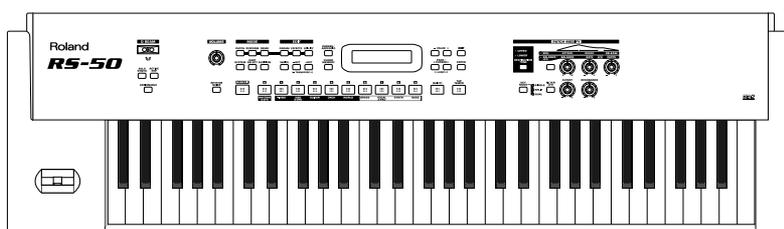# Roland®

GENERAL MIDI 2

RS-50

Owner's Manual

Thank you, and congratulations on your choice of the Roland RS-50.

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" (p. 2–3) and "IMPORTANT NOTES" (p. 4–5). 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.

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 or the power-supply cord has been damaged; or
  - If smoke or unusual odor occurs
  - 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.

....

- DO NOT play a CD-ROM disc on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result.

....

⚠ 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 output plug or the body of the AC adaptor when plugging into, or unplugging from, this unit or an outlet.

....

- At regular intervals, you should unplug the AC adaptor and clean it by using a dry cloth to wipe all dust and other accumulations away from its prongs. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time. Any accumulation of dust between the power plug and the power outlet can result in poor insulation and lead to fire.

....

- 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 output 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 (p. 16).

....

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

....

- Should you remove the ground terminal screw, make sure to put it 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.

- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.

- 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.

- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.

- 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.

Repairs and Data

- Please be aware that all data contained in the unit's memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Additional Precautions

- Never turn off the power while the display indicates "KEEP POWER ON!" If you turn off the power while this message is displayed, the internal user data will be lost.

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

- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory or 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.

- The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes newer sounds), so what you actually see in the display may not always match what appears in the manual.

Handling CD-ROMs

- Unauthorized duplication, reproduction, hiring, and lending of the software included in the applied CD-ROM is prohibited.

- Avoid touching or scratching the shiny underside (encoded surface) of the disc. Damaged or dirty CD-ROM discs may not be read properly. Keep your discs clean using a commercially available CD cleaner.

Contents

Contents

Main Features

A broad range of new, high-quality sounds

Careful attention has been paid to refining the most important sounds for a live keyboard, such as piano, organ, strings, and brass. In addition, the latest cutting-edge sounds are also included.
The General MIDI score conforming to General MIDI /General MIDI 2 is also supported with high-quality sounds.

Quick and easy sound editing

To edit the sounds (patches) of the RS-50, you simply choose from the wide range of "**tones**" (pre-programmed instrumental sounds) and edit them. Editing is easy; you can adjust the brightness (filter), attack and decay, modulation (LFO), and effects, or layer two tones to create a rich sound.

Numerous phrase/arpeggio templates

In addition to an arpeggio function, the instrument also features "phrase templates," which allow you to activate performance techniques geared toward a particular sound as well as typical phrases simply by pressing a key---great tools for music production.

Multi-chord memory function

The Chord Memory function lets you play a registered chord by pressing a single key.
You can register different chord forms to each key, and recall multiple chords together.
Several sets of chord progressions that typically appear in one song have been registered as presets.

Compact and easy to carry

The RS-50 is compact, light, and easy to carry. It's an instrument with great sounds and professional-level functionality that can be easily carried between your bedroom and the stage or studio.

Dedicated sound editor is included

The dedicated sound editing program "**RS Editor**" (Mac and Windows versions on a hybrid CD-ROM) is included, allowing you to use your computer to create and rearrange sounds quickly and easily.

D Beam controller

The **D Beam controller** gives you control over a variety of effects, simply by moving your hand. In conjunction with the visual element, this can be a powerfully impressive addition to a live performance.

Rhythm Guide function

As an alternative to the metronome, you can use more realistic rhythm patterns as enjoyable backing for your playing.

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 (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.

General MIDI 2

The upwardly compatible General MIDI 2 (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.

Panel descriptions

Front panel
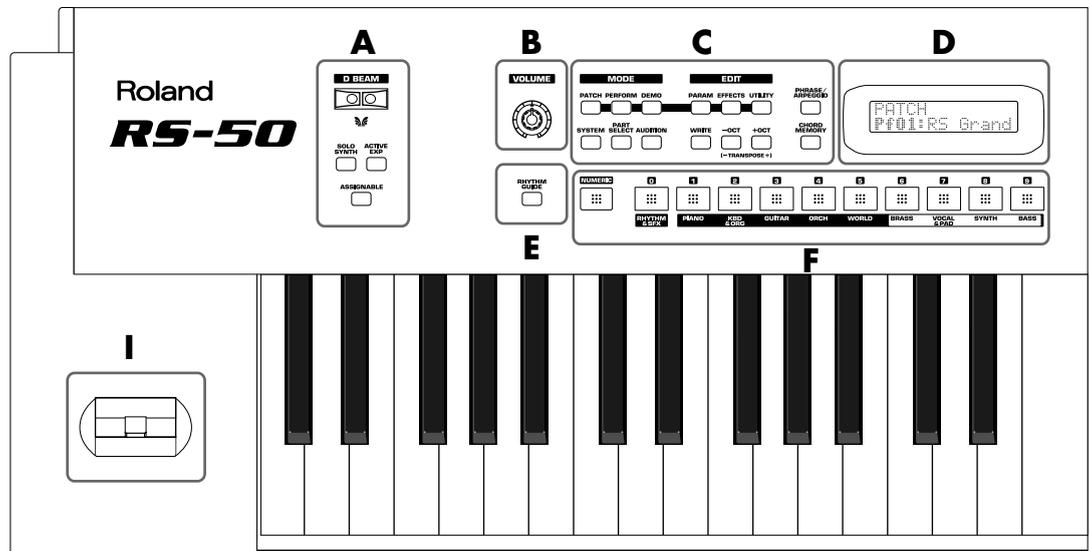
A

D BEAM CONTROLLER

You can apply a variety of effects to sounds simply by moving your hand (p. 31).

[SOLO SYNTH] (Solo Synthesizer) button

You can generate passages that sound as if you are rapidly playing the keyboard.

[ACTIVE EXPRESS] (Active Expression) button

This lets you use the D Beam controller for Active Expression.

[ASSIGNABLE] button

This lets you assign a desired function to the D Beam controller (p. 33).

B

[VOLUME] knob

Adjusts the overall volume that is output from the rear panel OUTPUT jacks and PHONES jack (p. 15).

C

MODE Section

[PATCH] button

Switches the RS-50 into the Patch mode (p. 42).

[PERFORMANCE] button

Switches the RS-50 into the Performance mode (p. 42).

[DEMO] button

Accesses the demo playback function (p. 18).

EDIT Section

[PARAM] (Parameter) button

This button accesses sound or performance settings (parameters). The settings that are accessed will depend on the selected mode (Patch/Performance) or state.

[EFFECTS] button

This button switches effects (MFX, chorus, reverb) on/off, and accesses effect-related settings.

[UTILITY] button

In Patch/Performance modes, this button accesses various utility functions, such as those for copying data or initializing sound generator settings.

Others

[SYSTEM] button

This button accesses settings that affect the entire RS-50, such as tuning, display contrast, and MIDI message reception.

[PART SELECT] button

When this button is lit in Performance mode, you can use the direct access buttons to select a part to play from the keyboard or to edit (p. 43).

[AUDITION] button

You can repeatedly listen to an audition phrase for the currently selected patch (p. 22).
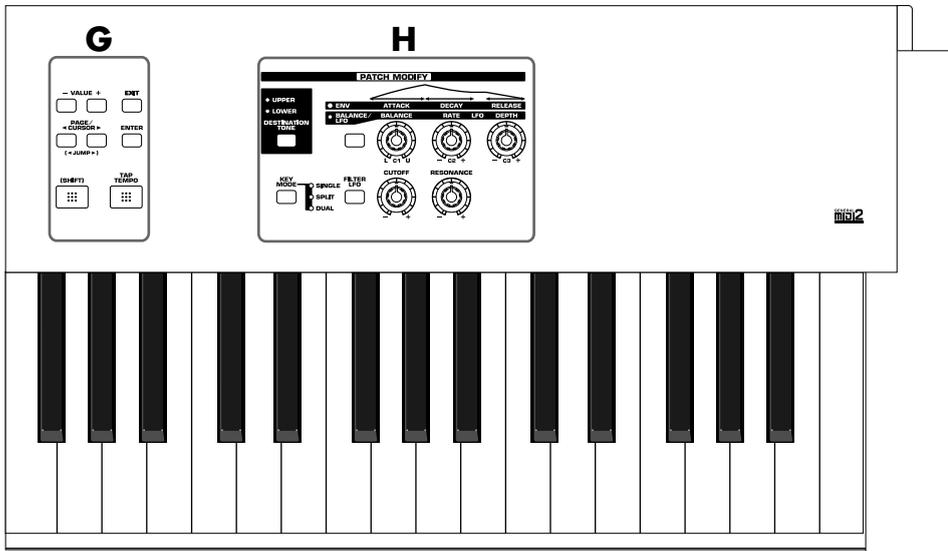
[WRITE] button

Saves patch/performance settings or system settings.

[-/+OCT] (Octave Shift) / [-/+TRANSPOSE] (Transpose) buttons

- /+OCT: These buttons adjust the pitch of the keyboard in octave steps (maximum +/-3 octaves) (p. 30).

- /+TRANSPOSE: Pressing either of these buttons while holding down [SHIFT] allows you to transpose the keyboard in semitone steps (-5–+6) (p. 31).

[PHRASE/ARPEGGIO] button

Switches phrase/arpeggio function on/off. To make settings for the phrase/arpeggio, make this button light and then press [PARAM] (p. 23).

[CHORD MEMORY] button

Switches chord memory function on/off. To make settings for the chord memory function, get this button to light and then press [PARAM] (p. 24).

D

DISPLAY

This displays information regarding the operation you are performing.

E

[RHYTHM GUIDE] button

Switches Rhythm guide function on/off (p. 36).

F

[NUMERIC] button

When this button is lit, the direct access buttons will function as a numeric keypad. This lets you directly input or specify a numerical value for the displayed item (patch number or parameter).

[0]–[9] (DIRECT ACCESS buttons)

In Patch mode, use these buttons to switch between the sound categories printed on the panel (p. 20). In Performance mode, use these buttons to directly select a performance by specifying the lowest digit of the performance number (p. 55). However, if the [NUMERIC] or [PART SELECT] buttons are lit, the [0]–[9] buttons will change to the corresponding function.

G

[VALUE -/+] buttons

Use these buttons to switch the number of an item (patch, performance, various parameters, etc.) in the display, or to increase/decrease a value. While one of these buttons is first held down and the other is pressed, the value then changes rapidly. Or, if you hold down [SHIFT] while using these buttons, the value will change in larger steps.

PAGE/CURSOR [◄]/[►] / JUMP [◄]/[►] buttons

PAGE/CURSOR: Use these buttons to move between pages or to move the cursor (p. 42).

JUMP: In grouped pages, you can hold down [SHIFT] and use these buttons to move between groups (p. 42).

While one of these buttons is first held down and the other is pressed, the page or cursor then moves rapidly.

[EXIT] button

Press this button to return to the main screen of a mode, or when you want to cancel the current operation.

[ENTER] button

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

[SHIFT] button

By holding down this button and pressing another button, you can access a secondary function of that button (printed below the button in square brackets).

[TAP TEMPO] button

Adjusts the tempo according to the timing at which you tap this button. You can also use VALUE [-]/[+] to adjust the tempo if desired (p. 37).

H

PATCH MODIFY section

[DESTINATION TONE] button

Selects either UPPER or LOWER as the tone to be edited.

Patch Modify select button

Selects whether the three knobs located at the right will edit the envelope or the balance and LFO.

• If envelope is selected (ENV indicator lit)

[ATTACK] knob

Adjusts the attack speed of the sound (p. 28).

[DECAY] knob

Adjusts the speed at which the sound decays while you continue holding the key (p. 28).

[RELEASE] knob

Adjusts the length of the release after you take your finger off the key (p. 28).

• If balance/LFO is selected (BALANCE/LFO indicator lit)

[BALANCE] knob

Adjusts the LOWER and UPPER volume balance (p. 26).

[LFO RATE] knob

Adjusts the rate of the LFO effect, such as vibrato (p. 27).

[LFO DEPTH] knob

Adjusts the depth of the LFO effect, such as vibrato (p. 27).

[KEY MODE] button

Switches the Key Modes (p. 44).

[FILTER LFO] button

This determines whether the LFO changes the filter cutoff frequency (ON), or the pitch (OFF) (p. 27).

[CUTOFF] knob

Changes the tone's Cutoff Frequency value (p. 29).

[RESONANCE] knob

Changes the tone's Resonance value (p. 29).

I

Pitch bend/Modulation lever

This allows you to control pitch bend or apply vibrato (p. 29).

Rear panel
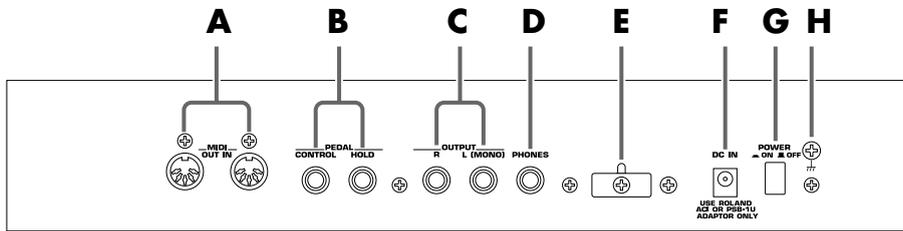
A

MIDI connectors (IN, OUT)

These connectors can be connected to other MIDI devices to receive and transmit MIDI messages (p. 92). 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.

B

PEDAL jacks

CONTROL:

An optional expression pedal (such as the EV-5), pedal switch (the optional DP-2 or DP-8), or foot switch (the optional BOSS FS-5U) can be connected to this jack (p. 14).

HOLD:

An optional pedal switch (such as the DP-2 or DP-8) or foot switch (the optional BOSS FS-5U) can be connected to this jack for use as a hold pedal (p. 14).

MEMO

If you are using DP-8, set the DP-8's function switch to "Switch."

C

OUTPUT jacks

These jacks output stereo (L/R) audio signals to your amp or mixer. For mono output, use the L jack.

D

PHONES jack

This is the jack for connecting headphones (sold separately) (p. 14).

E

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 DC IN jack, anchor the power cord using the cord hook, as shown in the illustration.
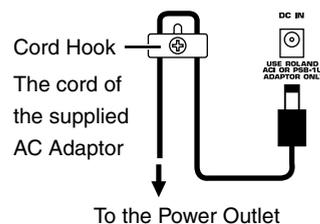
F

DC IN jack

Connect the AC adaptor here (p. 14).
Be sure to use only the supplied AC adaptor.

G

POWER switch

This switch turns the power on/off (p. 15).

H

Ground terminal

Depending on the circumstances of a particular setup, you may experience a discomforting sensation, or perceive that the surface feels gritty to the touch when you touch this device, microphones connected to it, or the metal portions of other objects, such as guitars. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see figure) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

Unsuitable places for connection
*   Water pipes (may result in shock or electrocution)
*   Gas pipes (may result in fire or explosion)
*   Telephone-line ground or lightning rod (may be dangerous in the event of lightning)

Getting ready

Connecting the RS-50 to external equipment

The RS-50 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-50 as a stand-alone device.

Stereo headphones

AC adaptor

to AC power outlet

Audio cable

Pedal switch (DP-2, DP-8) or foot switch (BOSS FS-5U)

Expression pedal (EV-5) or pedal switch

Mixer etc.

Monitor speakers (powered)

Audio set etc.

Power amp

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-50, and then plug its other end into a power outlet.

