MEMO

If you make a mistake, press [EXIT] and specify the number once more.

HINT
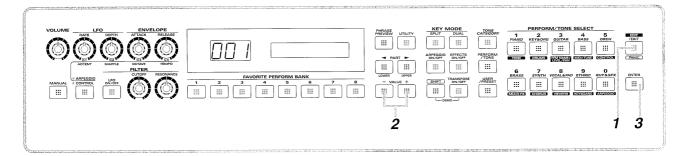
Instead of using Steps 4 and 5, you can also switch Tones by pressing VALUE [-]/[+].

Changing the Two Parts Being Used

Two Parts (Upper and Lower) are used when Key Mode is set to Split or Dual. You can select which of the 16 Parts will be the Upper Part and which will be the Lower Part.
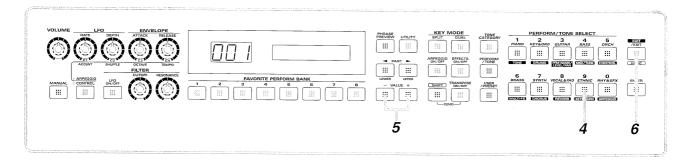
MEMO

These settings can be made for each Performance (p. 56) individually.

1   Press [EDIT], getting the indicator to light.

2   Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3   Press [ENTER].

4

Press [9] a number of times to select "Upper Part" or "Lower Part."

```
PERFORMANCE KEYBOARD
Upper Part:        1
```

```
PERFORMANCE KEYBOARD
Lower Part:       16
```

HINT
If you hold down [SHIFT] and press [9], you will return to the previous item.

5

Press VALUE [-]/[+] to select the value (1–16).

6

Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Which Part Is Used in Single Mode?

When Key Mode is set to Single, the Upper Part is used.

Therefore, take care not to press PART [◄]/[►] and switch the Part while in Single Mode, or the "Upper Part" value will be overwritten.

Changing the Split Point

When Key Mode is set to Split, you can set the key that divides the keyboard into two separate ranges anywhere from C2 to C#7.
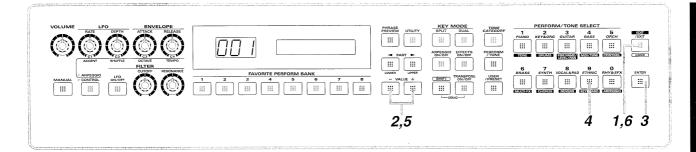
MEMO
The split point can be set individually for each Performance (p. 56).

C4 (Split Point)

Lower   Upper

1

Press [EDIT], getting the indicator to light.

2

Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3

Press [ENTER].

4

Press [9] a number of times to select "Split Point."

```
PERFORMANCE KEYBOARD
Split Point:      C 4
```

HINT

If you hold down [SHIFT] and press [9], you will return to the previous item.

5

Press VALUE [-]/[+] to select the value (C-1–G9).

6

Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

A quick way to change the Split Point

If you hold down [SPLIT] and press [EDIT], you can select the "Split Point" screen directly. Make settings as explained in steps 5–6 of the above procedure.

Also, if you want be able to change the split point quickly, by holding down [SPLIT] and pressing VALUE [-]/[+], you can change only the "Split Point" setting. When you release [SPLIT], the previous display will reappear.

Using the Convenient Functions in Performances

This section explains how to utilize the different functions that are often used in performances.

Creating Arpeggios from the Chords You Play (ARPEGGIO ON/OFF)
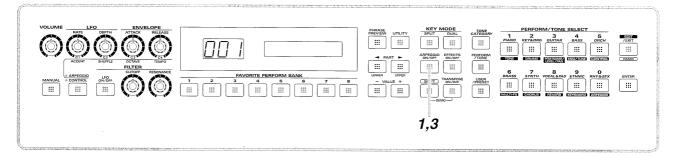
Just by playing a chord, you can play an arpeggio (a chord that is played one note at a time) using the notes making up that chord.

You can play arpeggios in all key ranges when Key Mode is set to Single or Dual.
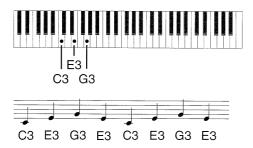
When Key Mode is set to Split, you can play arpeggios in the Lower range.

NOTE

Arpeggios can be produced only by playing the RS-5/9's keyboard. Arpeggios cannot be played using Note messages that arrive at the MIDI IN connector.

1

Press [ARPEGGIO ON/OFF], getting the indicator to light.

MEMO

- Arpeggio data is output from the MIDI OUT connector.

2

Press the key as shown in the figure below.

E3

C3 G3

C3 E3 G3 E3 C3 E3 G3 E3

The arpeggio is played with the sequence of notes, C3, E3, G3, E3, C3, E3, G3, E3, and so on.

Try playing some other chords, too.

- The arpeggio On/Off setting can be made individually for each Performance (p. 56).

3

If you press [ARPEGGIO ON/OFF] once more, the indicator light goes out, and the keyboard returns to the normal performance mode.

Continuing Arpeggios Without Having To Hold Down the Key

Hold down the [SHIFT] button and press [ARPEGGIO ON/OFF]. The [ARPEGGIO ON/OFF] indicator starts blinking, and you can then have the arpeggio be played without having to continue pressing the chord. To cancel Arpeggio Hold, hold down [SHIFT] and press [ARPEGGIO ON/OFF] once more.

Note also that if a pedal switch (such as the optional DP-2/6), or a foot switch (such as the optional BOSS FS-5U) is connected to the PEDAL HOLD jack, you can have arpeggios be played if you depress the pedal while pressing chords. In this way, you can play arpeggios without having to continue pressing the chord.

When you want to know more about the arpeggio settings

* "Chapter 5. Using the arpeggiator" (p. 75)

Using Multi-effects, Chorus, and Reverb

The RS-5/9 provides three independent internal effect channels.

Multi-Effect

This channel can provide 42 different effects, including distortion and rotary effects.

Chorus

This channel adds depth and dimension to sounds.

Reverb
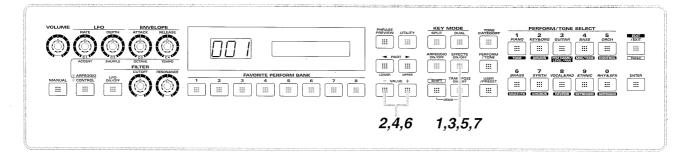
This channel creates an artificial ambience around the sound.

MEMO

The On/Off settings for each Effect affect the RS-5/9 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

Turning the Effects On and Off (EFFECTS ON/OFF)

When shipped from the factory, all three effects are set to ON.

2,4,6   1,3,5,7

1

Press [EFFECTS ON/OFF] to make the indicator blink.

The Multi-effects On/Off settings screen appears in the display.

```
Multi-FX Switch
                ON
```

2

Press VALUE [-]/[+] to turn the effect on or off.

3

Press [EFFECTS ON/OFF].

Next, the Chorus On/Off settings screen appears in the display.

```
Chorus Switch
                ON
```

4 Press VALUE [-]/[+] to turn the effect on or off.

5 Press [EFFECTS ON/OFF].

Then the Reverb On/Off settings screen appears in the display.

```
┌──────────────────────────┐
│ Reverb Switch            │
│                      ON  │
└──────────────────────────┘
```

6 Press VALUE [-]/[+] to turn the effect on or off.

7 Press [EFFECTS ON/OFF] to return to the original screen.

The [EFFECTS ON/OFF] indicator lights up whenever any of the three effects is on.

MEMO
- You can return to the original screen during the operation by pressing [EXIT].

- If all three effects are turned off, the [EFFECTS ON/OFF] indicator light goes out.

When Using Multi-effects in Split or Dual Mode

The RS-5/9 cannot use more than one multi-effect at a time. Therefore, there is a "Source" parameter which is used for selecting the multi-effect settings.

Settings Values

UPPER: The Upper Tone's multi-effect settings are used. The multi-effect is applied only to the Upper Part.

LOWER: The Lower Tone's multi-effect settings are used. The multi-effect is applied only to the Lower Part.

PERFORMANCE: The Performance's multi-effect settings are used. The same multi-effect is applied to all Parts (1–16).

Thus, you should note that depending on the Source setting, some Parts may not have multi-effects applied while in Split or Dual mode.
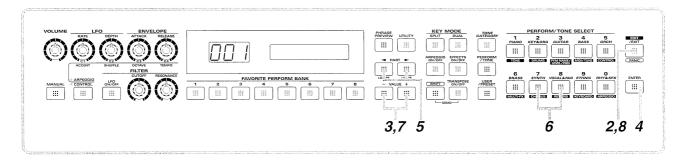
For more detailed information, refer to "Making Multi-Effects Settings" (p. 80).

Setting the Amount of Chorus and Reverb

3,7 5   **6**   **2,8 4**

1 Set the chorus or reverb to ON (refer to previous section).

2 Press [EDIT], getting the indicator to light.

3 Use VALUE [-]/[+] to select "Performance Part."

4 Press [ENTER].

5 Press PART [◄]/[►] to select the Part for which the amount of effect is to be set.

6 If setting the chorus, press [7]; if setting the reverb, press [8].

```
PART 1           CHORUS
Send Level:           0
```
```
PART 1           REVERB
Send Level:          40
```

7 Use VALUE [-]/[+] to select the value (1–127).

8 Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

MEMO

Separate settings for the amount of chorus and reverb applied can be made for each individual Part in a Performance (p. 56).

NOTE

• When Key Mode (p. 34) is set to Split or Dual, you can select only the Upper Part and the Lower Part.

• Note that even if the chorus or reverb is set to ON, no effect is applied if each Send Level is set to 0.
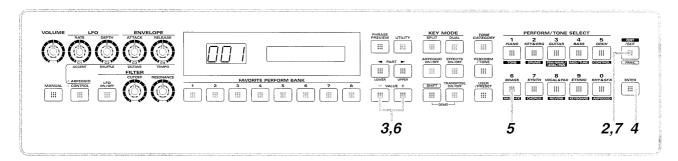
MEMO

If you wish to make settings for other Parts, repeat steps 5–7.

Changing the Multi-effect Type

Here's how to select the desired one of the 42 different Multi-effect settings.

3,6   5   2,7 4

1

Set Multi-effects to ON (p. 44).

2

Press [EDIT], getting the indicator to light.

3

Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

4

Press [ENTER].

5

Press [6] a number of times to select "Type."

```
(U TONE)        MULTI-FX
Type:01        STEREO EQ
```

The figure above shows Source set to UPPER. You can see which multi-effects settings are being used in the upper left of the display.

6

Press VALUE [-]/[+] to select the type.

7

Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

When you want to know about the Multi-effects in greater detail

• "Chapter 6. Effect Settings" (p. 79)

MEMO

You can set the Multi-Effects Type for each Tone or Performance (p. 56) individually with the Source setting.

HINT

If you hold down [SHIFT] and press [6], you will return to the previous item.

MEMO

When set to "00:THROUGH," the multi-effects are then not

Transposing All the Parts (TRANSPOSE ON/OFF)

This function moves the key range in half-step units. This is convenient in situations like the ones below.

When matching the vocalist's register

Sometimes melodies may extend outside a vocalist's register. Therefore, if you want to perform with the song changed to a different key, you can play the song in a new key while still using the same fingering as before.

When changing from a difficult key to one that is easy to play

You can use simple fingerings to play difficult songs that include numerous sharps or flats.

When playing with the tone of a transposed instrument
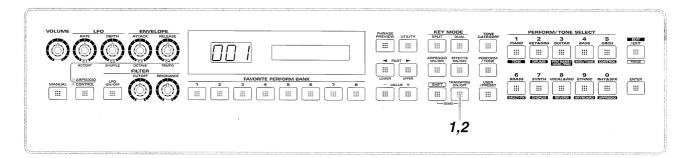
You can play the tones of a transposed instrument just as it is written in the score.

When Playing sounds outside the keyboard's range

While the RS-5 features a 61-key keyboard, with some songs you may want to play notes even higher or lower. Also, when playing a Drum Set etc., there may be percussion instruments that the RS-5/9's keyboard is not able to access. In such cases, you can use the Transpose function to play these notes.

MEMO
The Transpose On/Off settings can be set individually for each Performance (p. 56).

1

Press [TRANSPOSE ON/OFF] to light indicator.
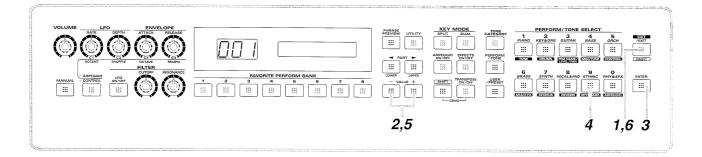
Transpose is set at the factory to play notes at one octave below what is played.

2

If you press [TRANSPOSE ON/OFF] once more, the indicator light goes out, and the keyboard returns to the normal performance mode.

Setting the Amount of Transposition

You can set the amount of transposition that is to occur when Transpose is switched on. The setting is made in semitone units, and can specify a rise or lowering of up to three octaves.

MEMO
The settings for the amount of transposition can be set individually for each Performance (p. 56).

2,5   4   1,6 3

1
Press [EDIT], getting the indicator to light.

> **NOTE**
> Note messages from MIDI IN connector will not be transposed.

2
Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3
Press [ENTER].

4
Press [9] a number of times to select "Transpose."

```
PERFORMANCE KEYBOARD
Transpose:          -12
```

> **HINT**
> If you hold down [SHIFT] and press [9], you will return to the previous item.

5
Press VALUE [-]/[+] to select the value (-36 to +36).

6
Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

An easy way to set Transpose

You can select the "Transpose" screen directly by holding down [TRANSPOSE ON/OFF] and pressing [EDIT]. Make settings as explained in steps 5–6 of the above procedure.

Furthermore, to change the transposition even more rapidly, you can change only the "Transpose" setting by holding down [TRANSPOSE ON/OFF] and pressing VALUE [-]/[+]. When you release [TRANSPOSE ON/OFF], the previous display will reappear.

When you want to transpose a specific Part

* "Transposing a Specified Part (Key Shift)" (p. 69)

Changing the Sound's Pitch in Real Time (Pitch Bend Lever)
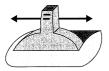
The "height" of a sound is called "pitch."

While playing the keyboard, move the lever to the left to lower the pitch, or to the right to raise the pitch.

When shipped from the factory, this is set so that the pitch is changed up or down one whole step.

NOTE
Pitch Bend is not applied to arpeggios.
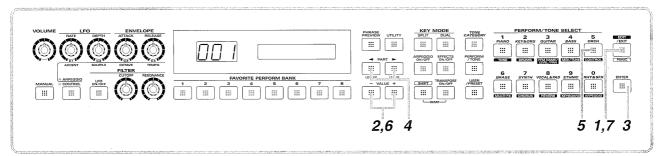
Pitch Bend

You can set up to a two-octave pitch bend range, adjustable in half-steps.

MEMO
The pitch bend range settings can be made for each individual Part in a Performance (p. 56).

1
Press [EDIT], getting the indicator to light.

2
Use VALUE [-]/[+] to select "Performance Part."

3
Press [ENTER].

4
Press PART [◄]/[►] to select the Part for which the pitch bend is to be changed.

NOTE
When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.

5
Press [5] a number of times to select "Pitch Bend Range."

```
PART 1          CONTROL
Pitch Bend Range:+ 2
```

HINT
If you hold down [SHIFT] and press [5], you will return to the previous item.

6   Press VALUE [-]/[+] to select the value (0 to +24).

7   Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

NOTE
With a setting of 0, there will be no pitch bend effect.
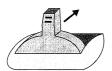
MEMO
If you wish to make settings for other Parts, repeat steps 4–6.

Adding a Vibrato Effect to the Sound (Modulation Lever)

While playing the keyboard, move the lever away from you to add a vibrato effect.

Modulation

NOTE
The effect is applied to both the Upper Part and Lower Part when Key Mode is set to Split and Dual.

> **When you want to use the Modulation Lever to add effects other than vibrato**
>
> • "Using the Modulation Lever to modify the sound" (p. 71)

Changing the Tone with the Knobs

Using the six panel knobs, you can change the tone in real time.

When a knob is turned, the function assigned to the knob and its value appear temporarily in the display.

```
CUTOFF
CC74                    +63
```
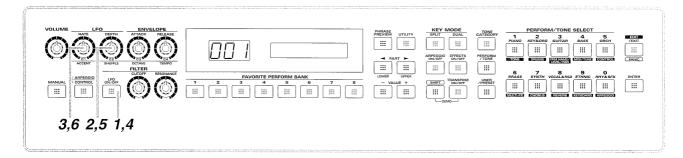
NOTE
The effect is applied to both the Upper Part and Lower Part when Key Mode is set to Split and Dual.

Vibrato and Wah Effects (LFO)

The LFO, short for "low frequency oscillator," makes changes to the sound in periodic fashion. Changing the pitch with the LFO produces the "**vibrato effect**," and by changing the filter cutoff frequency with the LFO, you get what is called the "**wah effect**."

1

Confirm that the FILTER [LFO ON/OFF] is set to OFF.

When [LFO ON/OFF] is set to OFF, you can use the LFO 2 knob to change the vibrato effect.

MEMO
If this is set to ON, press [LFO ON/OFF] once more to switch it off.

2

Turn the LFO DEPTH knob.

Turning this to the right increases the depth of the undulating sound, while turning it to the left makes the undulation shallower and milder.

3

Turn the LFO RATE knob.

Turning this to the right (clockwise) increases the speed of the undulating sound, while turning it to the left (counterclockwise) slows the undulation down.

4

Press FILTER [LFO ON/OFF], causing the indicator to light up.

When [LFO ON/OFF] is set to ON, you can use the LFO 2 knob to change the vibrato effect.

5   Turn the LFO DEPTH knob.

Turning this to the right increases the depth of the undulating sound, while turning it to the left makes the undulation shallower and milder.

6   Turn the LFO RATE knob.

Turning this to the right (clockwise) increases the speed of the undulating sound, while turning it to the left (counterclockwise) slows the undulation down.
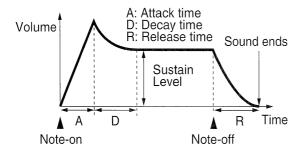
Changing the sound's volume (ENVELOPE)
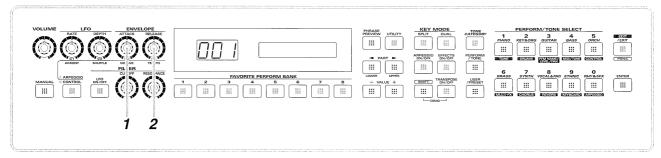
The volume continues to change from the time a key is pressed to when it is released.

A: Attack Time:The time it takes after the key is pressed for a sound to reach full volume.

R: Release Time:The time it takes after the key is released for a sound to become inaudible.

Use the ENVELOPE 2 knob to change the A and R times.

1   Turn the ENVELOPE ATTACK knob.

Turning this to the right (clockwise) increases the time it takes for the sound to rise, while turning it to the left (counterclockwise) shortens this time.
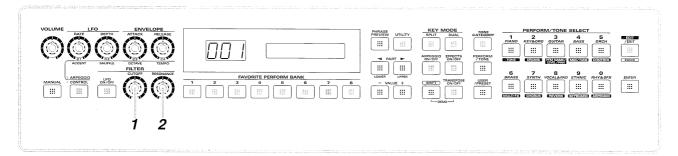
2   Turn the ENVELOPE RELEASE knob.

Turning this to the right increases the time it takes for the sound to disappear, while turning it to the left shortens this time.

Changing the Brightness of the Sound and Adding Special Qualities (FILTER)

You can change the brightness of the sound and give the sound peculiar characteristics using the FILTER 2 knob.

1

Turn the FILTER CUTOFF knob.

Turning this to the right (clockwise) brightens the sound, while turning it to the left (counterclockwise) makes the sound seem darker.

2

Turn the FILTER RESONANCE knob.

Turning this to the right makes the special quality of the sound stronger, while turning it to the left reduces these characteristics.

[MANUAL] and [ARPEGGIO/CONTROL] Functions

When [ARPEGGIO/CONTROL] is set to ON, you then become able to control another parameter using the LFO ENVELOPE 4 knob (p. 74). What's more, when [ARPEGGIO ON/OFF] is set to ON, and [ARPEGGIO/ CONTROL] is flashing, you can use the four knobs to change the arpeggio settings in real time (p. 74).
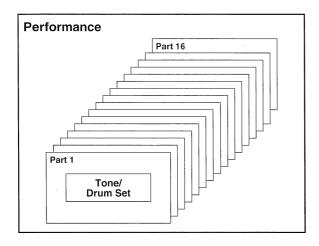
When you press [MANUAL], the parameters assigned to the six knobs are set to the values at the current knob positions (p. 74).

When you want to know about changing the tone in real time in greater detail

- "Chapter 4. Changing Tones in Real Time" (p. 71)

Changing the RS-5/9's Settings All At Once (Selecting Performances)

The group of Tones and Drum Sets assigned to the sixteen Parts is known as a "**Performance**."

You can record the Tone numbers assigned to Parts as well as the Key Mode, Arpeggio, Transpose, and other settings to the Performance.

If you store a group of settings in a Performance, you can then call up those settings instantly by simply selecting that Performance.
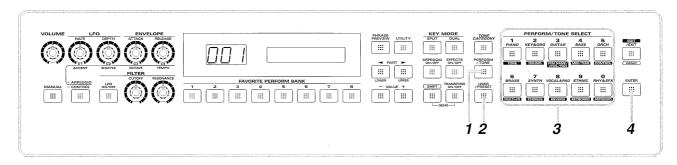
Performances, just like Tones, are divided into two groups.

User

Although this area comes provided with 128 prepared Performances, you can overwrite these with Performances that you create.
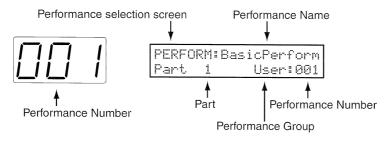
Preset

This area holds 128 prepared Performances; these cannot be overwritten or replaced. But you can call up preset Performance settings into the temporary area, modify them, and then store them in user memory.

1
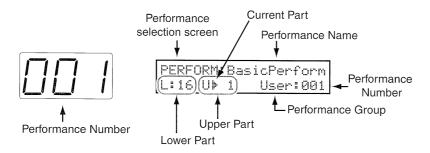
Press [PERFORM/TONE] to call up the Performance selection screen.

When in Single Mode

Performance selection screen   Performance Name

```
 ___
|   |
|   |   |
|___|  |
```

```
PERFORM:BasicPerform
Part  1        User:001
```

Performance Number

Part   Performance Number

Performance Group

When in Split or Dual Mode

Performance selection screen   Current Part

Performance Name

```
 ___
|   |
|   |   |
|___|  |
```

```
PERFORM:BasicPerform
(L:16)(U: 1)    User:001
```
→ Performance Number

Performance Group

Performance Number   Upper Part

Lower Part

2

Press [USER/PRESET] to select the group (User, Preset).

3

Press the numeric keys ([1]–[0]) to specify the Performance number (1–128).

4

Press [ENTER] to finalize the entry.

> **When you want to know a Performance's name and number**
>
> • "Performance List" (p. 147)
>
> **When you want to know what settings can be stored in a Performance**
>
> • "Parameter List (Performance)" (p. 137)
>
> **When you want to store a Performance you have created to User memory**
>
> • "Saving Tone / Drum Set / Performance" (p. 113)

Using the Convenient Functions in Performances

Easily Selecting the Performances You Like (FAVORITE PERFORM BANK)

You can call up your favorite Performances merely by pressing a single button.
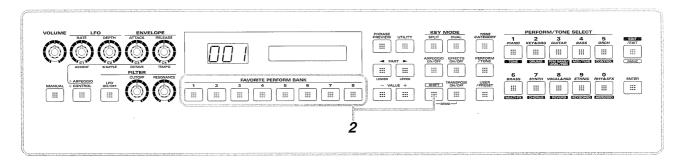
Use Performances after registering them to the FAVORITE PERFORM BANK buttons below the display.

Registering Performances

Although the RS-5/9 comes with Performances already registered to the FAVORITE PERFORM BANK, you can change these to your own favorite Performances.

MEMO

The FAVORITE PERFORM BANK settings apply to the RS-5/9 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

1

Select a Performance that you want to register (refer to previous section).

2

Hold down [SHIFT] and press one of the FAVORITE PERFORM BANK buttons [1]–[8].

The Performance is registered, and "Completed" appears in the display.

The indicator on the button that was pressed lights up.

If the Performance is Not Saved

After selecting a Performance, if you change the Performance's settings and carry out Step 2 without saving these changes, the RS-5/9 jumps to the Save screen.

```
WRITE PERFORM[ENTER]
Usr:001:BasicPerform
```

The Performance is saved while the Performance group and number are registered to the button at the same time.

3. Press the numeric keys ([1]–[0]) to specify the Save destination number (1–128).

4. Press [ENTER] to confirm the number.

5. Press [ENTER] once more to execute the save.

The Performance is saved, and "Completed" appears in the display.

The Performance is saved while the Performance group and number are registered to the button at the same time.

MEMO

If you make a mistake, press [EXIT] and specify the number once again.

HINT

Instead of using Steps 3 and 4, you can also specify the number by pressing VALUE [-]/[+].

MEMO
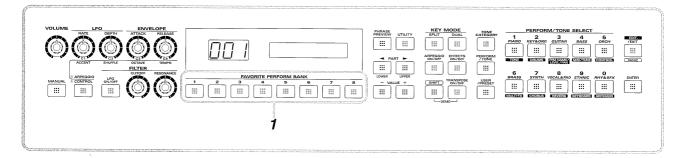
To cancel a save or registration in progress, press [EXIT].

Easily Selecting Performances

1

Press one of the FAVORITE PERFORM BANK buttons [1]–[8], causing the button's indicator to light up.

The Performance registered to the button that is pressed is called up.

Instantly Switching to Piano Mode

You can get the perfect settings for piano performances with the press of a single button.

1 Press [PIANO], getting the indicator to light.

The most suitable Performance for performing on the piano (Preset:127) is called up.

NOTE
This feature is included only with the RS-9. It is not available with the RS-5.
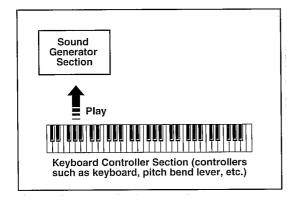
NOTE
When [PIANO] is pressed, you cannot change the Performance that is called up.

Advanced Use

Chapter 1

Chapter 2

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Chapter 9

Chapter 10

Chapter 11

Chapter 1. An overview of the RS-5/9

Basic Organization of the RS-5/9

The RS-5/9 can be broadly divided into two sections: a **keyboard controller section** and a **sound generator section**. The two sections are connected internally by means of MIDI.

Keyboard Controller Section

This section includes the keyboard, the Pitch Bend/Modulation Lever, the panel knobs, and any pedal connected to the rear panel. Actions such as pressing and releasing of keys on the keyboard, depressing a pedal, and so forth, are converted to MIDI messages and sent to the sound generator section, or to an external MIDI device.

Sound Generator Section

The sound generator section produces the sound. Here, MIDI messages received from the keyboard controller section or external MIDI device are converted to musical signals, which are then output as analog signals from the OUTPUT and PHONES jacks.

Classification of RS-5/9 Sound Types
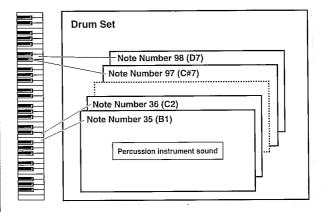
When using the RS-5/9, you will notice that a variety of different categories come into play when handling sounds. What follows is a simple explanation of each sound category.

Tone

The individual sounds used when playing the RS-5/9 are referred to as "**Tones**." The 640 Tones stored in the RS-5/9's memory are divided into two types, with the memory containing 128 User Tones and 512 Preset Tones. Tones are assigned to each part of a performance.

Drum Set

Drum sets are groups of a number of different percussion instrument sounds. Since percussion instruments generally do not play melodies, there is no need for a percussion instrument sound to be able to play a scale on the keyboard. It is, however, more important that as many percussion instruments as possible be available to you at the same time. Therefore, the Drum sets are set up so that you can get different sets of percussion sounds by pressing different keys (note numbers). Drum sets are also assigned to each part of a performance.
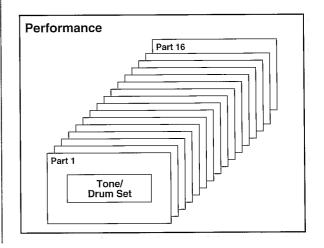
Performance

A Performance is a collective set of assignments of the sixteen different Tones and Drum Sets. In Performances you can save whole collections of settings, including the tone numbers assigned to each of the Parts, along with Key Mode, Arpeggio, Transpose, and other settings.

Just like Tones, Performances are separated into two types, User and Preset, with 128 User Performances and 128 Preset Performances.

A maximum of two Parts can be handled simultaneously from the keyboard. Connecting an external sequencer allows you to work with up to sixteen Parts simultaneously, which lets you enjoy full ensemble performances.

About Memory

Memory refers to the area where Tones and settings are stored. The memory of the RS-5/9 is divided into three areas: **System Memory**, **User Memory**, and **Preset Memory**.

There is a **Temporary Area** within memory, into which data is placed when you select a tone or performance, and the data in the temporary area is what you are actually playing and editing.

System memory

System memory stores system setup settings that determine how the RS-5/9 functions.

User Memory

The contents of User Memory can be overwritten, and are used to store settings that you create. You can store 128 Tones and 128 Performances in the User Memory.

Preset Memory

The contents of Preset Memory cannot be rewritten. Preset Memory contains 512 tones and 128 performances.

The temporary area

When you select a Tone or Performance, whether to play it, or to change the settings, the selected Tone or Performance is called up to a temporary holding memory called the Temporary Area.

When a Performance is selected, the selected Performance is called up to the Temporary Area, and then it is played.

When a tone is selected, the selected Tone is called up to the Upper Part or Lower Part of the Performance in the Temporary Area, and then that is played. A Performance is called up to the Temporary Area at all times.

The Upper or Lower Parts may use any of the Parts 1– 16. When the Key Mode is set to Single, the Upper Part is used. When Key Mode is set to Split or Dual, both the Upper and Lower Parts are used.

The data in memory will be preserved even if the power is turned off, and can be recalled at any time. However, the data in the temporary area will be lost when the power is turned off.

When changing Tone or Performance settings, you don't directly change the settings stored in memory, but rather the data called up to the Temporary Area. If you want to keep the changed data in the Temporary Area, you must then save that data to the User Memory.

As for System settings, changing these settings directly affects the data in memory, so the data is always updated. Therefore, you do not need to do anything to save this data.

Maximum Polyphony

The sound source of the RS-5/9 can produce up to 64 notes (voices) simultaneously. If data is received that attempts to play more than this number of voices, notes will be dropped out. When the number of requested voices exceeds 64, the RS-5/9 will give priority to the later-played notes, and will consecutively turn off the oldest sounding notes. An appropriate Voice Reserve setting should be made with respect to any Parts that you cannot do without.
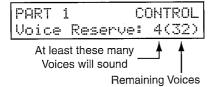
* *Some Tones use 2 voices to create a single Tone. For the number of voices used by each Tone, refer to "Tone List" (p. 148).*

Preventing notes of an important Part from being cut off (Voice Reserve)

This setting specifies the number of voices that will be reserved for each Part when more than 64 voices are played simultaneously. For example if Voice Reserve is set to 6 for Part 1, Part 1 will always have 6 notes of sound-producing capacity available to it even if a total of more than 64 notes (total for all Parts) are being requested.

You can make separate Voice Reserve settings for each individual Part in a Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◀]/[▶] to select the Part.

5. Press the numeric key [5] several times to select "Voice Reserve."
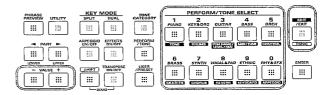
```
PART 1          CONTROL
Voice Reserve: 4(32)
```
At least these many Voices will sound ⟶
Remaining Voices

* *If you hold down [SHIFT] and press [5], you will return to the previous item.*

6. Use VALUE [-]/[+] to set the value.

* *It is not possible for the settings of all Parts to total more than 64. The remaining number of available voices will be displayed at (). You should check this readout as you set the Voice Reserve parameter.*

* *If you wish to make settings for other Parts, repeat steps 4–6.*

7. Press [EDIT].
The [EDIT] indicator goes out, and you are returned to the previous screen.

Modifying the Value of a Setting

To modify a value, use the VALUE [-]/[+] or [0]–[9] (numeric keys).

VALUE [-]/[+]

Pressing VALUE [+] increases the value, and VALUE [-] decreases it. Keep the button pressed for continuous adjustment. For faster value increases, keep VALUE [+] pressed down and press VALUE [-]. For decreasing value faster, keep VALUE [-] pressed down and press VALUE [+].

In addition, by holding down [SHIFT] and pressing VALUE [+] or [-], you can change the value ten units at a time.

[0]–[9] (Numeric Keys)

These allow you to specify the number directly when selecting Tones, Drum Sets, or Performances. When you enter the number, the number will blink. This indicates that the number has not yet been finalized. To finalize the number press the [ENTER] button.

[EXIT]

Press this in situations such as when you've make a mistake in pressing the numeric keys, when you want to cancel an operation, or when you want to return to a previous screen after settings have been made.

Convenient shortcuts

The RS-5/9 provides several convenient shortcuts.

* *[**] + [##] means that you should hold down [**] and press [##].*

Setting the Split Point (p. 40)

[SPLIT]+[EDIT]

The display will show the Split Point setting page.

[SPLIT] + VALUE [-]/[+]

The split point can be set. When you release [SPLIT], the previous display will reappear.

Setting the Arpeggio (p. 77)

[ARPEGGIO ON/OFF]+[EDIT]

The display will show the Arpeggio Style setting page.

[ARPEGGIO ON/OFF] + VALUE [-]/[+]

The arpeggio style can be set. When you release [ARPEGGIO ON/OFF], the previous display will reappear.

Setting the Transpose (p. 48)

[TRANSPOSE ON/OFF]+[EDIT]

The display will show the Transpose setting page.

[TRANSPOSE ON/OFF] + VALUE [-]/[+]

The transpose can be set. When you release [TRANSPOSE ON/OFF], the previous display will reappear.
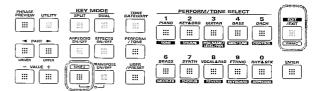
Setting the LCD Contrast (p. 16)

[SHIFT]+[PHRASE PREVIEW]

The display will show the LCD Contrast setting page.

If "Stuck" Notes Occur (PANIC)

If some operation causes sounds from the RS-5/9, or sounds from an external sound generator connected with a MIDI cable to fail to stop playing, use the Panic function.

When Sounds From the RS-5/9 Do Not Stop Playing

1. Hold down [SHIFT] and press [PANIC].

   Sounds from the RS-5/9 stop playing.

   The display will indicate "Panic! Now Muting." while the Panic function is being executed. When this message goes off, you can start playing.

   ```
   Panic!
   Now Muting.
   ```

What to Do When an External Sound Generator Fails to Stop Sounding

1. Hold down [SHIFT] and press [PANIC] for more than a second.

   Send the MIDI messages All Sound Off, Reset All Controllers, Hold1 (0), Hold2 (0), and Sostenuto (0) for all MIDI channels (Parts).

   The display will indicate "Panic! Now Transmitting." while the Panic function is being executed. When this message goes off, you can start playing.

   ```
   Panic!
   Now Transmitting.
   ```

Chapter 2. Part Volume and Pan Settings

You can make separate volume and pan (sound-image localization) settings for each individual Part in a Performance.

Level

Set the volume of each part. This is mainly used to achieve the volume balance between Parts when Key Mode is set to Split or Dual.

Value: 0–127

Pan

When stereo output is used, this setting sets the pan position (stereo location) of each Part. With an increase in the value for L, more of the sound will be heard as coming from the left side. Similarly, more of the sound will originate at the right if the value of R is increased. When set to RANDOM, you obtain a specialized effect whereby the sound randomly moves left and right with each key stroke.

Value: RANDOM, L63–0–63R

> *   *In the case of a Drum Set, the pan position has been fixed for each percussion instrument (p. 112). When setting the pan for a Part to which a Drum Set is assigned, the panning of the entire drum set is moved.*

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

5. Press the numeric key [3] several times to select the item you wish to set.

```
PART 1          LEVEL
Level:            100
```

```
PART 1            PAN
Pan:                0
```

6. Use VALUE [-]/[+] to set the value.

7. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Playing single-note lines (Solo)

This function is effective when performing a solo using single-note Tone like sax and flute.

You can make separate Solo Switch settings for each individual Part in a Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

   * When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.

5. Press the numeric key [9] several times to select "Solo Switch."

```
PART 1        KEYBOARD
Solo Switch:       OFF
```

   * If you hold down [SHIFT] and press [9], you will return to the previous item.

6. Use VALUE [-]/[+] to set "ON."

7. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.

Smoothly Changing the Pitch of the Sound (Portamento)

Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. With the Solo Switch (refer to the previous section) set to ON, portamento is especially effective when simulating playing techniques such as a violin glissandos.

Portamento can also be applied when Solo Switch is OFF.

You can make separate Portamento settings for each individual Part in a Performance.

Portamento SW (Portamento Switch)

Specifies whether the portamento effect will be applied (ON) or not (OFF).

Value: OFF, ON

Portamento Time

When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.

Value: 0–127

   * The Portamento Time setting is disabled when the Portamento Switch is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

   * When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.

5. Press the numeric key [9] several times to select the item you wish to set.

```
PART 1        KEYBOARD
Portamento Sw:     OFF
```

```
PART 1        KEYBOARD
Portamento Time:     0
```

   * If you hold down [SHIFT] and press [9], you will return to the previous item.

6. Use VALUE [-]/[+] to set the value.

7. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.

Determining the Volume from the Force Used To Play the Keys (Velocity Sense)

You can specify how your keyboard playing dynamics will affect the volume.

You can make separate Velocity Sens settings for each individual Part in a Performance.

Velo Sens Depth (Velocity Sens Depth)
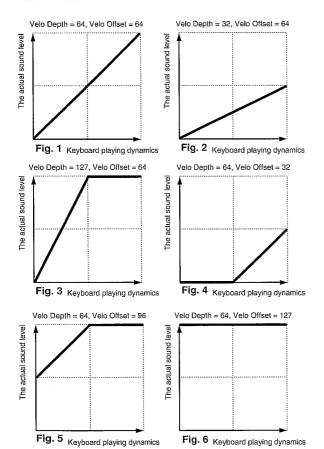
If this value is increased, small differences in your playing dynamics will make a large difference in the loudness of the sound. If this is decreased, even large differences in your playing dynamics will make only a small difference in the loudness of the sound.

Value: 0–127
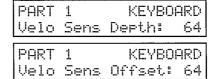
Velo Sens Offset (Velocity Sens Offset)

The higher above 64 the value is set, the louder the sound produced, even as the keyboard is played with lesser force. The lower below 64 the value is set, the lower the sound produced, even as the keyboard is played with greater force.

Value: 0–127

Velo Depth = 64, Velo Offset = 64

Fig. 1 Keyboard playing dynamics

Velo Depth = 32, Velo Offset = 64

Fig. 2 Keyboard playing dynamics

Velo Depth = 127, Velo Offset = 64

Fig. 3 Keyboard playing dynamics

Velo Depth = 64, Velo Offset = 32

Fig. 4 Keyboard playing dynamics

Velo Depth = 64, Velo Offset = 96

Fig. 5 Keyboard playing dynamics

Velo Depth = 64, Velo Offset = 127

Fig. 6 Keyboard playing dynamics

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

   * *When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.*

5. Press the numeric key [9] several times to select the item you wish to set.

```
PART 1          KEYBOARD
Velo Sens Depth:     64
```

```
PART 1          KEYBOARD
Velo Sens Offset:    64
```

   * *If you hold down [SHIFT] and press [9], you will return to the previous item.*

6. Use VALUE [-]/[+] to set the value.

7. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.

Transposing Performances

The RS-5/9 has two functions, **"Transpose"** and **"Key Shift,"** that you can use to move the key range of what is being played in half-step units. The Transpose function transposes all Parts, whereas Key Shift transposes only specified Parts.

Transposing All Parts (TRANSPOSE ON/OFF)

For instructions on setting Transpose, refer to Quick Start (p. 48).

Transposing a Specified Part (Key Shift)

This is convenient in situations such as the following.

Layering Tones an octave apart

When the Keyboard Mode is Dual, you can create a richer sound by setting the two Tones to different octaves.

Having only the Tone of a selected Part be played at a lower pitch

If the Keyboard Mode is set to Split and you are playing a bass Tone in the lower Part, you can use the Key Shift function to play the bass at a lower pitch.

You can make separate Key Shift settings for each individual Part in a Performance.

* *Note messages from MIDI IN connector will also be transposed.*

* *This setting is disabled when the Drum Set is assigned to the Part.*

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

* *When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.*

5. Press the numeric key [4] several times to select "Key Shift."

```
PART 1              TUNE
Key Shift:             0
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

6. Press VALUE [-]/[+] to select the value (-24–+24).

7. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Adding Breadth to the Sound by Layering Tones with Different Pitches (Fine Tune)

When Tones with slightly different pitches are played together, it creates a sound with more fullness and breadth.

When Key Mode is set to Dual (p. 36), and the same Tone is assigned to both Parts (p. 37), make the Fine Tune setting for only one of the Parts.

* *The effect whereby sounds with slightly different pitches are layered is called "Detune."*

You can make separate Fine Tune settings for each individual Part in a Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

* *When Key Mode (p. 34) is set to Split or Dual, you can select only two Parts, the Upper Part and the Lower Part.*

5. Press the numeric key [4] several times to select "Fine Tune."

```
PART 1              TUNE
Fine Tune:          0cent
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

6. Press VALUE [-]/[+] to select the value (-100 to +100).

* *One cent is 1/100th of a semitone.*

7. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Chapter 3

Changing to Pure Temperament or an Arabic scale (Scale Tune)

What are Equal Temperament, Pure Temperament, and Arabic scales?