3. Connect the RS-50 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.

If you want to know how to make the connections with another external device, refer to:

Using the RS-50 to play an external MIDI sound module (p. 93)
Playing the RS-50's sound generator from an external MIDI device (p. 94)
Recording to an external sequencer (p. 96)

Turning on/off the power

Turning on the power

1. Before turning on the RS-50's power, check the following:

- Are all devices connected properly?
- Are the volume controls of the RS-50 and any other connected equipment turned to the minimum position?
- Is the AC adapter correctly connected to the RS-50?

2. Press the power switch on the rear panel of the RS-50 to turn on the power.
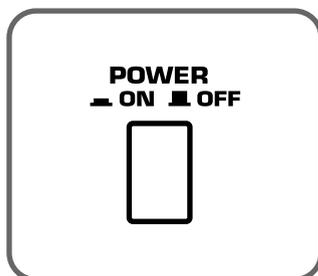
POWER
ON   OFF

3. Turn on the power of the connected audio devices.

4. Play the RS-50's keyboard and gradually raise the volume controls of the RS-50, or the connected audio equipment to an appropriate volume level.

VOLUME
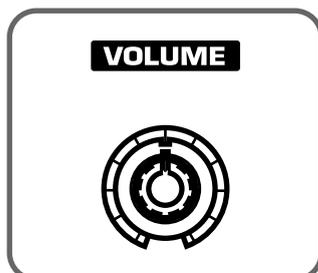
NOTE

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.

NOTE

Turn up the RS-50's volume level carefully. Excessive volume can damage connected audio devices, your hearing, or annoy your neighbors.

Turning off the power

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

- Are the volume controls of the RS-50 and the other connected equipment turned to the minimum position?
- Have you saved the sounds or other data you've created? (p. 48, p. 53, p. 59)

2. Turn off the power for all connected audio devices.

3. Turn off the RS-50's 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.
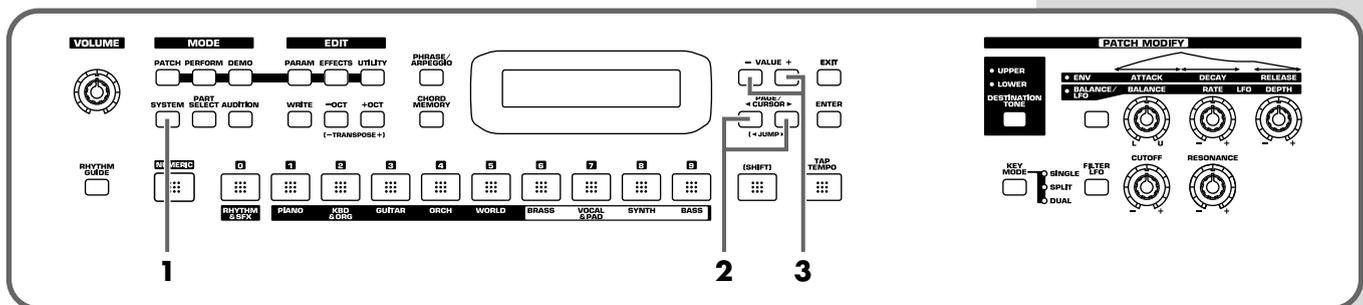
1. Press [SYSTEM] so it is lit.

2. Use PAGE/CURSOR [◄]/[►] to select "LCD Contrast."

```
SYSTEM:GENERAL
LCD Contrast:        5
```

3. Use VALUE [-]/[+] to set the value (1–10).

MEMO

The LCD CONTRAST setting is saved automatically, and is retained even while the power is off.

Reset to default factory settings (Factory Reset)

This restores all data in the RS-50 to the factory-set condition (**Factory Reset**).
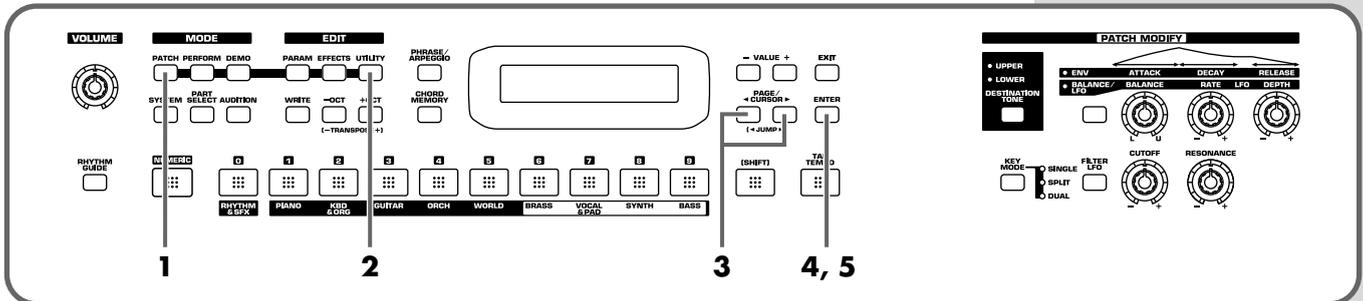
NOTE

Be sure not to turn off the power while Factory Reset is being performed.
If the power is turned off or interrupted while data is being written to memory, the internal data may become corrupted.

1. Press [PATCH] so it is lit and you are in Patch mode.

2. Press [UTILITY] so it is lit.

3. Use PAGE/CURSOR [◄]/[►] to select "5:FACTORY RESET."

```
UTILIMENU     [ENT]
5:FACTORY RESET
```

4. Press [ENTER].

```
FACTORY RESET  [ENT]
   Are you sure?
```

5. Press [ENTER] again to execute the Factory Reset.

When the display indicates "COMPLETED," the factory reset operation has been completed.

NOTE

If there is important data you've created that's stored in the RS-50's internal memory, you must note that all such data will be discarded when a Factory Reset is performed. If you want to keep the existing data, save it using an external sequencer (p. 98).

MEMO

Press [EXIT] to cancel the factory reset.

MEMO

Factory Reset can be executed not only from Patch mode, but also from the Utility functions of Performance mode (p. 61).

Listening to the demo songs

The RS-50 contains Demo songs.
Here's how to listen to the demo songs and experience the superb sounds and effects of the RS-50.
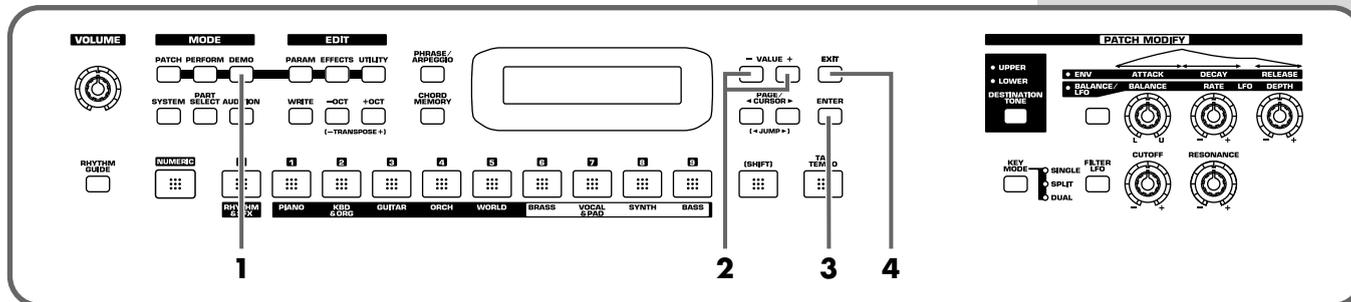
1. Press [DEMO].

```
        << DEMO >>[ENT]
           All Songs
```

2. Use 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 song is played back repeatedly.

4. Press [EXIT] to stop playback.

   To return the keyboard to performance mode, press [EXIT] again or press [DEMO] again so the indicator goes out.

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

NOTE
- Unsaved settings changes may be lost when you start Demo Play. Carry out the write procedure as required to save such data before listening to the demo songs (p. 48, p. 53, p. 59).
- All rights reserved. Unauthorized use of this material for purposes other than private, personal enjoyment is a violation of applicable laws.
- No data for the music that is played will be output from MIDI OUT.

Demo songs list

The RS-50 comes with 3 demos.

"T"
© Roland Corporation

Short, sweet
© Roland Corporation

Catch Me
© Roland Corporation

Quick Start

Try out the sounds

Selecting a patch

On the RS-50, the sounds you use for normal playing are called **patches**. A patch is analogous to an instrument held by a member of an orchestra.

Each patch consists of two tones; an **upper tone** and **lower tone**. You can assign the two tones to their own region of the keyboard (p. 44), and make independent settings for each tone (p. 46).

■ Selecting a patch by category

The RS-50 allows you to rapidly select and call up a patch by specifying the type of patch. All the patches are organized into 10 category groups.

Button	Category Group	Category		Contents
[1]	PIANO (Pf)	PNO	AC.PIANO	Acoustic Piano
		EP	EL.PIANO	Electric Piano
[2]	KBD & ORGAN (Ky)	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
[3]	GUITAR (Gt)	AGT	AC.GUITAR	Acoustic Guitar
		EGT	EL.GUITAR	Electric Guitar
		DGT	DIST.GUITAR	Distortion Guitar
[4]	ORCH (Oc)	STR	STRINGS	Strings
		ORC	ORCHESTRA	Orchestra Ensemble
		HIT	HIT&STAB	Orchestra Hit, Hit
		WND	WIND	Winds (Oboe, Clarinet, etc.)
		FLT	FLUTE	Flute, Piccolo
[5]	WORLD (Wr)	PLK	PLUCKED	Plucked (Harp, etc.)
		ETH	ETHNIC	Other Ethnic
		FRT	FRETTED	Fretted Inst (Mandolin, etc.)
[6]	BRASS (Br)	BRS	AC.BRASS	Acoustic Brass
		SBR	SYNTH.BRASS	Synth Brass
		SAX	SAX	Sax
[7]	VOCAL & PAD (Vo)	BPD	BRIGHT PAD	Bright Pad Synth
		SPD	SOFT PAD	Soft Pad Synth
		VOX	VOX	Vox, Choir
[8]	SYNTH (Sy)	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
[9]	BASS (Bs)	BS	BASS	Acoustic & Electric Bass
		SBS	SYNTH.BASS	Synth Bass
[0]	RHYTHM & SFX (Rh)	DRM	DRUMS	Rhythm Set
		PRC	PERCUSSION	Percussion
		SFX	SOUND FX	Sound FX
		BTS	BEAT&GROOVE	Beat and Groove
		CMB	COMBINATION	Other Patches
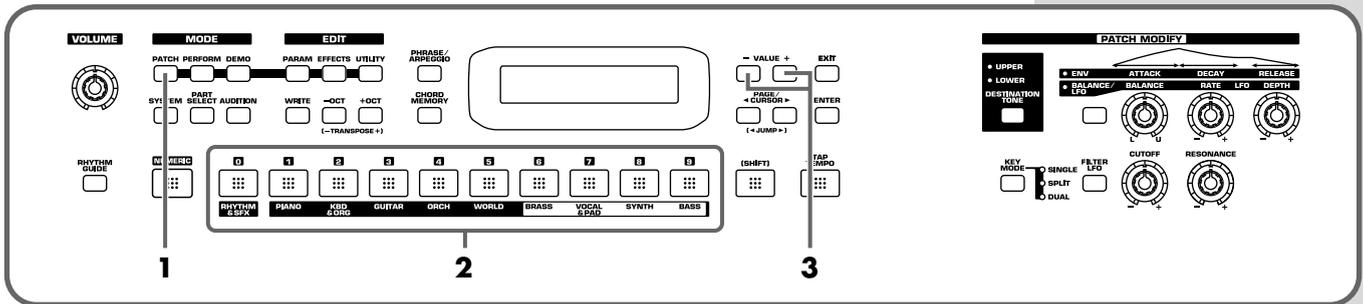
1. Press [PATCH] so it is lit and you are in Patch mode.

2. Use [0]–[9] to specify the category group of the patch you want to select.

3. Use VALUE [-]/[+] to select sounds within the category group.

Selecting sounds by category

In Patch mode, the direct access buttons [0]–[9] act as **category select buttons**. Since the patches you select for [0]–[9] (each category) will be remembered even when the power is turned off, you can select ten favorite patches from the panel and recall those patches instantly just by pressing [0]–[9].

MEMO
The rhythm sets are included in [0] (p. 22).

MEMO
You can turn [NUMERIC] on and use the [0]–[9] numeric keys to input a patch number directly. Press [ENTER] to finalize the number (p. 43).

■ Selecting patches while listening to phrases (Patch Audition)

Without playing keyboards, you can audition the sounds using phrases that have been pre-programmed to be suitable for the character of each patch.
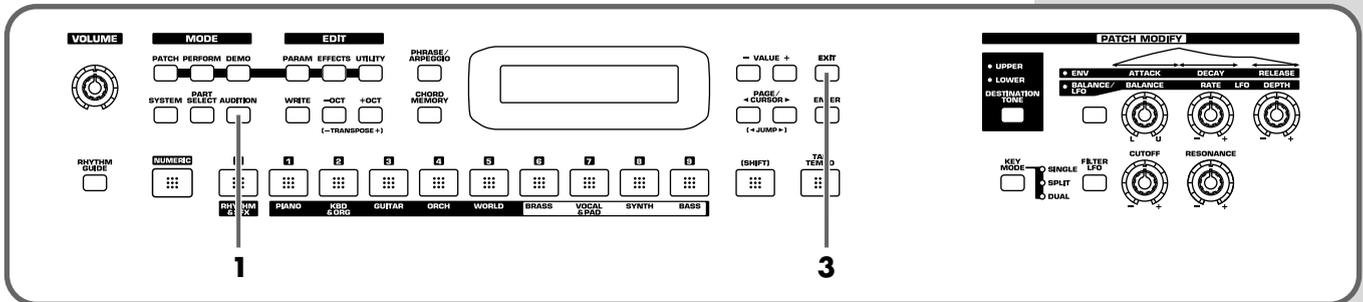
1. Press [AUDITION].

The currently selected patch will begin sounding.

2. Select patches as described in **Selecting a patch by category** (p. 20).

3. Press [AUDITION] once again or press [EXIT] to stop the patch audition.

Selecting a rhythm set

The RS-50 provides rhythm sets that let you play different percussion instrument sounds or special effects from each key.
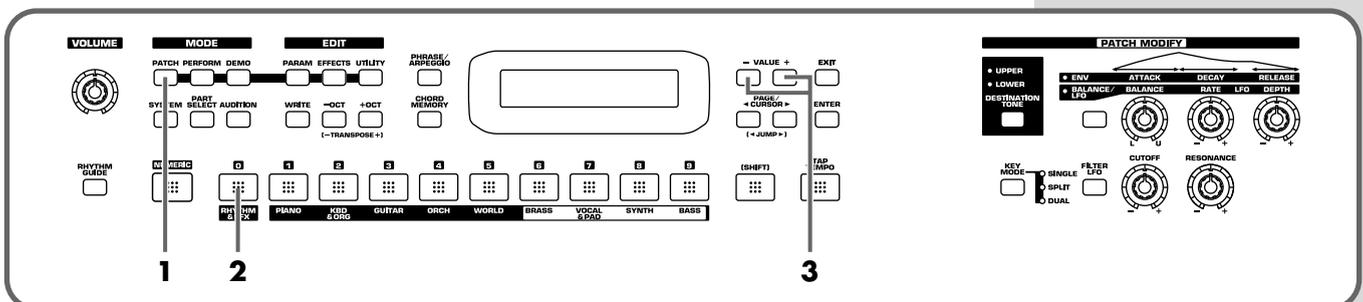
1. Press [PATCH] so it is lit and you are in Patch mode.

2. Press [0] to select "RHYTHM & SFX."

3. Use VALUE [-]/[+] to switch rhythm sets.

There are patches other than rhythm sets in the Rhythm & SFX category group. Rhythm sets have "KIT," "MENU," or "GM2" in their names.

MEMO

With [0] pressed, you can turn [NUMERIC] on and use the [0]–[9] buttons to input a rhythm set number directly. Press [ENTER] to finalize the number (p. 43).

Rhythm set list (p. 116)

Playing arpeggios (Phrase/Arpeggio)

An arpeggio is a "broken chord" where each note is played separately. The **Phrase/
Arpeggio** function lets you produce an arpeggio simply by holding down a chord,
and is also a convenient way to input a performance into an external sequencer.
Since the RS-50 provides arpeggio **templates** that are suitable for the various sounds
you select, you can produce appropriate arpeggios immediately.
You can also select **Phrase Template** which allows you to play arpeggio using only
one key, without pressing a chord (p. 62).
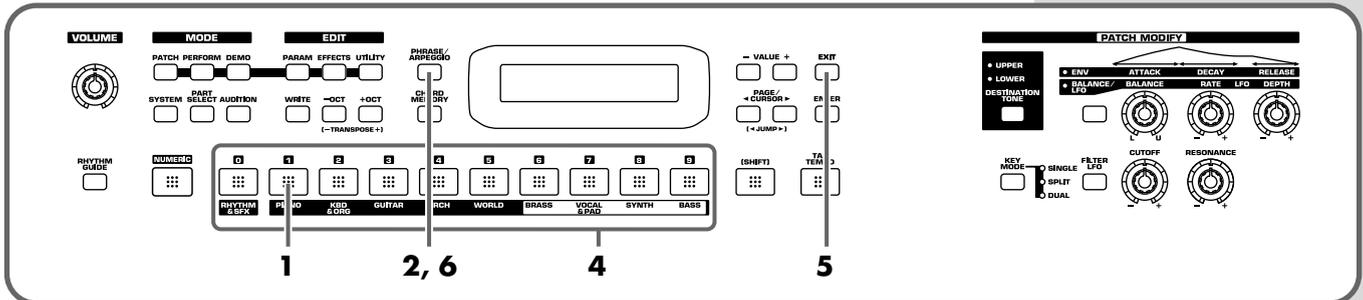
1. In Patch mode, press [1] to select piano sounds.

2. Press [PHRASE/ARPEGGIO] so it is lit.

3. Play the keyboard.

The instrument will play an arpeggio, according to the notes you have just voiced.

■ Changing the way in which the arpeggios are sounded

Then, try to change the way in which the arpeggios are sounded.
Settings that specify how arpeggios are sounded are provided as **templates**.
By switching templates, you can change the way in which the arpeggios are
sounded.

4. Press [0]–[9].

```
<< PHRASE/ARP >>
   Piano Phr 1
```
Play a phrase
by pressing one key.

```
<< PHRASE/ARP >>
   Piano Arp 1
```
Play an arpeggio
by pressing a chord.

It switches to an arpeggio template suitable for the selected sound.
Pressing [0] will select the user template.

☞ **User template** (p. 24)
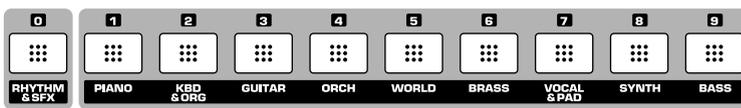
☞ **Arpeggio template list** (p. 120)

Preset (Arpeggio/Phrase) templates

User templates

5. When you press [EXIT], the Arpeggio function will remain on and you will return to the previous screen.

If you want to select an arpeggio template once again, press [PHRASE/ARPEGGIO] so it goes out, and then press [PHRASE/ARPEGGIO] once again so it is lit.
The selected arpeggio template remains stored in memory even while the power is off.

6. To finish playing arpeggios, press [PHRASE/ARPEGGIO] again so the indicator goes out.

User template

The **user template** lets you set the various arpeggio template parameters as desired. On the RS-50 you can store eight different user templates. With [0] pressed, use VALUE [-]/[+] to select other user templates you have created.
For further information on how to make user templates, refer to **Creating your own arpeggio template (User Template)** (p. 62).

Playing a chord at the touch of a finger (Multi-chord Memory)

Chord Memory is a function that lets you play a chord simply by touching just one key to which a "Chord Form" has been registered. On the RS-50 you can register different chord forms to each key and save these chord forms as sets (**multi-chord memory**) and recall them when desired. If you save typical chord progressions as user chord sets, these are a convenient way to get immediate results, such as when inputting music into the external sequencer.
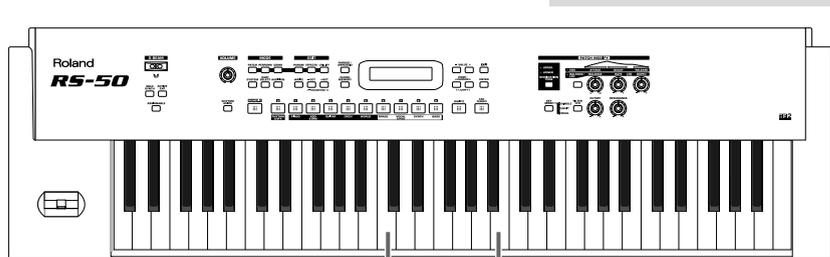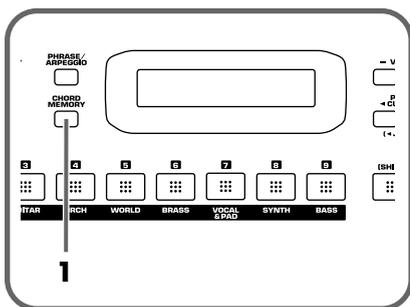
Twelve chord forms have been assigned from C to B.

1. Press [CHORD MEMORY] so it is lit.

```
<< CHORD MEMORY >>
       Pop 1
```

The Chord Memory function will be turned on, and the chord set name will be displayed.

2. Play the keyboard.

The chord of the specified structure will sound according to the note name of the key you played.

■ Switching chord sets

Then, try to change chord sets.
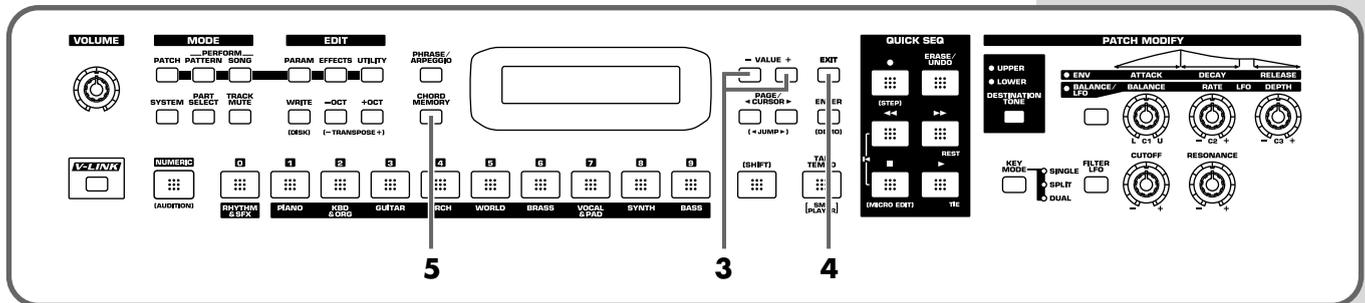
3. Use VALUE [-]/[+] to select a Chord Set.

The user chord set appears after the preset chord sets.

4. When you press [EXIT], the Multi-chord Memory function will remain on and you will return to the previous screen.

If you want to select a chord set once again, press [CHORD MEMORY] so it goes out, and then press [CHORD MEMORY] once again so it is lit.
The selected chord set remains stored in memory even while the power is off.

5. To turn off the Multi-chord Memory function, press [CHORD MEMORY] again so the indicator goes out.

You can create your own chord set by saving chords you have created.
For further information, refer to **Creating an original chord set (User Chord Set)** (p. 64).

Applying various effects to the sound

Changing the tone with the knobs (Patch Modify)

Using the five panel knobs, you can change the tone in real time.
On the RS-50, each patch consists of two tones; the **upper tone** and the **lower tone** (p. 40). The way that the tones are sounded (Single/Split/Dual) is saved in each patch, and you can change this using [KEY MODE] (p. 44).

■ Selecting the tone that you want to modify (DESTINATION TONE)

Use the [DESTINATION TONE] button to specify whether you will modify the upper or the lower tone.
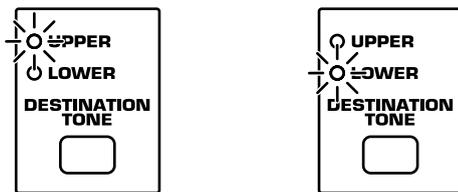
- UPPER lit: Only the upper tone will be modified
- LOWER lit: Only the lower tone will be modified
- Both lit: Both the upper and lower tones will be modified

■ Adjusting the volume balance of the two tones

You can use a knob to control the volume balance of the upper tone and lower tone.
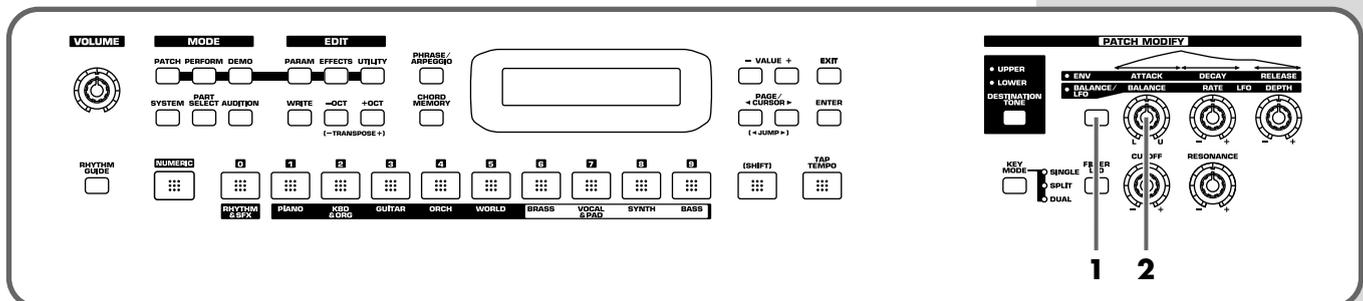
1. Press the patch modify select button to make the BALANCE/LFO indicator light.

2. Turn the [BALANCE] knob.

   Turning this to the right increases the volume of the upper tone, while turning it to the left increases that of the lower tone.

MEMO
Patch Modify applies +/- adjustments relative to the settings of the original tone. Depending on the tone you select, this may not always produce a noticeable change in the sound.

MEMO
For a rhythm set, Patch Modify applies to the set as a whole.

MEMO
You cannot change the volume balance for rhythm sets.

■ 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**."
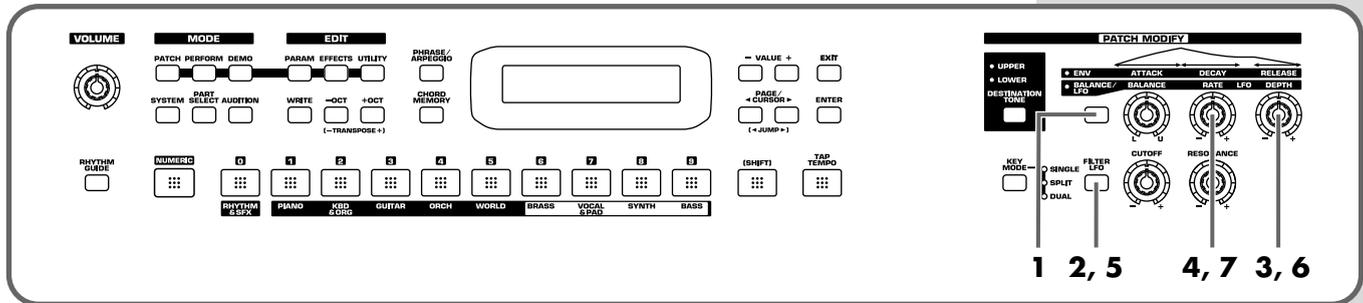
1. Press the patch modify select button to make the BALANCE/LFO indicator light.

2. Make sure that [FILTER LFO] is off (unlit).

   When [FILTER LFO] is off, the two LFO knobs will adjust the vibrato effect.

3. Turn the [LFO DEPTH] knob.

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

4. 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.

5. Press [FILTER LFO] so it is lit.

   When [FILTER LFO] is on, the two LFO knobs will adjust the wah effect.

6. Turn the [LFO DEPTH] knob.

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

7. 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.

MEMO
If it is on (lit), press [FILTER LFO] once again so it goes out.

MEMO
[FILTER LFO] does not take effect on a rhythm set.

■ 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 from when the keyboard is pressed until the maximum tonal change is reached.

D: Delay Time: The time from when the maximum tonal change is reached until the Sustain Level is reached.

S: Sustain level: Volume that is sustained while you hold down the key

R: Release Time: The time from when the keyboard is released until the sound disappears.

Use the ENVELOPE 3 knobs to change the A, D, and R times.

* *Each tone has its own Sustain level, which cannot be modified.*
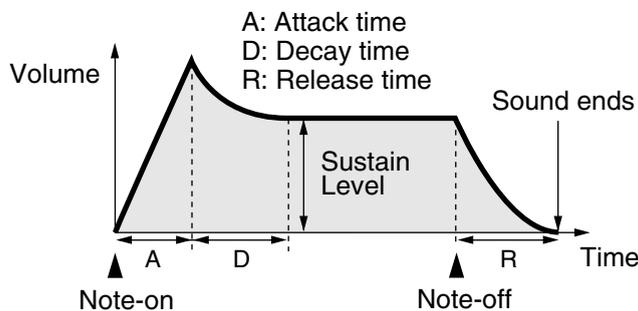
MEMO

The "envelope" is the curve that shows how the volume of an instrument changes from the beginning of a note to its end. Each musical instrument has a distinctive type of envelope, but this can change depending on how the instrument is played, and is an important factor in the character of the sound. For example, when a trumpet is blown strongly it produces a piercing sound with a rapid attack, but when blown softly it produces a gentler and more muted attack.
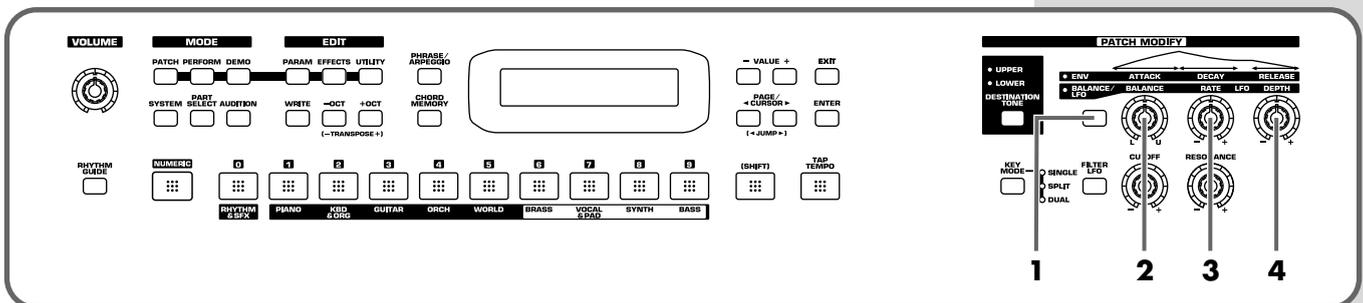
1. Press the patch modify select button so the ENV indicator is lit.

2. Turn the [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.

3. Turn the [DECAY] knob.

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

4. Turn the [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 (CUTOFF/RESONANCE)

The sound generator section of the RS-50 contains a **filter** that can cut or boost specific frequency regions of the sound. [CUTOFF] specifies the frequency (cutoff frequency) at which the filter will begin to modify the sound, and [RESONANCE] boosts the region near the cutoff frequency to add a distinctive character to the sound.
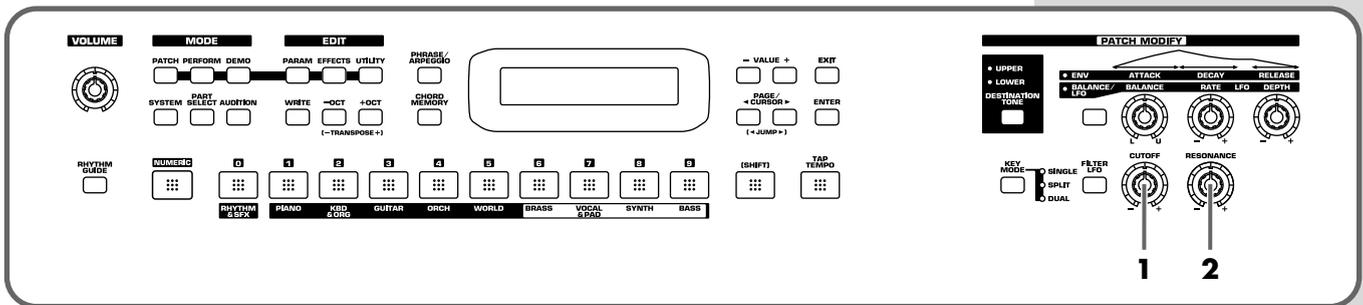
1. Turn the [CUTOFF] knob.