Equal Temperament

This tuning divides the octave into 12 equal parts, and is the most widely used method of temperament used in Western music.

Pure Temperament

In comparison to Equal Temperament, Pure Temperament allows the three principal chords to have a purer sound. However, this effect is achieved only in one key, and the triads will become ambiguous if you transpose.

Arabic Scale

In comparison to Equal Temperament, E and B are 1/2 a semitone low, and C#, F# and G# are 1/2 a semitone high. The intervals of G–B, C–E, F–G#, A#–C# and D#–F# are neutral thirds (an interval midway between a major third and a minor third).

Making Scale Tune settings

You can adjust the Scale Tune settings to make a variety of scales. These settings allow you to make fine adjustments in 1 cent (1/100th of a semitone) to the pitch of each note C–B.

You can make separate Scale Tune settings for each individual Part in a Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◀]/[▶] to select the Part.

5. Press numeric key [4] several times to select "Scale Tune C"– "Scale Tune B."

```
PART 1          TUNE
Scale Tune C :      0
```

* If you hold down [SHIFT] and press [4], you will return to the previous item.

* You can press the key to directly select the name of the sound whose pitch you want to change.

6. Press VALUE [-]/[+] to select the value (-64 to +63).

* If you wish to make settings for other Parts, repeat steps 5–6.

7. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Settings Example

Note name	Equal Temperament	Just Temperament (tonic C)	Arabian Scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

* In this example, the Arabic Scale can be played in the three keys of G, C, and F.
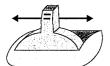
Chapter 4. Changing Tones in Real Time

You can use the RS-5/9's Pitch Bend lever, Modulation lever, and control knobs to make changes to the Tones in real time. You can also alter the Tones with a pedal connected to the PEDAL jack.

Changing the Pitch in Realtime (Pitch Bend Lever)

While playing the keyboard, move the lever to the left to lower the pitch, or to the right to raise the pitch.

For a more detailed explanation of the Pitch Bend lever, refer to Quick Start (p. 50).

Pitch Bend

Using the Modulation Lever to modify the sound

As set at the factory, moving the lever away from you as you press a key on the keyboard produces a vibrato effect.

You can add effects other than vibrato with the Modulation lever.

Modulation

* *This is applied to both the Upper Part and Lower Part when Key Mode is set to Dual.*

MOD (Modulation Assign)

Value	Tx CC#	Function/Parameter Changed
MODULATION	CC01	Vibrato Effect
PORTAMENTO TIME	CC05	Perform Part Portamento Time (p. 67)
VOLUME	CC07	Perform Part Level (p. 66)
PAN	CC10	Perform Part Pan (p. 66)
EXPRESSION	CC11	Perform Part Level (p. 66)
PORTAMENTO	CC65	Perform Part Portamento Switch (p. 67)
SOSTENUTO	CC66	Holds the sound of the key being pressed
SOFT	CC67	Softens the Tone
RESONANCE	CC71	Tone Filter Resonance (p. 110)
RELEASE TIME	CC72	Tone Envelope Release Time (p. 110)
ATTACK TIME	CC73	Tone Envelope Attack Time (p. 110)
CUTOFF	CC74	Tone Filter Cutoff (p. 110)
DECAY TIME	CC75	Tone Envelope Decay Time (p. 110)
LFO RATE	CC76	Tone LFO Rate (p. 110)
LFO DEPTH	CC77	Tone LFO Depth (p. 110)
LFO DELAY	CC78	Tone LFO Delay (p. 110)
CHO SEND LEVEL	CC93	Perform Part Chorus Send Level (p. 108)
REV SEND LEVEL	CC91	Perform Part Reverb Send Level (p. 109)
UP-LO BALANCE	CC07	Perform Part Upper and Lower Levels (p. 66)
MFX PARAMETER 1	CC12	Multi-Effects Parameter at Marker #1 (p. 81)
MFX PARAMETER 2	CC13	Multi-Effects Parameter at Marker #2 (p. 81)
AFTERTOUCH	—	

"TxCC#" refers to the controller number sent from the MIDI OUT connector when the Modulation lever is moved. When set to AFTERTOUCH, a Channel Aftertouch message is sent.

Receiving these controller numbers from the MIDI IN connector gives the same effect as moving the Modulation lever.

Set to AFTERTOUCH mainly when you want to control the external sound generator with Aftertouch messages.

* *When set to MFX PARAMETER 1 or MFX PARAMETER 2, be sure to note the following.*

• When the multi-effects Type is set to 01: STEREO EQ (p. 82) or 41: LOFI (p. 106), Level is changed regardless of whether MFX PARAMETER 1 or MFX PARAMETER 2 is selected.

• When the multi-effects Type is set to 22: 2VOICE PITCH SHIFTER (p. 96), the two parameters are changed simultaneously.

• When the multi-effects Type is set to 23: FBK PITCH SHIFTER (p. 97), the two parameters are changed simultaneously when MFX PARAMETER 1 is selected.

• he following describes which Part or Parts are enabled according to the Source setting (p. 80).

      UPPER   = Upper
      LOWER   = Lower
      PERFORMANCE = All Parts

* *When making the LFO RATE, LFO DEPTH or LFO DELAY settings, the effect achieved differs depending on whether [LFO ON/OFF] is on or off. When [LFO ON/OFF] is off, the LFO alters the pitch (vibrato effect). When [LFO ON/OFF] is on, the LFO changes the Filter Cutoff frequency (wah effect).*

Different Modulation lever settings can be made for each individual Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

3. Press [ENTER].

4. Press the numeric key [5] several times to select "MOD."
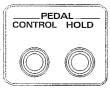
```
PERFORMANCE        MOD
CC01:      MODULATION
```

* *If you hold down [SHIFT] and press [5], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

6. Press [EDIT].
The [EDIT] indicator goes out, and you are returned to the previous screen.

Using a pedal to modify the sound

With an external pedal, such as an expression pedal (the optional EV-5,) pedal switch (the optional DP-2/6) or foot switch (the optional BOSS FS-5U) connected to the PEDAL CONTROL jack, you can then use the pedal to make changes in the Tone.

Just as with the Modulation lever, you can select the function affected when the pedal is pressed. The pedal will mainly be used for changing volume levels (VOLUME, EXPRESSION, and UP-LO BALANCE), sostenuto (SOSTENUTO), and as a soft pedal (SOFT).

```
 ____PEDAL____
CONTROL  HOLD

   (O)      (O)
```

* This is applied to both the Upper Part and Lower Part when Key Mode is set to Split and Dual.

For a description of the settings values, refer to (p. 71).

To make the settings, select the "PEDAL" (Control Pedal Assign) in Step 4 above (p. 72).

```
PERFORMANCE      PEDAL
CC07:           VOLUME
```

* When you want to apply the effect that causes the sounds being played to continue playing (called the "**hold effect**"), connect a pedal switch (the optional DP-2/6) or foot switch (the optional BOSS FS-5U) to the PEDAL HOLD jack. When Arpeggio is on, this changes to an Arpeggio Hold function. This allows you to play arpeggios without having to continue holding chords. However, when the Key Mode is set to Split, the Hold effect can be obtained with respect to what is played in the upper part of the keyboard, while Arpeggio Hold will apply to notes played in the lower part of the keyboard (p. 75).

Switching the Pedal's Polarity (Pedal Polarity)

Select the polarity of the pedal. On some pedals, the electrical signal output by the pedal when it is pressed or released is the opposite of other pedals. If your pedal has an effect opposite of what you expect, set this parameter to REVERSE. If you are using a Roland pedal (that has no polarity switch), set this parameter to STANDARD.

The Pedal Polarity setting affects the entire RS-5/9 (i.e., is a System setting). This setting remains stored in memory even while the power is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press numeric key [5] several times to select the parameter to be set.

   If setting the polarity of the pedal connected to the PEDAL HOLD jack, select "CONTROL PEDAL Polarity."

   If setting the polarity of the pedal connected to the PEDAL HOLD jack, select "HOLD PEDAL Polarity."

```
SYSTEM CONTROL PEDAL
Polarity:     STANDARD
```
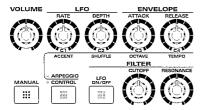
```
SYSTEM      HOLD PEDAL
Polarity:     STANDARD
```

* If you hold down [SHIFT] and press [5], you will return to the previous item.

5. Press VALUE [-]/[+] to set the value (STANDARD, REVERSE).

6. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.
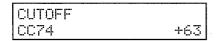
Using a knob to modify the sound

You can use the six panel knobs to modify Tones in real time. Knob functions change depending on whether [ARPEGGIO/CONTROL] and/or [ARPEGGIO ON/OFF] are switched on or off.

* *The effect is applied to both the Upper Part and Lower Part when Key Mode is set to Split and Dual.*

When a knob is turned, the function assigned to the knob and its value appear temporarily in the display.

```
CUTOFF
CC74                    +63
```

When [ARPEGGIO/CONTROL] is Off

The six knobs can be used to change the values of Tone parameters, as indicated on the panel.

LFO RATE Knob:	Tone LFO Rate (p. 110)
LFO DEPTH Knob:	Tone LFO Depth (p. 110)
ENVELOPE ATTACK Knob:	Tone Envelope Attack Time (p. 110)
ENVELOPE RELEASE Knob:	Tone Envelope Release Time (p. 110)
FILTER CUTOFF Knob:	Tone Filter Cutoff (p. 110)
FILTER RESONANCE Knob:	Tone Filter Resonance (p. 110)

* *The effect achieved with the two LFO knobs differs depending on whether [LFO ON/OFF] is switched on or off. When [LFO ON/OFF] is off, the LFO alters the pitch (vibrato effect). When [LFO ON/OFF] is on, the LFO changes the Filter Cutoff frequency (wah effect).*

* *Pressing [LFO ON/OFF] when Key Mode is set to Split or Dual sets the same LFO Filter Sw value in both of the Part's Tones.*

When [ARPEGGIO/CONTROL] is On

Using the four LFO and ENVELOPE knobs, you can control parameters that you select. The functions affected when the knobs are turned can be set in the same manner as with the Modulation lever.

For a description of the settings values, refer to (p. 71).

To make the settings, select one of the "CONTROL 1–CONTROL 4" (Knob Assign) in Step 4 (p. 72).

```
PERFORMANCE CONTROL1
CC16:LFO FILTER RATE
```

* *You can use the two FILTER panel knobs to change the parameter values for the Tone appearing in the display.*

When [ARPEGGIO ON/OFF] is On

With [ARPEGGIO ON/OFF] set at ON, each press of [ARPEGGIO/CONTROL] takes you to the next state for the indicator, among three possible choices: lit, flashing, or extinguished.

When [ARPEGGIO/CONTROL] is flashing, you can control the Arpeggio parameters using the four LFO and ENVELOPE knobs.

C1:   Accent Rate (p. 77)

C2:   Shuffle Rate (p. 77)
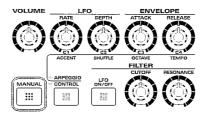
C3:   Octave Range (p. 77)

C4:   Tempo (p. 76)

* *You can use the two FILTER panel knobs to change the parameter values for the Tone appearing in the display.*

Switching to the Value at the Current Knob Positions (MANUAL)

When you press [MANUAL], the parameters assigned to the six knobs are set to the values at the current knob positions.

* *This is applied to both the Upper Part and Lower Part when Key Mode is set to Split and Dual.*

Chapter 5. Using the arpeggiator

The RS-5/9's arpeggiator lets you produce an arpeggio (broken chord) simply by playing a chord.

When the Key Mode is Single or Dual, arpeggios can be played in all areas of the keyboard.

When the Key Mode is Split, chords played in the Lower area of the keyboard will be sounded as arpeggios.

* *Arpeggios can be produced only by playing the RS-5/9's keyboard. It is not possible to produce arpeggios with Note messages from the MIDI IN connector.*

* *Arpeggio data are transmitted from MIDI OUT connector.*

Turning the Arpeggio Function On and Off (ARPEGGIO ON/OFF)

You can set the Arpeggio ON/OFF for each Performance separately.

1. Press the [ARPEGGIO ON/OFF] button, getting its indicator to light.

   At ON, the keyboard in placed in Arpeggio mode.

2. Press the [ARPEGGIO ON/OFF] button again, getting its indicator light to go out.

   At OFF, the RS-5/9 operates in normal performance mode.

* *Hold down the [SHIFT] button and press [ARPEGGIO ON/ OFF]. The [ARPEGGIO ON/OFF] indicator starts blinking, and you can then have the arpeggio be played without having to continue pressing the chord. To cancel Arpeggio Hold, hold down [SHIFT] and press [ARPEGGIO ON/OFF] once more. Note also that if a pedal switch (such as the optional DP-2/6), or a foot switch (such as the optional BOSS FS-5U) is connected to the PEDAL HOLD jack, you can have arpeggios be played if you depress the pedal while pressing chords. In this way, you can play arpeggios without having to continue pressing the chord.*

* *Pitch Bend is not applied to arpeggios.*

Tip for Creating Arpeggio Patterns

There are a total of nine items that you can set to control arpeggiation, but the "Arpeggio Style" is the most important. The playback pattern of the arpeggio is determined mainly by this selection.

When you select an arpeggio style, the four parameters marked by an asterisk (*) in the list below will be set automatically. This allows you to call up the most appropriate pattern simply by selecting the arpeggio style. After selecting the arpeggio style, you can set Tempo and Octave Range etc. as appropriate. Normally you will specify the pattern in this way.

However, if this alone does not produce the pattern you want, try changing the settings for the four parameters marked with an asterisk below (Motif, Beat Ptrn, Shuffle Rate, and Accent Rate) to get the desired result.

Arpeggiator parameters you can set

Style (Arpeggio Style)

Sets the style of the arpeggio. Select from the following 45 options. For creating your own style, choose LIMITLESS.

Value

1/4	The rhythm will be divided in quarter notes.
1/6	The rhythm will be divided in quarter note triplets.
1/8	The rhythm will be divided in eighth notes.
1/12	The rhythm will be divided in eighth note triplets.
1/16	The rhythm will be divided in 16th notes.
1/32	The rhythm will be divided in 32nd notes.
PORTAMENTO A, B	A style using the portamento effect.
GLISSANDO	A glissando style.
SEQUENCE A–D	Styles for sequenced patterns.
ECHO	An echo-like style.
SYNTH BASS, HEAVY SLAP, LIGHT SLAP, WALK BASS	Styles appropriate for bass playing.
RHYTHM GTR A–E	Styles for guitar cutting. Styles B–E are effective when 3–4 notes are held.
3 FINGER GTR	Three-finger guitar style.
STRUM GTR UP, STRUM GTR DOWN, STRUM GTR U&D	Guitar chords strummed both up and down. Effective when 5–6 notes are held.
PIANO BACKING, CLAVI CHORD	Styles for keyboard instrument backing.
WALTZ, SWING WALTZ	Styles in triple meter.
REGGAE	A reggae-type style. Effective when 3 notes are held.
PERCUSSION	Style effective for percussive instruments.
HARP	The playing style of a harp.
SHAMISEN	The playing style of a Shamisen.
BOUND BALL	A style suggestive of a bouncing ball.
RANDOM	A style in which the notes sound in random order.

BOSSANOVA	A style with bossanova guitar cutting. Hold 3–4 notes for best results. You can increase the tempo and use this as a Samba.
SALSA	Typical salsa style. Hold 3–4 notes for best results.
MAMBO	Typical mambo style. Hold 3–4 notes for best results.
LATIN PERC	A rhythm style with Latin percussion instruments such as Clave, Cowbell, Clap, Bongo, Conga, Agogo etc.
SAMBA	Typical samba style. Use for rhythm patterns or bass lines.
TANGO	Typical tango rhythm style. Hold the root, 3rd and 5th of a triad etc. for best results.
HOUSE	A style for house piano backing. Hold 3–4 notes for best results.
LIMITLESS	The settings of all parameters can be freely combined without restriction.

Motif *

Sets the order in which notes of the chord will sound.

> * Depending on the Style settings (p. 75), some choices may not be available. For details on the possible values, refer to "Arpeggio Style List" (p. 155).

Value

SINGLE UP	Notes you press will be sounded individually, beginning from low to high.
SINGLE DOWN	Notes you press will be sounded individually, beginning from high to low.
SINGLE UP&DOWN	Notes you press will be sounded individually, from low to high, and then back down from high to low.
SINGLE RANDOM	Notes you press will be sounded individually, in random order.
DUAL UP	Notes you press will be sounded two at a time, beginning from low to high.
DUAL DOWN	Notes you press will be sounded two at a time, beginning from high to low.
DUAL UP&DOWN	Notes you press will be sounded two at a time, from low to high, and then back down from high to low.
DUAL RANDOM	Notes you press will be sounded two at a time, in random order.
TRIPLE UP	Notes you press will sound three at a time, from low to high.
TRIPLE DOWN	Notes you press will sound three at a time, from high to low.
TRIPLE UP&DOWN	Notes you press will sound three at a time, from low to high and then back down from high to low.

TRIPLE RANDOM	Notes you press will sound three at a time, in random order.
NOTE ORDER	Notes will sound in the order that they were pressed. Up to 128 notes can be stored, so you can create melody lines by pressing keys in the appropriate order.
GLISSANDO	Notes will be played in an ascending and descending chromatic scale between the lowest and the highest keys that are pressed. Simply press two notes, the lowest and highest.
CHORD	All notes that are pressed will sound simultaneously.
BASS+CHORD 1–5	The lowest of the notes you play will sound, and the remaining notes will sound as a chord.
BASS+UP 1–8	The lowest of the notes you play will sound, and the remaining notes will be arpeggiated.
BASS+RANDOM 1–3	The lowest of the notes you play will sound, and the remaining notes will sound in random order.
TOP+UP 1–6	The highest of the notes you play will sound, and the remaining notes will be arpeggiated.
BASS+UP+TOP	Simulated fingering of folk guitar's three-finger picking technique.

Beat Ptrn (Beat Pattern) *

Select the beat pattern from the choices below. This setting will affect the location of the accent and length of the notes to determine the beat (rhythm).

> * Depending on the Style settings (p. 75), some choices may not be available. For details on the possible values, refer to "Arpeggio Style List" (p. 155).

Value

1/4, 1/6, 1/8, 1/12, 1/16 1–3, 1/32 1–3, PORTA-A 01–11, PORTA-B 01–15, SEQ-A 1–7, SEQ-B 1–5, SEQ-C 1–2, SEQ-D 1–8, ECHO 1–3, MUTE 01–16, STRUM1–8, REGGAE1–2, REFRAIN1–2, PERC1–4, WALKBS, HARP, BOUND, RANDOM, BOSSA NOVA, SALSA 1–4, MAMBO 1–2, CLAVE, REV CLA, GUIRO, AGOGO, SAMBA, TANGO 1–4, HOUSE 1–2

> * When PORTA-A 01– 11 and PORTA-B 01– 15 are selected, you can use Portamento time (p. 67) to control the portamento attack. In this case, it is not necessary to have Portamento Sw set to ON.

Tempo

Sets the speed of the arpeggio.

Value: 20–250

* *With Sync Source (p. 77) set to MIDI, Tempo (=MIDI) appears in the display, and the RS-5/9 is synchronized to the clock of the external MIDI device.*

Octave Range

Sets the key range in octaves over which arpeggio will take place. If you want the arpeggio to sound using only the notes that you actually play, set this parameter to 0. To have the arpeggio sound using the notes you play and notes 1 octave higher, set this parameter to +1. A setting of -1 will make the arpeggio sound using the notes you play and notes 1 octave lower.
Value: -3– +3

Key Velocity
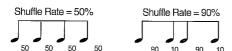
This sets the velocity, or the force of the sound at the time a key is played. If you wish to use the velocity at which the notes are actually played, set this parameter to REAL. To use a constant velocity regardless of the force with which you play the keyboard, choose a desired value from 1–127.
Value: REAL, 1–127

Shuffle Rate *

This setting lets you modify the note timing to create shuffle rhythms. With a setting of 50%, the notes will sound at equal spacing. As this value is increased, the notes will become more "bouncy," as if they were dotted notes.
Value: 50–90%

Shuffle Rate = 50%	Shuffle Rate = 90%
♪ ♪ ♪ ♪	♪ ♪ ♪ ♪
50 50 50 50	90 10 90 10

* *If the Beat Pattern (p. 76) is 1/4, there will be no shuffle effect even if the Shuffle Rate value is increased.*

Accent Rate *

Modifies the strength of accents and the length of the notes to adjust the "groove" feel of the arpeggio. A setting of 100% will produce the most pronounced groove feel.
Value: 0–100%

Sync Source

This specifies how the tempo of the arpeggio will be determined. Ordinarily, you should set this to "INT." If you wish to record arpeggios on your sequencer, or to synchronize the arpeggiator to an external device for a live performance, set this to "MIDI."

Settings

INT: The arpeggiator will be synchronized to the tempo of the RS-5/9. Any MIDI Clock messages received from an external device will be ignored.

MIDI: Arpeggiator tempo will be synchronized to the MIDI Clock messages received from an external device. If MIDI Clock messages are not being received from an external device, the arpeggiator will not play.

* *MIDI Clock is a message used to synchronize MIDI devices connected by a MIDI cable. If the RS-5/9 is connected to a MIDI device such as a sequencer, you can set the Sync Source setting to MIDI so that the arpeggio will play in synchronization with the sequencer playback. ("About MIDI" p. 118)*

Creating a pattern

You can make separate Arpeggio settings for each Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3. Press [ENTER].

4. Press the numeric key [0] several times to select the item you wish to set.

```
PERFORMANCE ARPEGGIO
Style:          1/16
```

* *If you hold down [SHIFT] and press [0], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

* *If you wish to make settings for other Parts, repeat steps 4–5.*

6. Press [EDIT].
The [EDIT] indicator goes out, and you are returned to the previous screen.

> **To make Arpeggio settings easily**
>
> By holding down [ARPEGGIO ON/OFF] and pressing [EDIT], you can select the "Style" display directly. Make settings as explained in steps 4–6 of the above procedure.
>
> Also, if you want be able to change the arpeggio style quickly, by holding down [ARPEGGIO ON/OFF] and pressing VALUE [-]/[+], you can change only the "Style" setting. When you release [ARPEGGIO ON/OFF], the previous display will reappear.

Chapter 5

Using the Knobs to Change Patterns in Real Time

Using knobs C1– C4, you can change Patterns in real time.

1. Press the [ARPEGGOP ON/OFF] button, getting its indicator to light.

   Arpeggios can now be produced when chords are played.

2. Press [ARPEGGIO/CONTROL] several times, getting its indicator to start blinking.

   * *If the indicator lights, press [ARPEGGIO/CONTROL] again.*

   Using knobs C1– C4, you can change each of the following parameter settings values in real time.

   C1: Accent Rate (p. 77)

   C2: Shuffle Rate (p. 77)

   C3: Octave Range (p. 77)

   C4: Tempo (p. 76)

   When [ARPEGGIO ON/OFF] is set to ON, the [ARPEGGIO/CONTROL] indicator switches each time the button is pressed, cycling through lit, flashing, and off.

   When the indicator is off, you can change the LFO Rate, LFO Depth, Envelope Attack, and Envelope Release in real time (p. 74).

   When the indicator is lit, you can change the parameter you have set yourself in real time (p. 74).

Chapter 6. Effect Settings

The RS-5/9 contains three effects processors: multi-effects, chorus, and reverb. Settings can be made separately for each effects processor.

There are 42 types of multi-effects, 8 types of chorus, and 8 types of reverb. You can use one of each type in a Performance.
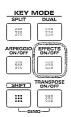
Turning the Effect Function On and Off (EFFECTS ON/OFF)

In order to enable an effects processor (multi-effects, chorus, reverb), turn its switch on.

Turn these settings off when you wish to listen to the unprocessed sound as you create a sound, or when you wish to use external effect devices instead of the built-in effects.

The On/Off settings for each Effect affect the RS-5/9 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

When shipped from the factory, all three effects are set to ON.

1. Press [EFFECTS ON/OFF], getting its indicator to start blinking.

   The Multi-effects On/Off settings screen appears in the display.

```
Multi-FX Switch
                    ON
```

2. Press VALUE [-]/[+] to turn the effect on or off.

3. Press [EFFECTS ON/OFF].

   Next, the Chorus On/Off settings screen appears in the display.

```
Chorus Switch
                    ON
```

4. Press VALUE [-]/[+] to turn the effect on or off.

5. Press [EFFECTS ON/OFF].

   Next, the Reverb On/Off settings screen appears in the display.
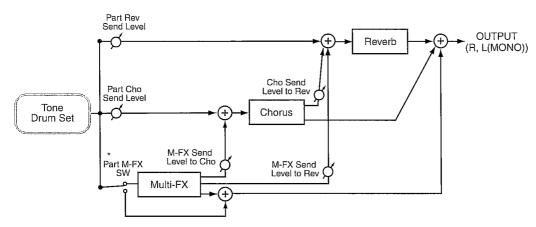
```
Reverb Switch
                    ON
```

6. Press VALUE [-]/[+] to turn the effect on or off.

7. Press [EFFECTS ON/OFF] to return to the original screen.

   The [EFFECTS ON/OFF] indicator lights up whenever any of the three effects is on.

   * *You can return to the original screen during the operation by pressing [EXIT].*

   * *If all three effects are turned off, the [EFFECTS ON/OFF] indicator light goes out.*

The Effect Signal Path

The following figure shows the path followed by the effects signals.

*   *You can make this setting only when Source is set to PERFORMANCE in the Part's MULTI-FX Switch setting. When Source is set to UPPER or LOWER, the Upper or Lower Part's MULTI-FX SWITCH automatically goes on, and all other Parts are switched off.*

Making Multi-Effects Settings

You can use only one type of multi-effect in a Performance.

Be sure to start by setting the Source (Multi-Effects Source). Here, select the multi-effects settings to be used based on the particular application or purpose.

Afterwards, select the type, then set each of the parameters (p. 81).

You can select whether to have the multi-effects used (ON), or not used (OFF) in each individual Part only when Source is set to PERFORMANCE (p. 107).

Setting the Multi-Effects Source

Select the multi-effects settings that are to be used based on the particular application or purpose you have in mind.

You can make different Multi-Effects Source setting for each individual Performance.

Source (Multi-Effects Source)

Value:

UPPER: The Upper Tone's multi-effect settings are used. The multi-effect is applied only to the Upper Part.

LOWER: The Lower Tone's multi-effect settings are used. The multi-effect is applied only to the Lower Part.

PERFORMANCE: The Performance's multi-effect settings are used. The same multi-effect is applied to all Parts (1–16).

Make each of the settings according to the desired purpose, as shown below.

Set to UPPER:

*   When Key Mode is set to Single and you want to use the tone to which multi-effects are applied.
*   When Key Mode is set to Split and you want to use the tone to which multi-effects are applied in the Upper Part.

Set to LOWER:

*   When Key Mode is set to Split and you want to use the tone to which multi-effects are applied in the Lower Part.

Set to PERFORMANCE:

*   When Key Mode is set to Split or Dual and you want to add the same multi-effects to the tones in both Parts.
*   If you do not want the multi-effects to change when switching Tones or Drum Sets.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

3. Press [ENTER].

4. Press [6] a number of times to select "Source."

```
PERFORMANCE MULTI-FX
Source:        UPPER
```

*   *If you hold down [SHIFT] and press [6], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Select the Type and Set Each Parameter

There are 42 types of multi-effects. You can select any one of these. After selecting the Type, you can change the values for each of the parameters.

* *When Source is set to UPPER or LOWER, the Type and parameter settings are used as the settings for the Tone or Drum Set assigned to that Part. When Source is set to PERFORMANCE, these settings apply to the Performance.*

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3. Press [ENTER].

4. Press the numeric key [6] several times to select the item you wish to set.

```
┌─────────┐
│U TONE)      MULTI-FX
│Type:01    STEREO EQ
```
```
(PERFORMANCE) MULTI-FX
 Type:01      STEREO EQ
```

* *What is indicated in the upper-left part of the display will change depending on the value of the Source setting.*

* *If you hold down [SHIFT] and press [6], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

* *If you wish to make settings for other Parts, repeat steps 4–5.*

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Type (Multi-Effects Type)

Selections are made from the following 42 different multi-effects.

Additionally, parameters for each of the multi-effects types can be found on the following pages.

Value:

00:	THROUGH	(p. 82)
01:	STEREO EQ	(p. 82)
02:	OVERDRIVE	(p. 83)
03:	DISTORTION	(p. 83)
04:	PHASER	(p. 84)
05:	SPECTRUM	(p. 84)
06:	ENHANCER	(p. 85)
07:	AUTO WAH	(p. 85)
08:	ROTARY	(p. 86)
09:	COMPRESSOR	(p. 87)
10:	LIMITER	(p. 87)
11:	HEXA-CHORUS	(p. 88)
12:	TREMOLO CHORUS	(p. 88)
13:	SPACE-D	(p. 89)
14:	STEREO CHORUS	(p. 89)
15:	STEREO FLANGER	(p. 90)
16:	STEP FLANGER	(p. 91)
17:	STEREO DELAY	(p. 92)
18:	MODULATION DELAY	(p. 93)
19:	TRIPLE TAP DELAY	(p. 94)
20:	QUADRUPLE TAP DELAY	(p. 95)
21:	TIME CONTROL DELAY	(p. 96)
22:	2VOICE PITCH SHIFTER	(p. 96)
23:	FBK PITCH SHIFTER	(p. 97)
24:	REVERB	(p. 98)
25:	GATED REVERB	(p. 99)
26:	OVERDRIVE → CHORUS	(p. 99)
27:	OVERDRIVE → FLANGER	(p. 100)
28:	OVERDRIVE → DELAY	(p. 100)
29:	DISTORTION → CHORUS	(p. 101)
30:	DISTORTION → FLANGER	(p. 101)
31:	DISTORTION → DELAY	(p. 101)
32:	ENHANCER → CHORUS	(p. 102)
33:	ENHANCER → FLANGER	(p. 102)
34:	ENHANCER → DELAY	(p. 103)
35:	CHORUS → DELAY	(p. 103)
36:	FLANGER → DELAY	(p. 104)
37:	CHORUS → FLANGER	(p. 104)
38:	CHORUS/DELAY	(p. 105)
39:	FLANGER/DELAY	(p. 105)
40:	CHORUS/FLANGER	(p. 105)
41:	LOFI	(p. 106)
42:	SLICER	(p. 106)

* *Values for parameters marked with #1 or #2 can be changed in real time with the modulation lever or the knobs. For details, refer to (p. 71).*

Chapter 6

Send Levl to Cho
(Multi-effect send level to chorus)

Sets the amount of the multi-effects sound that is sent to the chorus. Higher values result in more sound being sent.

Value: 0–127

> * *This parameter is included in all multi-effects types.*

Send Levl to Rev
(Multi-effect send level to reverb)

Sets the amount of the multi-effects sound that is sent to the reverb. Higher values result in more sound being sent.

Value: 0–127
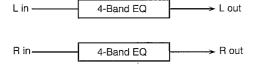
> * *This parameter is included in all multi-effects types.*

00: THROUGH

Effects are not applied. Select when creating Tones or Drum Sets that do not use multi-effects.

01: STEREO EQ (Stereo Equalizer)

This is a four-band stereo equalizer (low, mid x 2, high).

Low Freq (Low Frequency)

Select the frequency of the low range (200 Hz/400 Hz).

Value: 200, 400 [Hz]

Low Gain

Adjust the gain of the low frequency.

Value: -15– +15 [dB]

High Freq (High Frequency)

Select the frequency of the high range (4000 Hz/8000 Hz).

Value: 4000, 8000 [Hz]

High Gain

Adjust the gain of the high frequency.

Value: -15– +15 [dB]

Mid1 Freq (Middle 1 Frequency)

Adjust the frequency of Middle 1 (mid range).

Value: 200–8000 [Hz]

Mid1 Q (Middle 1 Q)

This parameter adjusts the width of the area around the Middle 1 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

Value: 0.5, 1.0, 2.0, 4.0, 8.0

Mid1 Gain (Middle 1 Gain)

Adjust the gain for the area specified by the Middle 1 Frequency and Q settings.

Value: -15– +15 [dB]

Mid2 Freq (Middle 2 Frequency)

Adjust the frequency of Middle 2 (mid range).

Value: 200–8000 [Hz]

Mid2 Q (Middle 2 Q)

This parameter adjusts the width of the area around the Middle 2 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

Value: 0.5, 1.0, 2.0, 4.0, 8.0

Mid2 Gain (Middle 2 Gain)

Adjust the gain for the area specified by the Middle 2 Frequency and Q settings.

Value: -15– +15 [dB]
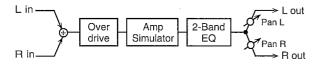
Level (Output Level) #1, #2

Adjust the output level.

Value: 0–127

02: OVERDRIVE

This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.

Drive #1

Adjust the degree of distortion. The volume will change together with the degree of distortion.
Value: 0–127

Level (Output Level)

Adjust the output level.
Value: 0–127

Low Gain

Adjust the gain of the low frequency range.
Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.
Value: -15– +15 [dB]

Amp Type (Amp Simulator Type)

Select the type of guitar amp.
Value
SMALL: small amp
BUILT-IN: single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

Pan (Output Pan) #2

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Value: L64– 63R

03: DISTORTION

This effect produces a more intense distortion than Overdrive.

Drive #1

Adjust the degree of distortion. The volume will change together with the degree of distortion.
Value: 0–127

Level (Output Level)

Adjust the output level.
Value: 0–127

Low Gain

Adjust the gain of the low frequency range.
Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.
Value: -15– +15 [dB]

Amp Type (Amp Simulator Type)

Select the type of guitar amp.
Value
SMALL: small amp
BUILT-IN: single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

Pan (Output Pan) #2

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Value: L64– 63R

04: PHASER

A phaser adds a phase-shifted sound to the direct sound, producing a twisting modulation that creates spaciousness and depth.

Manual #1

Adjust the basic frequency from which the sound will be modulated.

Value: 100–8000 [Hz]

Rate #2

Adjust the frequency (period) of modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.

Value: 0–127

Resonance

Adjust the amount of feedback for the phaser.

Value: 0–127

Mix (Mix Level)

Adjust the ratio with which the phase-shifted sound is combined with the direct sound.

Value: 0–127

Pan (Output Pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64– 63R

Level (Output Level)
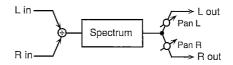
Adjust the output level.

Value: 0–127

05: SPECTRUM

Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.

It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.

Band 1 (Band 1 Gain)

Adjust the 250 Hz level.

Value: -15– +15 [dB]

Band 2 (Band 2 Gain)

Adjust the 500 Hz level.

Value: -15– +15 [dB]

Band 3 (Band 3 Gain)

Adjust the 1000 Hz level.

Value: -15– +15 [dB]

Band 4 (Band 4 Gain)

Adjust the 1250 Hz level.

Value: -15– +15 [dB]

Band 5 (Band 5 Gain)

Adjust the 2000 Hz level.

Value: -15– +15 [dB]

Band 6 (Band 6 Gain)

Adjust the 3150 Hz level.

Value: -15– +15 [dB]

Band 7 (Band 7 Gain)

Adjust the 4000 Hz level.

Value: -15– +15 [dB]

Band 8 (Band 8 Gain)

Adjust the 8000 Hz level.

Value: -15– +15 [dB]

Q

Simultaneously adjust the width of the adjusted areas for all the frequency bands.

Value: 0.5, 1.0, 2.0, 4.0, 8.0

Pan (Output Pan) #1

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64– 63R

Level (Output Level) #2
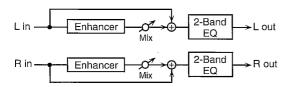
Adjust the output level.

Value: 0–127

06: ENHANCER

The Enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.

Sens (Sensitivity) #1

Adjust the sensitivity of the enhancer.

Value: 0–127

Mix (Mix Level) #2

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Value: 0–127

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Level (Output Level)

Adjust the output level.

Value: 0–127

07: AUTO WAH

The Auto Wah cyclically controls a filter to create cyclic change in timbre.

Filter Type

Select the type of filter.

Value

LPF: The wah effect will be applied over a wide frequency range.

BPF: The wah effect will be applied over a narrow frequency range.

Sens (Sensitivity)

Adjust the sensitivity with which the filter is controlled.

Value: 0–127

Manual #1

Adjust the center frequency from which the effect is applied.

Value: 0–127

Peak

Adjust the amount of the wah effect that will occur in the area of the center frequency. Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range.

Value: 0–127

Rate #2

Adjust the frequency of the modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of the modulation.

Value: 0–127

Polarity

Sets the direction in which the frequency will change when the auto-wah filter is modulated. With a setting of Up, the filter will change toward a higher frequency. With a setting of Down, it will change toward a lower frequency.

Value: UP, DOWN

Level (Output Level)

Adjust the output level.

Value: 0–127
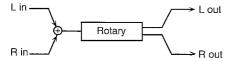
08: ROTARY

The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past.

Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.

Low Slow (Low Frequency Slow Rate)

Adjust the slow speed (SLOW) of the low frequency rotor.
Value: 0.05–10.00 [Hz]

Low Fast (Low Frequency Fast Rate)

Adjust the fast speed (FAST) of the low frequency rotor.
Value: 0.05–10.00 [Hz]

Low Accel (Low Frequency Acceleration)

Adjust the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.
Value: 0–15

Low Level (Low Frequency Level)

Adjust the volume of the low frequency rotor.
Value: 0–127

High Slow (High Frequency Slow Rate)

Adjust the slow speed (SLOW) of the high frequency rotor.
Value: 0.05–10.00 [Hz]

High Fast (High Frequency Fast Rate)

Adjust the fast speed (FAST) of the high frequency rotor.
Value: 0.05–10.00 [Hz]

High Accel (High Frequency Acceleration)

Adjust the time it takes the high frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.
Value: 0–15

High Level (High Frequency Level)

Adjust the volume of the high frequency rotor.
Value: 0–127

Separation

Adjust the spatial dispersion of the sound.
Value: 0–127

Speed #1

Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor.
Value

SLOW: Slow down the rotation to the specified speed (the Low Slow/Hi Slow values).

FAST: Speed up the rotation to the specified speed (the Low Fast/Hi Fast values).
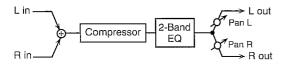
* *When you want to use the pedal switch to switch the Rotary rotation speed, select MFX PARAMETER 1 in Control Pedal Assign (p. 73).*

Level (Output Level) #2

Adjust the output level.
Value: 0–127

09: COMPRESSOR

The Compressor flattens out high levels and boosts low
levels, smoothing out unevenness in volume.

Attack (Attack Time)

Adjust the attack time of an input sound.

Value: 0–127

Sustain

Adjust the time over which low level sounds are boosted
until they reach the specified volume.

Value: 0–127

Post Gain

Adjust the output gain.

Value: 0, +6, +12, +18 [dB]

Low Gain

Adjust the low frequency gain.

Value: -15– +15 [dB]

High Gain

Adjust the high frequency gain.

Value: -15– +15 [dB]

Pan (Output Pan) #1

Adjust the stereo location of the output sound. L64 is far left,
0 is center, and 63R is far right.

Value: L64– 63R

Level (Output Level) #2

Adjust the output level.

Value: 0–127

10: LIMITER

The Limiter compresses signals that exceed a specified
volume level, preventing distortion from occurring.

Threshold (Threshold Level)

Adjust the volume at which compression will begin.

Value: 0–127

Ratio (Compression Ratio)

Adjust the compression ratio.

Value: 1.5:1, 2:1, 4:1, 100:1

Release (Release Time)

Adjust the time from when the volume falls below the
Threshold Level until compression is no longer applied.

Value: 0–127

Post Gain

Adjust the output gain.

Value: 0, +6, +12, +18 [dB]

Low Gain

Adjust the low frequency gain.

Value: -15– +15 [dB]

High Gain

Adjust the high frequency gain.

Value: -15– +15 [dB]

Pan (Output Pan) #1

Adjust the stereo location of the output sound. L64 is far left,
0 is center, and 63R is far right.

Value: L64– 63R

Level (Output Level) #2

Adjust the output level.

Value: 0–127

Chapter 6
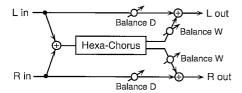
11: HEXA-CHORUS

Hexa-chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.
Value: 0.0–100 [ms]

Rate #1

Adjust the rate of modulation.
Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.
Value: 0–127

Pre Delay Dev (Pre Delay Deviation)

Pre Delay determines the time from when the direct sound begins until the processed sound is heard. Pre Delay Deviation adjusts the differences in Pre Delay between each chorus sound.
Value: 0–20

Depth Dev (Depth Deviation)

Adjust the difference in modulation depth between each chorus sound.
Value: -20– +20

Pan Dev (Pan Deviation)

Adjust the difference in stereo location between each chorus sound. With a setting of 0, all chorus sounds will be in the center. With a setting of 20, each chorus sound will be spaced at 60 degree intervals relative to the center.
Value: 0–20

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.
Value: D100:0W–D0:100W

Level (Output Level)
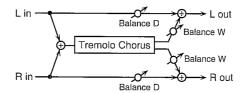
Adjust the output level.
Value: 0–127

12: TREMOLO CHORUS

Tremolo Chorus is a chorus effect with added Tremolo (cyclic modulation of volume).

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.
Value: 0.0–100 [ms]

Chorus Rate

Adjust the modulation speed of the chorus effect.
Value: 0.05–10.00 [Hz]

Chorus Depth

Adjust the modulation depth of the chorus effect.
Value: 0–127

Tremolo Phase

Adjust the spread of the tremolo effect.
Value: 0–180 [deg]

Tremolo Rate #1

Adjust the modulation speed of the tremolo effect.
Value: 0.05–10.00 [Hz]

Tremolo Sep (Tremolo Separation)

Adjust the spread of the tremolo effect.
Value: 0–127

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the tremolo chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the tremolo chorus sound will be output.
Value: D100:0W–D0:100W

Level (Output Level)
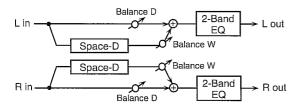
Adjust the output level.

Value: 0–127

13: SPACE-D

Space-D is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Value: 0.0–100 [ms]

Rate #1

Adjust the rate of modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.

Value: 0–127

Phase

Adjust the spatial spread of the sound.

Value: 0–180 [deg]

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)
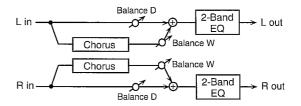
Adjust the output level.

Value: 0–127

14: STEREO CHORUS

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Value: 0.0–100 [ms]

Rate #1

Adjust the rate of modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.

Value: 0–127

Phase

Adjust the spatial spread of the sound.

Value: 0–180 [deg]

Filter Type

Select the type of filter.

Value

OFF: a filter will not be used

LPF: cut the frequency range above the cutoff frequency

HPF: cut the frequency range below the cutoff frequency

Cutoff Freq (Cutoff Frequency)

Adjust the basic frequency of the filter.

Value: 200–8000 [Hz]

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

Chapter 6

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the chorus sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)
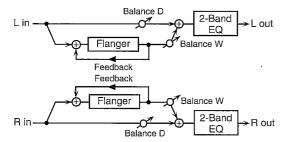
Adjust the output level.

Value: 0–127

15: STEREO FLANGER

This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Rate #1

Adjust the rate of modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.

Value: 0–127

Feedback (Feedback Level) #2

Adjust the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase.

Value: -98– +98 [%]

Phase

Adjust the spatial spread of the sound.

Value: 0–180 [deg]

Filter Type

Select the type of filter.

OFF: a filter will not be used

LPF: cut the frequency range above the cutoff frequency

HPF: cut the frequency range below the cutoff frequency

Cutoff Freq (Cutoff Frequency)

Adjust the basic frequency of the filter.

Value: 200–8000 [Hz]

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the flanger sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127
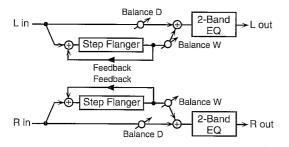
16: STEP FLANGER

The Step Flanger effect is a flanger in which the flanger pitch changes in steps.

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Rate

Adjust the rate of modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of modulation.

Value: 0–127

Feedback (Feedback Level) #1

Adjust the amount (%) of the flanger sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Phase

Adjust the spatial spread of the sound.

Value: 0–180 [deg]

Step Rate #2

Adjust the rate (period) of pitch change.

Value: 0.1–20.0 [Hz], note-value symbols

> Step Rate parameter can be set as a note-value of a specified tempo. In this case, specify the value of the desired note. The Tempo (p. 76) setting changes to the basic tempo.

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the flanger sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the chorus sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127
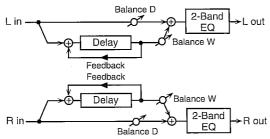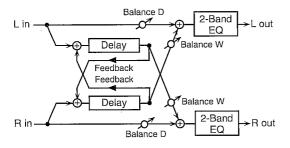
17: STEREO DELAY

This is a stereo delay.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Delay Left (Delay Time Left)

Adjust the time from the direct sound until when the left delay sound is heard.

Value: 0.0–500 [ms]

Delay Right (Delay Time Right)

Adjust the time from the direct sound until when the right delay sound is heard.

Value: 0.0–500 [ms]

Feedback (Feedback Level) #1

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Feedback Mode

Select the way in which delay sound is fed back into the effect.

Value

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.

CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Phase Left (Feedback Phase Left)

Select the phase of the left delay sound.

Value

NORMAL: Phase is not changed.

INVERT: Phase is inverted.

Phase Right (Feedback Phase Right)

Select the phase of the right delay sound.

Value

NORMAL: Phase is not changed.

INVERT: Phase is inverted.

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127
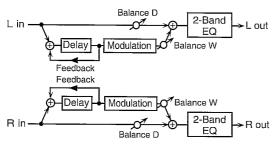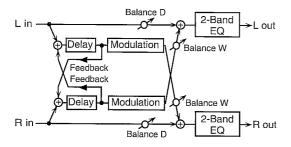
18: MODULATION DELAY

This effect adds modulation to the delayed sound, producing an effect similar to a flanger.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Delay Left (Delay Time Left)

Adjust the time from the direct sound until when the left delay sound is heard.

Value: 0.0–500 [ms]

Delay Right (Delay Time Right)

Adjust the time from the direct sound until when the right delay sound is heard.

Value: 0.0–500 [ms]

Feedback (Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Feedback Mode

Select the way in which delay sound is fed back into the effect.

Value

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.

CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Rate #1

Adjust the speed of the modulation.

Value: 0.05–10.00 [Hz]

Depth

Adjust the depth of the modulation.

Value: 0–127

Phase

Adjust the spatial spread of the sound.

Value: 0–180 [deg]

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the modulation delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the modulation delay sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127

Chapter 6
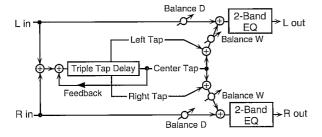
19: TRIPLE TAP DELAY

The Triple Tap Delay produces three delay sounds; center, left and right.

Delay Center (Delay Time Center)

Adjust the time delay from the direct sound until when the center delay sound is heard.

Value: 200–1000 [ms], note-value symbols

Delay Left (Delay Time Left)

Adjust the time delay from the direct sound until when the left delay sound is heard.

Value: 200–1000 [ms], note-value symbols

Delay Right (Delay Time Right)

Adjust the time delay from the direct sound until when the right delay sound is heard.

Value: 200–1000 [ms], note-value symbols

> Delay C, Delay L and Delay R parameters can be set as a note-value of a specified tempo. In this case, specify the value of the desired note. The Tempo (p. 76) setting changes to the basic tempo.

Feedback (Feedback Level) #1

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Center Level

Adjust the volume of the center delay sound.

Value: 0–127

Left Level

Adjust the volume of the left delay sound.

Value: 0–127

Right Level

Adjust the volume of the right delay sound.

Value: 0–127

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127
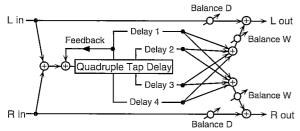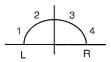
20: QUADRUPLE TAP DELAY

The Quadruple Tap Delay has four delays.

The stereo location of each delay sound is as follows.

Delay 1 (Delay Time 1)

Adjust the time delay from the direct sound until when delay 1 sound is heard.

Value: 200–1000 [ms], note-value symbols

Delay 2 (Delay Time 2)

Adjust the time delay from the direct sound until when delay 2 sound is heard.

Value: 200–1000 [ms], note-value symbols

Delay 3 (Delay Time 3)

Adjust the time delay from the direct sound until when delay 3 sound is heard.

Value: 200–1000 [ms], note-value symbols

Delay 4 (Delay Time 4)

Adjust the time delay from the direct sound until when delay 4 sound is heard.

Value: 200–1000 [ms], note-value symbols

> Delay 1–4 parameters can be set as a note-value of a specified tempo. In this case, specify the value of the desired note. The Tempo (p. 76) setting changes to the basic tempo.

Level 1

Adjust the volume of delay 1 sound.
Value: 0–127

Level 2

Adjust the volume of delay 2 sound.
Value: 0–127

Level 3

Adjust the volume of delay 3 sound.
Value: 0–127

Level 4

Adjust the volume of delay 4 sound.
Value: 0–127

Feedback (Feedback Level) #1

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Value: -98– +98 [%]

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.
Value: 200–8000 [Hz], BYPASS

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.
**Value:** D100:0W–D0:100W

Level (Output Level)

Adjust the output level.
Value: 0–127
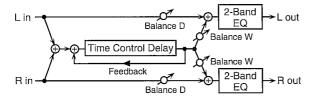
21: TIME CONTROL DELAY

You can use the modulation lever and knobs to change the delay time and pitch in real time (p. 71). Lengthening the delay will lower the pitch, and shortening it will raise the pitch.

Delay (Delay Time) #1

Adjust the time delay from the direct sound until when each delay sound is heard.

Value: 200–1000 [ms]

Acceleration

This parameter adjusts the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change.

Value: 0–15

Feedback (Feedback Level) #2

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

HF Damp

Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Pan (Output Pan)

Adjust the stereo location of the delay sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the delay sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the delay sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)
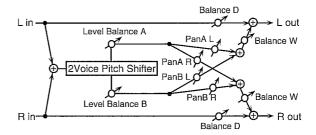
Adjust the output level.

Value: 0–127

22: 2VOICE PITCH SHIFTER

A Pitch Shifter shifts the pitch of the direct sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the direct sound.

CoarseA (Coarse Pitch A) #1

Adjust the pitch of Pitch Shift A in semitone steps (-2–+1 octaves).

Value: -24– +12 [semi]

Fine A (Fine Pitch A) #1

Make fine adjustments to the pitch of Pitch Shift A in 2-cent steps (-100–+100 cents).

One cent is 1/100th of a semitone.

Value: -100– +100 [cent]

Pan A (Output Pan A)

Adjust the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Pre Delay A (Pre Delay Time A)

Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

Value: 0.0–500 [ms]

CoarseB (Coarse Pitch B) #2

Adjust the pitch of Pitch Shift B in semitone steps (-2–+1 octaves).

Value: -24– +12 [semi]

Fine B (Fine Pitch B) #2

Make fine adjustments to the pitch of Pitch Shift B in 2-cent steps (-100–+100 cents).

One cent is 1/100th of a semitone.

Value: -100– +100 [cent]

Pan B (Output Pan B)

Adjust the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Pre Delay B (Pre Delay Time B)

Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

Value: 0.0–500 [ms]

Mode (Pitch Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Value: 1, 2, 3, 4, 5

Lev Balance (Level Balance)

Adjust the volume balance between the Pitch Shift A and Pitch Shift B sounds.

Value: A100:0B–A0:100B

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output.

**Value:** D100:0W–D0:100W

Level (Output Level)
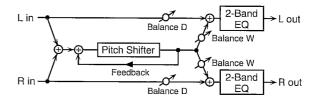
Adjust the output level.

Value: 0–127

23: FBK PITCH SHIFTER (Feedback Pitch Shifter)

This pitch shifter allows the pitch shifted sound to be fed back into the effect.

Coarse (Coarse Pitch) #1

Adjust the pitch of the pitch shifted sound in semitone steps (-2–+1 octaves).

Value: -24– +12 [semi]

Fine (Fine Pitch) #1

Make fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-2–+1 octaves).

Value: -100– +100 [cent]

Feedback (Feedback Level) #2

Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the pitch shifted sound is heard.

Value: 0.0–500 [ms]

Mode (Pitch Shifter Mode)

Higher settings of this parameter will result in slower response, but steadier pitch.

Value: 1, 2, 3, 4, 5

Pan (Output Pan)

Adjust the stereo location of the pitch shifted sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

Chapter 6

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance)

Adjust the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127

24: REVERB

The Reverb effect adds reverberation to the sound, simulating an acoustic space.

Type (Reverb Type)

Select the type of Reverb effect.

Value

ROOM1:   dense reverb with short decay

ROOM2:   sparse reverb with short decay

STAGE1:   reverb with greater late reverberation

STAGE2:   reverb with strong early reflections

HALL1:   reverb with clear reverberance

HALL2:   reverb with rich reverberance

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Value: 0.0–100 [ms]

Time (Reverb Time) #1

Adjust the time length of reverberation.

Value: 0–127

HF Damp

Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #2

Adjust the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127

25: GATED REVERB

Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.

Type (Gated Reverb Type)

Select the type of reverb.

Value

NORMAL: conventional gate reverb

REVERSE: backwards reverb

SWEEP1: the reverberant sound moves from right to left

SWEEP2: the reverberant sound moves from left to right

Pre Delay (Pre Delay Time)

Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Value: 0.0–100 [ms]

Gate Time

Adjust the time from when the reverb is heard until when it disappears.

Value: 5–500 [ms]

Low Gain

Adjust the gain of the low frequency range.

Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.

Value: -15– +15 [dB]

Balance (Effect Balance) #1

Adjust the volume balance between the direct sound and the reverb sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the reverb sound will be output.

Value: D100:0W–D0:100W

## Level (Output Level) #2

Adjust the output level.

Value: 0–127

26: OVERDRIVE→CHORUS

This effect connects an overdrive and a chorus in series.

OD Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Value: 0–127

OD Pan (Overdrive Pan) #1

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Chorus Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Value: 0.0–100 [ms]

Chorus Rate

Adjust the modulation speed of the chorus effect.

Value: 0.05–10.00 [Hz]

Chorus Depth

Adjust the modulation depth of the chorus effect.

Value: 0–127

Chorus Bal (Chorus Balance) #2

Adjust the volume balance between the overdrive sound that is sent through the chorus and the overdrive sound that is not sent through the chorus. With a setting of "D100:0W," only the overdrive sound will be output. With a setting of "D0:100W," only the overdrive sound that is sent through the chorus will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.

Value: 0–127
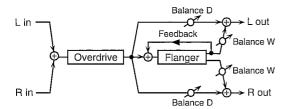
27: OVERDRIVE→FLANGER

This effect connects an overdrive and a flanger in series.

OD Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Value: 0–127

OD Pan (Overdrive Pan) #1

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Flg Pre Dly (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Flg Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Value: 0.05–10.00 [Hz]

Flg Dpt (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Value: 0–127

Flg Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Flg Balance (Flanger Balance) #2

Adjust the volume balance between the overdrive sound that is sent through the flanger and the overdrive sound that is not sent through the flanger. With a setting of "D100:0W," only the overdrive sound will be output. With a setting of "D0:100W," only the overdrive sound that is sent through the flanger will be output.

Value: D100:0W–D0:100W

Level (Output Level)
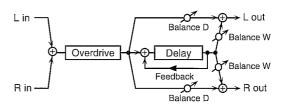
Adjust the output level.

Value: 0–127

28: OVERDRIVE→DELAY

This effect connects an overdrive and a delay in series.

OD Drive

Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Value: 0–127

OD Pan (Overdrive Pan) #1

Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Value: L64–63R

Delay Time

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Value: 0.0–500 [ms]

Delay Feedback (Delay Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Delay HF Damp

Adjust the frequency above which delayed sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Delay Bal (Delay Balance) #2

Adjust the volume balance between the overdrive sound that is sent through the delay and the overdrive sound that is not sent through the delay. With a setting of "D100:0W," only the overdrive sound will be output. With a setting of "D0:100W," only the overdrive sound that is sent through the delay will be output.

Value: D100:0W–D0:100W

Level (Output Level)

Adjust the output level.
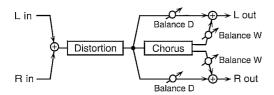
Value: 0–127

29: DISTORTION→CHORUS

This effect connects distortion and chorus in series. The parameters are essentially the same as "26: OVERDRIVE → CHORUS," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)
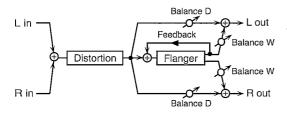
30: DISTORTION→FLANGER

This effect connects distortion and flanger in series. The parameters are essentially the same as in "27: OVERDRIVE → FLANGER," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)
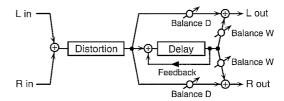
31: DISTORTION→DELAY

This effect connects distortion and delay in series. The parameters are essentially the same as in "28: OVERDRIVE → DELAY," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)

Chapter 6
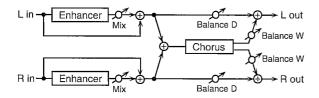
32: ENHANCER→CHORUS

This effect connects an enhancer and a chorus in series.

Enhancer Sens (Enhancer Sensitivity) #1

Adjust the sensitivity of the enhancer.

Value: 0–127

Enhancer Mix (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Value: 0–127

Chorus Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Value: 0.0–100 [ms]

Chorus Rate

Adjust the modulation speed of the chorus effect.

Value: 0.05–10.00 [Hz]

Chorus Depth

Adjust the modulation depth of the chorus effect.

Value: 0–127

Chorus Bal (Chorus Balance) #2

Adjust the volume balance between the enhancer sound that is sent through the chorus and the enhancer sound that is not sent through the chorus. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the chorus will be output.

Value: D100:0W–D0:100W

Level (Output Level)
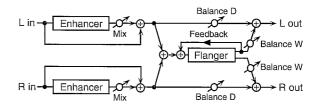
Adjust the output level.

Value: 0–127

33: ENHANCER→FLANGER

This effect connects an enhancer and a flanger in series.

Enhancer Sens (Enhancer Sensitivity) #1

Adjust the sensitivity of the enhancer.

Value: 0–127

Enhancer Mix (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Value: 0–127

Flg Pre Dly (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Flg Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Value: 0.05–10.00 [Hz]

Flg Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Value: 0–127

Flg Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Flg Balance (Flanger Balance) #2

Adjust the volume balance between the enhancer sound that is sent through the flanger and the enhancer sound that is not sent through the flanger. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the flanger will be output.

Value: D100:0W–D0:100W

Level (Output Level)
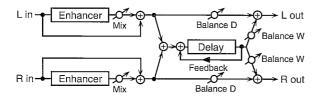
Adjust the output level.

Value: 0–127

34: ENHANCER→DELAY

This effect connects an enhancer and a delay in series.

Enhancer Sens (Enhancer Sensitivity) #1

Adjust the sensitivity of the enhancer.

Value: 0–127

Enhancer Mix (Enhancer Mix Level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Value: 0–127

Delay Time

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Value: 0.0–500 [ms]

Delay Feedback (Delay Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Delay HF Damp

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Delay Bal (Delay Balance) #2

Adjust the volume balance between the enhancer sound that is sent through the delay and the enhancer sound that is not sent through the delay. With a setting of "D100:0W," only the enhancer sound will be output. With a setting of "D0:100W," only the enhancer sound that is sent through the delay will be output.

Value: D100:0W–D0:100W

Level (Output Level)
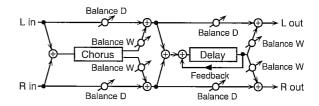
Adjust the output level.

Value: 0–127

35: CHORUS→DELAY

This effect connects a chorus and a delay unit in series.

Chorus Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Value: 0.0–100 [ms]

Chorus Rate

Adjust the modulation speed of the chorus effect.

Value: 0.05–10.00 [Hz]

Chorus Depth

Adjust the modulation depth of the chorus effect.

Value: 0–127

Chorus Bal (Chorus Balance) #1

Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the chorus sound will be output.

Value: D100:0W–D0:100W

Delay Time

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Value: 0.0–500 [ms]

Delay Feedback (Delay Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Delay HF Damp

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Delay Bal (Delay Balance) #2

Adjust the volume balance between the chorus sound that is sent through the delay and the chorus sound that is not sent through the delay. With a setting of "D100:0W," only the chorus sound will be output. With a setting of "D0:100W," only the chorus sound that is sent through the delay will be output.

Value: D100:0W–D0:100W

Level (Output Level)
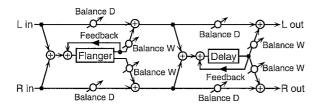
Adjust the output level.

Value: 0–127

36: FLANGER→DELAY

This effect connects a flanger and a delay in series.

Flg Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Flg Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Value: 0.05–10.00 [Hz]

Flg Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Value: 0–127

Flg Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Flg Balance (Flanger Balance) #1

Adjust the volume balance between the direct sound and the flanger sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the flanger sound will be output.
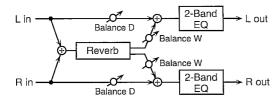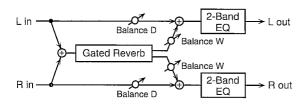
Value: D100:0W–D0:100W

Delay Time

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Value: 0.0–500 [ms]

Delay Feedback (Delay Feedback Level)

Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Delay HF Damp

Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to BYPASS.

Value: 200–8000 [Hz], BYPASS

Delay Bal (Delay Balance) #2

Adjust the volume balance between the flanger sound that is sent through the delay and the flanger sound that is not sent through the delay. With a setting of "D100:0W," only the flanger sound will be output. With a setting of "D0:100W," only the flanger sound that is sent through the delay will be output.

Value: D100:0W–D0:100W

Level (Output Level)
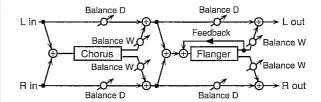
Adjust the output level.

Value: 0–127

37: CHORUS→FLANGER

This effect connects a chorus and a flanger in series.

Cho Delay (Chorus Pre Delay Time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Value: 0.0–100 [ms]

Chorus Rate

Adjust the modulation speed of the chorus effect.

Value: 0.05–10.00 [Hz]

Chorus Depth

Adjust the modulation depth of the chorus effect.

Value: 0–127

Chorus Bal (Chorus Balance) #1

Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100:0W," only the direct sound will be output. With a setting of "D0:100W," only the chorus sound will be output.
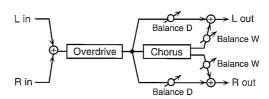
Value: D100:0W–D0:100W

Flg Pre Delay (Flanger Pre Delay Time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Value: 0.0–100 [ms]

Flg Rate (Flanger Rate)

Adjust the modulation speed of the flanger effect.

Value: 0.05–10.00 [Hz]

Flg Depth (Flanger Depth)

Adjust the modulation depth of the flanger effect.

Value: 0–127

Flg Feedback (Flanger Feedback Level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Value: -98– +98 [%]

Flg Balance (Flanger Balance) #2

Adjust the volume balance between the chorus sound and the chorus sound that is passed through the flanger. With a setting of "D100:0W," only the chorus sound will be output. With a setting of "D0:100W," only the chorus sound that passes through the flanger will be output.

**Value:** D100:0W–D0:100W

Level (Output Level)
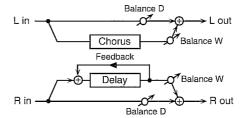
Adjust the output level.

Value: 0–127
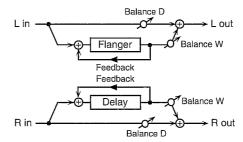
38: CHORUS/DELAY

This effect connects a chorus and a delay in parallel. The parameters are the same as for "35: CHORUS → DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.
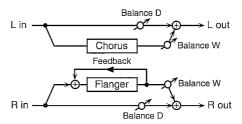
39: FLANGER/DELAY

This effect connects a flanger and a delay in parallel. The parameters are the same as for "36: FLANGER → DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.
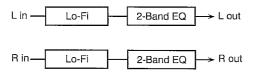
40: CHORUS/FLANGER

This effect connects a chorus and a flanger in parallel. The parameters are the same as for "37: CHORUS → FLANGER." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.

Chapter 6

41: LOFI

This effect intentionally degrades the audio quality to simulate a Lo-Fi sound. It is particularly effective on drums.

L in ──▸ [Lo-Fi] ── [2-Band EQ] ──▸ L out

R in ──▸ [Lo-Fi] ── [2-Band EQ] ──▸ R out

Bit Down

This setting lowers the audio quality. The audio quality will worsen as this setting is increased.
Value: 0–7

S-Rate Down (Sample-Rate Down)

This coarsens the output signal. The sound will become coarser as this setting is lowered.
Value: 32, 16, 8, 4 [kHz]

Post Gain

Adjusts the output signal.
Value: 0, +6, +12, +18 [dB]

Low Gain

Adjust the gain of the low frequency range.
Value: -15– +15 [dB]

High Gain

Adjust the gain of the high frequency range.
Value: -15– +15 [dB]

Output

Specifies how the sound will be output. With a setting of "MONO," the output sound will be monaural.
Value: MONO, STEREO
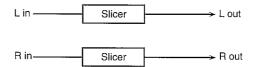
Level (Output Level) #1 #2

Specifies the output volume from the Lo-Fi effect.
Value: 0–127

42: SLICER

By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.

L in ──────── [Slicer] ──────────▸ L out

R in ──────── [Slicer] ──────────▸ R out

Timing Pttern (Timing Pattern)

Select a pattern to specify the timing at which the sound will be cut.
Value: 1–34

Accent Pttern (Accent Pattern)

Specifies the location of the accents.
Value: 1–16

Accent Level

Adjusts the volume of the accents. As this setting is increased, the accent will be more pronounced.
Value: 0–127

Attack

Adjusts the attack speed of the sound. As this setting is increased, the attack will become faster.
Value: 1–10

Rate #1

This sets the period for the pattern.
Value: 0.05–10.00 [Hz], note-value symbols

> Rate parameters can be set as a note-value of a specified tempo. In this case, specify the value of the desired note. The Tempo (p. 76) setting changes to the basic tempo.

Reset #2

This setting determines whether the pattern is reset (ON), or not (OFF) when sounds are played.
Value: OFF, ON

Level (Output Level)

Adjust the output level.
Value: 0–127

Setting Multi-Effects as On/Off for Individual Parts

You can specify whether to have multi-effects used (ON), or not used (OFF) for individual Parts only when Source is set to PERFORMANCE.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄◄]/[►►] to select the Part.

5. Press the numeric key [6] several times to select "Switch."

```
PART 1 MFX:STEREO EQ
Switch:           OFF
```

6. Press VALUE [-]/[+] to select the value (OFF, ON).

7. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Making Chorus Settings

You can make different chorus settings for each individual Performance.

There are eight types of chorus. You can select any one of these. After selecting the Type, you can change the values for each of the parameters.

Furthermore, you can set the chorus depth (the amount applied) differently for each individual Part in a Performance.

Select the Type and Set Each Parameter

When you change the Chorus Type, eight different Chorus/chorus parameters are changed automatically to the optimum values. Rather than setting the chorus parameters one by one, you can make the settings more easily by first setting the Chorus Type and then changing only the necessary parameters.

These settings can be made differently for each individual Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

3. Press [ENTER].

4. Press the numeric key [7] several times to select the item you wish to set.

```
PERFORMANCE       CHORUS
Type:             CHORUS3
```

* *If you hold down [SHIFT] and press [7], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

* *If you wish to make settings for other Parts, repeat steps 4–5.*

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Type (Chorus Type)

You can choose from 8 types of chorus.

Value:

CHORUS1–4: General chorus settings. Adds breadth and fullness to the sound.

FEEDBACK CHORUS: Chorus that produces a flanger-like effect, creating a soft sound.

FLANGER: This effect produces a rising and falling sweep reminiscent of a jet airplane.

SHORT DELAY: This is a delay with a short delay time.

SHORT DELAY(FB): This is a delay with a short delay time and many repeats.

Pre-LPF (Chorus pre-low pass filter)

A low-pass filter can be applied to the sound coming into the chorus to cut the high frequency range. Higher values will cut more of the high frequencies, resulting in a more mellow chorus sound.

Value: 0–7

Level (Chorus Level)

Sets the amount of the chorus sound.

Value: 0–127

Feedback (Chorus Feedback Level)

Sets the level at which the chorus sound is re-input (fed back) into the chorus. By using feedback, a denser chorus sound can be created. Higher values result in a greater feedback level.

Value: 0–127

Chapter 6

Delay (Chorus Delay Time)

Sets the delay time of the chorus effect.

Value: 0–127

Rate (Chorus Rate)

Sets the speed (frequency) at which the chorus sound is modulated. Higher values result in faster modulation.

Value: 0–127

Depth (Chorus Depth)

Sets the depth at which the chorus sound is modulated. Higher values result in deeper modulation.

Value: 0–127

Send levl to Rev (Chorus send level to reverb)

Sets the amount of chorus sound that will be sent to the reverb. Higher values result in more sound being sent.

Value: 0–127

Setting the Chorus Depth for Each Part

Send Level (Chorus send level)

Sets the amount of chorus effect applied in each Part.

Value: 0–127

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◀]/[▶] to select the Part.

5. Press the numeric key [7] several times to select "Send Level"

```
PART 1          CHORUS
Send Level:          0
```

6. Use VALUE [-]/[+] to select the value (0–127).

7. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Making Reverb Settings

You can make different Reverb settings for each individual Performance.

There are eight types of reverb. You can select any one of these. After selecting the Type, you can change the values for each of the parameters.

Furthermore, you can make different reverb depth (the amount applied) settings for each individual Part in a Performance.

Selecting the Type and Setting Each Parameter

When you change the Reverb Type, six different reverb parameters, including Reverb character, are changed automatically to the optimum values. Rather than setting the reverb parameters one by one, you can make the settings more easily by first setting the Reverb Type and then changing only the necessary parameters.

These settings can be made differently for each individual Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

3. Press [ENTER].

4. Press the numeric key [8] several times to select the item you wish to set.

```
PERFORMANCE     REVERB
Type:            HALL2
```

* *If you hold down [SHIFT] and press [8], you will return to the previous item.*

5. Use VALUE [-]/[+] to set the value.

* *If you wish to make settings for other Parts, repeat steps 4–5.*

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Type (Reverb Type)

You can choose from 8 types of reverb.

Value:

ROOM1–3: Simulates the reverberation of room interiors. It produces a well-defined and spacious reverberation.

HALL1, 2: Simulates the reverberation exhibited by halls. They provide a deeper reverberation than the Room reverbs.

PLATE: Simulates a plate reverb unit (a type of artificial reverb that utilized a metal plate).

DELAY: A standard delay, that produces echo effects.

PANNING DELAY: This is a special delay in which the delayed sound alternates between left and right. It is effective when you are listening in stereo.

Character (Reverb Character)

Selects the type of reverb. 0–5 are reverb effects, and 6 and 7 are delay effects.

Value: 0–7

Pre-LPF (Reverb pre-low pass filter)

A low pass filter can be applied to the sound coming into the reverb to cut the high frequency range. Higher values will cut more of the high frequencies, resulting in a more mellow reverberation.

Value: 0–7

Level (Reverb Level)

Sets the amount of the reverberant sound. Higher values result in louder reverberation.

Value: 0–127

Time (Reverb Time)

Sets the time over which the reverberation will continue. Higher values result in longer reverberation.

Value: 0–127

Delay Feedback (Reverb Delay Feedback)

This parameter is available when the Reverb Character (Character) is set to 6, 7 or the Reverb Type (Type) is set to Delay or Panning Delay. It sets the way in which delays repeat. Higher values result in more delay repeats.

Value: 0–127

Setting the Reverb Depth of Each Individual Part

Send Level (Reverb send level)

Sets the amount of the reverb used in each Part.

Value: 0–127

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select the Part.

5. Press the numeric key [8] several times to select "Send Level"

```
PART 1          REVERB
Send Level:        40
```

6. Use VALUE [-]/[+] to select the value (0–127).

7. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Chapter 7. Creating your original Tone or Drum Set

Creating a Tone

You can modify the settings of a Preset Tone to create your own original Tone. A Tone that you create can be stored as a User Tone.

Tones feature ten different parameters, plus multi-effects parameters. To create your own Tone, you will modify these parameters.

* *Refer to the instructions for making the Tone multi-effects settings (p. 81).*

* *You can use the knobs to change parameters other than the Tone Name in real time (p. 74).*

Tone Parameters That Can Be Set

[1] TONE

Tone Name

You can change the name of the tone which you created. The number of characters in names is set at twelve.

Value: space, A--Z, a--z, 0--9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }

LFO Rate

Adjusts the modulation rate, or speed, of the LFO.

Value: -64– +63

LFO Depth

Specifies the depth of LFO.

Value: -64– +63

LFO Delay

This setting allows you to adjust the interval that is to pass from the moment a key is pressed until the moment that LFO begins to take effect.

Value: -64– +63

LFO Filter Sw (LFO filter switch)

This determines whether the LFO changes the filter cutoff frequency (ON) or the pitch (OFF). The parameter value is changed when FILTER [LFO ON/OFF] is pressed.

Value: OFF, ON

Wah Effect and Vibrato Effect

Changing the filter cutoff frequency with the LFO produces the "**wah effect**," and by changing the pitch with the LFO, you get what is called the "**vibrato effect**."

Filter Cutoff

Sets the frequency at which harmonics will be cut. This changes the brightness of the sound.

Value: -64– +63

Filter Resonance

Provides an adjustment for the amount of emphasis to be placed on the harmonics in the vicinity of the Cutoff Frequency. The sound takes on a peculiar effect.

Value: -64– +63

Envelope Attack (Envelope attack time)

Adjusts the time it takes for the initial portion of a sound (the 'attack') to be heard after a key is pressed.

Value: -64– +63

Envelope Decay (Envelope decay time)
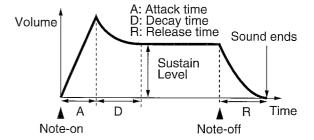
Adjusts the time it will take for the sound to reach the "Sustain Level." The Sustain Level is the point at which most of the volume/cut-off frequency modifications have stabilized.

Value: -64– +63

Envelope Release (Envelope release time)

Adjusts the time it takes for the sound to fade away after a key is released.

Value: -64– +63

A: Attack time
D: Decay time
R: Release time
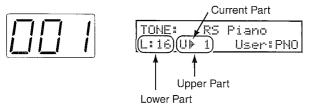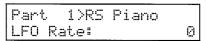
Creating a Tone

1. Select the Tone you want to edit.

   * *When Key Mode is set to Split or Dual, press PART [◄◄]/ [►►] to select the Part with the Tone you want to edit.*

Current Part

Upper Part

Lower Part

   The figure above shows an example where the Upper Part is selected.

2. Press [EDIT], getting the indicator to light.

3. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

4. Press [ENTER].

5. Press the numeric key [1] several times to select the item you wish to set.

```
Part  1>RS Piano
LFO Rate:         0
```

   * *If you hold down [SHIFT] and press [1], you will return to the previous item.*

6. Press [◄◄]/[►►] to move the cursor to the name's first character position.

   * *Note that when screens other than the Tone Name screen are displayed, pressing PART [◄◄]/[►►] switches the Part.*

7. Use VALUE [-]/[+] to set the value.

   * *If you wish to make settings for other Parts, repeat steps 5–7.*

8. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Creating a Drum Set

You can create your own Drum Set by editing the percussion instrument sounds in one of the Preset Drum Sets. A Drum Set that you create can be saved as a User Drum Set.

Five parameters (aspects) of a Drum Set can be modified. To create your own Drum Set, you will modify these parameters.

Drum Set Parameters That Can Be Set

[2] Drum (DRUMS)

DrumSet Name (Drum set name)

You can change the name of the drum set which you created. The number of characters in names is set at twelve.

Value: space, A--Z, a--z, 0--9, ! " # $ % & ' ( ) * + , - . / : ; < = >
? @ [¥] ^ _ ` { | }

Pitch

Adjusts the pitch of the percussive sound in semitone steps.

Value: -60– +67

Level

Specifies the volume of the percussion instrument sound.

Value: 0–127

Pan

Allows you to set the panning (localization of sound image) for each sound (obtained only with a stereo output). With an increase in the value for L, more of the sound will be heard as coming from the left side. Similarly, more of the sound will originate at the right if the value of R is increased. When set to RANDOM, you obtain a specialized effect whereby the sound randomly moves left and right with each key stroke.

Value: RANDOM, L63–0–63R
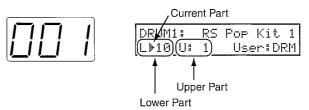
Reverb Depth

Adjusts the depth of reverb.

Value: 0–127
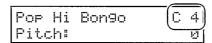
Creating a Drum Set

1. Select the Drum Set you wish to modify.

   * *When Key Mode is set to Split or Dual, press PART [◄]/ [►] to select the Part with the Drum Set you want to edit.*

   The figure above shows an example where the Lower Part is selected.

2. Press [EDIT], getting the indicator to light.

3. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

4. Press [ENTER].

5. Press the numeric key [2] several times to select the item you wish to set.

   * *If you hold down [SHIFT] and press [2], you will return to the previous item.*

6. Except for when you are naming the Drum Set, press a key to select the percussion instrument you want to edit.

   * *If you wish to modify the percussion sound of a key which is outside the range of the keyboard, use the Transpose function (p. 48) to shift the range of the keyboard.*

7. Press [◄]/[►] to move the cursor to the name's first character position.

   * *Note that when screens other than the Drum Set Name screen are displayed, pressing PART [◄]/[►] switches the Part.*

8. Use VALUE [-]/[+] to set the value.

   * *If you wish to make settings for other Parts, repeat steps 5–8.*

9. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.

Chapter 8. Saving Your Settings

Saving Tone / Drum Set / Performance

When the Tone settings are changed, the "." in the lower right of the LED display lights up, indicating that the settings for the selected Tone, Drum Set, or Performance have been changed.

When Tone settings are changed

```
001.    TONE:    RS Piano
        Part 1        User:PNO
```

When Drum Set settings are changed

```
001.    DRUM1:   RS Pop Kit 1
        Part 10       User:DRM
```

When Performance settings are changed

```
001.    PERFORM:for Tone
        Part 1        User:001
```

If you select a different Tone, Drum Set, or Performance while the dot is lit, the current settings are deleted. If there are any settings you want to retain, save them to the User Memory.

* *You can also save Tone, Drum Set, and Performance settings to an external sequencer (p. 115).*

Assigning a name

Changing the name before saving is a convenient way to allow you to distinguish different settings.

1. Select the Tone, Drum Set or Performance whose name you want to change (p. 23, 26, 29, 30, 56).

* *When changing Tone or Drum Set names, if Key Mode is set to Split or Dual, press PART [◀]/[▶] to select the Part whose Tone or Drum Set is to be edited.*

Example: Upper can be edited

```
TONE:    RS Piano
L:10 L▶ 1      User:001
```

2. Press [EDIT], getting the indicator to light.

3. Use VALUE [-]/[+] to select "Tone/Drum/PFMCommon."

4. Press [ENTER].

5. When a Tone is being edited, press numeric key [1] several times to select "Tone Name." When a Drum Set is being edited, press numeric key [2] several times to select "DrumSet Name." When a Performance is being edited, press numeric key [3] to select "PERFORMANCE Name."

```
Tone Name   [◀PART▶]
    PNO:RS Piano
```
```
DrumSet Name[◀PART▶]
    RS Pop Kit 1
```
```
PERFORMANCE [◀PART▶]
Name:    BasicPerform
```

* *By holding down [SHIFT] and pressing [1] or [2], you will return to the previous item.*

6. Press [◀]/[▶] to move the cursor to the name's first character position.

7. Use VALUE [-]/[+] to set the value.
   The following characters are available.
   Value: space, A--Z, a--z, 0--9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }

8. Repeat steps 6–7 to input the name.

9. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

When inputting characters, you can perform the following operations conveniently by pressing FAVORITE PERFORM BANK [1]– [8].

[1]: Displays a "." at the cursor position.

[2]: Displays a space at the cursor position.

[3]: Displays an "A" at the cursor position.

[4]: Displays an "a" at the cursor position.

[5]: Displays a "0" at the cursor position.

[6]: Converts capital and lowercase characters.

[7]: Inserts a space at the cursor position.

[8]: Deletes a character at the cursor position and moves the following characters to the left.

How to Save

* *When saving a Tone or Drum Set when Key Mode is set to Split or Dual, the Tone or Drum Set assigned to the selected Part is saved.*

Notes

When data is being written to the User Memory, the message "KEEP POWER ON!" appears in the display; be sure not to turn off the power while this message is displayed.

If the power is turned off or interrupted while data is being written to memory, the internal data may become corrupted and you may not be able to turn the power back on. If you have confirmed that the internal data has been lost, or if a similar problem exists, consult the retailer from whom you purchased the instrument, or the nearest Roland Service Center. Note, however, that Roland assumes no liability, including compensation, for consequences arising from any loss of data.

* *We recommend that you use the Bulk Dump operation (p. 115) to save important data to an external sequencer.*

1. Press [UTILITY], getting the indicator to light.

2. Press VALUE [-]/[+] to select "Write Tone/Drum" or "Write Performance."

* *When saving Tones or Drum Sets, select "Write Tone/Drum." When saving Performances, select "Write Performance."*

3. Press [ENTER].

When saving Tones

```
WRITE TONE   [ENTER]
Usr:001:RS Piano
```

When saving Drum Sets

```
WRITE DRUM   [ENTER]
Usr:001:RS Pop Kit 1
```

When saving Performances

```
WRITE PERFORM[ENTER]
Usr:001:BasicPerform
```

4. Press the numeric keys ([1]-[0]) to specify the save destination number.

Tone: 001–128

Drum set: 001, 002

Performance: 001–128

* *If you make a mistake, press [EXIT] and specify the number once again.*

* *You can also specify the number by pressing VALUE [-]/[+]. In this case, there is no need to press [ENTER] in step 5.*

5. Press [ENTER] to finalize the number.

6. Press [ENTER] once again to execute the Save operation.

After the Save operation is finished, the display will indicate "Completed."

The [UTILITY] indicator goes out, and you are returned to the previous screen.

* **If you change a Tone's/Drum Set's settings without having saved the Tone/Drum Set, and then attempt to save the Performance, the following message appears in the display. If this message does appear, save the Tone/Drum Set with the changed settings before saving the Performance.**

```
Edited Tone/Drum Set
Exists. Write Them.
```

Saving settings on an external sequencer (Bulk Dump)

The act of transmitting Tone, Drum Set, Performance or System settings to an external MIDI device is called a "**Bulk Dump**." You can perform a bulk dump when two RS-5/9s are connected to each other, or when you wish to store Tone, Drum Set, Performance or System settings on an external MIDI device as a safety backup of your RS-5/9 data.

Setting the Device ID Number

When carrying out Bulk Dump, set the Device ID number. When shipped from the factory, this is set to "17." Normally, there is no need to change this number when transmitting data to a sequencer or other such device. If you do want to change it, use the following procedure to make the settings.

* *If you want to make settings simultaneously for two RS-5/9s, you must set the Device ID number of each to the same value.*

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press the numeric key [4] several times to select "Device ID#."

```
SYSTEM          MIDI
Device ID#:       17
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Press VALUE [-]/[+] to select the value (17 to 32).

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

> What kind of data is Bulk Dump?
>
> This is data of the type called "Exclusive messages."

Bulk dump procedure

Types of bulk dump

Temporary:	Settings of temporary area
User Tone:	Settings of all User Tones
User Drum Set:	Settings of all User Drum Sets
User Performance:	Settings of all User Performances
System Setup:	Settings of System Setup

However, the following system setup parameters will not be transmitted via bulk dump.

- GM System ON Sw
- GM2 System ON Sw
- Rx SysEx Sw
- Device ID#
- LCD Contrast

All: All five of the above settings

1. Use a MIDI cable to connect the RS-5/9's MIDI OUT connector to the MIDI IN connector of the external sequencer.

2. Press [UTILITY], getting the indicator to light.

3. Use VALUE [-]/[+] to select "Bulk Dump."

4. Press [ENTER].

5. Use the VALUE [-]/[+] to select the types of Bulk Dump.