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

2. Turn the [RESONANCE] knob.

Turning this to the right makes the sound more distinctive, while turning it to the left reduces these characteristics.

Using a lever to modify the sound

■ Changing the sound's pitch in real time (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.
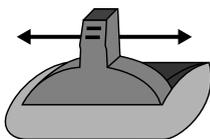
Pitch Bend

You can set up to a two-octave pitch bend range, adjustable in semitones. For further information, refer to **Pitch Bend Range** (p. 47).

■ Adding a vibrato effect to the sound (Modulation Lever)

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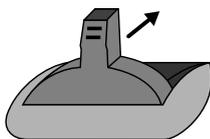
Modulation

When you want to use the Modulation Lever to add effects other than vibrato, refer to **Mod (Modulation Assign)** (p. 89).

MEMO

Independently for each patch, you can specify whether the effect is to be applied to the upper or the lower tone (p. 46).

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-2/8) or foot switch (the optional BOSS FS-5U) connected to the CONTROL PEDAL 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.

For further information, refer to **Pedal (Pedal Control Assign)** (p. 90).

MEMO

If you are using DP-8, set the DP-8's function switch to "Switch."
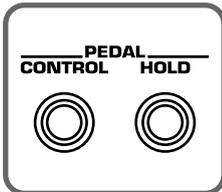
* *When you want to apply the effect that causes the sounds being played to continue playing (called the "hold effect"), connect a pedal switch (the optional DP-2/8) or foot switch (the optional BOSS FS-5U) to the PEDAL HOLD jack.*

Shifting the keyboard range in one-octave steps (Octave Shift)

Octave Shift is a function that shifts the pitch of the keyboard in one-octave units. This lets you shift the range of the keyboard to the most convenient range for playing. This is also convenient in a situation below.

When playing sounds outside the keyboard's range

While the RS-50 features a 61-key keyboard, with some songs you may want to play notes even higher or lower. Also, when playing a Rhythm Set etc., there may be percussion instruments that the RS-50's keyboard is not able to access. In such cases, you can use the Transpose function to play these notes.
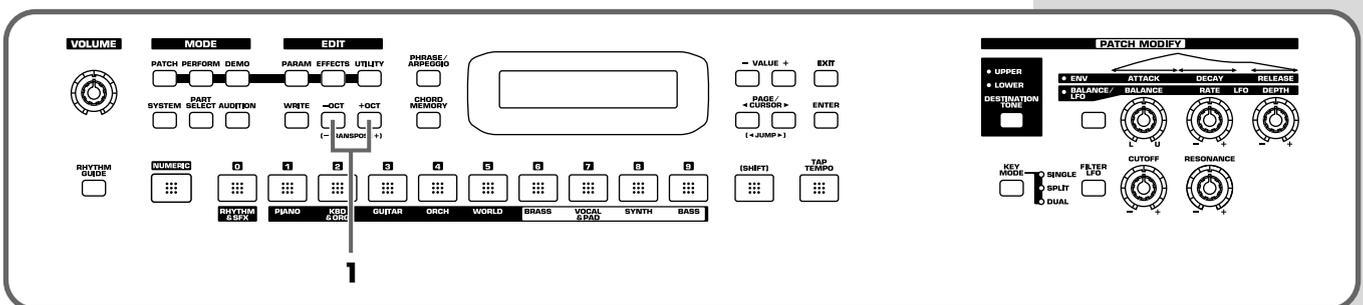
1. Use OCT [-]/[+] to transpose the pitch.

You can transpose the pitch of the keyboard in 1 octave units (-3– +3 octaves)

Moving the key range in half-steps (TRANSPOSE)

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 patches of a transposed instrument just as it is written in the score.
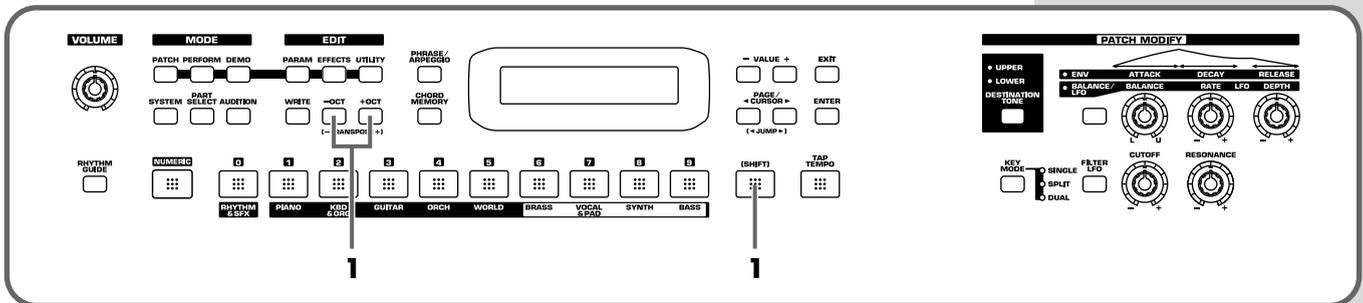
1. While holding down [SHIFT], press OCT [-]/[+].

    You can transpose your performance over a range of -5–+6 semitones.

Waving your hand over the D Beam (D Beam Controller)

The D Beam controller can be used simply by waving your hand over it. Of the three buttons, one is assigned to the solo synth, another to the active expression effect, and the third button can be assigned to the function of your choice. You can also create effects in which the sound changes instantaneously, in a way that would not be possible by operating a knob or the bender lever.
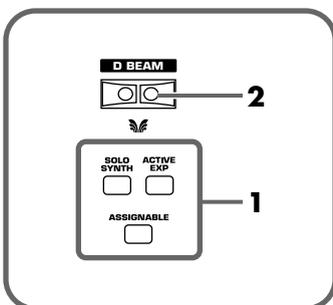
1. Press [SOLO SYNTH], [ACTIVE EXPRESS], or [ASSIGNABLE] so it is lit.

    If you select [ASSIGNABLE], the function assigned to the D Beam controller will appear in the display.

    ```
    << D BEAM >>
      MODULATION
    ```

2. While playing the keyboard to produce sound, place your hand over the D Beam, and slowly move it up and down.

An effect will be applied to the sound, depending on the function that is assigned to the D Beam controller.

3. To turn off the D Beam controller, press the button once again to turn it off.

The usable range of the D Beam controller

The following diagram shows the usable range of the D Beam controller. Waving your hand outside this range will produce no effect.
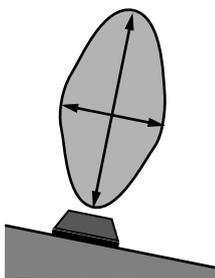
Either [SOLO SYNTH], [ACTIVE EXPRESS], or [ASSIGNABLE] will blink while the D Beam controller is responding. When your hand leaves the usable range of the D Beam controller, the button will stop blinking, and will remain lit.

* *The sensitivity of the D Beam controller will change depending on the amount of light in the vicinity of the unit. If it does not function as you expect, adjust the sensitivity as appropriate for the brightness of your location (p. 34). Also, the usable range of the D Beam controller will be considerably reduced when used under strong, direct sunlight. Please be aware of this when using the D Beam controller outside.*

■ Effects that can be used with the D Beam controller

SOLO SYNTH

This lets you generate passages that sound as if you are playing the keyboard rapidly. For example, if you hold down the four notes C, D, E, and G with your right hand and move your left hand over the D Beam, a phrase such as "C D E G C D E G ..." will be repeated.
For example, you can use the D Beam to play a synth solo on a synth-lead type sound, and hold chords using a long, sustaining sound to create the impression of harp playing.
The chord memory function also provides a chord set that contain notes of a specific scale and is designed for use with this function (16. Scale Set).

ACTIVE EXPRESS (Active Expression)

You can use the D Beam as an Active Expression function. If you assign the Active Expression function to a patch that consists of dual tones (a patch whose [KEYMODE] is set to "DUAL"), you can create tonal changes for greater expressiveness, and to emphasize the forte passages in your playing.
The patches suitable for active expression have "AEx" in their names.

MEMO
The explanations of each type in this manual are for when the D Beam Polarity is set to "NORMAL" (p. 34).

NOTE
With [SOLO SYNTH] switched on, pressing the keyboard alone will not result in the production of sound. You need to move your hand over the D Beam while you hold down keys.

MEMO
If the Active Expression Switch (p. 46) of the patch is turned OFF, this will be conventional expression (volume change).

NOTE
You will hear no sound if you play the keyboard when Active Expression has set the volume to 0.

ASSIGNABLE

Specifies a function controlled by the D Beam controller.
Use VALUE [-]/[+] and select one of the following functions.

Value	Tx CC#	Function/Parameter Changed
MODULATION	CC01	Vibrato Effect
PORTA TIME	CC05	Portamento Time (p. 47)
VOLUME	CC07	Level
BALANCE	CC08	The volume balance of LOWER and UPPER tones (p. 45)
PAN	CC10	Pan (p. 46)
EXPRESSION	CC11	Level
PORTAMENTO	CC65	Portamento Switch (p. 47)
SOSTENUTO	CC66	Holds the sound of the key being pressed
SOFT	CC67	Softens the Tone
RESONANCE	CC71	Tone Filter Resonance (p. 48)
RELEASE TIME	CC72	Tone Envelope Release Time (p. 48)
ATTACK TIME	CC73	Tone Envelope Attack Time (p. 48)
CUTOFF	CC74	Tone Filter Cutoff (p. 47)
DECAY TIME	CC75	Tone Envelope Decay Time (p. 48)
LFO RATE	CC76	Tone LFO Rate (p. 47)
LFO DEPTH	CC77	Tone LFO Depth (p. 47)
LFO DELAY	CC78	Tone LFO Delay (p. 47)
CHO SEND LEVEL	CC93	Chorus Send Level (p. 46)
REV SEND LEVEL	CC91	Reverb Send Level (p. 46)
MFX PARAMETER1	CC12	The parameter specified by Multi-effect Control 1 (p. 69)
MFX PARAMETER2	CC13	The parameter specified by Multi-effect Control 2 (p. 69)
AFTERTOUCH	----	
BEND UP	----	Pitch bend effect (center → up)
BEND DOWN	----	Pitch bend effect (center → down)

In Patch mode, the effect will apply to the patch. In Performance mode, the effect will apply to the patch assigned to the current part. Use [DESTINATION TONE] to specify the tone (p. 26).

"TxCC#" refers to the controller number of control change messages sent from the MIDI OUT connector when the D Beam controller is operated. When set to AFTERTOUCH, Channel Aftertouch messages are sent. Set to AFTERTOUCH mainly when you want to control an external sound generator with Aftertouch messages.

Receiving these control change messages from the MIDI IN connector produces the same effect as moving the D Beam controller.

* *When set to MFX PARAMETER1 or MFX PARAMETER2, be sure to note the following.*
  * *When the multi-effects Type is set to 01: STEREO EQ (p. 69) or 42: LOFI (p. 83), Level is changed regardless of whether MFX PARAMETER1 or MFX PARAMETER2 is selected.*
  * *When the multi-effects Type is set to 23: 2V PCH SHIFT (p. 77), or 24: FB PCH SHIFT (p. 78), the two parameters are changed simultaneously.*
* *When making the LFO RATE, LFO DEPTH or LFO DELAY settings, the effect achieved differs depending on whether [FILTER LFO] is on or off. When [FILTER LFO] is off, the LFO alters the pitch (vibrato effect). When [FILTER LFO] is on, the LFO changes the Filter Cutoff frequency (wah effect).*

■ Adjusting the sensitivity of the D Beam controllers (D BEAM SENS)

The sensitivity of the D Beam controller will change depending on the amount of light in the vicinity of the unit. If it does not function as you expect, adjust the sensitivity as appropriate for the brightness of your location. Increasing this value will raise the sensitivity.

1. Press [SOLO SYNTH], [ACTIVE EXPRESS], or [ASSIGNABLE] so it is lit.

2. Press [PARAM].

3. Use PAGE/CURSOR [◄]/[►] to select "Sens."

```
      << D BEAM >>
Sens:             5
```

4. Use VALUE [-]/[+] to adjust the sensitivity.

Value: 1–10

As you increase this value, the D Beam controller will become more sensitive. Normally, you will leave it at a setting of "5."

5. Press [EXIT] or [PARAM] to return to the previous screen.

MEMO

This setting remains stored in memory even while the power is off.

■ Changing the polarity of the change (D BEAM POLARITY)

By changing the D Beam Polarity setting, you can invert the direction of the effect that is applied.

1. Press [SOLO SYNTH], [ACTIVE EXPRESS], or [ASSIGNABLE] so it is lit.

2. Press [PARAM].

3. Use PAGE/CURSOR [◄]/[►] to select "Polarity."

```
      << D BEAM >>
Polarity:    NORMAL
```

4. Use VALUE [-]/[+] to change the polarity.

Value: NORMAL, REVERSE

5. Press [EXIT] or [PARAM] to return to the previous screen.

MEMO

This setting remains stored in memory even while the power is off.

Using the RS-50 effects

Three separate effects are always available in the RS-50. You can independently edit each effect's settings.

Multi-Effects

The RS-50 contains 47 different multi-effects, including distortion and a rotary speaker simulation.

Chorus

Chorus adds a sense of depth and spaciousness to patches.

Reverb

Reverb adds ambient characteristics that emulate the sound of various physical spaces, such as concert halls or auditoriums.

■ Turning effects on and off (Master Effects Switch)
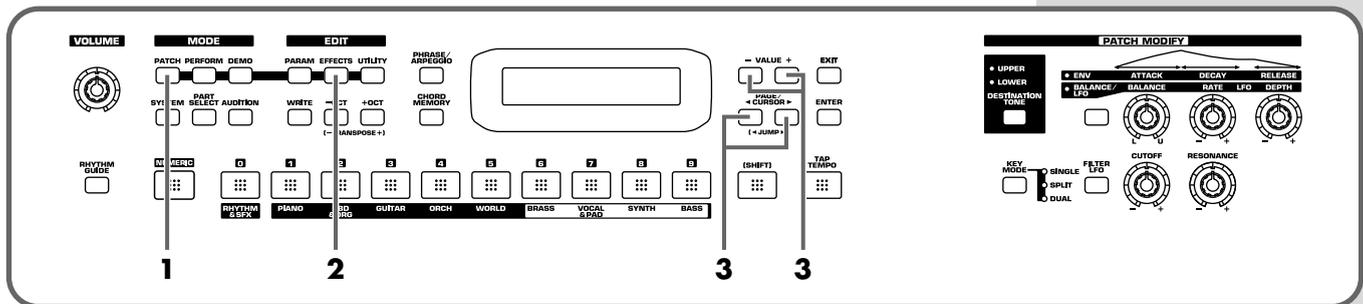
Turn on a switch to enable the corresponding effect (multi-effect, chorus, reverb). You may wish to turn these switches off when you want to listen to the unprocessed sound while editing it, or if you are using an external effects processor and do not want to use the built-in effects.
When shipped from the factory, all three effects are set to ON.

1. Press [PATCH] so it is lit and you are in Patch mode.

2. Press [EFFECTS] so it is lit.

The on/off state of each effect (multi-effect, chorus, reverb) will be displayed.

```
FX │ MFX│ Cho│ Rev ▶
Sw │ ON│  ON│  ON
```
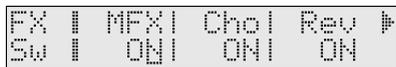
3. Use PAGE/CURSOR [◄]/[►] to select the effect type, and use VALUE [-]/[+] to turn to switch it on/off.