```
BULK DUMP       [ENTER]
Temporary
```

6. Put the external sequencer in record mode.

7. Press [ENTER] to transmit the settings.

The message "Transmitting..." appears in the display during transmission of the data.

* *Do not press any key on the keyboard while Bulk Dump is in progress. Pressing a key sends Note messages from the MIDI OUT connector. To cancel the Bulk Dump, press [EXIT].*

After the transmitting is finished, the display will indicate "Completed."

The [UTILITY] indicator goes out, and you are returned to the previous screen.

8. Stop the external sequencer.

Setting the System Exclusive Receive Switch

When returning saved settings to the RS-5/9, set the Exclusive Receive switch to ON. With the factory settings, this will be "ON."

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press the numeric key [4] several times to select "System Exclusive."

```
SYSTEM        MIDI Rx
System Exclusive: ON
```

*   *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Use VALUE [-]/[+] to set "ON."

6. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Restoring saved settings to the RS-5/9

*   *Be aware that when you restore data to the RS-5/9, the data in the RS-5/9 will be overwritten and lost.*

Notes

When data is being written to the User Memory, the message "KEEP POWER ON!" appears in the display; be sure not to turn off the power while this message is displayed.

If the power is turned off or interrupted while data is being written to memory, the internal data may become corrupted, and you may not be able to turn the power back on. If you have confirmed that internal data has been lost, or if a similar problem exists, consult your Roland dealer or Roland Service. Note, however, that Roland assumes no liability, including compensation, for consequences arising from loss of data.

1. Use a MIDI cable to connect the MIDI OUT connector of the external sequencer to the MIDI IN connector of the RS-5/9.

2. Set the device ID number to the same setting as when you performed the bulk dump.
   System Setup Numeric Key [4]: Device ID (p. 115)

3. Turn on the exclusive receive switch.
   System Setup Numeric Key [4]: System Exclusive (refer to the previous section)

4. Transmit (play back) the data from the external sequencer.
   When the transmitting is finished, you are returned to the previous screen.

*   *Play back the external sequencer at the same tempo you used when performing the bulk dump. If you use a faster tempo, the data may not be restored correctly.*

Chapter 9. Restoring the Original Settings

Restoring the Factory Settings (Factory Reset)

You can restore all User Performance, User Tone, User Drum Set and System Setup settings to the factory condition.

* *If the RS-5/9's internal memory already contains important data that you have created, this operation will cause all of this data to be lost. Save data that you want to retain by sending the data to an external sequencer (p. 115).*

Notes

When data is being written to the User Memory, the message "KEEP POWER ON!" appears in the display; be sure not to turn off the power while this message is being displayed.

If the power is turned off or interrupted while data is being written to memory, the internal data may become corrupted, and you may not be able to turn the power back on. If you have confirmed that internal data has been lost, or if a similar problem exists, consult your Roland dealer or Roland Service. Note, however, that Roland assumes no liability, including compensation, for consequences arising from loss of data.

Five types of Factory Reset are provided depending on the application.

User Tone:	Settings of all User Tones
User Drum Set:	Settings of all User Drum Sets
User Performance:	Settings of all User Performances
System Setup:	Settings of System Setup
All:	All four of the above settings

1. Press [UTILITY], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Factory Reset."

3. Press [ENTER].

4. Use the VALUE [-]/[+] to select the types of Factory Reset.

```
FACTORY          [ENTER]
User Tone
```

5. Press [ENTER].
   A confirmation message appears.

```
Are you sure?
YES=[ENTER]NO=[EXIT]
```

6. Press [ENTER] to execute the Factory Reset operation.
   After the Factory Reset operation is finished, the display will indicate "Completed."
   The [UTILITY] indicator goes out, and you are returned to the previous screen.

Restoring GM/GM2 Basic Settings (GM/GM2 SYSTEM ON)

If no GM or GM2 System On message is included at the very beginning of a song you have created for use with a GM or GM2 sound generator, you must restore the RS-5/9's sound generator to the GM/GM2 basic settings before playback.
Additionally, you must also restore the sound generator settings to the GM or GM2 initial settings when creating songs for use with GM or GM2 sound generators.

1. Press [UTILITY], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Initialize."

3. Press [ENTER].

4. Press VALUE [-]/[+] to select "GM System ON" or "GM2 System ON."

```
INITIALIZE    [ENTER]
GM System ON
```

5. Press [ENTER] to execute the Initialize operation.
   After the Initialize operation is finished, the display will indicate "Completed."
   The [UTILITY] indicator will go dark.

When the RS-5/9 is functioning as a GM/GM2 system compatible sound module, the Performance Select display will be as follows.

```
PERFORM:Init Perform
Part  1          (GM:---)
```

* *To return to the normal settings mode after being set to the GM/GM2 basic settings, you can either switch Performances, or send a GM System Off from the external sound generator to the RS-5/9.*

Chapter 10. Performing With An External MIDI Device
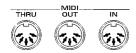
About MIDI

MIDI (Musical Instruments Digital Interface) is a standard specification that allows musical data to be exchanged between electronic musical instruments and computers. MIDI With a MIDI cable connecting MIDI devices that are equipped with MIDI connectors, you can play multiple instruments with a single keyboard, have multiple MIDI instruments perform in ensemble, program the settings to change automatically to match the performance as the song progresses, and more.

If you mainly use the RS-5/9 as a standalone keyboard instrument, you may really not need to know much at all about MIDI. However, the following MIDI-related information is provided so you can play the RS-5/9 using an external MIDI device, or master other advanced techniques.

MIDI connectors

The RS-5/9 has the following three types of MIDI connectors.

MIDI
THRU   OUT   IN

MIDI IN Connector

Performance messages from an external MIDI device are received here. The RS-5/9 that receives MIDI messages can output sounds, exchange tones, and perform other operations.

MIDI OUT Connector
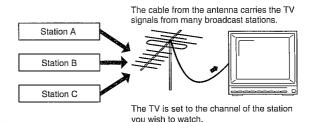
These connectors transmit MIDI messages to external MIDI devices. The RS-5/9's MIDI OUT connector is used for sending the performance data of the keyboard controller section as well as data used for saving various settings (Bulk Dump; p. 115).

MIDI THRU Connector

MIDI messages received at MIDI IN connector are re-transmitted without change from this connector to an external MIDI device. Use this in situations such as when you use multiple MIDI devices simultaneously.

MIDI Channels and Multi-timbral Sound Generators
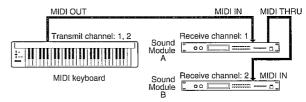
MIDI transmits many types of data over a single MIDI cable. This is made possible by MIDI channels. MIDI channels allow messages intended for a given instrument to be distinguished from messages intended for another instrument. In some ways, MIDI channels are similar to television channels. By changing the channel on a TV receiver you can view the programs of different stations. This is because the television set has thus been directed to selectively display only the information being transmitted by a particular station. In the same way, MIDI also allows a device to select the information intended for that device out of the variety of information that is being transmitted to it.

The cable from the antenna carries the TV signals from many broadcast stations.

The TV is set to the channel of the station you wish to watch.

MIDI uses sixteen channels, numbered 1–16. Set the receiving device so that it will receive only the channel that it needs to receive.

Example:

Set the RS-5/9 to send Channel 1 and Channel 2, then set sound module A to receive only Channel 1 and sound module B only Channel 2. With this setup, you can get an ensemble performance, with, for example, a guitar sound from sound module A and bass from sound module B.

When used as a sound module, the RS-5/9 can receive on up to sixteen MIDI channels. Sound modules like the RS-5/9 which can receive multiple MIDI channels simultaneously to play different sounds on each channel are called "**multi-timbral sound modules.**"

MIDI messages used by the RS-5/9

MIDI uses various types of message to transmit a wide variety of information. MIDI messages are broadly divided into two different categories, those handled through individual MIDI channels (Channel messages), and messages that are not related to separate channels (System messages). The RS-5/9 mainly uses the following MIDI messages.

Channel messages

These are messages used for relating what is happening in a Performance. These comprise the bulk of MIDI messages.

Note On
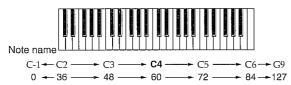
This message is sent when a key is pressed. A Note-on message contains the following 3 types of information.

Note-on: A note has been played.

Note number: which note was played

Velocity: The amount of force (velocity) used when the note was played

The Note Numbers fall within the range of 0–127, with middle C (C4) as number 60.

Note name

C-1 ← C2 ——→ C3 ——→ **C4** ——→ C5 ——→ C6 —→ G9
0 ← 36 ——→ 48 ——→ 60 ——→ 72 ——→ 84 —→127

Note number

Note Off

This message is sent when a key is released. When a Note-off message is received, that note will be turned off. A Note-off message contains the following 3 types of information.

Note-off: a note was released

Note number: which note was released

Velocity: The force of the pull (velocity) used when the note was released

Pitch Bend Change

This message transmits whatever motion is made by the Pitch Bend lever.

Aftertouch

These messages indicates how strongly the keyboard was pressed after playing a note. There are two types of Aftertouch message; Channel Aftertouch which applies to an entire channel, and Polyphonic Aftertouch which applies to an individual note.

The RS-5/9 cannot transmit Aftertouch messages when its keys are pressed. Instead, you can do this by transmitting the Aftertouch assigned to the Modulation lever, a pedal, or a knob.

Program Change

This message changes the instrument sound. You can switch Tones and Drums sets on the RS-5/9 using program numbers 1–128 (p. 121, 123).

Control Change

These are messages used for increasing performance expression. By assigning Modulation (CC# (Controller Number) 1), Pan (CC#10), Expression (CC#11), and other Control Change messages to the Modulation lever, pedals, and knobs, you can then use these controls to change Performances (p. 71).

Bank Select (CC#0, CC#32) switch Tones and Drum Sets, so these are used in combination with Program Change messages (p. 121, 123).

System messages

This category includes exclusive messages, messages used for synchronization, and messages that keep a MIDI system running correctly.

Exclusive messages

Exclusive messages are messages used for exchanging Tones and other set kinds of data between compatible devices from the same manufacturer.

If messages exchanged using MIDI were limited only to those conforming to the common MIDI standard, it would not be possible to transmit messages particular to one manufacturer or messages fixed for a certain device. Therefore, with a format having been determined by each manufacturer, a variety of different messages can then be exchanged.

With the RS-5/9, you can use Exclusive messages to store Tone settings and other data to sequencers (p. 115).

About MIDI Implementation Charts
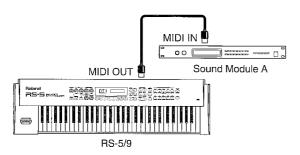
Although a variety of messages for performances can be handled using MIDI, depending on the functions of the connected device, the messages that can be sent and received may differ. To see which types of MIDI message a device can transmit and receive, refer to the MIDI Implementation Chart that is included in the manual of each device. Messages which are marked by a circle in the charts of both devices can be transmitted between the two devices.

Chapter 10

Playing Sounds from an External MIDI Sound Generator With the RS-5/9
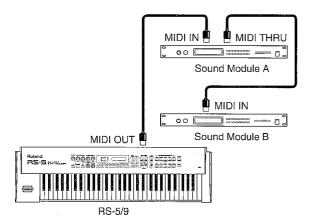
By connecting the RS-5/9 to an external MIDI device with a MIDI cable and setting the channels, you can then produce sounds from the external MIDI device's sound generator by playing the RS-5/9's keyboard. You can switch the external MIDI sound generator's Tones from the RS-5/9 as well.

Connecting to External MIDI Sound Generators

Example 1: Connecting to one external MIDI sound generator
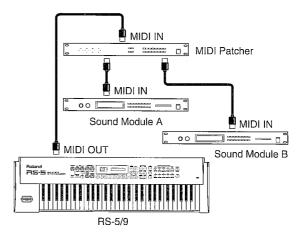
Example 2: Connecting to two external MIDI sound generators

* *Messages received at the MIDI IN connector are output from the MIDI THRU connector unchanged.*

Example 3: Connecting to three or more external MIDI sound generators

* *If you "daisy-chain" three or more MIDI devices using IN -> THRU -> IN -> THRU ..., the MIDI signal may become garbled, and data errors may occur. In such cases, use a MIDI Thru Box. MIDI Thru Boxes are devices that allow a single stream of MIDI data to be sent to a large number of MIDI devices without causing data errors.*

1. Before starting the connection procedure, make sure that the power to all devices has been turned off.

2. After reading "Connecting the RS-5/9 to external equipment" (p. 14), connect an audio device/system or headphones.

3. Connect the external MIDI sound device with the MIDI cable as shown in the figure below.

4. As described in "Turning On the Power" (p. 15), turn on the power of each device.

Set the Keyboard Transmit Channel

When you have finished connecting the external MIDI device, match the keyboard's Transmit channel and the Receive channel for each of the external MIDI sound generator's Parts.

Settings

PART: Transmits performance data over the same channel as the performing Part's Receive channel (p. 122).

1–16: RS-5/9 performance data is sent over a selected channel.

Ordinarily, this is set to PART. Particularly when Key Mode is set to Split or Dual, the performance data from the Upper and Lower Parts are sent over separate channels. Therefore, you can control two external MIDI sound generators.

You might want to set these to Channels 1–16 in situations such as when you want to switch the RS-5/9's Parts as you play.

Different keyboard Transmit channel settings can be made for each individual Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tone/Drum/ PFMCommon."

3. Press [ENTER].

4. Press the numeric key [4] several times to select "Channel."

```
PERFORMANCE    MIDI Tx
Channel:            PART
```

5. Press VALUE [-]/[+] to select the value (1–16, PART).

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

When the RS-5/9's keyboard is played, sounds are simultaneously played by the RS-5/9 and the external MIDI sound generator.

* *For instructions on setting each of the external MIDI sound generator's Part's Receive channel, refer to the owner's manual for each device.*

* *If you want sounds to be played only by the external MIDI sound generator, set the Local control to OFF (p. 124).*

Selecting sounds on another device using the RS-5/9

When you have finished making the connections and setting the channels, try switching the external MIDI sound generator's Tones from the RS-5/9.

When you switch the Tone or Drum Set with the buttons on the RS-5/9's panel, Bank Select (Controller Number 0, 32) and Program Change messages for the selected Tone or Drum Set are sent from the MIDI OUT connector. The Tone played by the external MIDI sound generator switches to the Tone corresponding to these MIDI messages.

If the RS-5/9 is connected to a GM2-compatible sound generator, then when choosing a GM2 format Tone, select a Preset Tone 257–512 or Drum Set 12–20.

With Preset Tones 1–128 and User Tones 1–128, the Program numbers output are the same as those for the corresponding Tones. If you want to switch the Tones with attention to the Program number, first set the Bank Select Transmit Switch to OFF (refer to the information below), and then you can select your Tones.

Tone switching messages are sent through the keyboard's Transmit channels (refer to the information below) in the following sequence.

1. Bank Select MSB (controller number 0) (BnH 00H mmH)

2. Bank Select LSB (controller number 32) (BnH 20H mmH)

3. Program Change (CnH ppH)

n: MIDI channel number

mm, ll: Bank number

pp: Program number

* *MIDI messages are not transmitted when you select a different Tone or Drum Set by moving to a different Part.*

* *These messages for sound selection are not transmitted when you select a Performance.*

* *For Bank numbers and Program numbers sent with the selection of each Tone and Drum Set, refer to (p. 123), "Tone List" (p. 149, 150) and "Drum Set List" (p. 151–154).*

Transmitting Only Program Numbers

If the external MIDI sound generator receives a Bank number for which no Tone has been assigned, an alternate Tone may be selected, or in some cases, there may be no sound played.

To ensure the proper Tone is selected, you may be better off selecting the Tone group for the external MIDI sound generator first, and then transmitting only the Program number. You can then switch tones within the same group.

To transmit only the Program number, set the Bank Select Transmit Switch to OFF.

The Bank Select Transmit Switch affects the entire RS-5/9 (i.e., is a System setting). This setting remains stored in memory even while the power is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press the numeric key [4] several times to select "Bank Select."

```
SYSTEM         MIDI Tx
Bank Select:        ON
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Use VALUE [-]/[+] to set "OFF."

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Chapter 10

Playing the RS-5/9's Sound Generator from an External MIDI Device

Next, try playing the RS-5/9 from an external MIDI device.

Connecting External MIDI Device

MIDI OUT

MIDI Keyboard

MIDI IN

Roland
RS-5

RS-5/9

1. Before starting the connection procedure, make sure that the power to all devices has been turned off.

2. After reading "Connecting the RS-5/9 to external equipment" (p. 14), connect an audio device/system or headphones.

3. Connect the external MIDI sound generator with the MIDI cable as shown in the figure below.

4. As described in "Turning On the Power" (p. 15), turn on the power of each device.

Setting the Receive Channel and Tone Change Receive Switch

When you have finished connecting the external MIDI device, match each Part's Receive channel with the external MIDI device's Transmit channel.

Also, to enable Tones to be switched from the external MIDI device, set the Tone Change Receive Switch for each Part to ON. Factory settings have this set to ON for all Parts.

Channel (Receive Channel)

If the Receive Channel is set to a value of 1–16, that Part will receive musical data on the specified channel.

Value: 1–16, OFF

* *Since performance data cannot be received when the Receive channel is set to OFF, no sound is produced.*

Tone Change (Tone Change Receive Switch)

Value: OFF, ON

* *Tones cannot be switched from an external MIDI device if the Tone Change Receive Switch is set to OFF.*

Different Receive Channel and Tone Change Receive Switch settings can be made for each individual Part in a Performance.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Performance Part."

3. Press [ENTER].

4. Press PART [◄]/[►] to select Part.

* *When Key Mode (p. 34) is set to Split or Dual, you can select only the Upper Part and the Lower Part.*

5. Press numeric key [4] several times to select the parameter to be set.

```
PART 1          MIDI Rx
Channel:              1
```

```
PART 1          MIDI Rx
Tone Change:         ON
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

6. Use VALUE [-]/[+] to set the value.

7. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

* *For instructions on setting the external MIDI device's Transmit channel, refer to the owner's manual for that device.*

Selecting RS-5/9 Sounds from an External MIDI Device

Transmitting Bank Select (Controller Number 0, 32) and Program Change messages from the external MIDI device to the RS-5/9 allows you to switch Tones and Drum Sets.

1. Transmit a value for the Bank Select MSB (controller number 0) (BnH 00H mmH) message to the RS-5/9.

2. Transmit a value for the Bank Select LSB (controller number 32) (BnH 20H mmH) message to the RS-5/9.

3. Transmit a Program Change (CnH ppH) to the RS-5/9.

* *With Bank Selects and Program Changes, you cannot switch Performances using an external MIDI device connected to the RS-5/9.*

Bank Number/Program Number Correspondence Table

The MIDI messages transmitted by the external MIDI device will be received by the RS-5/9 to select Tones/Drum Sets as shown in the following table.

* If the Program numbers on your external MIDI device are referenced as values from 0 to 127, find the appropriate number by subtracting 1 from the number in the following correspondence chart.

* *When the RS-5/9 receives a Program Change message without receiving the Bank Select, it switches to the Tone or Drum Set with the same Bank number as the currently selected Tone or Drum Set.*

Tone

| Group | Number | Bank Number | | Program Number |
		MSB	LSB	
User	001–128	64	00	001–128
Preset	001–128	65	00	001–128
Preset	129–256	66	00	001–128

* *For Bank numbers and Program numbers corresponding to Preset Tone numbers 257–512, refer to (p. 149, 150).*

Drum Set

| Group | Number | Bank Number | | Program Number |
		MSB	LSB	
User	001, 002	64	00	001, 002
Preset	001–011	65	00	001–011
Preset	012	120	00	001
Preset	013	120	00	009
Preset	014	120	00	017
Preset	015	120	00	025
Preset	016	120	00	026
Preset	017	120	00	033
Preset	018	120	00	041
Preset	019	120	00	049
Preset	020	120	00	057

Using an External MIDI Controller to Change the RS-5/9's Tones

Use of the Modulation lever, pedals, and control knobs to make changes to the RS-5/9's Tones in real time is explained in Chapter 4.
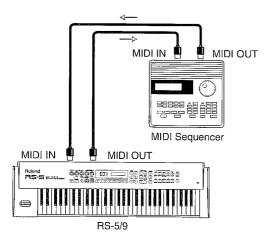
Transmitting Controller numbers set with Modulation Assign (p. 71), Control Pedal Assign (p. 73), and Knob Assign (p. 74) to the RS-5/9 achieves the same effect as working the Modulation lever, pedals, and knobs.

Chapter 10

Chapter 11. Recording Performances on the RS-5/9 to an External Device

Recording to an External Sequencer

Now, try using an external sequencer to record your music onto multiple tracks, and then play back the recorded performance.

Connecting to an External Sequencer

MIDI IN   MIDI OUT

MIDI Sequencer

MIDI IN   MIDI OUT

RS-5/9

1. Before starting the connection procedure, make sure that the power to all devices has been turned off.

2. After reading "Connecting the RS-5/9 to external equipment" (p. 14), connect an audio device/system or headphones.

3. Connect the RS-5/9 and the external sequencer as shown in the figure.

4. As described in "Turning On the Power" (p. 15), turn on the power of each device.

Making Settings Before Recording

When recording to an external sequencer, the following steps must be carried out.

- Set the RS-5/9's Local Control to OFF (refer to the next section).
- Turn on the external sequencer's Thru function (p. 125).
- Set the Performance (p. 125).
- Set the Device ID number (p. 125).
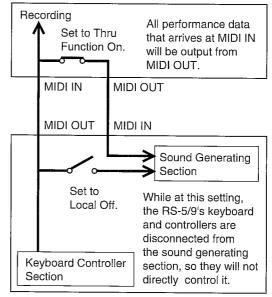
Setting the RS-5/9's Local Control to OFF

The setting that determines whether the keyboard controller section (p. 62) and sound generator section are separated is referred to as "**Local Control.**"

When Local Control is on, playing the keyboard will produce sound, and moving the pitch bend lever will control the pitch.

When Local Control is off, playing the keyboard will not produce sound, and moving the pitch bend lever will not control pitch. The sound source of the RS-5/9 will produce sound only in response to messages received from an external MIDI device.

Sequencer

Recording

Set to Thru Function On.

All performance data that arrives at MIDI IN will be output from MIDI OUT.

MIDI IN   MIDI OUT

MIDI OUT   MIDI IN

Sound Generating Section

Set to Local Off.

While at this setting, the RS-5/9's keyboard and controllers are disconnected from the sound generating section, so they will not directly control it.

Keyboard Controller Section

RS-5/9

The performance data from the RS-5/9's keyboard controller section is output from the MIDI OUT connector and recorded by the sequencer. This performance data is then also output back to the RS-5/9 from the sequencer's MIDI OUT connector and played by the RS-5/9's sound generator.

If Local Control were ON, each note would be played twice; once by the musical data from the keyboard controller section, and once again by the data sent from the sequencer. In order to prevent such double triggering, the Local Control setting is turned off to separate the keyboard controller section from the sound source section.

The Local Control setting affects the RS-5/9 as a whole (i.e., is a system setting). This setting remains stored in memory even while the power is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press [4] a number of times to select "Local Control."
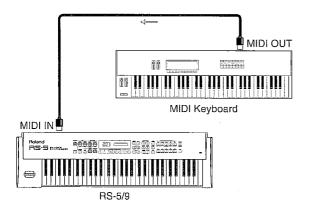
```
SYSTEM          MIDI
Local Control:    ON
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Use VALUE [-]/[+] to set "OFF."

6. Press [EDIT].

   The [EDIT] indicator goes out, and you are returned to the previous screen.

* *If your sequencer does not have a Thru function, set the RS-5/9's Local Control to ON.*

* *Regardless of the Local Control setting, musical data from an external MIDI device is always received and will play the internal sound source.*

Turning On the External Sequencer's Thru Function

Turn the sequencer's Thru function ON. The sequencer takes the performance data received at the MIDI IN connector and outputs the data unchanged from the MIDI OUT connector (refer to the previous section).

To determine whether or not your sequencer features a MIDI Thru function and for instructions on making the Thru function settings, refer to the owner's manual for your sequencer.

* *If your sequencer does not have a Thru function, set the RS-5/9's Local Control to ON.*

Setting the Performance

Before beginning to record, first make the Performance settings (select the Tones and Key mode, make any multi-effects, chorus, and reverb settings, set the knobs, and so on). The following settings are especially important.

Setting the Keyboard Send Channel to PART (p. 120)

If this is set to PART, your playing will be transmitted on the same channel as the Receive Channel of the Part that you are playing. When recording to a sequencer, set this to PART.

Setting the Receive Channel for Each Part (p. 122)

Setting the Tone Change Receive Switch for Each Part to ON (p. 122)

Setting the Device ID Number

Set the Device ID Number (p. 115) so that the Performance's settings are recorded at the beginning of the song (refer to the next section).

Recording

Recording the Performance's Settings at the Beginning of the Song

First, record the Performance settings at the beginning of the song. If this is done, playing back the song from the beginning will automatically set the RS-5/9 to the Performance settings that were used during recording (regardless of the Performance that was selected when playback began), ensuring that playback will use the correct sounds and settings.

* *Record the song at the tempo at which it is to be played back. If the tempo used for playback of a song is changed from the tempo selected at the time of recording, the RS-5/9 may not be able to correctly receive the settings for the recorded Performance, which may prevent proper playback of the performance data.*

1. Press [UTILITY], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Bulk Dump."

3. Press [ENTER].

4. Use VALUE [-]/[+] to select "Temporary."

```
BULK DUMP      [ENTER]
Temporary
```

5. Put the external sequencer in record mode.

6. Press [ENTER] to transmit the settings.

   The message "Transmitting..." appears in the display during transmission of the data.

* *Do not press any key on the keyboard while Bulk Dump is in progress. Pressing a key sends Note messages from the MIDI OUT connector. To cancel the Bulk Dump, press [EXIT].*

   After the transmitting is finished, the display will indicate "Completed."

   The [UTILITY] indicator goes out, and you are returned to the previous screen.

7. Stop the external sequencer.

Chapter 11

Recording Each Part Separately

Next we will record the musical data for each Part onto separate tracks of the sequencer. So as not to erase the Performance settings that we recorded at the beginning of the song, we will start recording the song from the following measure which recorded the Performance settings.

We will record tracks in the order of drums -> bass -> accompaniment -> melody, while listening to the tracks that were recorded on previous passes.

For example, assign Tones to each Part as shown below.

Drums:	Part 10
Bass:	Part 2
Accompaniment:	Part 4
Melody:	Part 1

* *Tone changes, and the actions of the Pitch Bend lever, Modulation lever, knobs, and other controls are also recorded.*

* *It is not necessary to record the song at the tempo at which it is to be played back.*

Listening to the Recorded Performance

When you finish recording all Parts, playback and listen to the result. Note the following when playing back a song.

* *If you modify the settings of each Part (volume and panning etc.), you will need to re-record the modified Performance settings at the beginning of the song. (p. 125)*

Set the System Exclusive Receive Switch to ON (p. 116)

When set to OFF, the Performance settings recorded at the beginning of the song cannot be received. With the factory settings, this will be "ON."

Set the Same Device ID Number Used for Recording (p. 115)

If not set to the same Device ID number, the Performance settings recorded at the beginning of the song cannot be received.

Make Sure to Start Playback at the Beginning of the Song

When playback of a song is started at any point other than the beginning, the Performance settings at the time of recording are not used, and the song is not played back correctly.

Playing Together with the Playback of a Recorded Performance
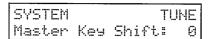
You can play the RS-5/9's keyboard along with a previous performance by playing while the recorded material is played back. In this case, select a Part that was not recorded for playing the keyboard.

Transposing Playback of Performances (Master Key Shift)

If you wish to transpose the playback of a song, use the Master Key Shift setting. This setting will transpose all Parts except for the Drum Part. You can specify a transposition of up to +/-2 octaves in semitone steps.

The Master Key Shift setting is a system setting that is applied to the entire RS-5/9 (i.e., is a system setting). This setting remains stored in memory even while the power is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press the numeric key [4] several times to select "Master Key Shift."

```
SYSTEM              TUNE
Master Key Shift:    0
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Press VALUE [-]/[+] to select the value (-24 to +24).

6. Press [EDIT].
   The [EDIT] indicator goes out, and you are returned to the previous screen.

Enjoying Computer Music

You can use a computer and sequencer software instead of a hardware sequencer to record the music you play onto multiple tracks (perhaps over a number of sessions), and then play back the recorded result.
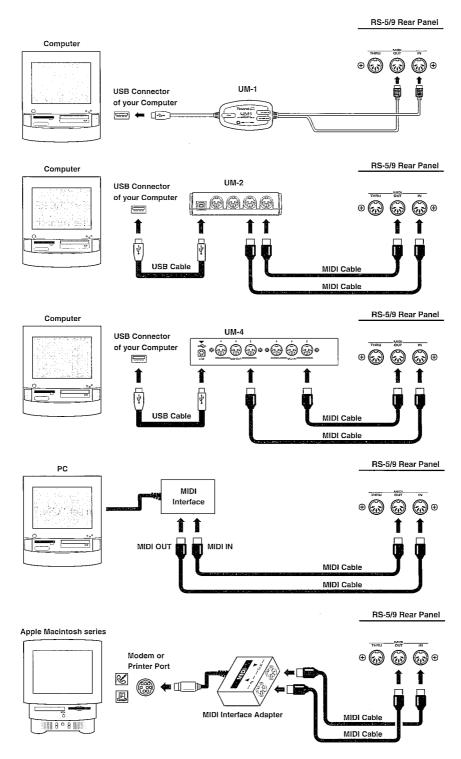
Connecting a Computer

When connecting the RS-5/9 to a computer, one of the following is required.

* USB MIDI interface cable (Roland ED UM-1)
* USB MIDI interface (Roland ED UM-2/4) and MIDI cable
* Interface equipped with a MIDI connector (Roland Super MPU ll) and MIDI Cable
* MIDI interface adapter and MIDI Cable

Connect the RS-5/9 to your computer using the method that is appropriate for your setup.

1. Before starting the connection procedure, make sure that the power to all devices has been turned off.

2. After reading "Connecting the RS-5/9 to external equipment" (p. 14), connect an audio device/system or headphones.

3. Connect the RS-5/9 and the computer as shown below.

4. As described in "Turning On the Power" (p. 15), turn on the power of each device.

127

Making Settings Prior to Recording, Recording, and Listening to the Recorded Performance

You can record and listen to performances using the same procedures used with an external sequencer connected. Refer to (p. 124–126).

* *When reading this portion, just replace "sequencer" with "sequencer software" or "computer" whenever it appears in the text.*

Using the RS-5/9 as a GM/GM2 System-Compatible Sound Module

You can play back music data designed for GM and GM2 sound generators by connecting an external sequencer and using the RS-5/9 as a sound module.

* *For instructions on connecting the external sequencer, refer to (p. 124).*

* *When the RS-5/9 receives a GS Reset message, the RS-5/9 is enabled for the GS format (a shared set of specifications proposed by Roland for standardization of multi-timbral sound modules). This permits playback of music data bearing the GS logo (GS music data). However, Roland's Sound Canvas Series (including the SC-8850 and SC-8820 models) feature a different sound module format and expanded tone map, so data created exclusively for the Sound Canvas Series may not play back properly on the RS-5/9.*

Playing Back GM/GM2 Music Data

Be sure to note the following when playing back GM or GM2 music data.

Set the System Exclusive Receive Switch to ON (p. 116).

When set to OFF, GM System On and GM2 System On MIDI messages cannot be received. With the factory settings, this will be "ON."

Make Sure to Play Back from the Beginning of the Song

When playback of a song is started at any point other than the beginning, the sound generator settings are not reset to the GM and GM2 initial settings values, and the song is not played back correctly.

* *If you want to play back a song in which a message resetting the sound generator to the initial settings values (GM Setup message or GM2 Setup message) was not recorded, you must first restore the RS-5/9's sound generator to the GM/GM2 basic settings (p. 117).*

Set the GM System On Receive Switch or GM2 System On Receive Switch to ON

When set to OFF, GM System On and GM2 System On MIDI messages cannot be received. When shipped from the factory, both of these are set to "ON."

The GM System On Receive Switch and GM2 System On Receive Switch settings affect the RS-5/9 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

1. Press [EDIT], getting the indicator to light.

2. Use VALUE [-]/[+] to select "System Setup."

3. Press [ENTER].

4. Press [4] a number of times to select "GM SYSTEM." or "GM2 SYSTEM."

```
SYSTEM        MIDI Rx
GM SYSTEM:         ON
```

```
SYSTEM        MIDI Rx
GM2 SYSTEM:        ON
```

* *If you hold down [SHIFT] and press [4], you will return to the previous item.*

5. Use VALUE [-]/[+] to set "ON."

6. Press [EDIT].

The [EDIT] indicator goes out, and you are returned to the previous screen.

Creating Songs for GM and GM2 System Sound Generators

The songs can be created in basically the same way as that described in "Recording to an External Sequencer" (p. 124–126). The main difference is that the following three issues need to be taken into account:

- Restoring the GM/GM2 basic settings
- Limits on the Tones that can be used
- Instead of Performance settings, a GM Setup message or GM2 Setup message is recorded at the beginning of the song

Restoring the GM/GM2 Basic Settings

Before making the Performance settings (p. 125), reset the sound generator settings to the GM or GM2 initial settings (p. 117).

Tones That Can Be Used

You can only use the following GM/GM2-specified Tones. Although the Performance settings are made before recording, in this case, select your Tones from the following.

GM-Specified Tones

Tones: Tones in Preset:257–512 with a Bank Select LSB of 0 (p. 149, 150)

Drum Sets: B1–A5 (Note Numbers 35–81) in Preset:12

* *Assign Drum Sets to Part 10 and Tones to all other Parts.*

GM2-Specified Tones

Tones: Preset:257–512

Drum Sets: Preset:12–20

* *You can assign Drum Sets to as many as two Parts of your choice.*

Recording a GM Setup Message or GM2 Setup Message at the Beginning of the Song

The GM Setup message and GM2 Setup message are messages that reset the sound generator setting to the initial settings values for the GM System or GM2 System. When playing back songs for use with GM- and GM2-compatible sound generators, first record a GM Setup message or GM2 Setup message at the beginning of the song. If this data is included at the beginning of the song, the sound source will always be set appropriately, and the song will play back correctly.

* *Record the song at the tempo at which it is to be played back. If the tempo used for playback of a song is changed from the tempo selected at the time of recording, the RS-5/9 may not be able to correctly receive the GM or GM2 Setup message, which may prevent proper playback of the performance data.*

1. Press [UTILITY], getting the indicator to light.

2. Use VALUE [-]/[+] to select "Tx Setup."

3. Press [ENTER].

4. Press VALUE [-]/[+] to select "GM Setup." or "GM2 Setup."

```
Tx SETUP        [ENTER]
GM Setup
```

5. Put the external sequencer in record mode.

6. Press [ENTER] to transmit the settings.

    The message "Transmitting..." appears in the display during transmission of the data.

    After the transmitting is finished, the display will indicate "Completed."

    The [UTILITY] indicator goes out, and you are returned to the previous screen.

7. Stop the external sequencer.

What is General MIDI Setup data?

General MIDI Setup data consists of MIDI messages such as the following.

- GM System On Message (System Exclusive Message: F0H 7EH 7FH 09H 01H F7H)
- The following values for Parts 1–16

    Bank Select (CC#00 and CC#32: BnH 00H vvH BnH 20H vvH)

    Program Change (CnH ppH)

    Portamento Time (CC#05: BnH 05H vvH)

    Volume (CC#07: BnH 07H vvH)

    Panning (CC#10:BnH 0AH vvH)

    Portamento Switch On/Off (CC#65: BnH 41H vvH)

    Filter Resonance (CC#71: BnH 47H vvH)

    Release Time (CC#72: BnH 48H vvH)

    Attack Time (CC#73: BnH 49H vvH)

    Cutoff (CC#74: BnH 4AH vvH)

    Decay Time(CC#75: BnH 4BH vvH)

    LFO Rate (CC#76: BnH 4CH vvH)

    LFO Depth (CC#77: BnH 4DH vvH)

    LFO Delay (CC#78: BnH 4EH vvH)

    Reverb Send Level (CC#91: BnH 5BH vvH)

    Chorus Send Level (CC#93: BnH 5DH vvH)

    Solo Switch On/Off (CC#126/CC#127: BnH 7EH 00H/BnH 7FH 00H)

    Pitch Bend Range (RPN, CC#06, RPN Null: BnH 65H 00H BnH 64H 00H BnH 06H vvH BnH 65H 7FH BnH 64H 7FH)

    Fine Tune
    (RPN, CC#06, CC#38, RPN Null: BnH 65H 00H BnH 64H 01H BnH 06H vvH BnH 26H vvH BnH 65H 7FH BnH 64H 7FH)

    Key Shift (RPN, CC#06, RPN Null: BnH 65H 00H BnH 64H 02H BnH 06H vvH BnH 65H 7FH BnH 64H 7FH)

*   CC#: *Controller Number*

   n: MIDI channel

   pp: Program number

   vv: data

*   *Depending on the connected GM or GM2 sound generator, certain MIDI data may not received.*

The GM2 Setup message consists of the following MIDI data.

- GM2 System On Message (System Exclusive Message: F0H 7EH 7FH 09H 03H F7H)
- The following values for Parts 1–16

    Contains the same data as that in the GM Setup message.

Appendices

Troubleshooting

If your system is not operating as you think it should be, first check the following points. If after checking these points the problem persists, consult your dealer or local Roland Service Station.

* *If any sort of message is being displayed on the screen during an operation, refer to "Error Messages/Message List" (p. 135).*

No Power

Is the AC Adapter plugged into the power socket correctly?

No Sound

Is the power for the connected amp and speakers turned on?

Is the volume turned down?

* Check the volume settings for the RS-5/9 and any connected amp or mixer.

Are the components properly connected? (p. 14, 120, 122, 124, 127)

* If you are able to hear sound through headphones, this may suggest a short in a cable or a malfunctioning amp or mixer. Recheck connector cables and the connected equipment.

If no sound is produced when you press keys on the keyboard, is Local control set to OFF?

* Set Local Control to ON (p. 124).

Do the transmission and reception channels match?

* If using the RS-5/9 to sound an external MIDI sound generator, check to make sure the channels being used for transmission by the keyboard are matched up with the channels used for reception by the relevant Parts on the external MIDI sound generator (p. 120).
* If using an external MIDI device to sound the RS-5/9, each Part's reception channel needs to be set so it matches the channels that will be used for transmission by the external MIDI device (p. 122).

Have the Part Level settings been lowered?

* Check the settings (p. 66).

Have you switched the RS-5/9 mode to that for listening to demo songs?

* Either press [EXIT], or simultaneously press [SHIFT] and [TRANSPOSE ON/OFF] to return to regular performance mode.

Are the effects settings correct?

* Check effects ON/OFF (p. 79), multi-effects levels (p. 82–106), and other related settings.

Are volume levels being lowered by pedal movements, or by MIDI messages (expression messages) received from an external MIDI device?

* Use the Panic function to raise the volume level (p. 65).

The Pitch is Off

Could Transpose be on?

* Press [TRANSPOSE ON/OFF] to turn Transpose off.

Are the Key Shift settings correct?

* Check the settings (p. 69).

Are the Scale Tune settings correct?

* Check the settings (p. 70).

Are the Master Key Shift settings correct?

* Check the settings (p. 126).

Are the Master Tune settings correct?

* Check the settings (p. 18).

Is it possible that an external MIDI device is constantly sending Pitch Bend messages?

* Use the Panic function to restore the original settings (p. 65).

Sounds Are Missing

Could a Solo switch be set to ON?

- When a Solo switch (p. 67) is on, only one sound is played even when more than one key is pressed. If you want multiple sounds to play simultaneously, set the Solo switch to OFF.

Some sounds are dropped when the number of voices simultaneously being played exceeds 64 voices.

- Set Voice Reserve higher for an important Part, to help assure that it will always be sounded (p. 64).

Effects Not Being Applied

Are the effects switches set to OFF?

- Check the settings (p. 79).

Are the Chorus settings correct?

- Check the Chorus Send Level (p. 108), Chorus Level (p. 107), and Chorus Depth (p. 108) settings.

Are the Reverb settings correct?

- Check the Reverb Send Level (p. 109) and Reverb Level (p. 109) settings.

Is the Multi-Effects Source set to LOWER while Key Mode is set to Single?

- The Part to which effects are applied is determined by the Multi-Effects Source setting. Therefore, when in Single mode, set the Multi-Effects Source to UPPER or PERFORMANCE (p. 80).

Is any Part's Multi-Effects switch set to OFF?

- When a Part's Multi-Effects Source is set to PERFORMANCE, set the Multi-Effects switch for the part being used to ON (p. 107).

Song Data Cannot Be Played Back Correctly

Is the GM System On Receive Switch or GM2 System On Receive Switch set to OFF?

- Set these Receive switches to ON (p. 128).

Did you start playback at some point other than the beginning of the song?

- Songs meant for playback with GM System and GM2 System sound generators have a GM/GM2 System On message recorded at the beginning of the song. If this message is not received, the song data may not play back correctly.

Are the Performance settings recorded at the beginning of the song?

- If the Performance settings are not recorded at the beginning of the song, the status of the Performance at the time of recording cannot be reproduced, which prevents proper playback. When recording a song, make sure to record the Performance settings at the beginning of the song (p. 125).

If playing back a song that you have created for playback on GM or GM2 System sound generators, has the GM Setup message or GM2 Setup message been recorded at the beginning of the song?

- If no GM Setup message or GM2 Setup message is recorded at the beginning of the song, the sound generator settings are not restored to initial GM System or GM2 System status, which prevents proper playback. When recording a song that is to be played back using a GM or GM2 System sound generator, make sure to record a GM Setup message or GM2 Setup message at the beginning of the song (p. 129).

Are you playing back GS Format song data?

- When the RS-5/9 receives a GS Reset message, it enters a mode that provides compatibility with GS Format song data. While this means the RS-5/9 can then play back music data bearing the GS logo (GS music data), music data created expressly for use only with Roland's Sound Canvas Series may not play back correctly.

Cannot Play Arpeggios

Is the MIDI clock being received when Sync Source (p. 77) is set to MIDI?

- Set the system so that the MIDI clock is received from the external MIDI device. Certain MIDI devices you may have connected may not send the MIDI clock to the RS-5/9 except during recording or playback.

Sound Does Not Stop When Key is Pressed

Is the Hold pedal polarity reversed?

- Check the HOLD PEDAL Polarity setting (p. 73).

MIDI Messages Not Received Correctly

Are the Receive channel settings correct?

- Check the settings (p. 122).

Is each Receive switch set correctly?

- Check the Tone Change Receive switch (p. 122), GM System On Receive switch (p. 128), GM2 System On Receive switch (p. 128), and Exclusive Receive switch (p. 116) settings.

Are Device ID number settings correct?

- Set the Device ID number (p. 115) used when the Exclusive message was recorded to the sequencer.

Is the sequencer playback tempo correct?

- Play back the data on the sequencer at the tempo used when the Exclusive message was recorded to the sequencer (p. 125).

MIDI Messages Not Transmitted Correctly

Are the transmission channel settings correct?

- Check the settings (p. 120).

Are the Bank Select transmission switch settings correct?

- Check the settings (p. 121).

Using Sequencer Software, Modulation Lever and Knob Movements Have No Effect on the Sound

Some types of sequencer software may not allow Soft Thru (i.e., data received at the MIDI IN connector is not sent from the MIDI OUT connector as is) for Exclusive messages.

- When recording Exclusive messages with such sequencer software, set Local Control to ON (p. 124).

Error Messages/Message List

This section explains the meaning of the various error messages and other messages that the RS-5/9 may display, and describes the measures to take when these appear.

Error and other messages appearing here are listed in alphabetical order.

Error Message List

```
BULK DUMP
Checksum Error
```

Cause: There is a mistake in the checksum value for the received System Exclusive message.

Solution: Correct the checksum value.

```
MIDI Buffer Full
```

Cause: The data cannot be processed correctly due to an excessive number of MIDI messages.

Solution: Reduce the number of MIDI messages being received.

```
MIDI
Communication Error
```

Cause: There is a problem with the MIDI cable connection.

Solution: Check to make sure no cable has been disconnected, and that there are no shorts.

```
Receive Data Error
```

Cause: MIDI messages could not be received correctly.

Solution: If this same message continues to reappear, it means that there is a mistake in the content of the MIDI message.

```
User Memory Backup
Error
```

Cause: There is an error in the memory used for storage of User Area and System Setup data.

Solution: Consult your dealer or local Roland service for repair.

```
User Memory Damaged
```

Cause: User Memory data has been corrupted.

Solution: Carry out the Factory Reset operation (p. 21) to restore the factory settings.

Message List

```
BULK DATA
Transmitting...
```

Bulk Dump is in progress.

```
BULK Receiving...
KEEP POWER ON!
```

Bulk data is being received. Do not turn off the power.

```
Canceled
```

Processing is canceled.

```
Completed
```

Processing is complete.

```
Edited Tone/Drum Set
Exists. Write Them.
```

One or more tones have not been saved. Save the Tone or Drum Set data before changing the settings, then save the Performance once more.

```
GM SETUP
Transmitting...
```

GM Setup data is being transmitted.

```
GM2 SETUP
Transmitting...
```

GM2 setup data is being transmitted.

```
    Now Executing...
      KEEP POWER ON!
```
Processing is in progress. Do not turn off the power.

```
    Now Resetting...
      KEEP POWER ON!
```
Factory Reset is in progress. Do not turn off the power.

```
    Now Writing...
      KEEP POWER ON!
```
Data is being saved. Do not turn off the power.

```
        Panic!
        Now Muting.
```
The Panic function has been activated. To get the sound to stop, the muting circuits have been engaged.