When you play the keyboard in this state, the effects whose master effect switch is turned on will be applied to the patches.
When the cursor is located at "Rev" and you want to edit the effect settings, press PAGE/CURSOR[►], and the effect parameters will be displayed one after another starting with the multi-effect (MFX) parameters.
For further information, refer to **Making effects settings** (p. 67).

MEMO

The On/Off settings for each Effect affect the RS-50 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

Using the Rhythm Guide

The Rhythm Guide provides an easy way to produce full-fledged rhythm patterns as easily as using a metronome.
The Rhythm Guide can be used only in **Performance mode**, which lets you perform on the keyboard while using drum sounds simultaneously.

Selecting a rhythm pattern
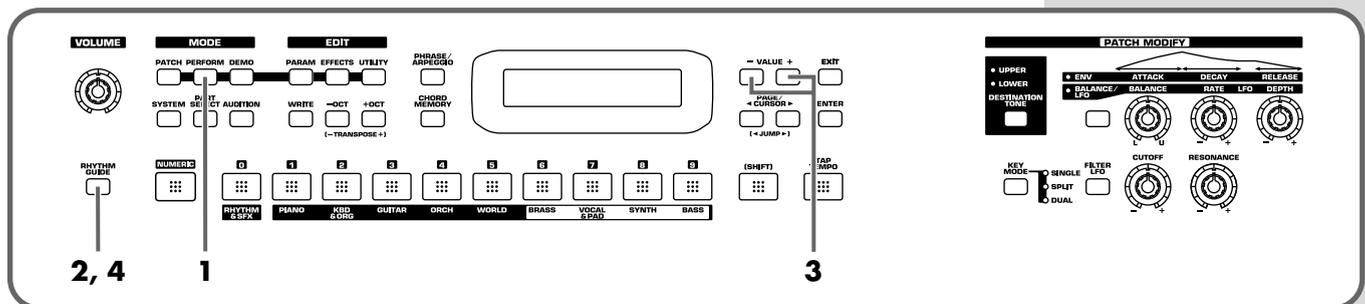
1. Press [PERFORM] so it is lit and you are in Performance mode.

2. Press [RHYTHM GUIDE] so it is lit.

   The rhythm pattern will begin playing.

3. With the display showing the pattern name, use VALUE [-]/[+] to select a rhythm pattern.

4. Once again press [RHYTHM GUIDE] so it is unlit; the rhythm pattern will stop.

To select a rhythm pattern without playing it

1. Press [PERFORM] so it is lit and you are in Performance mode.

2. Press [RHYTHM GUIDE] while holding down [SHIFT].

3. Use VALUE [-]/[+] to select a rhythm set.

4. Press [ENTER] to play back the rhythm pattern.

MEMO
If you want to change the part that you will play along with the rhythm guide, press [PART SELECT] so it is lit; then use [1]–[9] to select the part (category) that you want to play from the keyboard.

Switching sounds
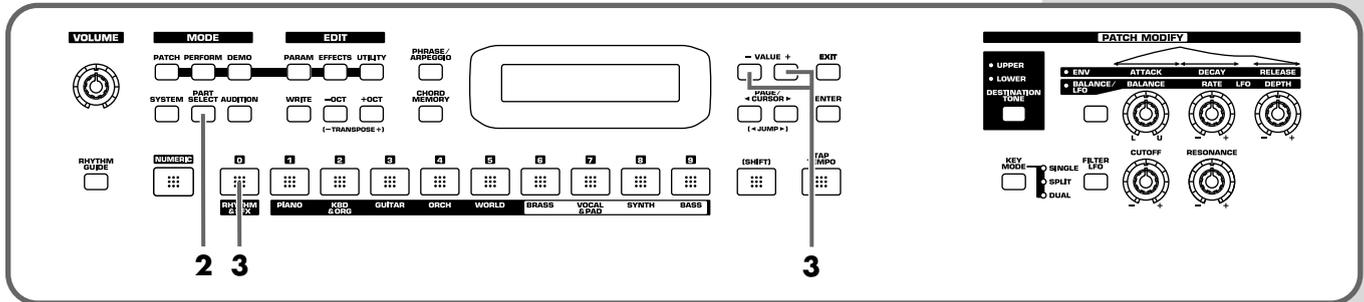
1. Play the rhythm pattern.

2. Press [PART SELECT] so it is lit.

3. Press [0] so it is lit to select a rhythm set.

4. Use VALUE [-]/[+] to select the rhythm set that you want to use with the rhythm pattern.

Change the tempo
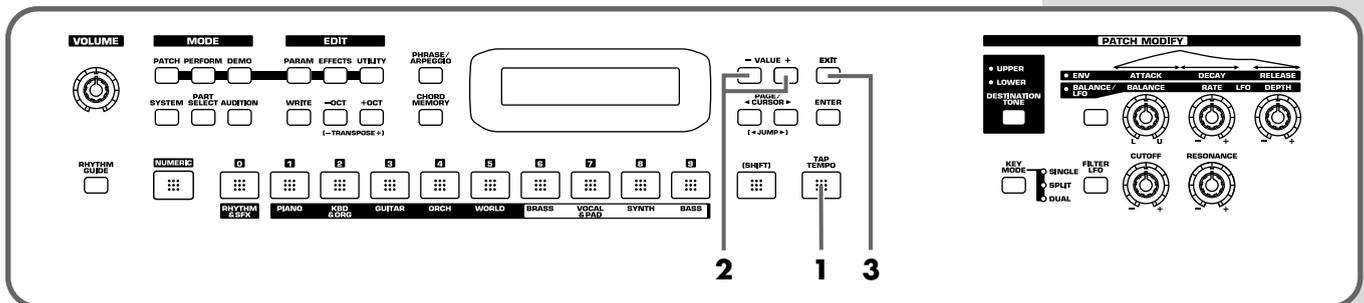
When you have selected a rhythm pattern, you can specify the tempo.

1. Press [TAP TEMPO] so it is lit.

    The current tempo of the pattern will be displayed.

    ```
    << BPM >>
        120
    ```

2. Use VALUE [-] to adjust the tempo.

3. Press [EXIT] to return to the previous screen.

MEMO

BPM stands for Beats Per Minute, and indicates the number of quarter notes that occur in one minute.

Pressing a button to modify the tempo (Tap Tempo)

You can modify the tempo by the rate at which you press [TAP TEMPO].

1. At quarter-note beats, press [TAP TEMPO] three or more times at the desired tempo.

    The tempo will be calculated automatically, and set to the interval at which you pressed the button.
    The button lets you check the tempo and time signature. During the playback of the rhythm pattern, the button will blink in red on the first beat of each measure, and in green on subsequent beats.

Memo

Advanced Use

Overview of the RS-50

How the instrument is organized

Basic structure

Broadly speaking, the RS-50 consists of a **keyboard controller** section and a **sound generator** section.
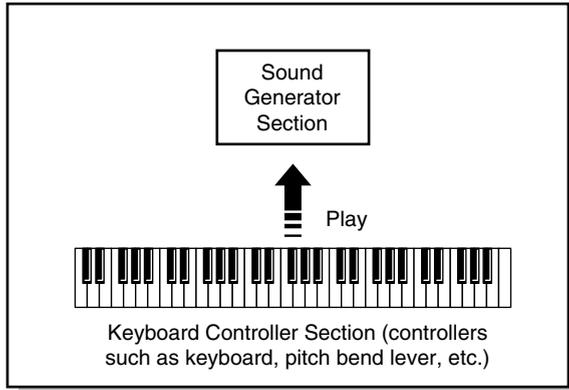
Keyboard controller section

This section consists of the keyboard, pitch bend/modulation lever, panel knobs and buttons, and D Beam controller. It also includes any pedals that may be connected to the rear panel. The performance information generated when you do things such as press/release a key, or depress the hold pedal is sent to the sound generator section and/or an external sound device.

Sound generator section

According to the performance data it receives from the Keyboard Controller section, this section generates and outputs sounds from the output jacks and headphone jack. Up to sixteen parts can each play different sounds (patches), with a simultaneous total of up to 64 notes. This section also includes three effects (reverb, chorus, multi-effects).

Classification of RS-50 sound types

When using the RS-50, you will notice that a variety of different categories come into play when working with sounds. What follows is a simple explanation of each sound category.

Tones

On the RS-50, the tones are the smallest unit of sound. However, it is not possible to play a tone by itself. The patch is the unit of sound that can be played, and the tones are the basic building blocks that make up the patch.
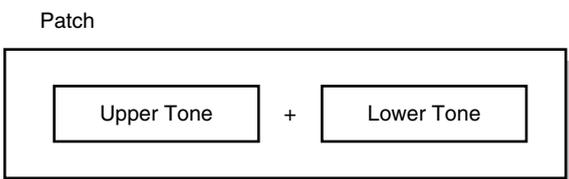
Patches

On the RS-50, the sounds you use for normal playing (e.g., from the keyboard) are called **patches**. A patch is analogous to an instrument held by a member of an orchestra. Each patch consists of two tones; an **upper tone** and **lower tone**. You can assign the two tones to their own region of the keyboard, or play them together to produce a richer sound (p. 44). Detailed settings can be made independently for each of the two tones (p. 46).

Rhythm sets

Rhythm sets are groups consisting of various 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, each key (note number) of a rhythm set will produce a different percussion instrument.
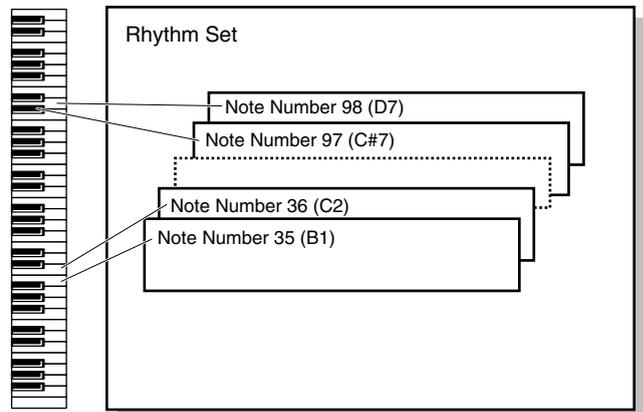
Performance

A performance is a set of sounds containing patches for the sixteen parts used when you use the Rhythm Guide or when using the RS-50 with an external MIDI device.

Part

A part corresponds to a single musician in a band or orchestra. Since the RS-50 has sixteen parts, you can use sixteen different patches or rhythm sets to play as many as sixteen performances simultaneously.

Current part

The "current part" is the part that will sound when you play the keyboard.

The RS-50 has a total of sixteen parts. For details on how to switch the current part, refer to **"Selecting a part"** (p. 43).

Effects

Effects let you apply a variety of special effects to patches or rhythm sets. You can use three effects simultaneously: chorus (which adds depth and spaciousness), reverb (which adds reverberation), multi-effects (each selectable from 47 types such as equalizer, overdrive, and delay).

Number of voices

Maximum polyphony

The sound generator of the RS-50 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-50 will give priority to the later-played notes, and will consecutively turn off the sounding notes. An appropriate Voice Reserve setting should be made with respect to any Parts that you cannot do without (p. 56).

☞

Some Tones use more than two voices to create a single Tone. For the number of voices used by each Tone, refer to **"Original tone list"** (p. 109).

About memory

Patch and performance settings are stored in what is referred to as **memory**. There are three kinds of memory: temporary, rewritable, and non-rewritable.

```
┌─ RS-50 ──────────────────────────────────┐
│                  ┌─────────────────┐      │
│                  │     System      │      │
│                  └─────────────────┘      │
│  ┌─────────────┐   ┌─────────────────┐    │
│  │   Presets   │   │      User       │    │
│  ├─────────────┤   ├─────────────────┤    │
│  │  Patches:   │   │  Patches: 128   │    │
│  ├─────────────┤   ├─────────────────┤    │
│  │ Rhythm Sets │   │  Rhythm Sets: 2 │    │
│  ├─────────────┤   ├─────────────────┤    │
│  │Performances │   │ Performances: 8 │    │
│  ├─────────────┤   ├─────────────────┤    │
│  │Arpeggio     │   │ Arpeggio        │    │
│  │Templates    │   │ Templates: 8    │    │
│  ├─────────────┤   ├─────────────────┤    │
│  │Arpeggio     │   │ Multichord      │    │
│  │Styles       │   │ Sets: 8         │    │
│  ├─────────────┤   └─────────────────┘    │
│  │Multichord   │                          │
│  │Sets:        │                          │
│  └─────────────┘                          │
│   Select    Select    Save                │
│      ↓         ↓        ↑                  │
│  ┌──────────────────────────┐             │
│  │      Temporary Area      │             │
│  └──────────────────────────┘             │
└───────────────────────────────────────────┘
```
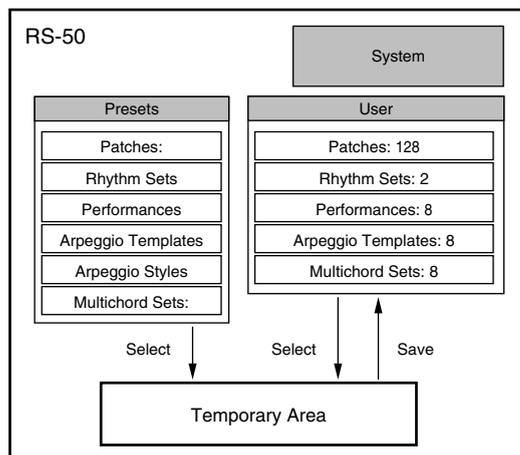
MEMO

All data stored in the user area can be stored on an external sequencer (p. 98). If you load the saved data back into the RS-50, all settings of the entire RS-50 will return to the state by they were in when the data was saved.

Temporary memory

Temporary area

This is the area that holds the data for the patch or the like that you've selected using the panel buttons.

When you play the keyboard or play back an external sequence, sound is produced based on data in the temporary area. When you edit a patch, you do not directly modify the data in memory; rather, you call up the data into the temporary area, and edit it there.

Settings in the temporary area are temporary, and will be lost when the power is turned off or when you select another setting. To keep the settings you have modified, you must write them into rewritable memory.

Rewritable memory

System memory

System memory stores system parameter settings that determine how the RS-50 functions.

User memory

User memory is where you normally store the data you need. USER memory contains 128 patches, 2 rhythm sets, 8 performances.

Non-rewritable memory

Preset memory

Data in Preset memory cannot be rewritten. However, you can call up settings from preset memory into the temporary area, modify them and then store the modified data in rewritable memory.

Overview

Basic operation of the RS-50

Switching the mode

The RS-50 has numerous functions, and these functions are organized into the following two modes. The operation of the sound generator and the screens that appear in the display will differ depending on the mode.

Patch mode

You will use this mode when you want to play the keyboard in a band or a solo performance.

When you turn on the power, the RS-50 will start up in Patch mode. From other modes, you can press [PATCH] to enter this mode.

All of the three built-in effects processors are used only for the patch you are playing.

In Patch mode you can select and edit patches, and create user patches.

```
PATCH
Pf01:RS Grand
```

Performance mode

In this mode, you can simultaneously play different sounds on sixteen parts. After turning on the power, press [PERFORM] to select this mode. The three built-in effects processors are used in common by the patches of each part.

You can create up to 8 user performances.

```
PERFORM
P01:Pop 1
```

Editing parameters

On the RS-50, the numerous parameters are organized into **pages** so that they can be displayed efficiently within the display. To select a parameter, move to the appropriate page. The underlined area (**cursor**) in the screen will blink to indicate that you may edit that value.

```
PERFORM|COMMON
Level:            100
```
cursor

Basic procedure

The basic procedure for editing a parameter is to use PAGE/CURSOR [◄]/[►] to move between pages, and use VALUE [-]/[+] to modify the value in the page.
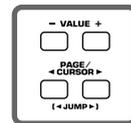
In cases where there are numerous pages, pages of related content are organized into **groups**. When editing such parameters, you can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to jump to the previous or next group.

MEMO

> When using PAGE/CURSOR [◄]/[►] or VALUE [-]/[+], you can make the value change more rapidly by holding down one button while you press the other button. Or, if you hold down [SHIFT] while using these buttons, the value will change in larger steps, or you can move between sound category groups (p. 55).

MEMO

> PAGE/CURSOR [◄]/[►] will move you more rapidly between pages if you continue holding them down. In some cases, you will automatically stop at the beginning of the group.

Executing a command

If [ENT] is indicated in the upper right of the display, you can execute the command you have selected by pressing [ENTER].

```
UTIL|MENU       [ENT]
1:PATCH PRM COPY
```

In the example above, pressing [ENTER] executes the Patch Parameter copy (p. 49).

Assigning a name

As an exception, in pages where you can assign a name to a patch or performance, pressing PAGE/CURSOR [▶] will not immediately take you to the next page. The cursor will move to each character in the name, and when the cursor is located at the last character, pressing PAGE/CURSOR [▶] again will take you to the next page. The same applies when moving in the opposite direction.

In pages where you can assign a name, you can hold down [SHIFT] and use PAGE/CURSOR [◀]/[▶] to jump to the previous or next page.

```
PATCH COMMON
Name:    RS Grand
```
Use VALUE [-] / [+] to modify the characters.

Press [▶].

```
PATCH COMMON
Name:    RS Grand
```
The cursor moves to the next digit.
Use VALUE [-] / [+] to modify the characters.

Press [▶].

```
PATCH COMMON
Name:    RS Grand
```
The cursor moves to the last digit.
Use VALUE [-] / [+] to modify the characters.

Press [▶].

```
PATCH COMMON
Category:      [Pf]PNO
```
Moves to the next page.
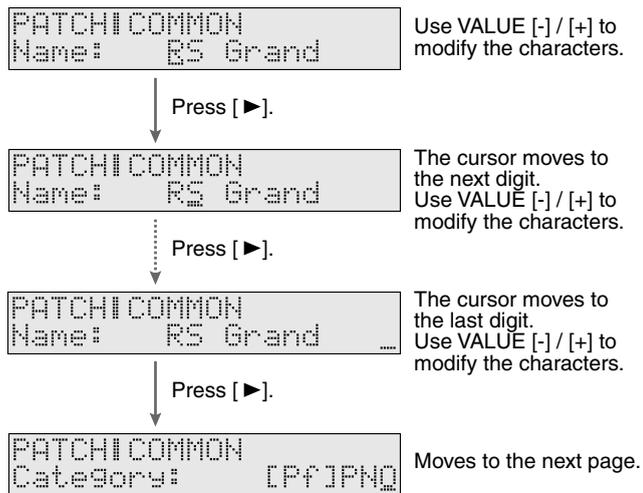
By pressing VALUE [-]/[+], you can change the character at the cursor position.

Value: space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }

When inputting characters, you can perform the following operations conveniently by pressing [0]–[9].

[0]: Deletes all the characters.

[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.

[9]: (no assignment)

When one page contains two or more settings

In cases such as the page shown below, use PAGE/CURSOR [◀]/[▶] to switch between (A), (B) and (C), and use VALUE [-]/[+] to modify the value of each parameter.

Example: Master effect switch

```
FX  │ MFX│ Cho│ Rev ▶
Sw  │ OFF│ OFF│ OFF
```
     (A)   (B)   (C)
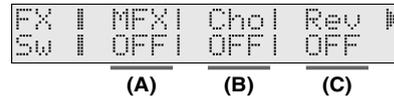
Inputting numbers and numerals

On the RS-50, you can select a patch/performance number or input a numerical value by using VALUE [-]/[+], or by using [NUMERIC] [0]–[9] to input the value directly.

1. **Press [NUMERIC] so it is lit.**
   The indication will blink.

2. **Use the [0]–[9] buttons to input the number.**
   • Pressing [0] while holding down [SHIFT] switches the +/- status.

3. **If you want to finalize the value, press [ENTER].**
   The value will be finalized, and [NUMERIC] will go out.
   If you decide to cancel, press [EXIT].

Selecting a part

On the RS-50 you can use [0]–[9] to select parts.

There are a total of sixteen parts. Select parts as follows.

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

2. **Press [PART SELECT] so it is lit.**

3. **Press the button as described below.**

Part 1	[1]	Part 11	[SHIFT] and [1]
Part 2	[2]	Part 12	[SHIFT] and [2]
Part 3	[3]	Part 13	[SHIFT] and [3]
Part 4	[4]	Part 14	[SHIFT] and [4]
Part 5	[5]	Part 15	[SHIFT] and [5]
Part 6	[6]	Part 16	[SHIFT] and [6]
Part 7	[7]		
Part 8	[8]		
Part 9	[9]		
Part 10	[0]		

Basic Operation

Creating a patch (Patch mode)

To create a sound (patch) of your own on the RS-50, you will start with one of the existing patches (**preset patches**), and edit it to create the desired sound. A sound you create can be saved as one of 128 user patches.

MEMO

> Each item that can be set is known as a **parameter**. When you change the values of parameters, you are doing what is referred to as **Editing**.

MEMO

> Settings for the internal effects (reverb, chorus, multi-effect) are also saved as part of the patch settings. For details on editing the effect settings, refer to **"Adding effects"** (p. 65).

This chapter explains the procedures used in creating patches, and the functions of the patch parameters.

MEMO

> If you want to edit the sound of a rhythm set, refer to **"Creating a rhythm set (Patch mode)"** (p. 52).

Three tips for editing patches

Select a patch that is similar to the sound you wish to create (p. 20).

It's hard to create a new sound that's exactly what you want if you just select a patch and modify its parameters at random. It makes sense to start with a patch whose sound is related to what you have in mind.

Choose the tone that you want to edit (p. 26)

You can assign a different instrumental sound to each of the two tones (upper/lower) in a patch, and edit them independently. Use [DESTINATION TONE] to choose the tone to be edited; UPPER only, LOWER only, or both.

MEMO

> If the [KEY MODE] is SINGLE, the upper tone will always sound. If you want to hear only the lower tone while you edit, switch [KEY MODE] to DUAL, and turn the PATCH MODIFY section's BALANCE knob all the way to the "L" position.

Turn Effects off (p. 65).

Since the RS-50's effects have such a profound impact on its sounds, turn them off to listen to the sound itself so you can better evaluate the changes you're making. Since you will hear the original sound of the patch itself when the effects are turned off, the results of your modifications will be easier to hear. Actually, sometimes just changing effects settings can give you the sound you want.

How to make the patch settings

Including the parameters that can be controlled from the panel, a patch consists of the following types of settings.

- Settings used by the entire patch (Patch Common)
- Settings for each patch (Patch Tone)

Collectively, these are referred to as "**patch parameters**."

Changing the way that the tones are sounded (Key Mode)
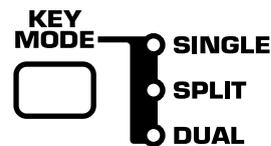
On the RS-50, the sound of each patch is produced by combining two tones; the **upper tone** and the **lower tone** (p. 40). The [KEY MODE] setting lets you specify how these two tones will be sounded when you play the keyboard.

MEMO

> This setting is also valid when using Patch Audition.

> **SINGLE:**   The upper tone is played by all keys on the keyboard.

> **SPLIT:**   The keyboard will be split; the lower range plays the lower tone, and the upper range plays the upper tone.

MEMO

> You can change the point at which the lower and upper tones are divided (p. 45).

> **DUAL:**   The upper and lower tones are layered.

Editing the patch parameters

1. Press [PATCH] so it is lit and you are in Patch mode.

2. Select a patch.

3. Press [PARAM] so it is lit.

Now you can edit the patch parameters.

Use PAGE/CURSOR [◄]/[►] to select the parameter that you want to edit.

☞

"Selecting patch parameters" (p. 45)

```
PATCH│COMMON
Name:     RS Grand
```

4. If there is an editable parameter, the cursor (underline) will blink below its value. Now you can use VALUE [-]/[+] to modify the value of that patch parameter.

```
PATCH│COMMON
Name:     RS Grand
```

cursor

Selecting patch parameters
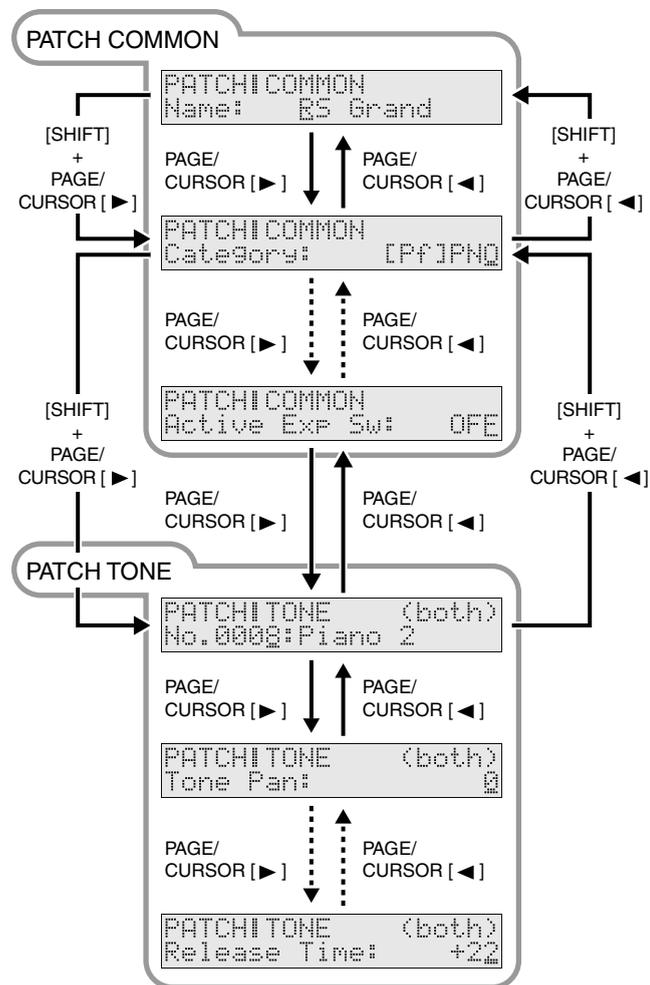
Making settings that apply to the entire patch (Patch Common parameters)

You can edit the following Patch Common parameters.

Name (Patch Name)

You can change the name of the patch.

Here you can use PAGE/CURSOR [◄]/[►] to move through the characters, and use VALUE [-]/[+] to finalize the desired character.

Value: space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = >
          ? @ [¥] ^ _ ` { | }

☞
  "Assigning a name" (p. 43)

Category

Changes the category of the patch.

☞
  "Selecting a patch by category" (p. 20)

Key Mode

Specifies how the two tones will be sounded when you play the keyboard. The indication in the display is linked to the [KEY MODE] setting of the panel (p. 44).

VALUE

SINGLE: The upper tone is played by all keys on the keyboard.

SPLIT: The keyboard will be split; the lower range plays the lower tone, and the upper range plays the upper tone.

     *   You can change the point at which the lower and upper tones are divided (p. 45).

DUAL: The upper and lower tones are layered.

☞
  "Changing the way that the tones are sounded (Key Mode)"
  (p. 44)

Patch Level

Specifies the volume of the patch.
VALUE: 0–127

Tone Balance

Adjusts the volume balance of LOWER and UPPER. This is linked with the operation of the [BALANCE] knob of the panel (p. 26).
VALUE: -64 (LOWER)– +63 (UPPER)

Split Point

When **"Key Mode"** (p. 45) is set to SPLIT, this specifies the transition point between the upper and lower tones.
VALUE: A0–C8

Patch Mode

Split Arp

When **"Key Mode"** (p. 45) is set to SPLIT, this specifies which tone will be affected by the arpeggiator.

VALUE

UPPER:	The upper tone will be played by the arpeggiator.
LOWER:	The lower tone will be played by the arpeggiator.
BOTH:	Both the upper and lower tone will be played by the arpeggiator.

Solo Switch

If this setting is turned on, only one note will be sounded even if you hold down two or more keys.

This setting is effective when you want to solo using a patch for a monophonic instrument such as sax or flute.

VALUE

OFF:	Chords can be played.
ON:	The sound will play in solo mode (monophonically).
UPPER:	Solo mode will be used only for the upper tone.
LOWER:	Solo mode will be used only for the lower tone.

ModulationDst (Modulation Destination)

Specifies the tone that will be affected by modulation (p. 29).

VALUE

UPPER:	Modulation will apply only to the upper tone.
LOWER:	Modulation will apply only to the lower tone.
BOTH:	Modulation will apply to both the upper and lower tone.

PitchBend Dst (Pitch Bend Destination)

Specifies the tone that will be affected by pitch bend (p. 29).

VALUE

UPPER:	Pitch bend will apply only to the upper tone.
LOWER:	Pitch bend will apply only to the lower tone.
BOTH:	Pitch bend will apply to both the upper and lower tone.

Modify Dest (Modify Destination)

Specifies the tone that will be affected by adjustments to the sound using the panel knobs.

This is linked with the panel's [DESTINATION TONE] setting (p. 26).

VALUE

UPPER:	Modification will apply only to the upper tone.
LOWER:	Modification will apply only to the lower tone.
BOTH:	Modification will apply to both the upper and lower tone.

ExpressionDst (Expression Destination)

Specifies the tone that will be affected by expression.

VALUE

UPPER:	Expression will apply only to the upper tone.
LOWER:	Expression will apply only to the lower tone.
BOTH:	Expression will apply to both the upper and lower tone.

Active Exp Sw (Active Expression Switch)

Turns the active expression effect (p. 32) on/off.

VALUE

OFF:	Expression will affect only the volume, as usual.
ON:	An active expression effect using both tones will be produced.

Making settings for an individual tone (Patch Tone parameters)

You can set parameters that apply to each individual tone. The panel [DESTINATION TONE] switch specifies which tone(s) (upper/lower) will be affected by your settings (p. 26).

MEMO

If "BOTH" is selected, the value of the tone parameter assigned to the upper tone is displayed. If you change this value, the parameters for both Upper and Lower tones will be changed to the same values.

No. (Original Tone Number)

For each of the two tones (upper and lower) that make up a patch, you can select one of 640 different original tones.

VALUE: 0001–0640

Tone Pan

Sets the pan position (stereo location) of each tone when stereo output is used. 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.

VALUE: L64–0–63R

• **Specifying the amount of signal sent to the effect**

MFX Switch (Multi-Effects Switch)

Switches the multi-effects on/bypass (off) for each tone.

VALUE: BYPASS, ON

Chorus Send Lvl (Chorus Send Level)

Sets the level of the signal sent to chorus for each tone.

VALUE: 0–127

Reverb Send Lvl (Reverb Send Level)

Sets the level of the signal sent to reverb for each tone.

VALUE: 0–127

Coarse Tune

Adjusts the pitch of the tone's sound up or down in semitone steps (+/-4 octaves).

VALUE: -48–+48

Fine Tune

Adjusts the pitch of the tone's sound up or down in one-cent steps (+/- 50 cents).

VALUE: -50–+50

MEMO

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

• Creating smooth pitch transitions (Portamento)

Portamento is an effect that creates a smooth transition in pitch between one key and the next. When the Solo Switch parameter is "ON," you can apply portamento to create an effect similar to a violinist changing the pitch smoothly by sliding their finger along the fingerboard.

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

• Varying the sounds by the force of your keyboard playing

The force with which you play a key is expressed by a **velocity** value. When you play a note strongly, a high velocity value will be transmitted, producing a louder volume or a different tone. By editing the **Velo Sens Depth** and **Velo Sens Ofs** values, you can adjust the relationship between your keyboard playing strength and the loudness of the notes that are produced.

Velo Sens Depth (Velocity Sensitivity Depth)

Higher settings of this value allow you to produce notes in a wider range of loudness even with small changes in your playing strength. Lower settings of this value will mean that even if you vary your playing strength significantly, the notes that are sounded will not have a wide range of loudness.

VALUE: -64–+63

Velo Sens Ofs (Velocity Sensitivity Offset)

With higher settings of this value, loud sounds can be produced even when you play the keys softly. With lower settings of this value, the sounds will be soft even if you play strongly.