```
        Panic!
     Now Transmitting.
```
The Panic function has been activated. Data for resuming sound now being transmitted.

Parameter List

Performance

Set Using the Panel Buttons

Full Name of Parameter	Value	
Key Mode	SINGLE, DUAL, SPLIT	(p. 34)
Arpeggio Switch	OFF, ON	(p. 75)
Transpose Switch	OFF, ON	(p. 48)

Numeric Key [3] (PFM NAME/LEVEL/PAN)

Parameter Name	Full Name of Parameter	Value	
Name	Performance Name	ASCII Character (max. 12)	(p. 113)

Numeric Key [4] (MIDI/TUNE)

Parameter Name	Full Name of Parameter	Value	
MIDI Tx Channel	MIDI Transmit Channel	1–16, PART	(p. 120)

Numeric Key [5] (CONTROL)

Parameter Name	Full Name of Parameter	Value	
MOD	Modulation Assign	*	(p. 71)
PEDAL	Control Pedal Assign	*	(p. 73)
CONTROL1	Knob 1 Assign	*	(p. 74)
CONTROL2	Knob 2 Assign	*	(p. 74)
CONTROL3	Knob 3 Assign	*	(p. 74)
CONTROL4	Knob 4 Assign	*	(p. 74)

* *MODULATION, PORTAMENTO TIME, VOLUME, PAN, EXPRESSION, PORTAMENTO, SOSTENUTO, SOFT, RESONANCE, RELEASE TIME, ATTACK TIME, CUTOFF, DECAY TIME, LFO RATE, LFO DEPTH, LFO DELAY, CHO SEND LEVEL, REV SEND LEVEL, UP-LO BALANCE, MFX PARAMETER 1, MFX PARAMETER 2, AFTERTOUCH*

Numeric Key [6] (MULTI-FX)

Parameter Name	Full Name of Parameter	Value	
Source	Multi-Effects Source	UPPER, LOWER, PERFORMANCE	(p. 80)
Type	Multi-Effects Type	*1	(p. 81)

* *When Source is set to PERFORMANCE, Type and parameter settings are set to the Performance settings.*

* *Refer to (p. 142–146) the Type parameters.*

*1 *00 THROUGH, 01 STEREO EQ, 02 OVERDRIVE, 03 DISTORTION, 04 PHASER, 05 SPECTRUM, 06 ENHANCER, 07 AUTO WAH, 08 ROTARY, 09 COMPRESSOR, 10 LIMITER, 11 HEXA-CHORUS, 12 TREML CHORUS, 13 SPACE-D, 14 STEREO CHO, 15 STEREO FLNGR, 16 STEP FLANGER, 17 STEREO DELAY, 18 MODLT DELAY, 19 TRI TAP DELY, 20 QUAD TAP DLY, 21 T CTRL DELAY, 22 2V PCH SHIFT, 23 FBK PCH SIFT, 24 REVERB, 25 GATED REVERB, 26 OD>CHORUS, 27 OD>FLANGER, 28 OD>DELAY, 29 DIST>CHORUS, 30 DIST>FLANGER, 31 DIST>DELAY, 32 ENH>CHORUS, 33 ENH>FLANGER, 34 ENH>DELAY, 35 CHORUS>DELAY, 36 FLNGR>DELAY, 37 CHORUS>FLNGR, 38 CHORUS/DELAY, 39 FLNGR/DELAY, 40 CHORUS/FLNGR, 41 LOFI, 42 SLICER*

Numeric Key [7] (CHORUS)

Parameter Name	Full Name of Parameter	Value	
Type	Chorus Type	CHORUS1, CHORUS2, CHORUS3, CHORUS4, FEEDBACK CHORUS, FLANGER, SHORT DELAY, SHORT DELAY(FB)	(p. 107)
Pre-LPF	Chorus Pre-Low Pass Filter	0–7	(p. 107)
Level	Chorus Level	0–127	(p. 107)
Feedback	Chorus Feedback Level	0–127	(p. 107)
Delay	Chorus Delay Time	0–127	(p. 108)
Rate	Chorus Rate	0–127	(p. 108)
Depth	Chorus Depth	0–127	(p. 108)
Send Levl to Rev	Chorus Send Level to Reverb	0–127	(p. 108)

Numeric Key [8] (REVERB)

Parameter Name	Full Name of Parameter	Value	
Type	Reverb Type	ROOM1, ROOM2, ROOM3, HALL1, HALL2, PLATE, DELAY, PANNING DELAY	(p. 109)
Character	Reverb Character	0–7	(p. 109)
Pre-LPF	Reverb Pre-Low Pass Filter	0–7	(p. 109)
Level	Reverb Level	0–127	(p. 109)
Time	Reverb Time	0–127	(p. 109)
Delay Feedback	Reverb Delay Feedback	0–127	(p. 109)

Numeric Key [9] (KEYBOARD)

Parameter Name	Full Name of Parameter	Value	
Transpose	Transpose	-36– +36	(p. 48)
Split Point	Split Point	C-1–G9	(p. 40)
Upper Part	Upper Part	1–16	(p. 39)
Lower Part	Lower Part	1–16	(p. 39)

Numeric Key [0] (ARPEGGIO)

Parameter Name	Full Name of Parameter	Value	
Style	Arpeggio Style	*1	(p. 75)
Motif	Motif	*2	(p. 76)
Beat Ptrn	Beat Pattern	*3	(p. 76)
Tempo	Tempo	20–250 (When Sync Source is set to MIDI, Tempo(=MIDI) appears in the display.)	(p. 76)
Octave Range	Octave Range	-3– +3	(p. 77)
Key Velocity	Key Velocity	1–127, REAL	(p. 77)
Shuffle Rate	Shuffle Rate	50–90 [%]	(p. 77)
Accent Rate	Accent Rate	0–100 [%]	(p. 77)
Sync Source	Sync Source	INT, MIDI	(p. 77)

*1   1/4, 1/6, 1/8, 1/12, 1/16, 1/32, PORTAMENTO A–B, GLISSANDO, SEQUENCE A–D, ECHO, SYNTH BASS, HEAVY SLAP, LIGHT SLAP, WALK BASS, RHYTHM GTR A–E, 3 FINGER GTR, STRUM GTR UP, STRUM GTR DOWN, STRUM GTR U&D, PIANO BACKING, CLAVI CHORD, WALTZ, SWING WALTZ, REGGAE, PERCUSSION, HARP, SHAMISEN, BOUND BALL, RANDOM, BOSSA NOVA, SALSA, MAMBO, LATIN PERC, SAMBA, TANGO, HOUSE, LIMITLESS

*2   SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, TRIPLE UP, TRIPLE DOWN, TRIPLE UP&DOWN, TRIPLE RANDOM, NOTE ORDER, GLISSANDO, CHORD, BASS+CHORD 1–5, BASS+UP 1–8, BASS+RANDOM 1–3, TOP+UP 1–6, BASS+UP+TOP

*3   1/4, 1/6, 1/8, 1/12, 1/16 1–3, 1/32 1–3, PORTA-A 01–11, PORTA-B 01–15, SEQ-A 1–7, SEQ-B 1–5, SEQ-C 1–2, SEQ-D 1–8, ECHO 1–3, MUTE 01–16, STRUM1–8, REGGAE1–2, REFRAIN1–2, PERC1–4, WALKBS, HARP, BOUND, RANDOM, BOSSA NOVA, SALSA 1–4, MAMBO 1–2, CLAVE, REV CLA, GUIRO, AGOGO, SAMBA, TANGO 1–4, HOUSE 1–2

Performance Part

Numeric Key [3] (PFM NAME/LEVEL/PAN)

Parameter Name	Full Name of Parameter	Value	
Level	Level	0–127	(p. 66)
Pan	Pan	RANDOM, L63–0–63R	(p. 66)

Numeric Key [4] (MIDI/TUNE)

Parameter Name	Full Name of Parameter	Value	
Channel	Receive Channel	1–16, OFF	(p. 122)
Tone Change	Tone Change Receive Switch	OFF, ON	(p. 122)
Key Shift	Key Shift	-24– +24	(p. 69)
Fine Tune	Fine Tune	-100– +100 [cent]	(p. 69)
Scale Tune C–B	Scale Tune C–B	-64– +63	(p. 70)

Numeric Key [5] (CONTROL)

Parameter Name	Full Name of Parameter	Value	
Pitch Bend Range	Pitch Bend Range	0– +24	(p. 50)
Voice Reserve	Voice Reserve	0–64	(p. 64)
Tone Type	Tone Type	TONE, DRUM1, DRUM2	(p. 31)

Numeric Key [6] (MULTI-FX)

Parameter Name	Full Name of Parameter	Value	
Switch	Multi-Effects Switch	OFF, ON	(p. 107)

* *These settings can be made only when Source (p. 80) is set to PERFORMANCE.*

Numeric Key [7] (CHORUS)

Parameter Name	Full Name of Parameter	Value	
Send Level	Chorus Send Level	0–127	(p. 108)

Numeric Key [8] (REVERB)

Parameter Name	Full Name of Parameter	Value	
Send Level	Reverb Send Level	0–127	(p. 109)

Numeric Key [9] (KEYBOARD)

Parameter Name	Full Name of Parameter	Value	
Solo Switch	Solo Switch	OFF, ON	(p. 67)
Portamento Sw	Portamento Switch	OFF, ON	(p. 67)
Portamento Time	Portamento Time	0–127	(p. 67)
Velo Sens Depth	Velocity Sens Depth	0–127	(p. 68)
Velo Sens Offset	Velocity Sens Offset	0–127	(p. 68)

Tone

Numeric Key [1] (TONE)

Parameter Name	Full Name of Parameter	Value	
Tone Name	Tone Name	ASCII Character (max. 12)	(p. 110)
LFO Rate	LFO Rate	-64– +63	(p. 110)
LFO Depth	LFO Depth	-64– +63	(p. 110)
LFO Delay	LFO Delay	-64– +63	(p. 110)
LFO Filter Sw	LFO Filter Switch	OFF, ON	(p. 110)
Filter Cutoff	Filter Cutoff	-64– +63	(p. 110)
Filter Resonance	Filter Resonance	-64– +63	(p. 110)
Envelope Attack	Envelope Attack Time	-64– +63	(p. 110)
Envelope Decay	Envelope Decay Time	-64– +63	(p. 110)
Envelope Release	Envelope Release Time	-64– +63	(p. 110)

Numeric Key [6] (MULTI-FX)

Parameter Name	Full Name of Parameter	Value	
Type	Multi-Effects Type	*1	(p. 81)

* *Type and parameter settings are set to the Tone's settings in the following cases:*
  * *When Source (p. 80) is set to UPPER and a Tone is assigned to the Upper Part*
  * *When Source (p. 80) is set to LOWER and a Tone is assigned to the Lower Part*

* *Refer to (p. 142–146) the Type parameters.*

*1 *00 THROUGH, 01 STEREO EQ, 02 OVERDRIVE, 03 DISTORTION, 04 PHASER, 05 SPECTRUM, 06 ENHANCER, 07 AUTO WAH, 08 ROTARY, 09 COMPRESSOR, 10 LIMITER, 11 HEXA-CHORUS, 12 TREML CHORUS, 13 SPACE-D, 14 STEREO CHO, 15 STEREO FLNGR, 16 STEP FLANGER, 17 STEREO DELAY, 18 MODLT DELAY, 19 TRI TAP DELY, 20 QUAD TAP DLY, 21 T CTRL DELAY, 22 2V PCH SHIFT, 23 FBK PCH SIFT, 24 REVERB, 25 GATED REVERB, 26 OD>CHORUS, 27 OD>FLANGER, 28 OD>DELAY, 29 DIST>CHORUS, 30 DIST>FLANGER, 31 DIST>DELAY, 32 ENH>CHORUS, 33 ENH>FLANGER, 34 ENH>DELAY, 35 CHORUS>DELAY, 36 FLNGR>DELAY, 37 CHORUS>FLNGR, 38 CHORUS/DELAY, 39 FLNGR/DELAY, 40 CHORUS/FLNGR, 41 LOFI, 42 SLICER*

Drum Set

Numeric Key [2] (DRUMS)

Parameter Name	Full Name of Parameter	Value	
DrumSet Name	Drum Set Name	ASCII Character (max. 12)	(p. 112)
Pitch	Pitch	-60– +67	(p. 112)
Level	Level	0–127	(p. 112)
Pan	Pan	RANDOM, L63–0–63R	(p. 112)
Reverb Depth	Reverb Depth	0–127	(p. 112)

Numeric Key [6] (MULTI-FX)

Parameter Name	Full Name of Parameter	Value	
Type	Multi-Effects Type	*1	(p. 81)

* *Type and parameter settings are set to the Drum Set's settings in the following cases:*
  * *When Source (p. 80) is set to UPPER and a Drum Set is assigned to the Upper Part*
  * *When Source (p. 80) is set to LOWER and a Drum Set is assigned to the Lower Part*

* *Refer to (p. 142–146) the Type parameters.*

*1 *00 THROUGH, 01 STEREO EQ, 02 OVERDRIVE, 03 DISTORTION, 04 PHASER, 05 SPECTRUM, 06 ENHANCER, 07 AUTO WAH, 08 ROTARY, 09 COMPRESSOR, 10 LIMITER, 11 HEXA-CHORUS, 12 TREML CHORUS, 13 SPACE-D, 14 STEREO CHO, 15 STEREO FLNGR, 16 STEP FLANGER, 17 STEREO DELAY, 18 MODLT DELAY, 19 TRI TAP DELY, 20 QUAD TAP DLY, 21 T CTRL DELAY, 22 2V PCH SHIFT, 23 FBK PCH SIFT, 24 REVERB, 25 GATED REVERB, 26 OD>CHORUS, 27 OD>FLANGER, 28 OD>DELAY, 29 DIST>CHORUS, 30 DIST>FLANGER, 31 DIST>DELAY, 32 ENH>CHORUS, 33 ENH>FLANGER, 34 ENH>DELAY, 35 CHORUS>DELAY, 36 FLNGR>DELAY, 37 CHORUS>FLNGR, 38 CHORUS/DELAY, 39 FLNGR/DELAY, 40 CHORUS/FLNGR, 41 LOFI, 42 SLICER*

System

Set Using the Panel Buttons

Full Name of Parameter	Value	
Multi-Effects Switch	OFF, ON	(p. 79)
Chorus Switch	OFF, ON	(p. 79)
Reverb Switch	OFF, ON	(p. 79)
Favorite Performance Bank [1]– [8]	Performance Group and Number (Preset:1–128, User:1–128)	(p. 58)

Numeric Key [4] (MIDI/TUNE)

Parameter Name	Full Name of Parameter	Value	
Local Control	Local Control	OFF, ON	(p. 124)
GM SYSTEM	GM System On Receive Switch	OFF, ON	(p. 128)
GM2 SYSTEM	GM2 System On Receive Switch	OFF, ON	(p. 128)
System Exclusive	System Exclusive Receive Switch	OFF, ON	(p. 116)
Bank Select	Bank Select Transmit Switch	OFF, ON	(p. 121)
Device ID#	Device ID Number	17–32	(p. 115)
Master Key Shift	Master Key Shift	-24– +24	(p. 126)
Master Tune	Master Tune	415.3–440.0–466.2 [Hz]	(p. 18)

Numeric Key [5] (CONTROL)

Parameter Name	Full Name of Parameter	Value	
LCD Contrast	LCD Contrast	1–8	(p. 16)
CONTROL PEDAL Polarity	Control Pedal Polarity	STANDARD, REVERSE	(p. 73)
HOLD PEDAL Polarity	Hold Pedal Polarity	STANDARD, REVERSE	(p. 73)

Multi-Effect

01: STEREO EQ (Stereo Equalizer) (p. 82)

Parameter Name	Full Name of Parameter	Value
Low Freq	Low Frequency	200, 400 [Hz]
Low Gain	Low Gain	-15– +15 [dB]
High Freq	High Frequency	4000, 8000 [Hz]
High Gain	High Gain	-15– +15 [dB]
Mid1 Freq	Middle 1 Frequency	200–8000 [Hz]
Mid1 Q	Middle 1 Q	0.5, 1.0, 2.0, 4.0, 8.0
Mid1 Gain	Middle 1 Gain	-15– +15 [dB]
Mid2 Freq	Middle 2 Frequency	200–8000 [Hz]
Mid2 Q	Middle 2 Q	0.5, 1.0, 2.0, 4.0, 8.0
Mid2 Gain	Middle 2 Gain	-15– +15 [dB]
Level	Output Level	0–127

02: OVERDRIVE (p. 83)

Parameter Name	Full Name of Parameter	Value
Drive	Drive	0–127
Level	Output Level	0–127
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Amp Type	Amp Simulator Type	SMALL, BUILT-IN, 2-STACK, 3-STACK
Pan	Output Pan	L64–63R

03: DISTORTION (p. 83)

Parameter Name	Full Name of Parameter	Value
Drive	Drive	0–127
Level	Output Level	0–127
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Amp Type	Amp Simulator Type	SMALL, BUILT-IN, 2-STACK, 3-STACK
Pan	Output Pan	L64–63R

04: PHASER (p. 84)

Parameter Name	Full Name of Parameter	Value
Manual	Manual	100–8000 [Hz]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Resonance	Resonance	0–127
Mix	Mix Level	0–127
Pan	Output Pan	L64–63R
Level	Output Level	0–127

05: SPECTRUM (p. 84)

Parameter Name	Full Name of Parameter	Value
Band 1	Band 1 Gain	-15– +15 [dB]
Band 2	Band 2 Gain	-15– +15 [dB]
Band 3	Band 3 Gain	-15– +15 [dB]
Band 4	Band 4 Gain	-15– +15 [dB]
Band 5	Band 5 Gain	-15– +15 [dB]
Band 6	Band 6 Gain	-15– +15 [dB]
Band 7	Band 7 Gain	-15– +15 [dB]
Band 8	Band 8 Gain	-15– +15 [dB]
Q	Q	0.5, 1.0, 2.0, 4.0, 8.0
Pan	Output Pan	L64–63R
Level	Output Level	0–127

06: ENHANCER (p. 85)

Parameter Name	Full Name of Parameter	Value
Sens	Sensitivity	0–127
Mix	Mix Level	0–127
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Level	Output Level	0–127

07: AUTO WAH (p. 85)

Parameter Name	Full Name of Parameter	Value
Filter Type	Filter Type	LPF, BPF
Sens	Sensitivity	0–127
Manual	Manual	0–127
Peak	Peak	0–127
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Polarity	Polarity	UP, DOWN
Level	Output Level	0–127

08: ROTARY (p. 86)

Parameter Name	Full Name of Parameter	Value
Low Slow	Low Frequency Slow Rate	0.05–10.00 [Hz]
Low Fast	Low Frequency Fast Rate	0.05–10.00 [Hz]
Low Accel	Low Frequency Acceleration	0–15
Low Level	Low Frequency Level	0–127
High Slow	High Frequency Slow Rate	0.05–10.00 [Hz]
High Fast	High Frequency Fast Rate	0.05–10.00 [Hz]
High Accel	High Frequency Acceleration	0–15
High Level	High Frequency Level	0–127
Separation	Separation	0–127
Speed	Speed	SLOW, FAST
Level	Output Level	0–127

09: COMPRESSOR (p. 87)

Parameter Name	Full Name of Parameter	Value
Attack	Attack Time	0–127
Sustain	Sustain	0–127
Post Gain	Post Gain	0, +6, +12, +18 [dB]
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Pan	Output Pan	L64–63R
Level	Output Level	0–127

10: LIMITER (p. 87)

Parameter Name	Full Name of Parameter	Value
Threshold	Threshold Level	0–127
Ratio	Compression Ratio	1.5:1, 2:1, 4:1, 100:1
Release	Release Time	0–127
Post Gain	Post Gain	0, +6, +12, +18 [dB]
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Pan	Output Pan	L64–63R
Level	Output Level	0–127

11: HEXA-CHORUS (p. 88)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Pre Delay Dev	Pre Delay Deviation	0–20
Depth Dev	Depth Deviation	-20–+20
Pan Dev	Pan Deviation	0–20
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

12: TREMOLO CHORUS (p. 88)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Chorus Rate	Chorus Rate	0.05–10.00 [Hz]
Chorus Depth	Chorus Depth	0–127
Tremolo Phase	Tremolo Phase	0–180 [deg]
Tremolo Rate	Tremolo Rate	0.05–10.00 [Hz]
Tremolo Sep	Tremolo Separation	0–127
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

13: SPACE-D (p. 89)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Phase	Phase	0–180 [deg]
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

14: STEREO CHORUS (p. 89)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Phase	Phase	0–180 [deg]
Filter Type	Filter Type	OFF, LPF, HPF
Cutoff Freq	Cutoff Frequency	200–8000 [Hz]
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

15: STEREO FLANGER (p. 90)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Feedback	Feedback Level	-98–+98 [%]
Phase	Phase	0–180 [deg]
Filter Type	Filter Type	OFF, LPF, HPF
Cutoff Freq	Cutoff Frequency	200–8000 [Hz]
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

16: STEP FLANGER (p. 91)

Parameter Name	Full Name of Parameter	Value
Pre Delay	Pre Delay Time	0.0–100 [ms]
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Feedback	Feedback Level	-98–+98 [%]
Phase	Phase	0–180 [deg]
Step Rate	Step Rate	0.1–20.0 [Hz], note-value symbols
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

17: STEREO DELAY (p. 92)

Parameter Name	Full Name of Parameter	Value
Delay Left	Delay Time Left	0.0–500 [ms]
Delay Right	Delay Time Right	0.0–500 [ms]
Feedback	Feedback Level	-98–+98 [%]
Feedback Mode	Feedback Mode	NORMAL, CROSS
Phase Left	Feedback Phase Left	NORMAL, INVERT
Phase Right	Feedback Phase Right	NORMAL, INVERT
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

18: MODULATION DELAY (p. 93)

Parameter Name	Full Name of Parameter	Value
Delay Left	Delay Time Left	0.0–500 [ms]
Delay Right	Delay Time Right	0.0–500 [ms]
Feedback	Feedback Level	-98–+98 [%]
Feedback Mode	Feedback Mode	NORMAL, CROSS
Rate	Rate	0.05–10.00 [Hz]
Depth	Depth	0–127
Phase	Phase	0–180 [deg]
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Low Gain	Low Gain	-15–+15 [dB]
High Gain	High Gain	-15–+15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

19: TRIPLE TAP DELAY (p. 94)

Parameter Name	Full Name of Parameter	Value
Delay Center	Delay Time Center	200–1000 [ms], note-value symbols
Delay Left	Delay Time Left	200–1000 [ms], note-value symbols
Delay Right	Delay Time Right	200–1000 [ms], note-value symbols
Feedback	Feedback Level	-98– +98 [%]
Center Level	Center Level	0–127
Left Level	Left Level	0–127
Right Level	Right Level	0–127
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

20: QUADRUPLE TAP DELAY (p. 95)

Parameter Name	Full Name of Parameter	Value
Delay 1	Delay Time 1	200–1000 [ms], note-value symbols
Delay 2	Delay Time 2	200–1000 [ms], note-value symbols
Delay 3	Delay Time 3	200–1000 [ms], note-value symbols
Delay 4	Delay Time 4	200–1000 [ms], note-value symbols
Level 1	Level 1	0–127
Level 2	Level 2	0–127
Level 3	Level 3	0–127
Level 4	Level 4	0–127
Feedback	Feedback Level	-98– +98 [%]
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

21: TIME CONTROL DELAY (p. 96)

Parameter Name	Full Name of Parameter	Value
Delay	Delay Time	200–1000 [ms]
Acceleration	Acceleration	0–15
Feedback	Feedback Level	-98– +98 [%]
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Pan	Output Pan	L64–63R
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

22: 2VOICE PITCH SHIFTER (p. 96)

Parameter Name	Full Name of Parameter	Value
Coarse A	Coarse Pitch A	-24– +12 [semi]
Fine A	Fine Pitch A	-100– +100 [cent]
Pan A	Output Pan A	L64–63R
Pre Delay A	Pre Delay Time A	0.0–500 [ms]
Coarse B	Coarse Pitch B	-24– +12 [semi]
Fine B	Fine Pitch B	-100– +100 [cent]
Pan B	Output Pan B	L64–63R
Pre Delay B	Pre Delay Time B	0.0–500 [ms]
Mode	Pitch Shifter Mode	1, 2, 3, 4, 5
Lev Balance	Level Balance	A100:0B–A0:100B
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

23: FBK PITCH SHIFTER (Feedback Pitch Shifter) (p. 97)

Parameter Name	Full Name of Parameter	Value
Coarse	Coarse Pitch	-24– +12 [semi]
Fine	Fine Pitch	-100– +100 [cent]
Feedback	Feedback Level	-98– +98 [%]
Pre Delay	Pre Delay Time	0.0–500 [ms]
Mode	Pitch Shifter Mode	1, 2, 3, 4, 5
Pan	Output Pan	L64–63R
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

24: REVERB (p. 98)

Parameter Name	Full Name of Parameter	Value
Type	Reverb Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2
Pre Delay	Pre Delay Time	0.0–100 [ms]
Time	Reverb Time	0–127
HF Damp	HF Damp	200–8000 [Hz], BYPASS
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

25: GATED REVERB (p. 99)

Parameter Name	Full Name of Parameter	Value
Type	Gated Reverb Type	NORMAL, REVERSE, SWEEP1, SWEEP2
Pre Delay	Pre Delay Time	0.0–100 [ms]
Gate Time	Gate Time	5–500 [ms]
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Balance	Effect Balance	D100:0W–D0:100W
Level	Output Level	0–127

26: OVERDRIVE→CHORUS (p. 99)

Parameter Name	Full Name of Parameter	Value
OD Drive	Drive	0–127
OD Pan	Overdrive Pan	L64–63R
Chorus Delay	Chorus Pre Delay Time	0.0–100 [ms]
Chorus Rate	Chorus Rate	0.05–10.00 [Hz]
Chorus Depth	Chorus Depth	0–127
Chorus Bal	Chorus Bal	D100:0W–D0:100W
Level	Output Level	0–127

27: OVERDRIVE→FLANGER (p. 100)

Parameter Name	Full Name of Parameter	Value
OD Drive	Drive	0–127
OD Pan	Overdrive Pan	L64–63R
Flg Pre Delay	Flanger Pre Delay Time	0.0–100 [ms]
Flg Rate	Flanger Rate	0.05–10.00 [Hz]
Flg Depth	Flanger Depth	0–127
Flg Feedback	Flanger Feedback Level	-98– +98 [%]
Flg Balance	Flanger Balance	D100:0W–D0:100W
Level	Output Level	0–127

28: OVERDRIVE→DELAY (p. 100)

Parameter Name	Full Name of Parameter	Value
OD Drive	Drive	0–127
OD Pan	Overdrive Pan	L64–63R
Delay Time	Delay Time	0.0–500 [ms]
Delay Feedback	Delay Feedback Level	-98– +98 [%]
Delay HF Damp	Delay HF Damp	200–8000 [Hz], BYPASS
Delay Bal	Delay Balance	D100:0W–D0:100W
Level	Output Level	0–127

29: DISTORTION→CHORUS (p. 101)

The parameters are essentially the same as "26: OVERDRIVE → CHORUS," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)

30: DISTORTION→FLANGER (p. 101)

The parameters are essentially the same as in "27: OVERDRIVE → FLANGER," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)

31: DISTORTION→DELAY (p. 101)

The parameters are essentially the same as in "28: OVERDRIVE → DELAY," with the exception of the following two.

OD Drive → Dist Drive (Specify the amount of distortion.)

OD Pan → Dist Pan (Specify the stereo location of the distortion sound.)

32: ENHANCER→CHORUS (p. 102)

Parameter Name	Full Name of Parameter	Value
Enhancer Sens	Enhancer Sensitivity	0–127
Enhancer Mix	Enhancer Mix Level	0–127
Chorus Delay	Chorus Pre Delay Time	0.0–100 [ms]
Chorus Rate	Chorus Rate	0.05–10.00 [Hz]
Chorus Depth	Chorus Depth	0–127
Chorus Bal	Chorus Balance	D100:0W–D0:100W
Level	Output Level	0–127

33: ENHANCER→FLANGER (p. 102)

Parameter Name	Full Name of Parameter	Value
Enhancer Sens	Enhancer Sensitivity	0–127
Enhancer Mix	Enhancer Mix Level	0–127
Flg Pre Delay	Flanger Pre Delay Time	0.0–100 [ms]
Flg Rate	Flanger Rate	0.05–10.00 [Hz]
Flg Depth	Flanger Depth	0–127
Flg Feedback	Flanger Feedback Level	-98– +98 [%]
Flg Balance	Flanger Balance	D100:0W–D0:100W
Level	Output Level	0–127

34: ENHANCER→DELAY (p. 103)

Parameter Name	Full Name of Parameter	Value
Enhancer Sens	Enhancer Sensitivity	0–127
Enhancer Mix	Enhancer Mix Level	0–127
Delay Time	Delay Time	0.0–500 [ms]
Delay Feedback	Delay Feedback Level	-98– +98 [%]
Delay HF Damp	Delay HF Damp	200–8000 [Hz], BYPASS
Delay Bal	Delay Balance	D100:0W–D0:100W
Level	Output Level	0–127

35: CHORUS→DELAY (p. 103)

Parameter Name	Full Name of Parameter	Value
Chorus Delay	Chorus Pre Delay Time	0.0–100 [ms]
Chorus Rate	Chorus Rate	0.05–10.00 [Hz]
Chorus Depth	Chorus Depth	0–127
Chorus Bal	Chorus Balance	D100:0W–D0:100W
Delay Time	Delay Time	0.0–500 [ms]
Delay Feedback	Delay Feedback Level	-98– +98 [%]
Delay HF Damp	Delay HF Damp	200–8000 [Hz], BYPASS
Delay Bal	Delay Balance	D100:0W–D0:100W
Level	Output Level	0–127

Parameter List

36: FLANGER→DELAY (p. 104)

Parameter Name	Full Name of Parameter	Value
Flg Pre Delay	Flanger Pre Delay Time	0.0–100 [ms]
Flg Rate	Flanger Rate	0.05–10.00 [Hz]
Flg Depth	Flanger Depth	0–127
Flg Feedback	Flanger Feedback Level	-98– +98 [%]
Flg Balance	Flanger Balance	D100:0W–D0:100W
Delay Time	Delay Time	0.0–500 [ms]
Delay Feedback	Delay Feedback Level	-98– +98 [%]
Delay HF Damp	Delay HF Damp	200–8000 [Hz], BY-PASS
Delay Bal	Delay Balance	D100:0W–D0:100W
Level	Output Level	0–127

37: CHORUS→FLANGER (p. 104)

Parameter Name	Full Name of Parameter	Value
Chorus Delay	Chorus Pre Delay Time	0.0–100 [ms]
Chorus Rate	Chorus Rate	0.05–10.00 [Hz]
Chorus Depth	Chorus Depth	0–127
Chorus Bal	Chorus Balance	D100:0W–D0:100W
Flg Pre Delay	Flanger Pre Delay Time	0.0–100 [ms]
Flg Rate	Flanger Rate	0.05–10.00 [Hz]
Flg Depth	Flanger Depth	0–127
Flg Feedback	Flanger Feedback Level	-98– +98 [%]
Flg Balance	Flanger Balance	D100:0W–D0:100W
Level	Output Level	0–127

38: CHORUS/DELAY (p. 105)

The parameters are the same as for "35: CHORUS → DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.

39: FLANGER/DELAY (p. 105)

The parameters are the same as for "36: FLANGER → DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.

40: CHORUS/FLANGER (p. 105)

The parameters are the same as for "37: CHORUS → FLANGER." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.

41: LOFI (p. 106)

Parameter Name	Full Name of Parameter	Value
Bit Down	Bit Down	0–7
S-Rate Down	Sample-Rate Down	32, 16, 8, 4 [kHz]
Post Gain	Post Gain	0, +6, +12, +18 [dB]
Low Gain	Low Gain	-15– +15 [dB]
High Gain	High Gain	-15– +15 [dB]
Output	Output	MONO, STEREO
Level	Output Level	0–127

42: SLICER (p. 106)

Parameter Name	Full Name of Parameter	Value
Timing Pttern	Timing Pattern	1–34
Accent Pttern	Accent Pattern	1–16
Accent Level	Accent Level	0–127
Attack	Attack	1–10
Rate	Rate	0.05–10.00 [Hz], note-value symbols
Reset	Reset	OFF, ON
Level	Output Level	0–127

Performance List

User

No.	Name	Key Mode	No.	Name	Key Mode
001	BasicPerform	SINGLE	065	Combine	SINGLE
002	SlicingPower	DUAL	066	Morph Pad	SINGLE
003	Lo-Fi Tekno	SPLIT	067	5th Saws	SINGLE
004	Rock Organ	SPLIT	068	4th Sweep	SINGLE
005	SoundTrk1912	SPLIT	069	Saws Sweep	DUAL
006	ARP Bs/Saws	SPLIT	070	RS Soundtrk	DUAL
007	ARP DigiClav	SINGLE	071	StepMetalPad	DUAL
008	RS Pop Kit 1	SINGLE	072	Running Saws	SINGLE
009	RS Strings	DUAL	073	Etherality	SINGLE
010	PowerBrass	DUAL	074	Step Flanger	DUAL
011	Bass/Piano	SPLIT	075	Step Saws	SINGLE
012	ARP Bs/Tp	SPLIT	076	Random Pad	SINGLE
013	RS Finale	DUAL	077	RandomEnding	SINGLE
014	Rhm/JC Gtr	SPLIT	078	FlangeRandom	SINGLE
015	Big Blue	SINGLE	079	Slicer	SINGLE
016	Arpgio Bell	DUAL	080	Sliced Sync	DUAL
017	MG Split	SPLIT	081	Shock Wave	SINGLE
018	ARP SteelGtr	SINGLE	082	Techno Hit	SINGLE
019	Chaotic	DUAL	083	Impact Hit	SINGLE
020	Alto Sax	SINGLE	084	Noise Hit	SINGLE
021	RS Dist Gtr	SINGLE	085	Minor Rave	SINGLE
022	Twin Rave	DUAL	086	MinorIncidnt	SINGLE
023	Air Heaven	DUAL	087	Tekno Saw	SINGLE
024	Twilight	DUAL	088	Teknoheadz	SINGLE
025	Jazz Scat	SINGLE	089	TeknoSplit	SPLIT
026	Pad/NylonGtr	SPLIT	090	Vox Lead	SINGLE
027	Happy Saws	SPLIT	091	303 Reso	SINGLE
028	GR-300	DUAL	092	Uillean Pipe	SINGLE
029	Frog Pad	DUAL	093	Hichiriki	SINGLE
030	Angel Choir	DUAL	094	Quad Winds	SINGLE
031	7th Atmos	SINGLE	095	Tb Section	SINGLE
032	Brite Piano	SINGLE	096	TpTbSax Sect	DUAL
033	Warm Piano	DUAL	097	Sax Section	SINGLE
034	SA Rhodes	SINGLE	098	Fr.Horns	SINGLE
035	RS E.Piano	SINGLE	099	Big Band	SINGLE
036	Dyno Phase	SINGLE	100	RS Brass	SINGLE
037	RS Crystal	SINGLE	101	OB Brass	SINGLE
038	Hyper Bell	SINGLE	102	Warm Brass	SINGLE
039	Chime Bells	DUAL	103	RS SawBrass1	SINGLE
040	Air Crystal	DUAL	104	RS SawBrass2	DUAL
041	Air Bell	DUAL	105	RS Flute	SINGLE
042	EP Heaven	SINGLE	106	Spectre	SPLIT
043	HyperBellPad	DUAL	107	Pipe Lead	SPLIT
044	Bell Heaven	SINGLE	108	Shmoog	SINGLE
045	RS SawsKey	DUAL	109	RS Bs&Lead	SPLIT
046	ARP Pipe	DUAL	110	HardSyncLead	SINGLE
047	Marc.Strings	SINGLE	111	Full Organ	SINGLE
048	Orchestral	SINGLE	112	Jazz Organ	SINGLE
049	OvertoneScan	SINGLE	113	DigitalOrgan	DUAL
050	Square Pad	SINGLE	114	Cheese Organ	SINGLE
051	Pipe Pad	SINGLE	115	Rocker Organ	SINGLE
052	Haunting	DUAL	116	Finger Bass	SINGLE
053	RS Prologue	DUAL	117	Fretnot Bass	SINGLE
054	OB Strings	SINGLE	118	SH101 Bs 1	SINGLE
055	Soft JP Str	SINGLE	119	SH101 Bs 2	SINGLE
056	JP Strings	SINGLE	120	Jungle Bass	SINGLE
057	JUNO Strings	SINGLE	121	JP-4 Bass	SINGLE
058	RS Soft Pad	SINGLE	122	TB303 Bass	SINGLE
059	MatrxStrings	DUAL	123	303SqDstBass	SINGLE
060	Heaven Pad	SINGLE	124	RS Pop Kit 2	SINGLE
061	Glass Orbit	SINGLE	125	TR-909 Kit	SINGLE
062	Metal 5thPad	DUAL	126	Brush Kit	SINGLE
063	Mystic Pad	SINGLE	127	RS Piano	SINGLE
064	Comb Saws	DUAL	128	Init Perform	SINGLE

Preset

No.	Name	Key Mode	No.	Name	Key Mode
001	BasicPerform	SINGLE	065	Combine	SINGLE
002	SlicingPower	DUAL	066	Morph Pad	SINGLE
003	Lo-Fi Tekno	SPLIT	067	5th Saws	SINGLE
004	Rock Organ	SPLIT	068	4th Sweep	SINGLE
005	SoundTrk1912	SPLIT	069	Saws Sweep	DUAL
006	ARP Bs/Saws	SPLIT	070	RS Soundtrk	DUAL
007	ARP DigiClav	SINGLE	071	StepMetalPad	DUAL
008	RS Pop Kit 1	SINGLE	072	Running Saws	SINGLE
009	RS Strings	DUAL	073	Etherality	SINGLE
010	PowerBrass	DUAL	074	Step Flanger	DUAL
011	Bass/Piano	SPLIT	075	Step Saws	SINGLE
012	ARP Bs/Tp	SPLIT	076	Random Pad	SINGLE
013	RS Finale	DUAL	077	RandomEnding	SINGLE
014	Rhm/JC Gtr	SPLIT	078	FlangeRandom	SINGLE
015	Big Blue	SINGLE	079	Slicer	SINGLE
016	Arpgio Bell	DUAL	080	Sliced Sync	DUAL
017	MG Split	SPLIT	081	Shock Wave	SINGLE
018	ARP SteelGtr	SINGLE	082	Techno Hit	SINGLE
019	Chaotic	DUAL	083	Impact Hit	SINGLE
020	Alto Sax	SINGLE	084	Noise Hit	SINGLE
021	RS Dist Gtr	SINGLE	085	Minor Rave	SINGLE
022	Twin Rave	DUAL	086	MinorIncidnt	SINGLE
023	Air Heaven	DUAL	087	Tekno Saw	SINGLE
024	Twilight	DUAL	088	Teknoheadz	SINGLE
025	Jazz Scat	SINGLE	089	TeknoSplit	SPLIT
026	Pad/NylonGtr	SPLIT	090	Vox Lead	SINGLE
027	Happy Saws	SPLIT	091	303 Reso	SINGLE
028	GR-300	DUAL	092	Uillean Pipe	SINGLE
029	Frog Pad	DUAL	093	Hichiriki	SINGLE
030	Angel Choir	DUAL	094	Quad Winds	SINGLE
031	7th Atmos	SINGLE	095	Tb Section	SINGLE
032	Brite Piano	SINGLE	096	TpTbSax Sect	DUAL
033	Warm Piano	DUAL	097	Sax Section	SINGLE
034	SA Rhodes	SINGLE	098	Fr.Horns	SINGLE
035	RS E.Piano	SINGLE	099	Big Band	SINGLE
036	Dyno Phase	SINGLE	100	RS Brass	SINGLE
037	RS Crystal	SINGLE	101	OB Brass	SINGLE
038	Hyper Bell	SINGLE	102	Warm Brass	SINGLE
039	Chime Bells	DUAL	103	RS SawBrass1	SINGLE
040	Air Crystal	DUAL	104	RS SawBrass2	DUAL
041	Air Bell	DUAL	105	RS Flute	SINGLE
042	EP Heaven	SINGLE	106	Spectre	SPLIT
043	HyperBellPad	DUAL	107	Pipe Lead	SPLIT
044	Bell Heaven	SINGLE	108	Shmoog	SINGLE
045	RS SawsKey	DUAL	109	RS Bs&Lead	SPLIT
046	ARP Pipe	DUAL	110	HardSyncLead	SINGLE
047	Marc.Strings	SINGLE	111	Full Organ	SINGLE
048	Orchestral	SINGLE	112	Jazz Organ	SINGLE
049	OvertoneScan	SINGLE	113	DigitalOrgan	DUAL
050	Square Pad	SINGLE	114	Cheese Organ	SINGLE
051	Pipe Pad	SINGLE	115	Rocker Organ	SINGLE
052	Haunting	DUAL	116	Finger Bass	SINGLE
053	RS Prologue	DUAL	117	Fretnot Bass	SINGLE
054	OB Strings	SINGLE	118	SH101 Bs 1	SINGLE
055	Soft JP Str	SINGLE	119	SH101 Bs 2	SINGLE
056	JP Strings	SINGLE	120	Jungle Bass	SINGLE
057	JUNO Strings	SINGLE	121	JP-4 Bass	SINGLE
058	RS Soft Pad	SINGLE	122	TB303 Bass	SINGLE
059	MatrxStrings	DUAL	123	303SqDstBass	SINGLE
060	Heaven Pad	SINGLE	124	RS Pop Kit 2	SINGLE
061	Glass Orbit	SINGLE	125	TR-909 Kit	SINGLE
062	Metal 5thPad	DUAL	126	Brush Kit	SINGLE
063	Mystic Pad	SINGLE	127	RS Piano	SINGLE
064	Comb Saws	DUAL	128	Init Perform	SINGLE

Tone List

User

No.	Name	Voice	Category	No.	Name	Voice	Category
001	RS Piano	4	PNO	065	Orchestra 3	4	ORC
002	Bright Piano	4	PNO	066	Romantic Tp.	1	BRS
003	Piano + Str	4	PNO	067	Tp. Mar/Shk	2	BRS
004	Dyno Rhodes	3	EP	068	Cup Mute Tp.	1	BRS
005	Tremolo Dyno	4	EP	069	Twin Tps.	2	BRS
006	Phase Rhodes	4	EP	070	Tuba + Horn	2	BRS
007	SA E.Piano	2	EP	071	RS Fr.Horns	2	BRS
008	StackE.Piano	4	EP	072	Lo Brass	2	BRS
009	60's E.Piano	1	EP	073	Big Band	2	BRS
010	Atk Clav.	2	KEY	074	Power Brass	4	BRS
011	DigitalClav.	2	KEY	075	Orch Brass	4	BRS
012	El.Organ 1	4	ORG	076	LA Brass	4	SBR
013	El.Organ 4	4	ORG	077	Stack Brass	4	SBR
014	El.Organ 6	2	ORG	078	Jump Brass 2	2	SBR
015	Trem.Organ	2	ORG	079	OB Brass	4	SBR
016	Perc.Organ 2	4	ORG	080	LoFi Brass	2	SBR
017	Rock Organ 1	1	ORG	081	Warm Brass	4	SBR
018	Cheese Organ	1	ORG	082	SoaringHorns	4	SBR
019	D-50 Organ	2	ORG	083	Sugar Keys	2	SYN
020	DigitalOrg.1	2	ORG	084	RS SawsKeys	4	SYN
021	RequintoGtr.	1	AGT	085	Super Saws	2	SYN
022	SteelGtr.VSW	2	AGT	086	Double Saws	2	BPD
023	ResoGt/Slide	2	AGT	087	RS Prologue	3	SPD
024	Dulcimer	2	ETH	088	RS Crystal	4	BEL
025	Celtic Harp	2	PLK	089	Hyper Bell	1	BEL
026	JC ChorusGt.	2	EGT	090	Warm Bell	1	BEL
027	Tele Rear	2	EGT	091	EP Heaven	4	SYN
028	Fab 4 Guitar	4	EGT	092	RS Heaven	2	SPD
029	Half Drv.	2	DGT	093	Heaven Pad	1	SPD
030	Dazed Guitar	2	DGT	094	RS Soft Pad1	3	SPD
031	Atk A.Bass	3	BS	095	Morph Pad	4	SPD
032	Heart Bass	1	BS	096	Comb Strings	4	STR
033	Mr.Smooth	2	BS	097	4th Sweep	4	SPD
034	TB303 Bass 2	1	SBS	098	Mystic Pad	4	BPD
035	Tee Bee	4	SBS	099	OvertoneScan	4	SPD
036	TB303 Reso	1	SBS	100	Warm Sqr Pad	4	SPD
037	JP-4 Bass	1	SBS	101	JP8 Hollow	4	SPD
038	P5 Bass	1	SBS	102	7th Atmos.	2	FX
039	Square Bass	2	SBS	103	Dual Sqr&Saw	4	PLS
040	Jungle Bass	1	SBS	104	Step Saws	4	PLS
041	Pedal Bass	2	SBS	105	RandomEnding	2	PLS
042	SH101Bass 1	2	SBS	106	Big Blue	2	PLS
043	SH101Bass 2	1	SBS	107	RND Fl.Chord	4	PLS
044	West End Bs.	3	SBS	108	RS SquareLd1	2	SLD
045	RS Choir	2	VOX	109	2600 Sine	1	SLD
046	Mello Choir	2	VOX	110	Shmoog	2	SLD
047	Jazz Scat	3	VOX	111	CC Solo	2	SLD
048	RS SynVox	1	SLD	112	FM Lead 1	1	SLD
049	RS Strings	4	STR	113	PureFlatLead	2	SLD
050	Marc.Strings	4	STR	114	MG Saw Ld. 1	1	SLD
051	Oct Strings	4	STR	115	MG Saw Ld. 2	1	SLD
052	RS SlowStr.1	2	STR	116	GR300 Lead 1	1	SLD
053	OB Strings	3	STR	117	MG 2 OSCs	2	SLD
054	Soft JP Str.	3	STR	118	Sync Lead	1	HLD
055	JP Strings	4	STR	119	Dirty Sync	2	HLD
056	RS Flute	1	FLT	120	Happy Saws	4	TEK
057	Bamboo Flute	2	FLT	121	TwinOct.Rave	4	TEK
058	Tin Whistle	2	FLT	122	MinorIncidnt	4	TEK
059	Zampona	2	FLT	123	Minor Rave	4	TEK
060	RS Alto Sax	1	SAX	124	Vox Lead	2	TEK
061	Blown Tenor	1	SAX	125	Technoheadz	4	TEK
062	Sax Section	4	SAX	126	Impact Hit	2	HIT
063	Uillean Pipe	2	ETH	127	Techno Hit	1	HIT
064	Orchestra 2	4	ORC	128	P5 Noise	1	FX

Voice: number of voice
User 1–128: MSB=64, LSB=0

Preset

No.	Name	Voice	Category	No.	Name	Voice	Category
001	RS Piano	4	PNO	065	P5 Bass	1	SBS
002	Bright Piano	4	PNO	066	RS SawBs.1	2	SBS
003	Dance Piano	2	PNO	067	JP Bass	2	SBS
004	Piano + Str	4	PNO	068	Square Bass	2	SBS
005	Piano+Choir	4	PNO	069	RS Sine Bass	2	SBS
006	Dyno Rhodes	3	EP	070	Jungle Bass	1	SBS
007	Tremolo Dyno	4	EP	071	Ring Bass	2	SBS
008	Phase Rhodes	4	EP	072	Hit&Saw Bass	2	SBS
009	RS Rhodes	4	EP	073	Pedal Bass	2	SBS
010	SA E.Piano	2	EP	074	RS SawBs.2	2	SBS
011	StackE.Piano	4	EP	075	SH101Bass 1	2	SBS
012	Hard FM EP	4	EP	076	SH101Bass 2	1	SBS
013	Detuned EP	4	EP	077	RS LightBs.1	2	SBS
014	60's E.Piano	1	EP	078	Seq Bass	2	SBS
015	Atk Clav.	2	KEY	079	RS LightBs.2	2	SBS
016	AnalogClav.1	1	KEY	080	West End Bs.	3	SBS
017	AnalogClav.2	1	KEY	081	Bubble Bass	2	SBS
018	DigitalClav.	2	KEY	082	RS Choir	2	VOX
019	El.Organ 1	4	ORG	083	Rich Choir	4	VOX
020	El.Organ 2	4	ORG	084	Mello Choir	2	VOX
021	El.Organ 3	4	ORG	085	Jazz Scat	3	VOX
022	El.Organ 4	4	ORG	086	JX8P Vox	2	SPD
023	El.Organ 5	4	ORG	087	RS SynVox	1	SLD
024	El.Organ 6	2	ORG	088	RS Strings	4	STR
025	Trem.Organ	2	ORG	089	Rich Strings	4	STR
026	Perc.Organ 2	4	ORG	090	Marc.Strings	4	STR
027	Perc.Organ 3	4	ORG	091	Oct Strings	4	STR
028	Perc.Organ 4	4	ORG	092	Hybrid Str.	4	STR
029	Perc.Organ 5	4	ORG	093	Warm Strings	3	STR
030	Rock Organ 1	1	ORG	094	RS SlowStr.1	2	STR
031	Rock Organ 2	3	ORG	095	RS SlowStr.2	3	STR
032	Cheese Organ	1	ORG	096	ContraBsSect	4	STR
033	D-50 Organ	2	ORG	097	OB Strings	3	STR
034	DigitalOrg.1	2	ORG	098	Soft JP Str.	3	STR
035	DigitalOrg.2	2	ORG	099	JP Strings	4	STR
036	RequintoGtr.	1	AGT	100	Matrix Str.	4	STR
037	RS SteelGtr.	2	AGT	101	JUNO Strings	2	STR
038	SteelGtr.VSW	2	AGT	102	Digital Str.	4	STR
039	Nylon+Steel	2	AGT	103	RS Flute	1	FLT
040	ResoGt/Slide	2	AGT	104	Bamboo Flute	2	FLT
041	Dulcimer	2	ETH	105	Nay	2	FLT
042	Celtic Harp	2	PLK	106	Tin Whistle	2	FLT
043	Harp&Strings	3	PLK	107	Zampona	2	FLT
044	Andreas Cave	4	PLK	108	Pure Lead	4	FLT
045	JC ChorusGt.	2	EGT	109	Pipe Lead	3	FLT
046	Tele Rear	2	EGT	110	BottleBlow 2	2	FLT
047	Strat Rear	2	EGT	111	RS Alto Sax	1	SAX
048	Fab 4 Guitar	4	EGT	112	Blown Tenor	1	SAX
049	5th Overdrv.	2	DGT	113	Sax Section	4	SAX
050	Half Drv.	2	DGT	114	Fat + Reed	4	SAX
051	5th Dist.	2	DGT	115	Quad Wind	4	WND
052	Dazed Guitar	2	DGT	116	Uillean Pipe	2	ETH
053	Atk A.Bass	3	BS	117	Hichiriki	2	ETH
054	Heart Bass	1	BS	118	Orchestra 2	4	ORC
055	Rock Bass	2	BS	119	Orchestra 3	4	ORC
056	Double Pick	4	BS	120	Orchestra 4	4	ORC
057	Mr.Smooth	2	BS	121	Henry IV	4	ORC
058	TB303 Bass 1	1	SBS	122	Mariachi Tp.	1	BRS
059	TB303 Bass 2	1	SBS	123	Romantic Tp.	1	BRS
060	Tee Bee	4	SBS	124	Tp. Shake	1	BRS
061	303 Sqr.Rev	1	SBS	125	Tp. Mar/Shk	2	BRS
062	303 SqDistBs	2	SBS	126	Atk Trumpet	2	BRS
063	TB303 Reso	1	SBS	127	Cup Mute Tp.	1	BRS
064	JP-4 Bass	1	SBS	128	Twin Tps.	2	BRS

Voice: number of voice
Preset 1–128: MSB=65, LSB=0

Preset

No.	Name	Voice	Category	No.	Name	Voice	Category	No.	Name	Voice	Category	LSB	PC
129	4th Trumpets	2	BRS	193	Mystic Pad	4	BPD	257	Piano 1	4	PNO	0	1
130	Twin Bones	2	BRS	194	OvertoneScan	4	SPD	258	Piano 1w	4	PNO	1	1
131	2Tps + Tb	1	BRS	195	Pipe Pad	3	SPD	259	Piano 1d	4	PNO	2	1
132	2Tps+Tb+Sax	3	BRS	196	Warm Sqr Pad	4	SPD	260	Piano 2	4	PNO	0	2
133	Bones & Tuba	4	BRS	197	JP8 Haunting	4	SPD	261	Piano 2w	4	PNO	1	2
134	Tuba + Horn	2	BRS	198	JP8 Hollow	4	SPD	262	Piano 3	1	PNO	0	3
135	RS Fr.Horns	2	BRS	199	Glass Orbit	3	BPD	263	Piano 3w	1	PNO	1	3
136	VoyagerBrass	3	BRS	200	7th Atmos.	2	FX	264	Honky-tonk	2	PNO	0	4
137	Lo Brass	2	BRS	201	Dual Sqr&Saw	4	PLS	265	HonkyTonk w	2	PNO	1	4
138	RS TbSection	2	BRS	202	Halo Step	4	PLS	266	E.Piano 1	2	EP	0	5
139	Big Band	2	BRS	203	Step Saws	4	PLS	267	St.Soft EP	2	EP	1	5
140	Power Brass	4	BRS	204	Step Metal	4	BPD	268	FM+SA EP	2	EP	2	5
141	BrassSection	4	BRS	205	Random Pad	2	PLS	269	Wurly	2	EP	3	5
142	Quad Brass	4	BRS	206	RandomEnding	2	PLS	270	E.Piano 2	2	EP	0	6
143	Brass + Sax	4	BRS	207	Big Blue	2	PLS	271	Detuned EP 2	2	EP	1	6
144	Orch Brass	4	BRS	208	LFO Pad	2	PLS	272	EP Legend	2	EP	2	6
145	LA Brass	4	SBR	209	RND Fl.Chord	4	PLS	273	St.FM EP	2	EP	3	6
146	P5 Brass	4	SBR	210	Etherality	4	PLS	274	EP Phase	2	EP	4	6
147	Poly Brass	4	SBR	211	RS SquareLd1	2	SLD	275	Harpsichord	1	KEY	0	7
148	Fat SynBrass	4	SBR	212	Sine Lead	1	SLD	276	Coupled Hps.	2	KEY	1	7
149	MKS Brass	2	SBR	213	2600 Sine	1	SLD	277	Harpsi.w	1	KEY	2	7
150	Stack Brass	4	SBR	214	RS SquareLd2	1	SLD	278	Harpsi.o	2	KEY	3	7
151	Jump Brass 2	2	SBR	215	Shmoog	2	SLD	279	Clav.	1	KEY	0	8
152	OB Brass	4	SBR	216	CC Solo	2	SLD	280	Pulse Clav	2	KEY	1	8
153	JUNO Brass	2	SBR	217	FM Lead 1	1	SLD	281	Celesta	1	KEY	0	9
154	LoFi Brass	2	SBR	218	FM Lead 2	2	SLD	282	Glockenspiel	1	BEL	0	10
155	Reso Brass	2	SBR	219	JP8 PulseLd1	1	SLD	283	Music Box	1	BEL	0	11
156	Warm Brass	4	SBR	220	JP8 PulseLd2	2	SLD	284	Vibraphone	1	MLT	0	12
157	SoaringHorns	4	SBR	221	Soft SawLead	2	SLD	285	Vibraphone w	1	MLT	1	12
158	DeepSynBrass	2	SBR	222	PureFlatLead	2	SLD	286	Marimba	1	MLT	0	13
159	Sugar Keys	2	SYN	223	MG Square 2	1	HLD	287	Marimba w	1	MLT	1	13
160	RS Pipe Keys	3	SYN	224	Unison SqrLd	4	SLD	288	Xylophone	1	MLT	0	14
161	RS SawsKeys	4	SYN	225	Dist Square	1	HLD	289	Tubular-bell	1	BEL	0	15
162	WireKeys	2	SYN	226	RS Digi Lead	1	SLD	290	Church Bell	1	BEL	1	15
163	Super Saws	4	SYN	227	260 RingLead	2	HLD	291	Carillon	1	BEL	2	15
164	Double Saws	2	BPD	228	MG Saw Ld. 1	1	SLD	292	Santur	1	PLK	0	16
165	Poly Saws	4	SYN	229	MG Saw Ld. 2	1	SLD	293	Organ 1	2	ORG	0	17
166	Polysynth 2	2	BPD	230	GR300 Lead 1	1	SLD	294	Trem. Organ	2	ORG	1	17
167	Super Poly	4	SPD	231	GR300 Lead 2	1	SLD	295	60's Organ1	1	ORG	2	17
168	RS Prologue	3	SPD	232	MG 2 OSCs	2	SLD	296	Organ 4	2	ORG	3	17
169	RS Crystal	4	BEL	233	FatSolo Lead	4	SLD	297	Organ 2	2	ORG	0	18
170	Hyper Bell	1	BEL	234	ForcefulLead	4	HLD	298	Chorus Or.2	2	ORG	1	18
171	Warm Bell	1	BEL	235	CrowdingLead	4	HLD	299	Perc. Organ	2	ORG	2	18
172	Chime Bells	4	BEL	236	Sync Lead	1	HLD	300	Organ 3	2	ORG	0	19
173	D-50 Retour	4	BPD	237	DualSyncLead	4	HLD	301	Church Org.1	1	ORG	0	20
174	Bell Heaven	2	SYN	238	Dirty Sync	2	HLD	302	Church Org.2	2	ORG	1	20
175	EP Heaven	4	SYN	239	Sync Hard	4	HLD	303	Church Org.3	2	ORG	2	20
176	RS Heaven	2	SPD	240	Talking Box	3	HLD	304	Reed Organ	1	ORG	0	21
177	Heaven Key	2	SYN	241	Happy Saws	4	TEK	305	Puff Organ	2	ORG	1	21
178	Heaven Pad	1	SPD	242	TwinOct.Rave	4	TEK	306	Accordion Fr	1	ACD	0	22
179	RS Soft Pad1	3	SPD	243	MinorIncidnt	4	TEK	307	Accordion It	1	ACD	1	22
180	RS Soft Pad2	4	SPD	244	Minor Rave	4	TEK	308	Harmonica	1	HRM	0	23
181	Saw Strings	3	SPD	245	Vox Lead	2	TEK	309	Bandoneon	2	ACD	0	24
182	Spectre	4	BPD	246	Waspy Synth	2	TEK	310	Nylon-str.Gt	1	AGT	0	25
183	Morph Pad	4	SPD	247	Technoheadz	4	TEK	311	Ukulele	1	AGT	1	25
184	Comb Strings	4	STR	248	Techno Saw	2	PLS	312	Nylon Gt.o	2	AGT	2	25
185	Combine	2	BPD	249	Cheese Saw	1	PLS	313	Nylon Gt.2	1	AGT	3	25
186	Soft Sweep	4	SPD	250	Acid Guitar	2	TEK	314	Steelstr.Gt	1	AGT	0	26
187	Saws Sweep	3	SPD	251	BOG	3	TEK	315	12-str.Gt	2	AGT	1	26
188	CelestialPad	3	BPD	252	Impact Hit	2	HIT	316	Mandolin	2	AGT	2	26
189	4th Sweep	4	SPD	253	Double Hit	2	HIT	317	Steel + Body	2	AGT	3	26
190	5th Saws	4	BPD	254	Techno Hit	1	HIT	318	Jazz Gt.	1	EGT	0	27
191	Big Fives	4	BPD	255	Shock Wave	2	HIT	319	Pedal Steel	1	EGT	1	27
192	7th Bell Pad	2	BPD	256	P5 Noise	1	FX	320	Clean Gt.	1	EGT	0	28

Voice: number of voice

Preset 129–256: MSB=66, LSB=0

Preset 257–320: MSB=121

PC: Program Number

149

Tone List

Preset

No.	Name	Voice	Category	LSB	PC	No.	Name	Voice	Category	LSB	PC	No.	Name	Voice	Category	LSB	PC
321	Chorus Gt.	2	EGT	1	28	385	French Horns	1	BRS	0	61	449	Sitar	1	PLK	0	105
322	Mid Tone GTR	1	EGT	2	28	386	Fr.Horn 2	2	BRS	1	61	450	Sitar 2	2	PLK	1	105
323	Muted Gt.	1	EGT	0	29	387	Brass 1	2	BRS	0	62	451	Banjo	1	FRT	0	106
324	Funk Pop	1	EGT	1	29	388	Brass 2	2	BRS	1	62	452	Shamisen	1	PLK	0	107
325	Funk Gt.2	2	EGT	2	29	389	Synth Brass1	2	SBR	0	63	453	Koto	1	PLK	0	108
326	Jazz Man	2	EGT	3	29	390	Pro Brass	2	SBR	1	63	454	Taisho Koto	2	PLK	1	108
327	Overdrive Gt	1	DGT	0	30	391	Oct SynBrass	2	SBR	2	63	455	Kalimba	1	PLK	0	109
328	Guitar Pinch	2	DGT	1	30	392	Jump Brass	2	SBR	3	63	456	Bagpipe	1	ETH	0	110
329	DistortionGt	1	DGT	0	31	393	Syn.Brass 2	2	SBR	0	64	457	Fiddle	1	STR	0	111
330	Feedback Gt	2	DGT	1	31	394	SynBrass sfz	1	SBR	1	64	458	Shanai	1	ETH	0	112
331	Dist Rtm GTR	1	DGT	2	31	395	Velo Brass 1	2	SBR	2	64	459	Tinkle Bell	1	BEL	0	113
332	Gt.Harmonics	1	EGT	0	32	396	Soprano Sax	1	SAX	0	65	460	Agogo	1	PRC	0	114
333	Gt.Feedback	1	EGT	1	32	397	Alto Sax	1	SAX	0	66	461	Steel Drums	1	MLT	0	115
334	Acoustic Bs.	2	BS	0	33	398	Tenor Sax	2	SAX	0	67	462	Woodblock	1	PRC	0	116
335	Fingered Bs.	1	BS	0	34	399	Baritone Sax	1	SAX	0	68	463	Castanets	1	PRC	1	116
336	Finger Slap	2	BS	1	34	400	Oboe	1	WND	0	69	464	Taiko	1	PRC	0	117
337	Picked Bass	1	BS	0	35	401	English Horn	1	WND	0	70	465	Concert BD	1	PRC	1	117
338	Fretless Bs.	1	BS	0	36	402	Bassoon	1	WND	0	71	466	Melo. Tom 1	1	PRC	0	118
339	Slap Bass 1	1	BS	0	37	403	Clarinet	1	WND	0	72	467	Melo. Tom 2	1	PRC	1	118
340	Slap Bass 2	1	BS	0	38	404	Piccolo	1	FLT	0	73	468	Synth Drum	1	PRC	0	119
341	Synth Bass 1	1	SBS	0	39	405	Flute	1	FLT	0	74	469	808 Tom	2	PRC	1	119
342	SynthBass101	1	SBS	1	39	406	Recorder	1	FLT	0	75	470	Elec Perc	1	PRC	2	119
343	Acid Bass	1	SBS	2	39	407	Pan Flute	1	FLT	0	76	471	Reverse Cym	1	PRC	0	120
344	Clavi Bass	2	SBS	3	39	408	Bottle Blow	2	FLT	0	77	472	Gt.FretNoise	1	AGT	0	121
345	Hammer	2	SBS	4	39	409	Shakuhachi	2	ETH	0	78	473	Gt.Cut Noise	1	AGT	1	121
346	Synth Bass 2	2	SBS	0	40	410	Whistle	1	FLT	0	79	474	String Slap	1	AGT	2	121
347	Beef FM Bass	2	SBS	1	40	411	Ocarina	1	FLT	0	80	475	Breath Noise	1	FX	0	122
348	Rubber Bass	2	SBS	2	40	412	Square Wave	2	HLD	0	81	476	Fl.Key Click	1	FX	1	122
349	Attack Pulse	1	SBS	3	40	413	MG Square	1	HLD	1	81	477	Seashore	1	SFX	0	123
350	Violin	1	STR	0	41	414	Sine Wave	1	HLD	2	81	478	Rain	1	SFX	1	123
351	Slow Violin	1	STR	1	41	415	Saw Wave	2	HLD	0	82	479	Thunder	1	SFX	2	123
352	Viola	1	STR	0	42	416	OB2 Saw	1	HLD	1	82	480	Wind	1	SFX	3	123
353	Cello	1	STR	0	43	417	Doctor Solo	2	HLD	2	82	481	Stream	2	SFX	4	123
354	Contrabass	1	STR	0	44	418	Natural Lead	2	HLD	3	82	482	Bubble	2	SFX	5	123
355	Tremolo Str	1	STR	0	45	419	SequencedSaw	2	HLD	4	82	483	Bird	2	SFX	0	124
356	PizzicatoStr	1	STR	0	46	420	Syn.Calliope	2	SLD	0	83	484	Dog	1	SFX	1	124
357	Harp	1	PLK	0	47	421	Chiffer Lead	2	SLD	0	84	485	HorseGallop	1	SFX	2	124
358	Yang Qin	2	PLK	1	47	422	Charang	2	HLD	0	85	486	Bird 2	1	SFX	3	124
359	Timpani	1	PRC	0	48	423	Wire Lead	2	HLD	1	85	487	Telephone 1	1	SFX	0	125
360	Strings	1	STR	0	49	424	Solo Vox	2	SLD	0	86	488	Telephone 2	1	SFX	1	125
361	Orchestra	3	ORC	1	49	425	5th Saw Wave	2	HLD	0	87	489	DoorCreaking	1	SFX	2	125
362	60s Strings	2	STR	2	49	426	Bass & Lead	2	HLD	0	88	490	Door	1	SFX	3	125
363	Slow Strings	1	STR	0	50	427	Delayed Lead	2	HLD	1	88	491	Scratch	1	SFX	4	125
364	Syn.Strings1	1	STR	0	51	428	Fantasia	2	SYN	0	89	492	Wind Chimes	2	SFX	5	125
365	Syn.Strings3	2	STR	1	51	429	Warm Pad	1	SPD	0	90	493	Helicopter	1	SFX	0	126
366	Syn.Strings2	2	SPD	0	52	430	Sine Pad	2	SPD	1	90	494	Car-Engine	1	SFX	1	126
367	Choir Aahs	1	VOX	0	53	431	Polysynth	2	SYN	0	91	495	Car-Stop	1	SFX	2	126
368	Chorus Aahs2	1	VOX	1	53	432	Space Voice	1	VOX	0	92	496	Car-Pass	1	SFX	3	126
369	Voice Oohs	1	VOX	0	54	433	Itopia	2	VOX	1	92	497	Car-Crash	2	SFX	4	126
370	Humming	2	VOX	1	54	434	Bowed Glass	2	SPD	0	93	498	Siren	1	SFX	5	126
371	SynVox	1	VOX	0	55	435	Metal Pad	2	BPD	0	94	499	Train	1	SFX	6	126
372	Analog Voice	1	VOX	1	55	436	Halo Pad	2	BPD	0	95	500	Jetplane	2	SFX	7	126
373	OrchestraHit	2	HIT	0	56	437	Sweep Pad	1	SPD	0	96	501	Starship	2	SFX	8	126
374	Bass Hit	2	HIT	1	56	438	Ice Rain	2	SYN	0	97	502	Burst Noise	2	SFX	9	126
375	6th Hit	2	HIT	2	56	439	Soundtrack	2	SPD	0	98	503	Applause	2	SFX	0	127
376	Euro Hit	2	HIT	3	56	440	Crystal	2	BEL	0	99	504	Laughing	1	SFX	1	127
377	Trumpet	1	BRS	0	57	441	Syn Mallet	1	BEL	1	99	505	Screaming	1	SFX	2	127
378	Dark Trumpet	1	BRS	1	57	442	Atmosphere	2	AGT	0	100	506	Punch	1	SFX	3	127
379	Trombone	1	BRS	0	58	443	Brightness	2	SYN	0	101	507	Heart Beat	1	SFX	4	127
380	Trombone 2	2	BRS	1	58	444	Goblin	2	PLS	0	102	508	Footsteps	1	SFX	5	127
381	Bright Tb	1	BRS	2	58	445	Echo Drops	1	BPD	0	103	509	Gun Shot	1	SFX	0	128
382	Tuba	1	BRS	0	59	446	Echo Bell	2	BPD	1	103	510	Machine Gun	1	SFX	1	128
383	MutedTrumpet	1	BRS	0	60	447	Echo Pan	2	BPD	2	103	511	Lasergun	1	SFX	2	128
384	MuteTrumpet2	1	BRS	1	60	448	Star Theme	2	BPD	0	104	512	Explosion	2	SFX	3	128

Voice: number of voice

Preset 321–512: MSB=121
PC: Program Number

Drum Set List

Preset

Note No.	001 (PC: 1) RS Pop Kit 1	002 (PC: 2) RS Pop Kit 2	003 (PC: 3) STANDARD 2	004 (PC:4) STANDARD 3	005 (PC: 5) R&B	006 (PC:6) DANCE
25	Snare Roll		Snare Roll			
26	FingerSnaps2	%	Finger Snap		%	
27	High-Q		High-Q			
28	Slap		Slap			
29	ScratchPush [EXC7]		ScratchPush [EXC7]			Scrtch Push2 [EXC7]
30	ScratchPull [EXC7]		ScratchPull [EXC7]			Scrtch Pull2 [EXC7]
31	Sticks		Sticks			
32	SquareClick		SquareClick			
33	MetronmClick		MetronmClick			
34	Metronm Bell		Metronm Bell			
35	Pop Kick 1 *3	Pop Kick 3 *3	Std.2 Kick1	Std.3 Kick1 *2	R&B Kick	909 Comp BD
C2 36	Pop Kick 2 *3	Pop Kick 4 *3	Std.2 Kick2	Std.3 Kick2 *2	%	Elec Kick 2
37	Cross Stick *2	%	Side Stick		%	
38	Pop Snare 1 *2	Pop Snare 3 *2	Std.2 Snare1	Piccolo SD2	%	House SD
39	Ghost Note *2	%	808 Clap		%	909 HandClap
40	Pop Snare 2 *2	Pop Snare 4 *2	Std.2 Snare2	Std.3 Snare2	R&B Snare	Elec. Snare3
41	PopLoTomFlam *2		Real Tom 6 *2		%	Synth Drum 2 *2
42	PopClHiHat 1 [EXC1] *2	PopClHiHat 2 [EXC1] *2	Jazz CHH [EXC1]	Close HiHat3 [EXC1]	%	CR78 CHH [EXC1]
43	PopLowTom *2	%	Real Tom 6 *2		%	Synth Drum 2 *2
44	PopPdHiHat 1 [EXC1] *3	PopPdHiHat 2[EXC1] *3	Pedal HiHat [EXC1]	Pedal HiHat3 [EXC1]	%	808 CHH 1 [EXC1]
45	PopMdTomFlam *2		Real Tom 4 *2		%	Synth Drum 2 *2
46	PopOpHiHat 1[EXC1] *3	PopOpHiHat 2[EXC1] *3	Jazz OHH [EXC1]	Open HiHat3 [EXC1]	%	CR78 OHH [EXC1]
47	PopMidTom *2	%	Real Tom 4 *2		%	Synth Drum 2 *2
C3 48	PopHiTomFlam *2	%	Real Tom 1 *2		%	Synth Drum 2 *2
49	PopCymbal 2 *2	%	Crash Cym.1		%	808 Crash
50	PopHighTom *2	%	Real Tom 1 *2		%	Synth Drum 2 *2
51	Pop Ride 1 *2	%	Ride Cymbal		%	606 RideCym.
52	PopCymbal 1 *2	%	ChinaCymbal		%	ReverseCymbl
53	Pop Ride 2 *2	%	Ride Bell		%	
54	Tambourine		Tambourine			Shake Tambrn
55	PopSplashCym	%	Splash Cym.		%	Splash Cym.2
56	ChaChaBell *2	%	Cowbell		%	808 Cowbel
57	RockCrashCym *2	%	Crash Cym.2		%	
58	Vibraslap		Vibraslap			
59	RockRideCym *2	%	Ride Cymbal		%	
C4 60	Pop Hi Bongo *2	%	High Bongo		%	
61	Pop Lo Bongo	%	Low Bongo		%	
62	PopCongaSlap *2	%	HiConga Mute		%	
63	PopCongaOpen	%	HiCongaOpen		%	
64	Pop Lo Conga	%	LoCongaOpen		%	
65	PopHiTimbale *2	%	High Timbale		%	
66	PopLoTimbale	%	Low Timbale		%	
67	Pop Agogo	%	Agogo		%	
68	Pop Agogo	%	Agogo		%	
69	Pop Shaker2	%	Cabasa *2		%	
70	Pop Shaker1 *2	%	Maracas		%	
71	ShortWhistle [EXC2]		ShortWhistle [EXC2]			
C5 72	Long Whistle [EXC2]		Long Whistle [EXC2]			
73	Pop Quide1 [EXC3]	%	Short Guiro [EXC3]		%	
74	Pop Quide2 [EXC3]	%	Long Guiro [EXC3]		%	
75	Pop Claves *2	%	Claves		%	
76	Woodblock		Woodblock			
77	Woodblock		Woodblock			
78	Mute Cuica [EXC4]		Mute Cuica [EXC4]			Hoo [EXC4]
79	Open Cuica [EXC4]		Open Cuica [EXC4]			Hoo [EXC4]
80	MuteTriangle [EXC5]		MuteTriangle [EXC5]			
81	OpenTriangle [EXC5]		OpenTriangle [EXC5]			
82	Pop Shaker3	%	Shaker		%	626 Shaker
83	Jingle Bell		Jingle Bell			
C6 84	Bell Tree	%	Bar Chimes		%	Bell Tree
85	Castanets		Castanets			
86	Mute Surdo [EXC6]		Mute Surdo [EXC6]			
87	Open Surdo [EXC6]		Open Surdo [EXC6]			
88	Applause 2 *2		Applause 2 *2			

* User:001 and User:002 contain the same data as Preset:001 and Preset:004, respectively. (User 001, 002: MSB=64, LSB=0)

* See p. 154 for information concerning Note Nos. 0–24 and 89–127.

*2: Tones which are created using two voices.
*3: Tones which are created using three voices.
[EXC]: Percussion sound of the same number will not be heard at the same time.
%: Same as the percussion sound of "001: RS Pop Kit 1."
Blank: Same as the percussion sound of "003: STANDARD 2."
PC: Program Number
Preset 001–006: MSB=65, LSB=0

Drum Set List

Preset

Note No.	007 HOUSE (PC: 7)	008 HIP HOP (PC: 8)	009 TECHNO (PC: 9)	010 TR-909 (PC: 10)
26	FingerSnaps2	FingerSnaps2	FingerSnaps2	FingerSnaps2
29	Scrtch Push2 [EXC7]	Scrtch Push2 [EXC7]	Scrtch Push2 [EXC7]	Scrtch Push2 [EXC7]
30	Scrtch Pull2 [EXC7]	Scrtch Pull2 [EXC7]	Scrtch Pull2 [EXC7]	Scrtch Pull2 [EXC7]
35	HipHop BD2	909 Comp BD	Techno BD2	Techno BD2
C2 36	909 BD2 *2	HipHop BD1	Techno BD1	909 BD2 *2
37	House SD	808 Rimshot	808 Rimshot	909 Rim
38	909 HandClap	Whack SD 2	Techno SD 1	909 SD 1
39	Elec. Snare2	909 HandClap	707 Claps	909 HandClap
40	909 Tom	HipHop SD2	MG Blip	909 SD 2
41	707 CHH 1 [EXC1]	909 Tom	808 Tom 2 *2	909 Tom
42	909 Tom	Room CHH [EXC1]	707 CHH 1 [EXC1]	707 CHH 1 [EXC1]
43	CR78 CHH [EXC1]	909 Tom	808 Tom 2 *2	909 Tom
44	909 Tom	Pedal HiHat [EXC1]	CR78 CHH [EXC1]	707 CHH 2 [EXC1]
45	909 OHH [EXC1]	909 Tom	808 Tom 2 *2	909 Tom
46	909 Tom	R8 OHH 2 [EXC1]	909 OHH [EXC1]	909 OHH [EXC1]
47	909 Tom	909 Tom	808 Tom 2 *2	909 Tom
C3 48	909 Tom	909 Tom	808 Tom 2 *2	909 Tom
49	909 Crash	909 Crash	909 Crash	909 Crash
50	909 Tom	909 Tom	808 Tom 2 *2	909 Tom
51	909 RideCym. *2			909 RideCym. *2
52	ReverseCymbl	ReverseCymbl	ReverseCymbl	
54	Shake Tambrn	Shake Tambrn	Shake Tambrn	Tambourine 2
55	Splash Cym.2	Splash Cym.2	Splash Cym.2	Splash Cym.2
56	808 Cowbel	808 Cowbel	808 Cowbel	808 Cowbel
57	909 Crash		909 Crash	
59				RideCym Edge
C4 60	CR78 HiBongo		CR78 HiBongo	
61	CR78 LoBongo		CR78 LoBongo	
62	808 Conga		808 Conga	
63	808 Conga		808 Conga	
64	808 Conga		808 Conga	
70	808 Maracas	808 Maracas	808 Maracas	808 Maracas
74	CR78 Guiro [EXC3]	CR78 Guiro [EXC3]	CR78 Guiro [EXC3]	CR78 Guiro [EXC3]
75	808 Clave	808 Clave	808 Clave	808 Clave
78	Hoo [EXC4]	Hoo [EXC4]	Hoo [EXC4]	Hoo [EXC4]
79	Hoo [EXC4]	Hoo [EXC4]	Hoo [EXC4]	Hoo [EXC4]
82	626 Shaker	626 Shaker	626 Shaker	626 Shaker
C6 84	Bell Tree	Bell Tree	Bell Tree	Bell Tree

Note No.	011 RHYTHM FX (PC:11)
21	RevBsAtkNoiz
22	RevClnGtMtUp
23	RevDstGCutUp
C1 24	Click
25	Pop Drop
26	Wood Slap
27	Syn.Drops
28	Rev.Hi-Q
29	ShortWhistle
30	Ice Block
31	Digi Tambrn. *2
32	Alias
33	Tambourine
34	Noise Slap *2
35	Rev.Kick 1
C2 36	Rev.Kick 1
37	Rev.ConBD
38	Rev.PowerBD1
39	Rev.Elec.BD1
40	RevBrBsDrum
41	Rev.909BD2
42	Rev.909BD2
43	Rev.HpHpBD1
44	Rev.HpHpBD1
45	Rev.HpHpBD1
46	Rev.Tech BD2
47	Rev.Snare 1
C3 48	Rev.Snare 1
49	Rev.Snare 2
50	Rev.Std1SD1
51	Rev.808SD
52	Rev.909SD1
53	Rev.CR78SD1
54	Rev.Tech SD2
55	Rev.HpHpSD2
56	Rev.HpHpSD2
57	Rev.HpHpSD2
58	Rev House SD
59	Rev House SD
C4 60	Rev.Snare 1
61	Rev.Hi-Q
62	Rev.Tom 1
63	Rev.Tom 1
64	Rev.Tom 1
65	Rev.Tom 1
66	Rev.Tom 2
67	Rev.Sticks
68	Rev.Slap
69	ReverseCymbl
70	Rev.Cymbal2
71	Rev.606Cym.
C5 72	Rev.RideCym.
73	Rev.ClosedHH
74	Rev.707CH
75	Rev.808CHH
76	Rev.Open HH1
77	Rev.Open HH2
78	Rev.808OHH
79	Rev.CR-78OHH
80	Rev.CR-78OHH
81	Rev.HpHpSD2
82	Shaker
83	Rev.Slap
C6 84	Rev.Tombrn 2
85	Rev.ShakeTmb
86	Rev.707Crash *2
87	Rev.Belltree
88	Rev.Guiro
89	Rev.GunShot
90	Rev.Scratch
91	Rev.Lasergun
92	VeloNoiseFX
93	St.NoiseClap *2
94	Swish
95	Tape Stop 1 *2
C7 96	Missile *2
97	Space Birds
98	FlyingMonstr
99	Voice 1
100	Hoo

*   See p. 154 for information concerning Note Nos. 0–24 and 89–127, (except 011: RHYTHM FX).

*2:   Tones which are created using two voices.
[EXC]:   Percussion sound of the same number will not be heard at the same time.
Blank: Same as the percussion sound of "003: STANDARD 2."
PC: Program Number
Preset 007–011: MSB=65, LSB=0.

Preset

Note Nos. 25–88 — Preset 012–017

Note No.	012 (PC: 1) STANDARD 1	013 (PC: 9) ROOM	014 (PC: 17) POWER	015 (PC: 25) ELECTRONIC	016 (PC: 26) TR-808	017 (PC: 33) JAZZ
25	Snare Roll					
26	FingerSnaps2	Finger Snap		Finger Snap		Finger Snap
27	High-Q					
28	Slap					
29	ScratchPush [EXC7]			Scrtch Push2 [EXC7]	Scrtch Push2 [EXC7]	
30	ScratchPull [EXC7]			Scrtch Pull2 [EXC7]	Scrtch Pull2 [EXC7]	
31	Sticks					
32	SquareClick					
33	MetronmClick					
34	Metronm Bell					
35	Mix Kick	Room Kick 2	Power Kick2	Elec Kick 2	808 Kick 1	Jazz Kick 2
C2 36	Std.1 Kick2	Room Kick 1	Power Kick1	Elec Kick 1 *2	808 Kick 2	Jazz Kick 1
37	Side Stick				808 Rimshot	
38	Std.1 Snare1	Room Snare 1	Dance Snare1	Elec. Snare1	808 Snare 1	Jazz Snare 1
39	909 HandClap	808 Clap	808 Clap	808 Clap	808 Clap	Hand Clap2
40	LD Snare M	Room Snare 2	Power Snare1	Elec. Snare2	808 Snare 2	Jazz Snare 2
41	Real Tom 6 *2	Room Tom 5 *2	Rock Tom 4 *2	Synth Drum 2 *2	808 Tom 2 *2	
42	Close HiHat2 [EXC1]	Room CHH [EXC1]		Jazz CHH [EXC1]	808 CHH 2 [EXC1]	Jazz CHH [EXC1]
43	Real Tom 6 *2	Room Tom 5 *2	Rock Tom 4 *2	Synth Drum 2 *2	808 Tom 2 *2	
44	Pedal HiHat2 [EXC1]	Pedal HiHat [EXC1]		Pedal HiHat [EXC1]	808 CHH 1 [EXC1]	Pedal HiHat [EXC1]
45	Real Tom 4 *2	Room Tom 2 *2	Rock Tom 4 *2	Synth Drum 2 *2	808 Tom 2 *2	
46	Open HiHat2 [EXC1]	R8 OHH 2 [EXC1]		Jazz OHH [EXC1]	808 OHH [EXC1]	Jazz OHH [EXC1]
47	Real Tom 4 *2	Room Tom 2 *2	Rock Tom 4 *2	Synth Drum 2 *2	808 Tom 2 *2	
C3 48	Real Tom 1 *2	Room Tom 2 *2	Rock Tom 1 *2	Synth Drum 2 *2	808 Tom 2 *2	
49	Crash Cym.1				808 Crash	
50	Real Tom 1 *2	Room Tom 2 *2	Rock Tom 1 *2	Synth Drum 2 *2	808 Tom 2 *2	
51	Ride Cymbal				606 RideCym.	RideCymMidln
52	ChinaCymbal			ReverseCymbl		
53	Ride Bell					
54	Tambourine				CR78 Tmb	
55	Splash Cym.2	Splash Cym.		Splash Cym.		
56	Cowbell				808 Cowbel	
57	Crash Cym.2				909 Crash	
58	Vibraslap					
59	Ride Cymbal				RideCym Edge	RideCym Edge
C4 60	High Bongo				CR78 HiBongo	
61	Low Bongo				CR78 LoBongo	
62	HiConga Mute				808 Conga	
63	HiCongaOpen				808 Conga	
64	LoCongaOpen				808 Conga	
65	High Timbale					
66	Low Timbale					
67	Agogo					
68	Agogo					
69	Cabasa *2					
70	Maracas				808 Maracas	
71	ShortWhistle [EXC2]					
C5 72	Long Whistle [EXC2]					
73	Short Guiro [EXC3]					
74	Long Guiro [EXC3]				CR78 Guiro [EXC3]	
75	Claves				808 Clave	
76	Woodblock					
77	Woodblock					
78	Mute Cuica [EXC4]				Hoo [EXC4]	
79	Open Cuica [EXC4]				Hoo [EXC4]	
80	MuteTriangle [EXC5]					
81	OpenTriangle [EXC5]					
82	Shaker				626 Shaker	
83	Jingle Bell					
C6 84	Bell Tree					
85	Castanets					
86	Mute Surdo [EXC6]					
87	Open Surdo [EXC6]					
88	Applause 2 *2					Applause *2

*2:   Tones which are created using two voices.

[EXC]:   Percussion sound of the same number will not be heard at the same time.

Blank: Same as the percussion sound of "012: STANDARD 1."

PC: Program Number

Preset 012–017: MSB=120, LSB=0

Drum Set List

153

Preset

Note No. 018 BRUSH (PC: 41) / 019 ORCHESTRA (PC: 49)

Note No.	018 BRUSH	019 ORCHESTRA
25		
26	Finger Snap	Finger Snap
27		Jazz CHH [EXC1]
28		Pedal HiHat [EXC1]
29		Jazz OHH [EXC1]
30		Ride Cymbal
31		
32		
33		
34		
35	Jazz Kick 2	Jazz Kick 1
C2 36	Jazz Kick 1	Concert BD
37		
38	Brush Tap	ConcertSnare
39	Brush Slap	Castanets
40	Brush Swirl	ConcertSnare
41	Lite Tom 4 *2	Timpani
42	Brush CHH [EXC1]	Timpani
43	Lite Tom 4 *2	Timpani
44	Pedal HiHat [EXC1]	Timpani
45	Lite Tom 4 *2	Timpani
46	Brush OHH [EXC1]	Timpani
47	Lite Tom 4 *2	Timpani
C3 48	Lite Tom 4 *2	Timpani
49	Brush Crash	Timpani
50	Lite Tom 4 *2	Timpani
51	Ride Cym In	Timpani
52		Timpani
53	Brush RideBl	Timpani
54		
55		Splash Cym.
56		
57		ConcertCym.2
58		
59	Ride Cym Edge	ConcertCym.1
C4 60		
...		
C6 88	Applause *2	Applause *2

Note No. 020 SFX (PC: 57)

Note No.	020 SFX	
29	MG Blip	
30	Tape Stop 2	*2
31	Scrtch Push2	[EXC1]
32	Scrtch Pull2	[EXC1]
33	Finger Snap	
34	FingerSnaps2	
35	Gtr.Feedback	
C2 36	Dist.CutNoiz	
37	Bass Slide	
38	Pick Scrape	
39	High-Q	
40	Slap	
41	ScratchPush	[EXC7]
42	ScratchPull	[EXC7]
43	Sticks	
44	SquareClick	
45	MetronmClick	
46	Metronm Bell	
47	Gt.FretNoise	
C3 48	Gt.Cut Noise	
49	Gt.Cut Noise	
50	String Slap	
51	Fl.Key Click	
52	Laughing	
53	Screaming	
54	Punch	
55	Heart Beat	
56	Footsteps	
57	Footsteps	
58	Applause	*2
59	DoorCreaking	
C4 60	Door	
61	Scratch	
62	Wind Chimes	*2
63	Car-Engine	
64	Car-Stop	
65	Car-Pass	
66	Car-Crash	*2
67	Siren	
68	Train	
69	Jetplane	*2
70	Helicopter	
71	Starship	*2
C5 72	Gun Shot	
73	Machine Gun	
74	Lasergun	
75	Explosion	*2
76	Dog	
77	HorseGallop	
78	Bird	*2
79	Rain	
80	Thunder	
81	Wind	
82	Seashore	
83	Stream	*2
C6 84	Bubble	*2
85	Kitty	
86	Bird 2	
87	Growl	
88	Applause 2	*2
89	Encore	
90	Telephone 1	
91	Telephone 2	
92	Burst Noise	*2
93	Ghost	*2
94	Submarine	*2
95	Big Shot	*2
C7 96	Wind 2	
97	Hoo	
98	Emergency!	[EXC2] *2
99	Abduction	[EXC2] *2
100	UFO FX	[EXC2] *2
101	7th Atmos.	[EXC2] *2
102	Angklung	

Note No. 0–24, 89–127

Note No.		
C-1 0	Mix Kick	
1	Std.1 Kick2	
2	Std.3 Kick1	*2
3	Std.3 Kick2	*2
4	Room Kick 1	
5	Room Kick 2	
6	Power Kick1	
7	Power Kick2	
8	Jazz Kick 1	
9	Concert BD	
10	Elec Kick 1	*2
11	Elec Kick 2	
C0 12	808 Kick 1	
13	808 Kick 2	
14	909 BD2	*2
15	909 Comp BD	
16	HipHop BD1	
17	HipHop BD2	
18	Techno BD1	
19	Techno BD2	
20	R&B Kick	
21	Pop Kick 1	*3
22	Pop Kick 2	*3
23	Pop Kick 3	*3
C1 24	Pop Kick 4	*3

Note No.		
89	Std.1 Snare1	
90	LD Snare M	
91	Std.2 Snare1	
92	Std.2 Snare2	
93	Piccolo SD2	
94	Std.3 Snare2	
95	Room Snare 1	
C7 96	Room Snare 2	
97	Dance Snare1	
98	Power Snare1	
99	Jazz Snare 1	
100	Jazz Snare 2	
101	Brush Tap	
102	Brush Slap	
103	Brush Swirl	
104	ConcertSnare	
105	Elec. Snare1	
106	Elec. Snare2	
107	Elec. Snare3	
C8 108	808 Snare 1	
109	808 Snare 2	
110	909 Snare 1	
111	909 SD 1	
112	909 SD 2	
113	CR78 SD 1	
114	Whack SD 2	
115	HipHop SD2	
116	Techno SD 1	
117	MG Blip	
118	House SD	
119	House SD	
C9 120	R&B Snare	*2
121	Pop Snare 1	*2
122	Pop Snare 2	*2
123	Pop Snare 3	*2
124	Pop Snare 4	*2
125	Rev. Snare	
126	Cross Stick	*2
127	Ghost Note	*2

* See the right column for information concerning Note Nos. 0–24 and 89–127, (except 020: SFX).

*2: Tones which are created using two voices.

*3: Tones which are created using three voices.

[EXC]: Percussion sound of the same number will not be heard at the same time.

Blank: Same as the percussion sound of "012: STANDARD 1."

PC: Program Number

Preset 018–020: MSB=120, LSB=0

Arpeggio Style List

Style	Motif	Beat Pattern
1/4	all	1/ 4
1/6	all	1/ 6
1/8	all	1/ 8
1/12	all	1/12
1/16	all	1/16 1–3
1/32	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, GLISSANDO, BASS+UP 1–8, BASS+RANDOM 1–3, TOP+UP 1–6	1/32 1–3
PORTAMENTO A	all	PORTA-A 01–11
PORTAMENTO B	all	PORTA-B 01–15
GLISSANDO	GLISSANDO	1/16 1–3, 1/32 1–3
SEQUENCE A	all	SEQ-A 1–7
SEQUENCE B	all	SEQ-B 1–5
SEQUENCE C	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, GLISSANDO, BASS+UP 1–8, BASS+RANDOM 1–3, TOP+UP 1–6	SEQ-C 1–2
SEQUENCE D	all	SEQ-D 1–8
ECHO	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER	ECHO 1–3
SYNTH BASS	BASS+UP 2	SEQ-A 1, SEQ-C 1
HEAVY SLAP	BASS+UP 5, TOP+UP 5	MUTE 02, 03
LIGHT SLAP	BASS+UP 5, TOP+UP 5	MUTE 02, 03
WALK BASS	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, NOTE ORDER, GLISSANDO	REFRAIN 1, WALKBS
RHYTHM GTR 1	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, BASS+UP 1–8, BASS+RANDOM 1–3, TOP+UP 1–6	MUTE 01, 04
RHYTHM GTR 2	CHORD	MUTE 07, 13, 14
RHYTHM GTR 3	CHORD	MUTE 08, 12, 15
RHYTHM GTR 4	CHORD	MUTE 09, 10, 11, 16
RHYTHM GTR 5	SINGLE UP, SINGLE DOWN	STRUM 1–6
3 FINGER GTR	BASS+UP+TOP	SEQ-A 7
STRUM GTR UP	SINGLE UP	STRUM 7–8
STRUM GTR DOWN	SINGLE DOWN	STRUM 7–8
STRUM GTR U&D	SINGLE UP&DOWN	STRUM 7–8
PIANO BACKING	CHORD	MUTE 12, REFRAIN 2
CLAVI CHORD	BASS+CHORD 4, BASS+CHORD 5	MUTE 05, 06
WALTZ	BASS+CHORD 2, BASS+UP 2, BASS+RANDOM 2, TOP+UP 2	1/ 6, 1/12
SWING WALTZ	BASS+CHORD 2, BASS+UP 2, BASS+RANDOM 2, TOP+UP 2	1/16 1–3
REGGAE	CHORD, BASS+CHORD 1	REGGAE 1–2
PERCUSSION	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, BASS+UP 1–8, BASS+RANDOM 1–3, TOP+UP 1–6	PERC 1–4
HARP	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, GLISSANDO	HARP
SHAMISEN	TOP+UP 4–6	SEQ-A 2
BOUND BALL	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, GLISSANDO	BOUND
RANDOM	SINGLE RANDOM, DUAL RANDOM, BASS+RANDOM 1–3	1/ 4, 1/6, 1/8, 1/12, 1/16 1–3, 1/32 1–3, RANDOM
BOSSA NOVA	all	BOSSA NOVA
SALSA	all	SALSA 1–4
MAMBO	all	MAMBO 1–2
LATIN PERC	SINGLE UP, SINGLE DOWN, SINGLE UP&DOWN, SINGLE RANDOM, DUAL UP, DUAL DOWN, DUAL UP&DOWN, DUAL RANDOM, NOTE ORDER, GLISSANDO	CLAVE, REV CLA, GUIRO, AGOGO
SAMBA	all	SAMBA
TANGO	all	TANGO 1–4
HOUSE	all	HOUSE 1–2
LIMITLESS	all	all

*   all: there is no restriction on the value which can be set

MIDI Implementation

Model: RS-5/9 (64-voice synthesizer (conforms to General MIDI 2 System))
Date: Oct. 13, 2000
Version: 1.00

1. Receive data

■Channel Voice Messages

* Not received when the Part parameter Rx Channel is set to OFF.

●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 - 7CH (0 - 124)
vv = note off velocity: 00H - 7FH (0 - 127)

* 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 - 7CH (0 - 124)
vv = note on velocity: 01H - 7FH (1 - 127)

●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)

* Bank Select is not received when "GM1 System On" is received. If "GM System Off" is received, then reception of Bank Select is enabled.
* Bank Select processing will be suspended until a Program Change message is received.
* The Tones and Drum Sets corresponding to each Bank Select are as follows.

Tone