VALUE: -64–+63

Pitch Bend Range

Specifies the amount of pitch change in semitone units (maximum of two octaves) that will occur when you operate the pitch bend lever. The amount of change will be the same whether the lever is moved to left or right.

VALUE: 0–24

• Adjusting the modulation of the sound (LFO)

The LFO (Low Frequency Oscillator) applies cyclic change to the sound. It can be applied to the pitch, cutoff frequency, or volume to produce vibrato, wah, or tremolo effects. The original tones of the RS-50 contain LFO settings appropriate for each sound. You can edit the patches to adjust the speed of the LFO effect, and the depth to which it will affect the pitch and filter cutoff frequency.

NOTE

> You cannot simultaneously adjust the pitch depth and cutoff depth. Nor can you adjust the depth of the LFO effect on volume. If you need to use an adjustable tremolo effect, use the TREMOLO multi-effect (p. 84).

Filter LFO (Filter LFO Switch)

Selects whether the LFO Depth setting will control the depth of cutoff frequency modulation or of pitch modulation. This is linked with the operation of the [FILTER LFO] switch of the panel (p. 27).

VALUE

OFF (PCH):   You can adjust the depth of the LFO's effect on pitch.

ON (FLT):   You can adjust the depth of the LFO's effect on the filter cutoff frequency.

LFO Rate

Adjusts the modulation rate, or speed, of the LFO. This is linked with the operation of the [LFO RATE] knob of the panel (p. 27).

VALUE: -64–+63

LFO Depth

Specifies the depth of LFO. Normally, the depth of the LFO's effect on pitch will change. If Filter LFO is ON, the LFO's effect on cutoff frequency will change. This is linked with the operation of the [LFO DEPTH] knob of the panel (p. 27).

VALUE: -64–+63

LFO Delay

Adjusts the time from when the key is pressed (or released) until the LFO begins to be applied (or the duration that the effect continues).

VALUE: -64–+63

Adjusting the brightness or hardness of the sound (Filter)

The sound generator section of the RS-50 contains a **filter** that can cut or boost specific frequency regions of the sound. Each original tone in the RS-50 has its own filter settings, but you can use patch editing to modify these.

Cutoff Freq (Cutoff Frequency)

Specifies the frequency (cutoff frequency) at which the filter will begin to modify the sound. This is linked with the operation of the [CUTOFF] knob of the panel (p. 29).

VALUE: -64–+63

Patch Mode

Resonance

This boosts the region near the cutoff frequency to add a distinctive character to the sound. Raising this value excessively may cause oscillation and distortion. This is linked with the operation of the [RESONANCE] knob of the panel (p. 29).

VALUE: -64–+63

• **Adjusting the attack or decay of the sound (Envelope)**

Each original tone of the RS-50 includes envelope settings, but you can use patch editing to apply relative adjustments to these settings. Depending on the tone you select, editing may not produce noticeable change in the sound. You cannot change the sustain level.

Attack Time

Adjusts the envelope attack time. This is linked with the operation of the [ATTACK] knob of the panel (p. 28).

VALUE: -64–+63

Decay Time

Adjusts the envelope decay time. This is linked with the operation of the [DECAY] knob of the panel (p. 28).

VALUE: -64–+63

Release Time

Adjusts the envelope release time. This is linked with the operation of the [RELEASE] knob of the panel (p. 28).

VALUE: -64–+63

Saving a patch

When you have edited a patch to your liking, use the following procedure to save it.

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Select the patch that you want to edit.**

3. **Edit the patch.**

☞
   "Changing the tone with the knobs (Patch Modify)" (p. 26)
   "How to make the patch settings" (p. 44).

4. **When the sound is to your liking, press [WRITE].**
   Use VALUE [-]/[+] to specify the number in which the user patch is to be saved (U001–U128).

   ```
   WRITE PATCH     [ENT]
   To:U001:
   ```

   As shown above, the display will show only the user patch number if nothing has yet been saved to that number.

NOTE
   If you save to a number in which a user patch has already been saved, be aware that the previously saved settings will be overwritten and lost.

5. **Press [ENTER].**

6. **Use VALUE [-]/[+] to specify the category for the user patch you want to save.**

   ```
   WRITE PATCH      [ENT]
                   [Pf]PNO
   ```

☞
   For more about the category, refer to **"Patch categories"** (p. 49).

7. **Press [ENTER] once again to execute.**

When the user patch has been saved, the display will indicate "COMPLETED." This completes the procedure.

MEMO
   If you decide not to save the user patch, press [EXIT].

If you do not change **"Name (Patch Name)"** (p. 45), the patch will have the same name as the one you selected in step 2.

Patch categories

On the RS-50, a patch you edit can be named and saved in the desired category of sounds (**User Patch**). Saving an edited patch in the appropriate category will make it easier for you to find the patch when needed. This will also let you use arpeggiator settings that are appropriate for your user patch.

```
WRITE:PATCH    [ENT]
          [Pf]PNO
```
Category

Category Group	Category		Contents
PIANO (Pf)	PNO	AC.PIANO	Acoustic Piano
	EP	EL.PIANO	Electric Piano
KBD & ORGAN (Ky)	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 (Gt)	AGT	AC.GUITAR	Acoustic Guitar
	EGT	EL.GUITAR	Electric Guitar
	DGT	DIST.GUITAR	Distortion Guitar
ORCH (Oc)	STR	STRINGS	Strings
	ORC	ORCHESTRA	Orchestra Ensemble
	HIT	HIT&STAB	Orchestra Hit, Hit
	WND	WIND	Winds (Oboe, Clarinet, etc.)
	FLT	FLUTE	Flute, Piccolo
WORLD (Wr)	PLK	PLUCKED	Plucked (Harp, etc.)
	ETH	ETHNIC	Other Ethnic
	FRT	FRETTED	Fretted Inst (Mandolin, etc.)
BRASS (Br)	BRS	AC.BRASS	Acoustic Brass
	SBR	SYNTH.BRASS	Synth Brass
	SAX	SAX	Sax
VOCAL & PAD (Vo)	BPD	BRIGHT PAD	Bright Pad Synth
	SPD	SOFT PAD	Soft Pad Synth
	VOX	VOX	Vox, Choir
SYNTH (Sy)	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
BASS (Bs)	BS	BASS	Acoustic & Electric Bass
	SBS	SYNTH.BASS	Synth Bass
RHYTHM & SFX (Rh)	DRM	DRUMS	Rhythm Set
	PRC	PERCUSSION	Percussion
	SFX	SOUND FX	Sound FX
	BTS	BEAT&GROOVE	Beat and Groove
	CMB	COMBINATION	Other Patches

Convenient functions for patch editing (Patch Utility)

Patch Utility provides various functions that you will find convenient when editing patches, such as copying or initializing a patch.

Copying patch parameters (PATCH PRM COPY)

The settings of any patch can be copied to the currently selected patch. By making good use of this function, you can edit more efficiently. The following five parameters can be copied.

- UPPER TONE: Copy the settings of the upper tone.
- LOWER TONE: Copy the settings of the lower tone.
- MFX: Copy the multi-effect settings.
- CHORUS: Copy the chorus settings.
- REVERB: Copy the reverb settings.

Copying the UPPER TONE or LOWER TONE

1. **Press [PATCH] so it is lit and you are in Patch mode.**
   Select the copy-destination patch.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "1:PATCH PRM COPY."**

4. **Press [ENTER].**

5. **Use VALUE [-]/[+] to select "UPPER TONE" or "LOWER TONE."**

```
PATCH PRM COPY:    ►
What:      UPPER TONE
```

6. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to select the copy-source patch.

```
PATCH PRM COPY:    ►
Pf01:RS Grand      _
```

7. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to specify whether the data is to be copied to the upper tone or the lower tone of the currently selected patch.

```
PATCH PRM COPY:[ENT]
To:        UPPER TONE
```

8. **Press [ENTER].**
   The upper tone or lower tone settings will be copied to the currently selected patch.

When the data has been copied, the display will indicate "COMPLETED." This ends the procedure.

Patch Mode

Copying MFX, CHORUS, or REVERB effect settings

1. **Press [PATCH] so it is lit and you are in Patch mode.**
   Select the copy-destination patch.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "1:PATCH PRM COPY."**

4. **Press [ENTER].**

5. **Use VALUE [-]/[+] to select "MFX," "CHORUS," or "REVERB."**

```
PATCH PRM COPY▮     ▶
What:            MFX
```

6. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to specify whether you will copy "PATCH" effect settings or "PERFORM (Performance)" effect settings.

```
PATCH PRM COPY▮     ▶
From:          PATCH
```

7. **Press PAGE/CURSOR [►].**
   Copying "PATCH" effect settings
   Use VALUE [-]/[+] to select the copy-source patch.

```
PATCH PRM COPY▮[ENT]
Pf01:RS Grand      ‗
```

   Copying "PERFORM (Performance)" effect settings
   Use VALUE [-]/[+] to select the copy-source performance.

```
PATCH PRM COPY▮[ENT]
P01:Pop 1          ‗
```

8. **Press [ENTER].**
   The effect settings will be copied to the currently selected patch.

When the data has been copied, the display will indicate "COMPLETED." This ends the procedure.

Initializing the parameters of a patch (PATCH INITIALIZE)

This operation initializes the currently selected patch settings.
Since all patch parameters will be initialized, this is convenient when you want to create a sound from scratch.

NOTE

The Initialize operation applies only to the currently selected sound; it will not change the content of sounds stored in user memory. If you want to restore all settings to the factory-set condition, execute the Factory Reset operation (p. 17).

1. **Press [PATCH] so it is lit and you are in Patch mode.**
   Select the patch you want to initialize.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "2:PATCH INITIALIZE."**

4. **Press [ENTER].**

```
PATCH INIT▮    [ENT]
```

5. **Press [ENTER] once again to execute.**

When initialization is finished, the display will indicate "COMPLETED." This ends the procedure.

Erasing a user patch you saved (PATCH REMOVE)

This operation erases the specified user patch. When you erase a patch, it will no longer be possible to select the patch of that number using direct access buttons. If you newly save a patch in that number, you will again be able to select it.

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "3:PATCH REMOVE."**

4. **Press [ENTER].**

```
PATCH REMOVE▮  [ENT]
U001:User Patch 1  ‗
```

5. **Use VALUE [-]/[+] to select the user patch that you want to erase.**

6. **Press [ENTER].**

When the data has been erased, the display will indicate "COMPLETED." This ends the procedure.

Transmitting patch/rhythm set settings from the MIDI OUT connector (XFER to MIDI)

You can transmit the settings of any patch from the MIDI OUT connector. This function can be used to save patch settings on an external sequencer. If you select "DUMP ALL" for the menu, you can transmit all data stored in the user area to an external sequencer.

1. **Press [PATCH] so it is lit and you are in Patch mode.**

    Select the patch or the rhythm set you want to output.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "4:XFER to MIDI."**

4. **Press [ENTER].**

Transmitting the settings of currently selected patch

5. **Use VALUE [-]/[+] to select "CURRENT PATCH."**

6. **Press [ENTER].**

    The selected patch settings will be transmitted from the MIDI OUT connector.

After the data has been transmitted, the display will indicate "COMPLETED." This ends the procedure.

Transmitting the settings of a user patch

5. **Use VALUE [-]/[+] to select "USER PATCHES."**

6. **Press PAGE/CURSOR [►].**

    Use VALUE [-]/[+] to specify the first number of the range of user patch numbers that you want to transmit.

    ```
    XFER to MIDI
    From:         U001
    ```

7. **Press PAGE/CURSOR [►].**

    Use VALUE [-]/[+] to specify the last number of the range of user patch numbers that you want to transmit.

    ```
    XFER to MIDI   [ENT]
    To:           U128
    ```

8. **Press [ENTER].**

    The selected patch settings will be transmitted from the MIDI OUT connector.

After the data has been transmitted, the display will indicate "COMPLETED." This ends the procedure.

Transmitting all data stored in the user area

5. **Use VALUE [-]/[+] to select "DUMP ALL."**

    ```
    XFER to MIDI   [ENT]
    What:      DUMP ALL
    ```

6. **Press [ENTER].**

    All data stored in the user area will be transmitted from the MIDI OUT connector.

When the display indicates "COMPLETED," the transmission operation has been completed.

MEMO

If you want to restore the stored data into the RS-50 once again, send the data to the RS-50's MIDI IN. Do not operate the RS-50 while this data is being received.

Restoring the factory settings (FACTORY RESET)

You can also perform the FACTORY RESET operation from Patch Utility.
For more about FACTORY RESET, refer to **"Reset to default factory settings (Factory Reset)"** (p. 17).

Patch Mode

Creating a rhythm set (Patch mode)

The RS-50 provides rhythm sets that are suitable for a variety of musical genres. You can edit a preset rhythm set to modify the pitch/volume/panning of each percussion instrument sound to your liking, and save it as a **user rhythm set**.

How to make the rhythm set settings

A rhythm set consists of the following types of settings.
- Settings used by the entire rhythm set (Rhythm Common)
- Settings for each rhythm tone (key) (Rhythm Tone)

Collectively, these are referred to as "**rhythm set parameters**."

Editing the rhythm set parameters

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Select a rhythm set (p. 22).**

```
PATCH
Rh01:Standard Kit
```

3. **Press [PARAM] so it is lit.**

   Now you can edit the rhythm set parameters.

   Use PAGE/CURSOR [◄]/[►] to select the parameter that you want to edit.

4. **If there is an editable parameter, the cursor (underline) will blink below its value. Now you can use VALUE [-]/[+] to modify the value of that patch parameter.**

```
RHYTHM COMMON
Name:   Standard Kit
```

cursor

Selecting rhythm set parameters
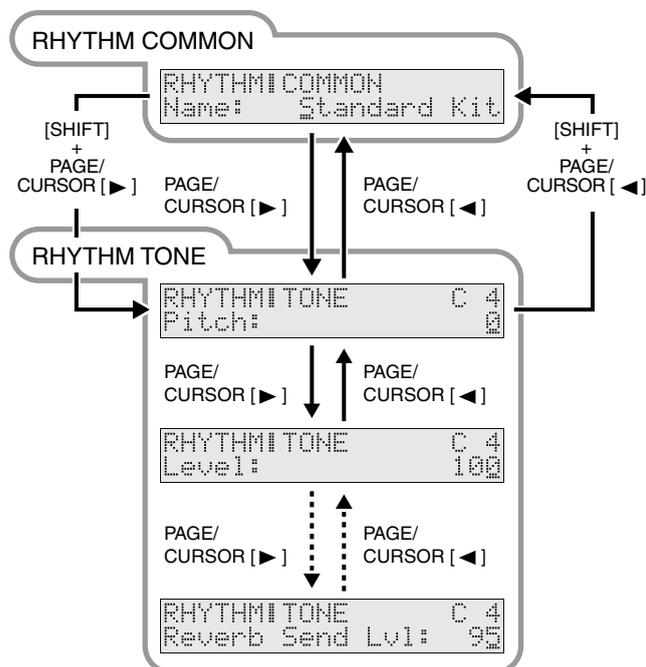
RHYTHM COMMON

```
RHYTHM COMMON
Name:   Standard Kit
```

[SHIFT] + PAGE/ CURSOR [►]   PAGE/ CURSOR [►]   PAGE/ CURSOR [◄]   [SHIFT] + PAGE/ CURSOR [◄]

RHYTHM TONE

```
RHYTHM TONE       C 4
Pitch:              0
```

PAGE/ CURSOR [►]   PAGE/ CURSOR [◄]

```
RHYTHM TONE       C 4
Level:            100
```

PAGE/ CURSOR [►]   PAGE/ CURSOR [◄]

```
RHYTHM TONE       C 4
Reverb Send Lvl:   95
```

Making settings that apply to the entire rhythm set (Rhythm Common parameters)

You can edit the following Rhythm Common parameters.

Name (Rhythm Set Name)

You can change the name of the rhythm set.

Here you can use PAGE/CURSOR [◄]/[►] to move through the characters, and use VALUE [-]/[+] to finalize the desired character.