```
+-------------+-------------+-----------+-------------+-----------+
| BANK SELECT | BANK SELECT | PROGRAM   | TONE        | TONE      |
| MSB         | LSB         | NUMBER    | GROUP       | NUMBER    |
|=============|=============|===========|=============|===========|
| 000 - 032   | 000         | 001 - 128 | Preset (GM) | 257 - 512 |
| 064         | 000         | 001 - 128 | User        | 001 - 128 |
| 065         | 000         | 001 - 128 | Preset      | 001 - 128 |
| 066         | 000         | 001 - 128 | Preset      | 129 - 256 |
| 121         | 000 - 009   | 001 - 128 | Preset (GM) | 257 - 512 |
+-------------+-------------+-----------+-------------+-----------+
```

Drum Set

```
+-------------+-------------+-----------+-------------+-----------+
| BANK SELECT | BANK SELECT | PROGRAM   | DRUMSET     | DRUMSET   |
| MSB         | LSB         | NUMBER    | GROUP       | NUMBER    |
|=============|=============|===========|=============|===========|
| 000         | 000         | 001 - 057 | Preset (GM) | 012 - 020 |
| 064         | 000         | 001 - 002 | User        | 001 - 002 |
| 065         | 000         | 001 - 011 | Preset      | 001 - 011 |
| 120         | 000         | 001 - 057 | Preset (GM) | 012 - 020 |
+-------------+-------------+-----------+-------------+-----------+
```

○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)

○Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

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

* This adjusts the rate of pitch change when Portamento is ON or when using the Portamento Control. When Portamento Time is 0, portamento will be OFF.
* Portamento Time, a Part parameter, is modified.

○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.
* Level, a Part parameter, is modified.

○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)

* Pan, a Part parameter, is modified.
* For Drum Parts, this is a relative adjustment of each Instrument's pan setting.

○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.

○Effect Control 1 (Controller number 12)

Status	2nd byte	3rd byte
BnH	0CH	vvH

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

○Effect Control 2 (Controller number 13)

Status	2nd byte	3rd byte
BnH	0DH	vvH

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

○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) 0-63 = OFF, 64-127 = ON

○Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

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

* Portamento Switch, a Part parameter, is modified.

○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

○**Resonance (Controller number 71)**

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Resonance value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Filter Resonance, a Tone parameter, is modified.

○**Release Time (Controller number 72)**

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* Envelope Release, a Tone parameter, is modified.

○**Attack time (Controller number 73)**

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* Envelope Attack, a Tone parameter, is modified.

○**Cutoff (Controller number 74)**

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* Filter Cutoff, a Tone parameter, is modified.

○**Decay Time (Controller number 75)**

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Decay Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* Envelope Decay, a Tone parameter, is modified.

○**Vibrato Rate (Controller number 76)**

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Rate value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* LFO Rate, a Tone parameter, is modified.

○**Vibrato Depth (Controller number 77)**

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Depth Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* LFO Depth, a Tone parameter, is modified.

○**Vibrato Delay (Controller number 78)**

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Delay value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* LFO Delay, a Tone parameter, is modified.

○**Portamento control (Controller number 84)**

Status	2nd byte	3rd byte
BnH	54H	kkH

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

* A Note-on received immediately after a Portamento Control message will change continuously in pitch, starting from the pitch of the Source Note Number.
* If a voice is already sounding for a note number identical to the Source Note Number, this voice will continue sounding (i.e., legato) and will, when the next Note-on is received, smoothly change to the pitch of that Note-on.

* The rate of the pitch change caused by Portamento Control is determined by the Portamento Time value.

○**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 = Reverb Send Level: 00H - 7FH (0 - 127)

* Reverb Send Level, a Part parameter, is modified.

○**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 = Chorus Send Level: 00H - 7FH (0 - 127)

* Chorus Send Level, a Part parameter, is modified.

○**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

<<< 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.

This device receives the following RPNs.

RPN MSB LSB	Data entry MSB LSB	Explanation
00H 00H	mmH llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: ignored (processed as 00H) specify up to 2 octaves in semitone steps * Pitch Bend Range, a Part parameter, is modified.
00H 01H	mmH llH	Master Fine Tuning mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.99 cents) * Fine Tune, a Part parameter, is modified.
00H 02H	mmH llH	Master Coarse Tuning mm: 28H - 40H - 58H (-24 - 0 - +24 semitones) ll: ignored (processed as 00H) * Key Shift, a Part parameter, is modified. However, the setting is disabled if the drum set is already assigned to the Part.
00H 05H	mmH llH	Modulation Depth Range mm, ll: 00 00H - 06 00H (0 - 16384 * 600 / 16384 cent)
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 Tone Change, a Part parameter, is set to OFF.
* 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)	

■Channel Mode Messages

* Not received when Rx Channel, a Part parameter, is set to OFF.

●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)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
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.

●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).

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH
n = MIDI channel number:	0H - FH (ch.1 - ch.16)	
mm=mono number:	00H - 10H (0 - 16)	

* The same processing will be carried out as when All Sounds Off and All Notes Off is received, and the corresponding channel will be set to Mode 4 (M=1) regardless of the value of "mono number".
* Solo Sw, a Part parameter, is switched ON.

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H
n = MIDI channel number:	0H - FH (ch.1 - ch.16)	

* The same processing will be carried out as when All Sounds Off and All Notes Off is received, and the corresponding channel will be set to Mode 3.
* Solo Sw, a Part parameter, is switched OFF.

■System Realtime Message

●Timing Clock

Status
F8H

* Received when Sync Source is MIDI. When received Timing Clock, Arpeggio will played with tempo of intervals of this message.

●Start

Status
FAH

* Received when Sync Source is MIDI. When received this message, Arpeggio will be started from the first.

●Continue

Status
FBH

* Received when Sync Source is MIDI. If received this message when stopped Arpeggio by received "Stop," Arpeggio will be started from continued from the stopped position.

●Stop

Status
FCH

* Received when Sync Source is MIDI. When received this message, Arpeggio will be stopped.

●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 420 ms, 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 RS-5/9 are; Universal Non-realtime System Exclusive messages, Universal Realtime System Exclusive messages, Global Parameter Control, Data Requests (RQ1), and Data Set (DT1).

* Not received when Rx System Exclusive, a System parameter, is set to OFF.

●Universal Non-realtime System Exclusive Messages

○Identity Request Message

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

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH, 7FH)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When this message is received, Identity Reply message (p. 164) will be transmitted.

●System Exclusive messages related to mode settings

○Turn General MIDI 1 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI 1 On)
F7H	EOX (End Of Exclusive)

* When this message is received, GM1-compliant messages will thereafter be accepted, and the tone mapping will conform with GM1 specifications.
* This message causes Bank Select and NRPN not to be received.
* Not received when Rx GM System On, a System parameter, is set to OFF.
* There must be an interval of at least 50 ms between this message and the next message.

○Turn General MIDI 2 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 03H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
03H	Sub ID#2 (General MIDI 2 On)
F7H	EOX (End Of Exclusive)

* When this message is received, GM2-compliant messages will thereafter be accepted, and the tone mapping will conform with GM2 specifications.
* Not received when Rx GM2 System On, a System parameter, is set to OFF.
* There must be an interval of at least 50 ms between this message and the next message.

○Turn General MIDI System Off

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 02H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI message)
02H	Sub ID#2 (General MIDI Off)
F7H	EOX (End of exclusive)

* When this message is received, the device's internal status is reset to its native mode, thus exiting GM mode.
* There must be an interval of at least 50 ms between this message and the next message.

○GS reset

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, 40H, 00H, 7FH, 00H, 41H	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H - 1FH)
42H	Model ID (GS)
12H	Command ID (DT1)
40H	Address MSB
00H	Address
7FH	Address LSB
00H	Data (GS reset)
41H	Checksum
F7H	EOX (End Of Exclusive)

* There must be an interval of at least 50 ms between this message and the next message.

●Universal Realtime System Exclusive Messages

○Master volume

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 01H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control messages)
01H	Sub ID#2 (Master Volume)
llH	Master volume lower byte
mmH	Master volume upper byte
F7H	EOX (End Of Exclusive)

* The lower byte (llH) of Master Volume will be handled as 00H.

○Master Fine Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 03H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
03H	Sub ID#2 (Master Fine Tuning)
llH	Master Fine Tuning LSB
mmH	Master Fine Tuning MSB
F7H	EOX (End Of Exclusive)

mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.9 [cents])

* Master Tune, a System parameter, is modified.

○Master Coarse Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 04H, llH, mmH	F7

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
04H	Sub ID#2 (Master Coarse Tuning)
llH	Master Coarse Tuning LSB
mmH	Master Coarse Tuning MSB
F7H	EOX (End Of Exclusive)

llH: ignored (processed as 00H)
mmH: 28H - 40H - 58H (-24 - 0 - +24 [semitones])

* Master Key Shift, a System parameter, is modified.

●Global Parameter Control

The following parameters for Global Parameter Control are defined in GM2.

○Reverb Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 01H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
01H	Slot path LSB (Effect 0101: Reverb)
ppH	Parameter to be controlled.
vvH	Value for the parameter.
	pp = 0 Reverb Type
	vv = 00H Small Room
	vv = 01H Medium Room
	vv = 02H Large Room
	vv = 03H Medium Hall
	vv = 04H Large Hall
	vv = 08H Plate
	* Reverb Type, a Common parameter, is modified.
	pp = 1 Reverb Time
	vv = 00H - 7FH 0 - 127
	* Reverb Time, a Common parameter, is modified.
F7H	EOX (End Of Exclusive)

○Chorus Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 02H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
02H	Slot path LSB (Effect 0102: Chorus)
ppH	Parameter to be controlled.
vvH	Value for the parameter.
	pp = 0 Chorus Type
	vv = 0 Chorus1
	vv = 1 Chorus2
	vv = 2 Chorus3
	vv = 3 Chorus4
	vv = 4 FB Chorus
	vv = 5 Flanger
	* Chorus Type, a Common parameter, is modified.
	pp = 1 Mod Rate
	vv = 00H - 7FH (0 - 127)
	* Chorus Rate, a Common parameter, is modified.
	pp = 2 Mod Depth
	vv = 00H - 7FH (0 - 127)
	* Chorus Depth, a Common parameter, is modified.
	pp = 3 Feedback
	vv = 00H - 7FH (0 - 127)
	* Chorus Feedback, a Common parameter, is modified.
	pp = 4 Send To Reverb
	vv = 00H - 7FH (0 - 127)
	* Chorus Send To Reverb, a Common parameter, is modified.
F7H	EOX (End Of Exclusive)

○Channel Pressure

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 01H, 0nH, ppH, rrH	7FH

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
01H	Sub ID#2 (Channel Pressure)
0nH	MIDI Channel (00 - 0F)
ppH	Controlled parameter
rrH	Controlled range
	pp = 0 Pitch Control
	rr = 28H - 58H (-24 - +24 [semitones])
	pp = 1 Filter Cutoff Control
	rr = 00H - 7FH (-9600 - +9450 [cents])
	pp = 2 Amplitude Control
	rr = 00H - 7FH (0 - 200%)
	pp = 3 LFO Pitch Depth
	rr = 00H - 7FH (0 - 600 [cents])
	pp = 4 LFO Filter Depth
	rr = 00H - 7FH (0 - 2400 [cents])
	pp = 5 LFO Amplitude Depth
	rr = 00H - 7FH (0 - 100%)
F7H	EOX (End Of Exclusive)

○Controller

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 03H, 0nH, ccH, ppH, rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
03H	Sub ID#2 (Control Change)
0nH	MIDI Channel (00 - 0F)
ccH	Controller number (01 - 1F, 40 - 5F)
ppH	Controlled parameter
rrH	Controlled range
	pp = 0 Pitch Control
	rr = 28H - 58H (-24 - +24 [semitones])
	pp = 1 Filter Cutoff Control
	rr = 00H - 7FH (-9600 - +9450 [cents])
	pp = 2 Amplitude Control
	rr = 00H - 7FH (0 - 200%)
	pp = 3 LFO Pitch Depth
	rr = 00H - 7FH (0 - 600 [cents])
	pp = 4 LFO Filter Depth
	rr = 00H - 7FH (0 - 2400 [cents])
	pp = 5 LFO Amplitude Depth
	rr = 00H - 7FH (0 - 100%)
F7H	EOX (End Of Exclusive)

○Scale/Octave Tuning Adjust

Status	Data byte	Status
F0H	7EH, 7FH, 08H, 08H, ffH, ggH, hhH, ssH...	F7

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
08H	Sub ID#1 (MIDI Tuning Standard)
08H	Sub ID#2 (scale/octave tuning 1-byte form)
ffH	Channel/Option byte 1
	bits 0 to 1 = channel 15 to 16
	bit 2 to 6 = Undefined
ggH	Channel byte 2
	bits 0 to 6 = channel 8 to 14
hhH	Channel byte 3
	bits 0 to 6 = channel 1 to 7
ssH	12 byte tuning offset of 12 semitones from C to B
	00H = -64 [cents]
	40H = 0 [cents] (equal temperament)
	7FH = +63 [cents]
F7H	EOX (End Of Exclusive)

○Key-based Instrument Controllers

Status	Data byte	Status
F0H	7FH, 7FH, 0AH, 01H, 0nH, kkH, nnH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
0AH	Sub ID#1 (Key-Based Instrument Control)
01H	Sub ID#2 (Controller)
0nH	MIDI Channel (00 - 0F)
kkH	Key Number
nnH	Control Number
vvH	Value
	nn = 07H Level
	vv = 00H - 7FH (0 - 200%) (Relative)
	* Level, a Drum Set parameter, is modified.
	nn = 0AH Pan
	vv = 00H - 7FH (Left - Right) (Absolute)
	* Pan, a Drum Set parameter, is modified.
	nn = 5BH Reverb Send
	vv = 00H - 7FH (0 - 127) (Absolute)
	* Reverb Send, a Drum Set parameter, is modified.
	nn = 5D Chorus Send
	vv = 00H - 7FH (0 - 127) (Absolute)
:	:
F7	EOX (End Of Exclusive)

●Data transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.

The model ID of the exclusive messages used by this instrument is 00H 3CH.

○Request data 1 (RQ1)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested.

When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	Data byte	Status
F0H	41H, dev, 00H, 3CH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (RS-5/9)
3CH	model ID #2 (RS-5/9)
11H	command ID (RQ1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
ssH	size MSB
ttH	size
uuH	size
vvH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in "Parameter Address Map" (p. 165).
* For the checksum, refer to (p. 170).

○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, 10H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (RS-5/9)
3CH	model ID #2 (RS-5/9)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
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 "Parameter Address Map" (p. 165).
* 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 (p. 170)

2. Data Transmission

■Channel Voice Messages

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 0CH - 78H (12 - 120)
vv = note off velocity: 00H - 7FH (0 - 127)

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 0CH - 78H (12 - 120)
vv = note on velocity: 01H - 7FH (1 - 127)

●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)

* Sent when the tones are switched using the panel controls, but not sent when the System parameter Tx Bank Select is set to OFF.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to MODULATION.

○Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to PORTAMENTO TIME.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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

* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to VOLUME or UP-LO BALANCE.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to PAN.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to EXPRESSION.

○Effect Control 1 (Controller number 12)

Status	2nd byte	3rd byte
BnH	0CH	vvH

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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to MFX PARAMETER 1.

○Effect Control 2 (Controller number 13)

Status	2nd byte	3rd byte
BnH	0DH	vvH

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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to MFX PARAMETER 2.

○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) 0-63 = OFF, 64-127 = ON

* Sent when the HOLD pedal is operated with the Common parameter Arpeggio Switch set to OFF.

○Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to PORTAMENTO.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to SOSTENUTO.

○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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to SOFT.

○Hold 2 (Controller number 69)

Status	2nd byte	3rd byte
BnH	45H	vvH

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

* Sent when the Panic function is activated.

○Resonance (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Resonance value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to RESONANCE.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Release Time value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to RELEASE TIME.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Attack time value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to ATTACK TIME.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Cutoff value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to CUTOFF.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Decay Time (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Decay Time value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to DECAY TIME.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Vibrato Rate (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Rate value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to LFO RATE.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Vibrato Depth (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Depth Value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to LFO DEPTH.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Vibrato Delay (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Vibrato Delay value (relative change):   00H - 40H - 7FH (-64 - 0 - +63)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to LFO DELAY.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

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

○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 = Reverb Send Level: 00H - 7FH (0 - 127)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to REV SEND LEVEL.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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 = Chorus Send Level: 00H - 7FH (0 - 127)

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to CHO SEND LEVEL.
* This message is transmitted when "Send GM/GM2 Setup" is executed.

○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

* This message is transmitted when "Send GM/GM2 Setup" is executed.

<<< 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.

This device transmits the following RPNs.

RPN MSB LSB	Data entry MSB LSB	Explanation
00H 00H	mmH llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: 00H
00H 01H	mmH llH	Master Fine Tuning mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.99 cents)
00H 02H	mmH llH	Master Coarse Tuning mm: 28H - 40H - 58H (-24 - 0 - +24 semitones) ll: 00H
7FH 7FH	--- ---	RPN null Set condition where RPN and NRPN are unspecified. Settings already made will not change. mm, ll: ignored

MIDI Implementation

●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)

* This message is transmitted when tone change is made on the panel or "Send GM/GM2 Setup" is executed.

●Channel Pressure

Status	2nd byte
DnH	vvH

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

* Sent when the Common parameter Modulation/Pedal/C1-C4 Assign is set to AFTERTOUCH.

●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)

■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)

* Sent when the Panic function is activated.

●Reset All Controllers (Controller number 121)

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

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

* Sent when the Panic function is activated.

■System Realtime Message

●Active sensing

Status
FEH

* This will be transmitted constantly at intervals of approximately 250ms.

■System exclusive messages

The System Exclusive Messages transmitted by the RS-5/9 are; Universal Non-realtime System Exclusive messages and Data Set (DT1).

●Universal Non-realtime System Exclusive Message

○Identity Reply Message (RS-5)

Receiving Identity Request Message, the RS-5 send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 3CH, 01H,	F7H
	00H, 00H, 00H, 01H, 00H, 00H	

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
3CH 01H	Device family code (RS-5)
00H 00H	Device family number code (RS-5)
00H 01H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

○Identity Reply Message (RS-9)

Receiving Identity Request Message, the RS-9 send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 3CH, 01H,	F7H
	00H, 00H, 01H, 01H, 00H, 00H	

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
3CH 01H	Device family code (RS-9)
00H 00H	Device family number code (RS-9)
01H 01H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

○Turn General MIDI 1 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI 1 On)
F7H	EOX (End Of Exclusive)

* This message is transmitted when "Send General MIDI 1 Setup" is executed.

○Turn General MIDI 2 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 03H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
03H	Sub ID#2 (General MIDI 2 On)
F7H	EOX (End Of Exclusive)

* This message is transmitted when "Send General MIDI 2 Setup" is executed.

●Data transmission

○Data set 1 (DT1)

Status	Data byte	Status
F0H	41H, dev, 00H, 3CH, 12H, aaH, bbH, F7H	
	ccH, ddH, eeH, ... ffH, sum	

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H - 1FH)
00H	Model ID #1 (RS-5/9)
3CH	Model ID #2 (RS-5/9)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
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 "Parameter Address Map" (p. 165).
* 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 (p. 170)

3. Parameter Address Map

RS-5/9 (Model ID=00H 3CH)

* Data for addresses marked with # are transmitted after separation into two bytes. If the original data's most significant bit is 1, 01H and the remaining seven bits are transmitted as is. When the most significant bit is 0, 00H and the remaining seven bits are transmitted as is.

For example, if the original data is BCH, since BCH is expressed in binary notation as 10111100, 01H is sent in the first byte. In the next byte, the remaining 0111100 (or 3CH) is sent as is. However, during reception, the data is ignored if the two bytes are not received together.

```
+----------------+--------------------------------------------------------+
| Start          |                                                        |
|      Address   |                    Description                         |
|================|========================================================|
| 00 00 00 00    | System Setup                                           |
+----------------+--------------------------------------------------------+
| 01 00 00 00    | Temporary Performance                                  |
+----------------+--------------------------------------------------------+
| 02 00 00 00    | Temporary Tone (Part 1)                                |
| 02 01 00 00    | Temporary Tone (Part 2)                                |
| :              |                                                        |
| 02 0F 00 00    | Temporary Tone (Part 16)                               |
+----------------+--------------------------------------------------------+
| 03 00 00 00    | Temporary DrumSet 1                                    |
| 03 01 00 00    | Temporary DrumSet 2                                    |
+----------------+--------------------------------------------------------+
| 04 00 00 00    | User Performance 1                                     |
| 04 01 00 00    | User Performance 2                                     |
| :              | :                                                      |
| 04 7F 00 00    | User Performance 128                                   |
+----------------+--------------------------------------------------------+
| 05 00 00 00    | User Tone 1                                            |
| 05 01 00 00    | User Tone 2                                            |
| :              | :                                                      |
| 05 7F 00 00    | User Tone 128                                          |
+----------------+--------------------------------------------------------+
| 06 00 00 00    | User DrumSet 1                                         |
| 06 01 00 00    | User DrumSet 2                                         |
+----------------+--------------------------------------------------------+
```

■1. System Setup

```
+----------------+----------------------------------------------------------------+
| Offset         |                                                                |
|     Address    |                       Description                              |
|================|================================================================|
|       00 00    | 0000 000a | Bank Select Transmit Switch             0 - 1         |
|                |                                               (OFF, ON)       |
|       00 01    | 0aaa aaaa | Master Key Shift                        40 - 88        |
|                |                                               (-24 - +24)     |
| #     00 02    | 0000 aaaa | Master Tune                             24 - 2024      |
|                | 0bbb bbbb |                                        (415.3 - 466.2)  |
|       00 04    | 0000 000a | Control Pedal Polarity                  0 - 1         |
|                |                                            (NORMAL, REVERSE)   |
|       00 05    | 0000 000a | Hold Pedal Polarity                     0 - 1         |
|                |                                            (NORMAL, REVERSE)   |
|       00 06    | 0000 000a | MFX Master Switch                       0 - 1         |
|                |                                               (OFF, ON)       |
|       00 07    | 0000 000a | Chorus Master Switch                    0 - 1         |
|                |                                               (OFF, ON)       |
|       00 08    | 0000 000a | Reverb Master Switch                    0 - 1         |
|                |                                               (OFF, ON)       |
|       00 09    | 0000 000a | Favorite Performance 1 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0A    | 0000 000a | Favorite Performance 2 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0B    | 0000 000a | Favorite Performance 3 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0C    | 0000 000a | Favorite Performance 4 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0D    | 0000 000a | Favorite Performance 5 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0E    | 0000 000a | Favorite Performance 6 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 0F    | 0000 000a | Favorite Performance 7 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 10    | 0000 000a | Favorite Performance 8 Group            0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 11    | 0aaa aaaa | Favorite Performance 1 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 12    | 0aaa aaaa | Favorite Performance 2 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 13    | 0aaa aaaa | Favorite Performance 3 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 14    | 0aaa aaaa | Favorite Performance 4 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 15    | 0aaa aaaa | Favorite Performance 5 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 16    | 0aaa aaaa | Favorite Performance 6 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 17    | 0aaa aaaa | Favorite Performance 7 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 18    | 0aaa aaaa | Favorite Performance 8 Number           0 - 127       |
|                |                                               (1 - 128)       |
|       00 19    | 0000 000a | Current Performance Group               0 - 1         |
|                |                                             (USER, PRESET)     |
|       00 1A    | 0aaa aaaa | Current Performance Number              0 - 127       |
|                |                                               (1 - 128)       |
|================|================================================================|
| 00 00 00 1B    | Total Size                                                     |
+----------------+----------------------------------------------------------------+
```

■2. Performance

```
+----------------+----------------------------------------------------------------+
| Offset         |                                                                |
|     Address    |                       Description                              |
|================|================================================================|
|       00 00    | Performance Common                                             |
|       10 00    | Performance Part 1                                             |
|       11 00    | Performance Part 2                                             |
|       :        | :                                                              |
|       1F 00    | Performance Part 16                                            |
+----------------+----------------------------------------------------------------+
```

●2-1. Performance Common

Offset Address		Description	
00 00	0aaa aaaa	Performance Name 1	32 – 125 (ASCII)
00 01	0aaa aaaa	Performance Name 2	32 – 125 (ASCII)
00 02	0aaa aaaa	Performance Name 3	32 – 125 (ASCII)
00 03	0aaa aaaa	Performance Name 4	32 – 125 (ASCII)
00 04	0aaa aaaa	Performance Name 5	32 – 125 (ASCII)
00 05	0aaa aaaa	Performance Name 6	32 – 125 (ASCII)
00 06	0aaa aaaa	Performance Name 7	32 – 125 (ASCII)
00 07	0aaa aaaa	Performance Name 8	32 – 125 (ASCII)
00 08	0aaa aaaa	Performance Name 9	32 – 125 (ASCII)
00 09	0aaa aaaa	Performance Name 10	32 – 125 (ASCII)
00 0A	0aaa aaaa	Performance Name 11	32 – 125 (ASCII)
00 0B	0aaa aaaa	Performance Name 12	32 – 125 (ASCII)
00 0C	0000 0aaa	Chorus Type	0 – 7 (CHORUS1, ..., SHORT DELAY(FB))
00 0D	0000 0aaa	Chorus Pre LPF	0 – 7 (0 – 7)
00 0E	0aaa aaaa	Chorus Level	0 – 127 (0 – 127)
00 0F	0aaa aaaa	Chorus Feedback	0 – 127 (0 – 127)
00 10	0aaa aaaa	Chorus Delay	0 – 127 (0 – 127)
00 11	0aaa aaaa	Chorus Rate	0 – 127 (0 – 127)
00 12	0aaa aaaa	Chorus Depth	0 – 127 (0 – 127)
00 13	0aaa aaaa	Chorus Send Level to Reverb	0 – 127 (0 – 127)
00 14	0000 0aaa	Reverb Type	0 – 7 (ROOM1, ..., PANNING DELAY)
00 15	0000 0aaa	Reverb Charactor	0 – 7 (0 – 7)
00 16	0000 0aaa	Reverb Pre LPF	0 – 7 (0 – 7)
00 17	0aaa aaaa	Reverb Level	0 – 127 (0 – 127)
00 18	0aaa aaaa	Reverb Time	0 – 127 (0 – 127)
00 19	0aaa aaaa	Reverb Delay Feedback	0 – 127 (0 – 127)
00 1B	0000 00aa	MFX Source	0 – 2 (UPPER, LOWER, PERFORM)
00 1C	00aa aaaa	MFX Type	0 – 42 (THROUGH, ..., SLICER)
00 1D	0aaa aaaa	MFX Parameter 1	0 – 127 (0 – 127)
00 1E	0aaa aaaa	MFX Parameter 2	0 – 127 (0 – 127)
00 1F	0aaa aaaa	MFX Parameter 3	0 – 127 (0 – 127)
00 20	0aaa aaaa	MFX Parameter 4	0 – 127 (0 – 127)
00 21	0aaa aaaa	MFX Parameter 5	0 – 127 (0 – 127)
00 22	0aaa aaaa	MFX Parameter 6	0 – 127 (0 – 127)
00 23	0aaa aaaa	MFX Parameter 7	0 – 127 (0 – 127)
00 24	0aaa aaaa	MFX Parameter 8	0 – 127 (0 – 127)
00 25	0aaa aaaa	MFX Parameter 9	0 – 127 (0 – 127)
00 26	0aaa aaaa	MFX Parameter 10	0 – 127 (0 – 127)
00 27	0aaa aaaa	MFX Parameter 11	0 – 127 (0 – 127)
00 28	0aaa aaaa	MFX Parameter 12	0 – 127 (0 – 127)
00 29	0aaa aaaa	MFX Parameter 13	0 – 127 (0 – 127)
00 2A	0aaa aaaa	MFX Parameter 14	0 – 127 (0 – 127)
00 2B	0aaa aaaa	MFX Parameter 15	0 – 127 (0 – 127)
00 2C	0aaa aaaa	MFX Parameter 16	0 – 127 (0 – 127)
00 2D	0aaa aaaa	MFX Parameter 17	0 – 127 (0 – 127)
00 2E	0aaa aaaa	MFX Parameter 18	0 – 127 (0 – 127)
00 2F	0aaa aaaa	MFX Parameter 19	0 – 127 (0 – 127)
00 30	0aaa aaaa	MFX Parameter 20	0 – 127 (0 – 127)
00 31	0aaa aaaa	MFX Send Level to Reverb	0 – 127 (0 – 127)
00 32	0aaa aaaa	MFX Send Level to Chorus	0 – 127 (0 – 127)
00 33	0000 aaaa	Transmit Channel	0 – 16 (1 – 16, PART)
00 34	0aaa aaaa	Transpose	28 – 100 (-36 – +36)
00 35	0aaa aaaa	Split Point	0 – 127 (C-1 – G9)
00 36	0000 aaaa	Upper Part	0 – 15 (PART1 – PART16)
00 37	0000 aaaa	Lower Part	0 – 15 (PART1 – PART16)
00 38	000a aaaa	Modulation Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 39	000a aaaa	Control Pedal Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 3A	000a aaaa	C1 Knob Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 3B	000a aaaa	C2 Knob Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 3C	000a aaaa	C3 Knob Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 3D	000a aaaa	C4 Knob Assign	0 – 21 (MODULATION, ...,AFTERTOUCH)
00 3E	00aa aaaa	Arpeggio Style	0 – 44 (1/4, ..., LIMITLESS)
00 3F	00aa aaaa	Arpeggio Motif	0 – 37 (SINGLE UP, ..., BASS+UP+TOP)
00 40	0aaa aaaa	Arpeggio Beat Pattern	0 – 114 (1/4, ..., HOUSE2)
# 00 41	0000 000a 0bbb bbbb	Arpeggio Tempo	20 – 250 (20 – 250[bpm])
00 43	0000 0aaa	Arpeggio Octave Range	0 – 6 (-3 – +3)
00 44	0aaa aaaa	Arpeggio Key Velocity	0 – 127 (0 – 127)
00 45	0aaa aaaa	Arpeggio Shuffle Rate	50 – 90 (50 –90[%])
00 46	0aaa aaaa	Arpeggio Accent Rate	0 – 100 (0 – 100[%])
00 47	0000 000a	Arpeggio Sync Source	0 – 1 (INT, MIDI)
00 48	0000 000a	Arpeggio Switch	0 – 1 (OFF, ON)
00 49	0000 000a	Transpose Switch	0 – 1 (OFF, ON)
00 4A	0000 00aa	Keyboard Mode	0 – 2 (SINGLE, SPLIT, DUAL)
00 00 00 4B		Total Size	

●2-2. Performance Part

Offset Address		Description	
00 00	0000 00aa	Tone Group	0 – 2 (USER, PRESET, GM)
# 00 01	0000 000a 0aaa aaaa	Tone Number	0 – 255 (1 – 256)
00 03	0aaa aaaa	Level	0 – 127 (0 – 127)
00 04	0aaa aaaa	Pan	0 – 127 (RANDOM, L63 – 63R)
00 05	0aaa aaaa	Chorus Send Level	0 – 127 (0 – 127)
00 06	0aaa aaaa	Reverb Send Level	0 – 127 (0 – 127)
00 07	0000 000a	MFX Switch	0 – 1 (OFF, ON)
00 08	000a aaaa	Receive Channel	0 – 16 (1 – 16, OFF)
00 09	0000 000a	Tone Change Receive Switch	0 – 1 (OFF, ON)
00 0A	0aaa aaaa	Key Shift	40 – 88 (-24 – +24)
# 00 0B	0000 000a 0bbb bbbb	Fine Tune	28 – 228 (-100 – +100[cent])
00 0D	0aaa aaaa	Scale Tune C	0 – 127 (-64 – +63)
00 0E	0aaa aaaa	Scale Tune C#	0 – 127 (-64 – +63)
00 0F	0aaa aaaa	Scale Tune D	0 – 127 (-64 – +63)
00 10	0aaa aaaa	Scale Tune D#	0 – 127 (-64 – +63)
00 11	0aaa aaaa	Scale Tune E	0 – 127 (-64 – +63)
00 12	0aaa aaaa	Scale Tune F	0 – 127 (-64 – +63)
00 13	0aaa aaaa	Scale Tune F#	0 – 127 (-64 – +63)
00 14	0aaa aaaa	Scale Tune G	0 – 127 (-64 – +63)
00 15	0aaa aaaa	Scale Tune G#	0 – 127 (-64 – +63)
00 16	0aaa aaaa	Scale Tune A	0 – 127 (-64 – +63)
00 17	0aaa aaaa	Scale Tune A#	0 – 127 (-64 – +63)
00 18	0aaa aaaa	Scale Tune B	0 – 127 (-64 – +63)
00 19	0000 000a	Solo Switch	0 – 1 (OFF, ON)
00 1A	0000 000a	Portamento Switch	0 – 1 (OFF, ON)
00 1B	0aaa aaaa	Portamento Time	0 – 127 (0 – 127)
00 1C	0aaa aaaa	Velocity Sense Depth	0 – 127 (0 – 127)
00 1D	0aaa aaaa	Velocity Sense Offset	0 – 127 (0 – 127)
00 1E	0aaa aaaa	Pitch Bend Range	64 – 88 (0 – 24)
00 1F	000a aaaa	Voice Reserve	0 – 64 (0 – 64)
00 20	0000 00aa	Tone Type	0 – 2 (TONE, DRUM1, DRUM2)
00 00 00 21		Total Size	

■3. Tone

Offset Address		Description	
00 00	0000 00aa	Original Group	1 – 2 (PRESET, GM)
# 00 01	0000 000a 0aaa aaaa	Original Number	0 – 255 (1 – 256)
00 04	0aaa aaaa	Tone Name 1	32 – 125 (ASCII)
00 05	0aaa aaaa	Tone Name 2	32 – 125 (ASCII)
00 06	0aaa aaaa	Tone Name 3	32 – 125 (ASCII)
00 07	0aaa aaaa	Tone Name 4	32 – 125 (ASCII)
00 08	0aaa aaaa	Tone Name 5	32 – 125 (ASCII)
00 09	0aaa aaaa	Tone Name 6	32 – 125 (ASCII)
00 0A	0aaa aaaa	Tone Name 7	32 – 125 (ASCII)
00 0B	0aaa aaaa	Tone Name 8	32 – 125 (ASCII)
00 0C	0aaa aaaa	Tone Name 9	32 – 125 (ASCII)
00 0D	0aaa aaaa	Tone Name 10	32 – 125 (ASCII)
00 0E	0aaa aaaa	Tone Name 11	32 – 125 (ASCII)
00 0F	0aaa aaaa	Tone Name 12	32 – 125 (ASCII)
00 10	00aa aaaa	MFX Type	0 – 42 (THROUGH, ..., SLICER)
00 11	0aaa aaaa	MFX Parameter 1	0 – 127 (0 – 127)
00 12	0aaa aaaa	MFX Parameter 2	0 – 127 (0 – 127)
00 13	0aaa aaaa	MFX Parameter 3	0 – 127 (0 – 127)
00 14	0aaa aaaa	MFX Parameter 4	0 – 127 (0 – 127)

Offset Address	Data	Description	Value
00 15	0aaa aaaa	MFX Parameter 5	0 - 127 (0 - 127)
00 16	0aaa aaaa	MFX Parameter 6	0 - 127 (0 - 127)
00 17	0aaa aaaa	MFX Parameter 7	0 - 127 (0 - 127)
00 18	0aaa aaaa	MFX Parameter 8	0 - 127 (0 - 127)
00 19	0aaa aaaa	MFX Parameter 9	0 - 127 (0 - 127)
00 1A	0aaa aaaa	MFX Parameter 10	0 - 127 (0 - 127)
00 1B	0aaa aaaa	MFX Parameter 11	0 - 127 (0 - 127)
00 1C	0aaa aaaa	MFX Parameter 12	0 - 127 (0 - 127)
00 1D	0aaa aaaa	MFX Parameter 13	0 - 127 (0 - 127)
00 1E	0aaa aaaa	MFX Parameter 14	0 - 127 (0 - 127)
00 1F	0aaa aaaa	MFX Parameter 15	0 - 127 (0 - 127)
00 20	0aaa aaaa	MFX Parameter 16	0 - 127 (0 - 127)
00 21	0aaa aaaa	MFX Parameter 17	0 - 127 (0 - 127)
00 22	0aaa aaaa	MFX Parameter 18	0 - 127 (0 - 127)
00 23	0aaa aaaa	MFX Parameter 19	0 - 127 (0 - 127)
00 24	0aaa aaaa	MFX Parameter 20	0 - 127 (0 - 127)
00 25	0aaa aaaa	MFX Send Level to Reverb	0 - 127 (0 - 127)
00 26	0aaa aaaa	MFX Send Level to Chorus	0 - 127 (0 - 127)
00 27	0aaa aaaa	LFO Rate	0 - 127 (-64 - +63)
00 28	0aaa aaaa	LFO Depth	0 - 127 (-64 - +63)
00 29	0aaa aaaa	LFO Delay	0 - 127 (-64 - +63)
00 2A	0000 000a	LFO Filter Switch	0 - 1 (OFF, ON)
00 2B	0aaa aaaa	Cutoff Frequency	0 - 127 (-64 - +63)
00 2C	0aaa aaaa	Resonance	0 - 127 (-64 - +63)
00 2D	0aaa aaaa	Attack Time	0 - 127 (-64 - +63)
00 2E	0aaa aaaa	Decay Time	0 - 127 (-64 - +63)
00 2F	0aaa aaaa	Release Time	0 - 127 (-64 - +63)
00 00 00 30	Total Size		

■4. DrumSet

Offset Address	Data	Description	Value
00 00	0000 00aa	Original Group	1 - 2 (PRESET, GM)
00 01	0000 aaaa	Original Number	0 - 10 (1 - 11)
00 02	0aaa aaaa	DrumSet Name 1	32 - 125 (ASCII)
00 03	0aaa aaaa	DrumSet Name 2	32 - 125 (ASCII)
00 04	0aaa aaaa	DrumSet Name 3	32 - 125 (ASCII)
00 05	0aaa aaaa	DrumSet Name 4	32 - 125 (ASCII)
00 06	0aaa aaaa	DrumSet Name 5	32 - 125 (ASCII)
00 07	0aaa aaaa	DrumSet Name 6	32 - 125 (ASCII)
00 08	0aaa aaaa	DrumSet Name 7	32 - 125 (ASCII)
00 09	0aaa aaaa	DrumSet Name 8	32 - 125 (ASCII)
00 0A	0aaa aaaa	DrumSet Name 9	32 - 125 (ASCII)
00 0B	0aaa aaaa	DrumSet Name 10	32 - 125 (ASCII)
00 0C	0aaa aaaa	DrumSet Name 11	32 - 125 (ASCII)
00 0D	0aaa aaaa	DrumSet Name 12	32 - 125 (ASCII)
00 0E	0aaa aaaa	MFX Type	0 - 42 (THROUGH, ..., SLICER)
00 0F	0aaa aaaa	MFX Parameter 1	0 - 127 (0 - 127)
00 10	0aaa aaaa	MFX Parameter 2	0 - 127 (0 - 127)
00 11	0aaa aaaa	MFX Parameter 3	0 - 127 (0 - 127)
00 12	0aaa aaaa	MFX Parameter 4	0 - 127 (0 - 127)
00 13	0aaa aaaa	MFX Parameter 5	0 - 127 (0 - 127)
00 14	0aaa aaaa	MFX Parameter 6	0 - 127 (0 - 127)
00 15	0aaa aaaa	MFX Parameter 7	0 - 127 (0 - 127)
00 16	0aaa aaaa	MFX Parameter 8	0 - 127 (0 - 127)
00 17	0aaa aaaa	MFX Parameter 9	0 - 127 (0 - 127)
00 18	0aaa aaaa	MFX Parameter 10	0 - 127 (0 - 127)
00 19	0aaa aaaa	MFX Parameter 11	0 - 127 (0 - 127)
00 1A	0aaa aaaa	MFX Parameter 12	0 - 127 (0 - 127)
00 1B	0aaa aaaa	MFX Parameter 13	0 - 127 (0 - 127)
00 1C	0aaa aaaa	MFX Parameter 14	0 - 127 (0 - 127)
00 1D	0aaa aaaa	MFX Parameter 15	0 - 127 (0 - 127)
00 1E	0aaa aaaa	MFX Parameter 16	0 - 127 (0 - 127)
00 1F	0aaa aaaa	MFX Parameter 17	0 - 127 (0 - 127)
00 20	0aaa aaaa	MFX Parameter 18	0 - 127 (0 - 127)
00 21	0aaa aaaa	MFX Parameter 19	0 - 127 (0 - 127)
00 22	0aaa aaaa	MFX Parameter 20	0 - 127 (0 - 127)
00 23	0aaa aaaa	MFX Send Level to Reverb	0 - 127

Offset Address	Data	Description	Value
00 24	0aaa aaaa	MFX Send Level to Chorus	(0 - 127) 0 - 127
01 nn	0aaa aaaa	Pitch	(0 - 127) 0 - 127
02 nn	0aaa aaaa	Level	(-60 - +67) 0 - 127
03 nn	0aaa aaaa	Pan	(0 - 127) 0 - 127 (RANDOM, L63 - 63R)
04 nn	0aaa aaaa	Reverb Depth	0 - 127 (0 - 127)
00 00 05 00	Total Size	(nn = 00 - 7F : Note Number)	

MIDI Implementation

■Arpeggio Parameter List

●Arpeggio Style

value	parameter	value	parameter	value	parameter
0	1/ 4	15	HEAVY SLAP	30	SWING WALTZ
1	1/ 6	16	LIGHT SLAP	31	REGGAE
2	1/ 8	17	WALK BASS	32	PERCUSSION
3	1/12	18	RHYTHM GTR A	33	HARP
4	1/16	19	RHYTHM GTR B	34	SHAMISEN
5	1/32	20	RHYTHM GTR C	35	BOUND BALL
6	PORTAMENTO A	21	RHYTHM GTR D	36	RANDOM
7	PORTAMENTO B	22	RHYTHM GTR E	37	BOSSA NOVA
8	GLISSANDO	23	3 FINGER GTR	38	SALSA
9	SEQUENCE A	24	STRUM GTR UP	39	MAMBO
10	SEQUENCE B	25	STRUM GTR DOWN	40	LATIN PERCUSSION
11	SEQUENCE C	26	STRUM GTR U&D	41	SAMBA
12	SEQUENCE D	27	PIANO BACKING	42	TANGO
13	ECHO	28	CLAVI CHORD	43	HOUSE
14	SYNTH BASS	29	WALTZ	44	LIMITLESS

●Arpeggio Motif

value	parameter	value	parameter	value	parameter
0	SINGLE UP	13	GLISSANDO	26	BASS+UP 7
1	SINGLE DOWN	14	CHORD	27	BASS+UP 8
2	SINGLE UP&DOWN	15	BASS+CHORD 1	28	BASS+RANDOM 1
3	SINGLE RANDOM	16	BASS+CHORD 2	29	BASS+RANDOM 2
4	DUAL UP	17	BASS+CHORD 3	30	BASS+RANDOM 3
5	DUAL DOWN	18	BASS+CHORD 4	31	TOP+UP 1
6	DUAL UP&DOWN	19	BASS+CHORD 5	32	TOP+UP 2
7	DUAL RANDOM	20	BASS+UP 1	33	TOP+UP 3
8	TRIPLE UP	21	BASS+UP 2	34	TOP+UP 4
9	TRIPLE DOWN	22	BASS+UP 3	35	TOP+UP 5
10	TRIPLE UP&DOWN	23	BASS+UP 4	36	TOP+UP 6
11	TRIPLE RANDOM	24	BASS+UP 5	37	BASS+UP+TOP
12	NOTE ORDER	25	BASS+UP 6		

●Arpeggio Beat Pattern

value	parameter	value	parameter	value	parameter
0	1/ 4	40	SEQ-A 5	80	STRUM 4
1	1/ 6	41	SEQ-A 6	81	STRUM 5
2	1/ 8	42	SEQ-A 7	82	STRUM 6
3	1/12	43	SEQ-B 1	83	STRUM 7
4	1/16 1	44	SEQ-B 2	84	STRUM 8
5	1/16 2	45	SEQ-B 3	85	REGGAE 1
6	1/16 3	46	SEQ-B 4	86	REGGAE 2
7	1/32 1	47	SEQ-B 5	87	REFRAIN 1
8	1/32 2	48	SEQ-C 1	88	REFRAIN 2
9	1/32 3	49	SEQ-C 2	89	PERC 1
10	PORTA-A 01	50	SEQ-D 1	90	PERC 2
11	PORTA-A 02	51	SEQ-D 2	91	PERC 3
12	PORTA-A 03	52	SEQ-D 3	92	PERC 4
13	PORTA-A 04	53	SEQ-D 4	93	WALKBS
14	PORTA-A 05	54	SEQ-D 5	94	HARP
15	PORTA-A 06	55	SEQ-D 6	95	BOUND
16	PORTA-A 07	56	SEQ-D 7	96	RANDOM
17	PORTA-A 08	57	SEQ-D 8	97	BOSSA NOVA
18	PORTA-A 09	58	ECHO 1	98	SALSA 1
19	PORTA-A 10	59	ECHO 2	99	SALSA 2
20	PORTA-A 11	60	ECHO 3	100	SALSA 3
21	PORTA-B 01	61	MUTE 01	101	SALSA 4
22	PORTA-B 02	62	MUTE 02	102	MAMBO 1
23	PORTA-B 03	63	MUTE 03	103	MAMBO 2
24	PORTA-B 04	64	MUTE 04	104	CLAVE
25	PORTA-B 05	65	MUTE 05	105	REV CLA
26	PORTA-B 06	66	MUTE 06	106	GUIRO
27	PORTA-B 07	67	MUTE 07	107	AGOGO
28	PORTA-B 08	68	MUTE 08	108	SAMBA
29	PORTA-B 09	69	MUTE 09	109	TANGO 1
30	PORTA-B 10	70	MUTE 10	110	TANGO 2
31	PORTA-B 11	71	MUTE 11	111	TANGO 3
32	PORTA-B 12	72	MUTE 12	112	TANGO 4
33	PORTA-B 13	73	MUTE 13	113	HOUSE 1
34	PORTA-B 14	74	MUTE 14	114	HOUSE 2
35	PORTA-B 15	75	MUTE 15		
36	SEQ-A 1	76	MUTE 16		
37	SEQ-A 2	77	STRUM 1		
38	SEQ-A 3	78	STRUM 2		
39	SEQ-A 4	79	STRUM 3		

■Modulation Assign / Control Pedal Assign / Knob Assign Parameter List

value	parameter	value	parameter	value	parameter
0	MODULATION	8	RESONANCE	16	CHO SEND LEVEL
1	PORTAMENTO TIME	9	RELEASE TIME	17	REV SEND LEVEL
2	VOLUME	10	ATTACK TIME	18	UP-LO BALANCE
3	PAN	11	CUTOFF	19	MFX PARAMETER 1
4	EXPRESSION	12	DECAY TIME	20	MFX PARAMETER 2
5	PORTAMENTO	13	LFO RATE	21	AFTERTOUCH
6	SOSTENUTO	14	LFO DEPTH		
7	SOFT	15	LFO DELAY		

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.
* Data marked "nibbled" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16 + b.

<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

<Example 3> What is the decimal expression of the nibbled value 0A 03 09 0D?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16 + 3) x 16 + 9) x 16 + 13 = 41885

<Example 4> What is the nibbled expression of the decimal value 1258?

```
16 ) 1258
16 )   78 ...10
16 )    4 ...14
        0 ...  4
```

Since from the preceding table, 0=00H, 4=04H, 14=0EH, 10=0AH, the answer is 00 04 0E 0AH.

●Examples of actual MIDI messages

<Example 1> 92 3E 5F
9nH 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 (Flute in GS).

<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 GS 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 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 ccH and the data or size is dd ee ffH.

aa + bb + cc + dd + ee + ff = sum
sum / 128 = quotient ... remainder
128 - remainder = checksum

<Example 1> Setting REVERB TYPE of PERFORMANCE COMMON to ROOM 3 (DT1)
According to the "Parameter Address Map" (p. 165), the start address of Temporary Performance is 01 00 00 00H, the offset address of PERFORMANCE COMMON is 00 00H, and the address of REVERB TYPE is 00 14H. Therefore the address of CHORUS TYPE of PERFORMANCE COMMON is;

```
  01 00 00 00H
        00 00H
+)      00 14H
  01 00 00 14H
```

ROOM 3 has the value of 02H.
So the system exclusive message should be sent is;

F0	41	10	00 3C	12	01 00 00 14	02	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status   (2) ID (Roland)   (3) Device ID (17)
(4) Model ID (RS-5/9)   (5) Command ID (DT1)   (6) End of Exclusive

Then calculate the checksum.

01H + 00H + 00H + 14H + 02H = 1 + 0 + 0 + 20 + 2 = 23 (sum)
23 (sum) / 128 = 0 (quotient) ... 23 (remainder)
checksum = 128 - 23 (remainder) = 105 = 69H

This means that F0 41 10 00 3C 12 01 00 00 14 02 69 F7 is the message should be sent.

<Example 2> Getting the data (RQ1) of Performance Part 3 in USER:03
According to the "Parameter Address Map" (p. 165), the start address of USER:03 is 04 02 00 00H, and the offset address of Performance Part 3 is 12 00H.
Therefore the start address of Performance Part 3 in USER:03 is;

```
  04 02 00 00H
+)      12 00H
  04 02 12 00H
```

As the size of Performance Part is 00 00 00 21H, the system exclusive message should be sent is;

F0	41	10	00 3C	11	04 02 12 00	00 00 00 21	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status   (2) ID (Roland)   (3) Device ID (17)
(4) Model ID (RS-5/9)   (5) Command ID (RQ1)   (6) End of Exclusive

Then calculate the checksum.

04H + 02H + 12H + 00H + 00H + 00H + 00H + 21H = 4 + 2 + 18 + 0 + 0 + 0 + 0 + 33 = 57 (sum)
57 (sum) / 128 = 0 (quotient) ... 57 (remainder)
checksum = 128 - 57 (remainder) = 71 = 47H

This means that F0 41 10 00 3C 11 04 02 12 00 00 00 00 21 47 F7 is the message should be sent.

<Example 3> Getting Temporary Performance data (RQ1)
According to the "Parameter Address Map" (p. 165), the start address of Temporary Performance is assigned as following:

01 00 00 00H	Temporary Performance Common
01 00 10 00H	Temporary Performance Part 1
:	
01 00 1F 00H	Temporary Performance Part 16

As the data size of Performance Part is 00 00 00 21H, summation of the size and the start address of Part 16 at Temporary Performance will be;

```
  01 00 1F 00H
+) 00 00 00 21H
  01 00 1F 21H
```

And the size that have to be got should be;

```
  01 00 1F 21H
-) 01 00 00 00H
  00 00 1F 21H
```

Therefore the system exclusive message should be sent is;

F0	41	10	00 3C	11	01 00 00 00	00 00 1F 21	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status   (2) ID (Roland)   (3) Device ID (17)
(4) Model ID (RS-5/9)   (5) Command ID (RQ1)   (6) End of Exclusive

Then calculate the checksum.

01H + 00H + 00H + 00H + 00H + 00H + 1FH + 21H = 1 + 0 + 0 + 0 + 0 + 0 + 31 + 33 = 65 (sum)
65 (sum) / 128 = 0 (quotient) ... 65 (remainder)
checksum = 128 - 65 (remainder) = 63 = 3FH

This means that F0 41 10 00 3C 11 01 00 00 00 00 00 1F 21 3F F7 is the message should be sent.

<Example 4> When Producing the Combined Temporary Performance Data and All Temporary Tone and Drum Set Data (RQ1)

* The data produced is the same as that when transmitting Bulk Dump:Temporary in Utility mode.

According to the "Parameter Address Map" (p. 165), the start address of the above all parameters is assigned as following:

01 00 00 00H	Temporary Performance Common
02 00 00 00H	Temporary Tone (Part 1)
02 01 00 00H	Temporary Tone (Part 2)
:	:
02 0F 00 00H	Temporary Tone (Part 16)
03 00 00 00H	Temporary DrumSet 1
03 01 00 00H	Temporary DrumSet 2

As the data size of Drum Set is 00 00 05 00H, summation of the size and the start address of Temporary DrumSet 2 will be;

```
  03 01 00 00H
+) 00 00 05 00H
  03 01 05 00H
```

And the size that have to be got should be;

```
  03 01 05 00H
-) 01 00 00 00H
  02 01 05 00H
```

Therefore the system exclusive message should be sent is;

F0	41	10	00 3C	11	01 00 00 00	02 01 05 00	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status   (2) ID (Roland)   (3) Device ID (17)
(4) Model ID (RS-5/9)   (5) Command ID (RQ1)   (6) End of Exclusive

Then calculate the checksum.

01H + 00H + 00H + 00H + 02H + 01H + 05H + 00H = 1 + 0 + 0 + 0 + 2 + 1 + 5 + 0 = 9 (sum)
9 (sum) / 128 = 0 (quotient) ... 9 (remainder)
checksum = 128 - 9 (remainder) = 119 = 77H

This means that F0 41 10 00 3C 11 01 00 00 00 02 01 05 00 77 F7 is the message should be sent.

●The Scale Tune Feature

The scale Tune feature allows you to finely adjust the individual pitch of the notes from C through B. Though the settings are made while working with one octave, the fine adjustments will affect all octaves. By making the appropriate Scale Tune settings, you can obtain a complete variety of tuning methods other than equal temperament. As examples, three possible types of scale setting are explained below.

○Equal Temperament

This method of tuning divides the octave into 12 equal parts. It is currently the most widely used form of tuning, especially in occidental music. On RS-5/9, the default settings for the Scale Tune feature produce equal temperament.

○Just Temperament (Tonic C)

The three main chords resound much more beautifully than with equal temperament, but this benefit can only be obtained in one key. If transposed, the chords tend to become ambiguous. The example given involves settings for a key in which C is the keynote.

○Arabian Scale

By altering the setting for Scale Tune, you can obtain a variety of other tunings suited for ethnic music. For example, the settings introduced below will set the unit to use the Arabian Scale.

Example Settings

Note name	Equal Temperament	Just Temperament (Tonic C)	Arabian Scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

The values in the table are given in cents. Convert these values to hexadecimal, and transmit them as Exclusive data.

For example, to set the tune (C-B) of the Part 1 Arabian Scale, send the following data:
F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 76 F7

●ASCII Code Table

Tone Name and Performance Name, etc., of MIDI data are described the ASCII code in the table below.

D	H	Char	D	H	Char	D	H	Char
32	20H	SP	64	40H	@	96	60H	`
33	21H	!	65	41H	A	97	61H	a
34	22H	"	66	42H	B	98	62H	b
35	23H	#	67	43H	C	99	63H	c
36	24H	$	68	44H	D	100	64H	d
37	25H	%	69	45H	E	101	65H	e
38	26H	&	70	46H	F	102	66H	f
39	27H	`	71	47H	G	103	67H	g
40	28H	(	72	48H	H	104	68H	h
41	29H	)	73	49H	I	105	69H	i
42	2AH	*	74	4AH	J	106	6AH	j
43	2BH	+	75	4BH	K	107	6BH	k
44	2CH	,	76	4CH	L	108	6CH	l
45	2DH	-	77	4DH	M	109	6DH	m
46	2EH	.	78	4EH	N	110	6EH	n
47	2FH	/	79	4FH	O	111	6FH	o
48	30H	0	80	50H	P	112	70H	p
49	31H	1	81	51H	Q	113	71H	q
50	32H	2	82	52H	R	114	72H	r
51	33H	3	83	53H	S	115	73H	s
52	34H	4	84	54H	T	116	74H	t
53	35H	5	85	55H	U	117	75H	u
54	36H	6	86	56H	V	118	76H	v
55	37H	7	87	57H	W	119	77H	w
56	38H	8	88	58H	X	120	78H	x
57	39H	9	89	59H	Y	121	79H	y
58	3AH	:	90	5AH	Z	122	7AH	z
59	3BH	;	91	5BH	[	123	7BH	{
60	3CH	<	92	5CH	\	124	7CH		
61	3DH	=	93	5DH	]	125	7DH	}
62	3EH	>	94	5EH	^			
63	3FH	?	95	5FH	_			

D: decimal

H: hexadecimal

"SP" is space.

64 Voice Synthesizer

Model RS-5/9

Date : Oct. 12, 2000

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	1–16	1–16	
	Changed	1–16	1–16	
Mode	Default	Mode 3	Mode 3	* 2
	Messages	X	Mode 3, 4 (M = 1)	
	Altered	**************		
Note Number :	True Voice	0–127 **************	0–127 0–127	
Velocity	Note On	O	O	
	Note Off	O	O	
After Touch	Key's	X	O　　　　*1	
	Channel's	O	O　　　　*1	
Pitch Bend		O	O　　　　*1	
Control Change	0, 32	O　　　　*1	O　　　　*1	Bank select
	1	O	O　　　　*1	Modulation
	5	O	O　　　　*1	Portamento time
	6, 38	O	O　　　　*1	Data entry
	7	O	O　　　　*1	Volume
	10	O	O　　　　*1	Panpot
	11	O	O　　　　*1	Expression
	12	O	O　　　　*1	Effect control 1
	13	O	O　　　　*1	Effect control 2
	64	O	O　　　　*1	Hold 1
	65	O	O　　　　*1	Portamento
	66	O	O　　　　*1	Sostenuto
	67	O	O　　　　*1	Soft
	69	O	X	Hold 2
	71	O	O　　　　*1	Resonance
	72	O	O　　　　*1	Release time
	73	O	O　　　　*1	Attack time
	74	O	O　　　　*1	Cutoff
	75	O	O　　　　*1	Decay time
	76	O	O　　　　*1	Vibrato rate
	77	O	O　　　　*1	Vibrato depth
	78	O	O　　　　*1	Vibrato delay
	84	O	O　　　　*1	Portamento control
	91	O	O (Reverb)　*1	General purpose effects 1
	93	O	O (Chorus)　*1	General purpose effects 3
	98, 99	X	O　　　　*1	NRPN LSB, MSB
	100, 101	O　　　　*3	O　　　　*1	RPN LSB, MSB
Program Change	: True Number	O **************	O　　　　*1 0–127	Program No. 1–128
System Exclusive		O	O　　　　*1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	O　　　　*1	
	: Commands	X	O　　　　*1	
Aux Messages	: All Sound Off	O	O (120, 126, 127)	
	: Reset All Controllers	O	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123–127)	
	: Active Sensing	O	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1. * 3 Transmit data only when using the Setup Send command.		

Mode 1 : OMNI ON, POLY　　　Mode 2 : OMNI ON, MONO　　　　　　　　　　O : Yes
Mode 3 : OMNI OFF, POLY　　　Mode 4 : OMNI OFF, MONO　　　　　　　　　X : No

Specifications

RS-5/9: 64-voice synthesizer (conforms to General MIDI 2 System)

• **Keyboard**

RS-5: 61 keys (with velocity)

RS-9: 88 keys (with velocity)

• **Parts**

16

• **Maximum Polyphony**

64 voices

• **Wave Memory**

32 M bytes (16-bit linear equivalent)

• **Preset Memory**

Tones: 512 (RS-5/9 Original: 256, General MIDI 2: 256)

Performances: 128

Drum Sets: 20 (RS-5/9 Original: 11, General MIDI 2: 9)

• **User Memory**

Tones: 128

Performances: 128

Drum Sets: 2

• **Effects**

Multi-Effects: 42 types

Reverb: 8 types

Chorus: 8 types

• **Arpeggiator**

45 styles

• **Controllers**

Pitch Bend/Modulation Lever

Control Knobs: 6

• **Display**

20 characters, 2 lines (Backlit LCD)

7 segments, 3 characters (LED)

• **Connectors**

Output Jacks (L (MONO), R)

Headphones Jack

MIDI Connectors (IN, OUT, THRU)

Hold Pedal Jack

Control Pedal Jack

• **Power Supply**

DC 9V (AC Adaptor)

• **Current Draw**

600 mA

• **Dimensions**

RS-5: 1033 (W) x 294 (D) x 103 (H) mm

40-11/16 (W) x 11-5/8 (D) x 4-1/16 (H) inches

RS-9: 1395 (W) x 294 (D) x 108 (H) mm

54-15/16 (W) x 11-5/8 (D) x 4-1/4 (H) inches

• **Weight**

RS-5: 6.0 kg / 13 lbs 4 oz (excluding AC adaptor)

RS-9: 10.8kg / 23 lbs 13 oz (excluding AC adaptor)

• **Accessories**

Owner's Manual

AC Adaptor (ACI/ACB Series)

Music Stand / 2 Screws for the music stand (RS-9)

• **Options**

Pedal Switch: DP-2/6

Foot Switch: BOSS FS-5U

Expression Pedal: EV-5

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

Specifications

Index

Memo

Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

AFRICA

EGYPT
Al Fanny Trading Office
P.O. Box 2904,
El Horrieh Heliopolos, Cairo,
EGYPT
TEL: (02) 4185531

REUNION
Maison FO - YAM Marcel
25 Rue Jules Hermann,
Chaudron - BP79 97 491
Ste Clotilde Cedex,
REUNION ISLAND
TEL: 28 29 16

SOUTH AFRICA
That Other Music Shop
(PTY) Ltd.
11 Melle St., Braamfontein,
Johannesbourg
Republic of SOUTH AFRICA

P.O.Box 32918, Braamfontein 2017
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) 674 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,
INDIA
TEL: (022) 498 3079

INDONESIA
PT Citra IntiRama
Jl. Cideng Timur No. 15J-150
Jakarta Pusat
INDONESIA
TEL: (021) 6324170

KOREA
Cosmos Corporation
1461-9, Seocho-Dong,
Seocho Ku, Seoul, KOREA
TEL: (02) 3486-8855

MALAYSIA
Bentley Music SDN BHD
140 & 142, Jalan Bukit Bintang
55100 Kuala Lumpur, MALAYSIA
TEL: (03) 2443333

PHILIPPINES
G.A. Yupangco & Co. Inc.
339 Gil J. Puyat Avenue
Makati, Metro Manila 1200,
PHILIPPINES
TEL: (02) 899 9801

SINGAPORE
Swee Lee Company
150 Sims Drive,
SINGAPORE 387381
TEL: 748-1669

CRISTOFORI MUSIC PTE
LTD
Blk 3014, Bedok Industrial Park E,
#02-2148, SINGAPORE 489980
TEL: 243 9555

TAIWAN
ROLAND TAIWAN
ENTERPRISE CO., LTD.
Room 5, 9fl. No. 112 Chung Shan
N.Road Sec.2, Taipei, TAIWAN,
R.O.C.
TEL: (02) 2561 3339

THAILAND
Theera Music Co. , Ltd.
330 Verng NakornKasem, Soi 2,
Bangkok 10100, THAILAND
TEL: (02) 2248821

VIETNAM
Saigon Music
138 Tran Quang Khai St.,
District 1
Ho Chi Minh City
VIETNAM
TEL: (08) 844-4068

AUSTRALIA/ NEW ZEALAND

AUSTRALIA
Roland Corporation
Australia Pty., Ltd.
38 Campbell Avenue
Dee Why West. NSW 2099
AUSTRALIA
TEL: (02) 9982 8266

NEW ZEALAND
Roland Corporation (NZ) Ltd.
97 Mt. Eden Road, Mt. Eden,
Auckland 3, NEW ZEALAND
TEL: (09) 3098 715

CENTRAL/LATIN AMERICA

ARGENTINA
Instrumentos Musicales S.A.
Florida 656 2nd Floor
Office Number 206A
Buenos Aires
ARGENTINA, CP1005
TEL: (54-11) 4- 393-6057

BRAZIL
Roland Brasil Ltda
Rua San Jose, 780 Sala B
Parque Industrial San Jose
Cotia - Sao Paulo - SP, BRAZIL
TEL: (011) 4615 5666

COSTA RICA
JUAN Bansbach
Instrumentos Musicales
Ave.1. Calle 11, Apartado 10237,
San Jose, COSTA RICA
TEL: (506)258-0211

CHILE
Comercial Fancy II S.A.
Avenida Rancagua #0330
Providencia Santiago, CHILE
TEL: 56-2-373-9100

EL SALVADOR
OMNI MUSIC
75 Avenida Notre YY Alameda,
Juan Pablo 2, No. 4010
San Salvador, EL SALVADOR
TEL: (503) 262-0788

MEXICO
Casa Veerkamp, s.a. de c.v.
Av. Toluca No. 323, Col. Olivar
de los Padres 01780 Mexico D.F.
MEXICO
TEL: (525) 668 04 80

La Casa Wagner de
Guadalajara s.a. de c.v.
Av. Corona No. 202 S.J.
Guadalajara, Jalisco Mexico
C.P.44100 MEXICO
TEL: (3) 613 1414

PANAMA
SUPRO MUNDIAL, S.A.
Boulevard Andrews, Albrook,
Panama City,
REP. DE PANAMA
TEL: (507) 315-0101

PARAGUAY
Distribuidora De
Instrumentos Musicales
J.E. Olear y ESQ. Manduvira
Edeficio, El Dorado Planta Baja
Asuncion PARAGUAY
TEL: 595-21-492147

PERU
VIDEO Broadcast S.A.
Portinari 199 (ESQ. HALS),
San Borja, Lima 41,
REP. OF PERU
TEL: 51-14-758226

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Todo Musica S.A.
Cuareim 1844, Montevideo,
URUGUAY, CP11200
TEL: 5982-924-2335

VENEZUELA
Musicland Digital C.A.
Av. Francisco de Miranda,
Centro Parque de Cristal, Nivel
C2 Local 20 Caracas
VENEZUELA
TEL: (02) 285 9218

EUROPE

AUSTRIA
Roland Austria GES.M.B.H.
Siemensstrasse 4, P.O. Box 74,
A-6063 RUM, AUSTRIA
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BELGIUM/HOLLAND/ LUXEMBOURG
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155, New National Road
26422 Patras, GREECE
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TEL: (23) 511011

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20020 Arese, Milano, ITALY
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Calle Bolivia 239, 08020
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Roland Scandinavia A/S
SWEDISH SALES OFFICE
Danvik Center 28, 2 tr.
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CH-4410 Liestal, SWITZERLAND
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MIDDLE EAST

BAHRAIN
Moon Stores
Bab Al Bahrain Road,
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State of BAHRAIN
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Radex Sound Equipment Ltd.
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Nicosia CYPRUS
TEL: (02) 453 426

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MOCO, INC.
No.41 Nike St.Dr.Shariyati Ave.
Roberoye Cerahe Mirdamad
Tehran, IRAN
TEL: 285 4169

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Sons Ltd.
8 Retzif Ha'aliya Hashnya St.
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Prince Mohammed St. P.O. Box
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Safat KUWAIT
TEL: 5719499

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P.O. Box 16-5857 Gergi Zeidan St.
Chahine Building, Achrafieh
Beirut, LEBANON
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QATAR
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& Stores)
P.O. Box 62,
DOHA QATAR
TEL: 4423-554

SAUDI ARABIA
aDawliah Universal
Electronics APL
Corniche Road, Aldossary Bldg.,
1st Floor
SAUDI ARABIA

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SAUDI ARABIA
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SYRIA
Technical Light & Sound
Center
Khaled Ibn Al Walid St.
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Damascus - SYRIA
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Barkat muzik aletleri ithalat
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As of February 5, 2001 (Roland)

Installing the Music Stand (RS-9 Only)

A music stand is provided with the RS-9. The following describes how to attach and remove the stand.

1

Using the supplied screws, fasten the music stand to the back of the RS-9 as shown at left.

Turn the screws clockwise to tighten them.

2

To remove the music stand, support it with one hand while loosening the screws.

* *When attaching the music stand, support it firmly with one hand to make sure that you do not drop it. Be careful, so you do not get your fingers pinched.*

* *Do not apply excessive force to the front or back of the installed music stand.*

* *Should you remove the screws used for attaching the music stand, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally.*

Roland Corporation