Value: space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }

☞
For further information, refer to **"Assigning a name"** (p. 43).

Editing the settings of each rhythm tone (key) (Rhythm Tone parameters)

A rhythm set assigns a different instrument to each key. For each of these instrumental sounds, you can edit the following parameters. Press a key to select the rhythm tone that you want to edit.

```
RHYTHM TONE       C 4
Pitch:              0
```
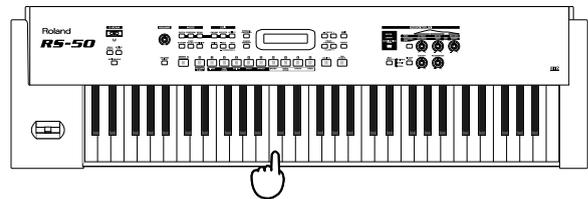
Pitch

Adjusts the pitch of the percussive sound in semitone steps.
VALUE: -60–+67

Level

Specifies the volume of the percussive sound.
VALUE: 0–127

Pan

Sets the pan position (stereo location) of each percussive sound when stereo output is used. 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 RND (RANDOM), you obtain a specialized effect whereby the sound randomly moves left and right with each press of a key.
VALUE: RND, L63–0–63R

- **Specifying the amount of signal sent to the effect**

Chorus Send Lvl (Chorus Send Level)

Sets the level of the signal sent to chorus for each tone.
VALUE: 0–127

Reverb Send Lvl (Reverb Send Level)

Sets the level of the signal sent to reverb for each tone.
VALUE: 0–127

Saving a rhythm set (User Rhythm Set)

Once you have edited a rhythm set to your liking, use the following procedure to save it.

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Select the rhythm set that you want to edit.**

3. **Edit the rhythm set and its rhythm tones.**

☞
"Making settings that apply to the entire rhythm set (Rhythm Common parameters)" (p. 52)
"Editing the settings of each rhythm tone (key) (Rhythm Tone parameters)" (p. 52)

MEMO
The patch modify settings (p. 26) are not saved for rhythm sets.

4. **When the rhythm set is to your liking, press [WRITE].**
   Use VALUE [-]/[+] to specify the number in which the rhythm set is to be saved (U01–U02).

```
WRITE│RHYTHM    [ENT]
To:U 01:
```

As shown above, the display will show only the rhythm set number if nothing has yet been saved to that number.

NOTE
Be aware that your previously saved settings will be overwritten and lost if you save to a number in which a rhythm set has already been saved.

5. **Press [ENTER].**
   Unlike a patch, a rhythm set is always saved in the "RHYTHM & SFX" category group "DRM" (DRUMS).

MEMO
For more about the category group, refer to **"Patch categories"** (p. 49).

When the rhythm set has been saved, the display will indicate "COMPLETED." This completes the procedure.

MEMO
If you decide not to save the rhythm set, press [EXIT].

If you do not change **"Name (Rhythm Set Name)"** (p. 52), the rhythm set will have the same name as the one you selected in step 2.

Convenient functions for rhythm set editing (Rhythm Set Utility)

Rhythm Set Utility provides functions that you will find convenient when editing a rhythm set, such as initializing a rhythm tone or copying effect settings.

Copying effect settings from a rhythm set (RHY PRM COPY)

This operation copies effect settings from an existing rhythm set to the currently selected rhythm set. The following three parameters can be copied.

- MFX: Copy the multi-effect settings.
- CHORUS: Copy the chorus settings.
- REVERB: Copy the reverb settings.

1. **Press [PATCH] so it is lit and you are in Patch mode.**
   Select the copy-destination rhythm set.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "1:RHY PRM COPY."**

4. **Press [ENTER].**

5. **Use VALUE [-]/[+] to select "MFX," "CHORUS," or "REVERB."**

```
RHY PRM COPY│         ►
What:              MFX
```

6. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to specify whether you will copy "RHYTHM" effect settings or "PERFORM (Performance)" effect settings.

7. **Press PAGE/CURSOR [►].**
   Copying "RHYTHM" effect settings
   Select the copy-source rhythm set.

```
RHY PRM COPY│   [ENT]
Rh01:Standard Kit  _
```

   Copying "PERFORM (Performance)" effect settings
   Select the copy-source performance.

```
RHY PRM COPY│   [ENT]
P01:Pop 1          _
```

8. **Press [ENTER].**
   The effect settings will be copied to the currently selected rhythm set.

When the data has been copied, the display will indicate "COMPLETED." This ends the procedure.

Initializing the settings of a specific rhythm tone (RHY INITIALIZE)

This operation initializes the rhythm tone parameters (p. 52) to the state of the preset rhythm tone before its parameters were edited.

MEMO

If you want to return all parameters of the selected rhythm set to the preset state, simply re-select the preset rhythm set from which you started editing.

NOTE

The Initialize operation applies only to the currently selected tone; it will not change the content of other sounds stored in user memory. If you want to restore all settings to the factory-set condition, execute the Factory Reset operation (p. 17).

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Select the rhythm set that contains the rhythm tone you want to initialize.**

3. **Press [UTILITY].**

4. **Use PAGE/CURSOR [◄]/[►] to select "2:RHY INITIALIZE."**

5. **Press [ENTER].**

```
RHY INIT       [ENT]
Key:            C 4
```

6. **Use VALUE [-]/[+] to select the rhythm tone that you want to initialize.**
   VALUE: A 0 (key#21)–C 8 (key#108)

MEMO

You can also press a key to select the rhythm tone to edit.

7. **Press [ENTER] once again to execute.**

When initialization is finished, the display will indicate "COMPLETED." This ends the procedure.

Erasing a rhythm set you saved (RHY REMOVE)

This operation erases the specified user rhythm set. When you erase a rhythm set, it will no longer be possible to select the rhythm set of that number. If you newly save a rhythm set in that number, you will again be able to select it.

1. **Press [PATCH] so it is lit and you are in Patch mode.**

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "3:RHY REMOVE."**

4. **Press [ENTER].**

```
RHY REMOVE      [ENT]
U01:User Rhythm1    _
```

5. **Use VALUE [-]/[+] to select the user rhythm set that you want to erase.**

6. **Press [ENTER].**

When the data has been erased, the display will indicate "COMPLETED." This ends the procedure.

Refer to **Creating a Patch (Patch Mode) (**p. 51**)** about **Transmitting patch/rhythm settings from the MIDI OUT connector (XFER to MIDI)**, or **Restoring the factory settings (FACTORY RESET)**.

Choosing a part and selecting the sound

A performance contains sixteen parts that let you play different sounds simultaneously. Here's how to switch parts and assign a patch (or rhythm set) to each part.

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

2. **Press [PART SELECT] so it is lit, and use [0]–[9] to select a part.**
   Press [0] to select part 10 (Rhythm). To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 43).

3. **Use VALUE [-]/[+] to specify a patch or a rhythm set for the part.**
   You can also select a patch using the [NUMERIC] function.

Assigning patches of the same category to multiple parts

While [PART SELECT] is lit, you can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to step through the categories assigned to each part, selecting patches of the previous or next category group regardless of the button that is selected. This lets you assign patches of other categories than printed on the panel to each part. For example, if you want to prepare multiple patches of the same category, such as two types of organ, you can use the above method to select organ patches for a category that you do not use.

Quickly and consecutively auditioning the built-in sound of the RS-50 / Viewing a list of just the user patches

Using the above procedure, you can listen consecutively to all the built-in sounds of the RS-50 without pressing a category select button. Among the user patches organized into category groups, you can also view a list of just the user patches. Hold down [SHIFT] and press [►] to switch categories, and after the "Bass" category you will see the user patches (u001–u128) displayed as a category.

* *Only when viewing a list, the "u" at the beginning of user patch numbers will be displayed as a lowercase character.*

Selecting performance numbers

Press [PART SELECT] so it will go out.

Using VALUE [-]/[+]

Pressing VALUE [-]/[+] will select the performance that precedes or follows the currently selected performance.

You do not need to press [ENTER] after making your selection. The number you select will take effect immediately, and the performance will be selected.

Using the direct access buttons

* **When not using the [NUMERIC] function**
  Use the [0]–[9] buttons to input a number.
  The upper digit will remain fixed, and only the lower digit will change. This is a convenient way to step through the numbers in succession.
  You do not need to press [ENTER] after making your selection. The number you select will take effect immediately, and the performance will be selected.

* **When using the [NUMERIC] function**

1. **Press [NUMERIC] so it is lit.**

2. **Use the [0]–[9] buttons to input a two-digit number.**
   The indication will blink.

3. **If you want to finalize the value, press [ENTER].**
   The value will be finalized, and [NUMERIC] will go out.
   If you decide to cancel, press [EXIT].

MEMO
User performances will be displayed after the end of the preset performances. You can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to switch between display of user and preset performances.

Editing the settings of a performance

The **performances** of the RS-50 contain settings that are made for the entire performance, and settings that are made individually for each part of the performance.

Settings made for the entire performance are:
* Settings for the entire performance, such as the performance name (p. 55)
* Effect settings for the performance (p. 56)

Settings made individually for each part of the performance are:
* Performance part settings (p. 56)
* Effect settings for performance parts (p. 58)

Making settings that apply to the entire performance

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

2. **Select a performance.**

3. **Press [PARAM] so it is lit.**

```
PERFORM|COMMON
Name:    Pop 1
```

4. **Use PAGE/CURSOR [◄]/[►] to select a parameter, and use VALUE [-]/[+] to specify its value.**
   You can modify the following parameters.

☞
To save the edited performance, refer to **"Saving a performance"** (p. 59).

Performance Mode

Making settings that apply to the entire performance (Performance Common Parameters)

Name (Performance Name)

You can change the name of the performance.

Here you can use PAGE/CURSOR [◄]/[►] to move through the characters, and use VALUE [-]/[+] to finalize the desired character.

Value: space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = >
? @ [¥] ^ _ ` { | }

☞
For further information, refer to **"Assigning a name"** (p. 43).

Voice Rsv 1–16 (Voice Reserve 1–16)

The sound generator of the RS-50 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. The RS-50 has a **voice reserve** setting that lets you allocate a minimum number of voices for each part. For example, if you set Voice Reserve to "10" for part 16, ten voices each for upper and lower tones will be allocated for part 16, even if the total number of voices being sounded by the RS-50 reaches the maximum of 64. In this way, consider the number of sounds you want to play and the number of tones in the patch you are using, and set the Voice Reserve of each part accordingly.

```
PERFORM|COMMON
Voice Rsv 1:          0
```

:

```
PERFORM|COMMON
Voice Rsv 16:         0
```

Value: 0–32

MEMO
You cannot make settings that would cause the total of all parts to exceed 32.

Level (Performance Level)

Specifies the volume of the performance.

Value: 0–127

MFX Source

When the MFX effect is applied in Performance mode, this specifies whether the effect will use the parameters of the performance itself, or the parameters of the patch assigned to the part (p. 65).

```
PERFORM|COMMON
MFX Source:   PERFORM
```

VALUE

PERFORM: The MFX effect will be applied according to the effect parameters of the performance itself.

PART1–PART16: The MFX effect will be applied according to the parameters of the patch that is selected for the part.

Editing the effect settings of a performance

In Performance mode you can press [EFFECTS] to edit the effect settings of a performance. For details, refer to **"Adding effects"** (p. 65).

☞
To save the edited performance, refer to **"Saving a performance"** (p. 59).

Editing the part settings of a performance (Part Setup)

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

2. **Select a performance.**

3. **Press [PART SELECT] so it is lit.**

4. **Press [PARAM] so it is lit.**

5. **Use [0]–[9] to select the part whose settings you want to edit.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 43).
   Now you can edit the Part Setup parameters.

6. **Use PAGE/CURSOR [◄]/[►] to select a parameter, and use VALUE [-]/[+] to specify its value.**
   You can modify the following parameters.

☞
To save the edited performance, refer to **"Saving a performance"** (p. 59).

Part parameters of a performance (Part Setup Parameters)

Level (Part Level)

Sets the volume of each part. This is mainly used to achieve the volume balance between Parts.

Value: 0–127

Pan (Part 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 RND (random), you obtain a specialized effect whereby the sound randomly moves left and right with each key stroke.

Value: RND, L63–0–63R

Receive Ch (Receive Channel)

In Performance mode, the RS-50 will operate as a sixteen-part MIDI multitimbral sound module. This parameter specifies the MIDI receive channel for each part.

Value: 1–16

Each part of a performance is set to the following channels unless you change them.

PART [1]	(PIANO)	Ch.1
PART [2]	(KBD & ORGAN)	Ch.2
PART [3]	(GUITAR)	Ch.3
PART [4]	(ORCH)	Ch.4
PART [5]	(WORLD)	Ch.5
PART [6]	(BRASS)	Ch.6
PART [7]	(VOCAL & PAD)	Ch.7
PART [8]	(SYNTH)	Ch.8
PART [9]	(BASS)	Ch.9
PART [10 (0)]	(RHYTHM & SFX)	Ch.10
PART [11]		Ch.11
PART [12]		Ch.12
PART [13]		Ch.13
PART [14]		Ch.14
PART [15]		Ch.15
PART [16]		Ch.16

Receive Sw (Receive Switch)

Normally, you will leave this "ON." If you want to use an external sound module to play a certain part, you can turn this "OFF" to mute the internal sound generator for that part.

Value: OFF, ON

MEMO

The RS-50's keyboard will not play internal sound generator parts whose Receive Switch is turned OFF.

Receive Prg Chg (Receive Program Change Switch)

For each part, specify whether MIDI Program Change messages will be received (ON), or not (OFF).

Value: OFF, ON

Receive Bank Sel (Receive Bank Select Switch)

For each part, specify whether MIDI Bank Select messages will be received (ON), or not (OFF).

Value: OFF, ON

Scale Tune

```
PERFORM
Scale Tune?     [ENT]
```

You can specify a different tuning (Scale Tune setting) for each part. Press [ENTER] to access the Scale Tune setting screen. For details, refer to **"Editing the scale tune settings (SCALE TUNE)"** (p. 58).

☞

If you want to edit the scale tune for Patch mode, refer to **"Making scale tune settings for a patch (PATCH SCALE)"** (p. 91).

Part Patch Edit

```
PERFORM
Patch Edit?     [ENT]
```

The patch assigned to each part can also be edited from Performance mode. You can press [ENTER], and edit the patch parameters and save the patch in the same way as from Patch mode (p. 44).

If you decide to stop editing the patch, press [EXIT] to return to the above screen.

NOTE

Patch mode and Performance mode share the same patches. This means that if you save a patch in one of these modes, the newly saved patch will sound if you select it in the other mode. To avoid problems, such as unintended changes in the sound of patches you are using in Performance mode, please be aware of this when you save patches.

If the same patch happens to be selected in both Patch mode and Performance mode, and you save the patch in one mode and then switch modes, the patch will still sound in accord with the settings prior to the save. However, once you re-select the patch or the performance again, the patch will then sound in accord with the newly saved settings.

Performance Mode

Editing the scale tune settings (SCALE TUNE)

The Scale Tune function lets you use a variety of tunings. For each note C–B, you can specify the pitch in units of one cent (1/100th of a semitone).

Scale Tune settings are made independently for each part.

☞
If you want to edit the scale tune for Patch mode, refer to **"Making scale tune settings for a patch (PATCH SCALE)"** (p. 91).

1. **Select the part setup parameter "Scale Tune" (p. 57).**

2. **Press [ENTER].**

```
PERFORM|SCALE TUNE
Type:          EQUAL
```

3. **Use PAGE/CURSOR [◄]/[►] to select "Type" or "Tune", and use VALUE [-]/[+] to specify its value.**

4. **Press [EXIT] to return to the above screen.**

Type (Part Scale Tune Type)

You can switch the "Type" parameter to recall various sample settings for Scale Tune. When you change "Type," all scale tune parameters will be changed automatically.

EQUAL (Equal Temperament):
This tuning divides the octave into 12 equal parts, and is the most widely used method of temperament used in Western music.

JUST (maj) in C (Just Temperament (major)):
Compared with equal temperament, the principle triads sound pure in this tuning. However, this effect is achieved only in one key, and chords will become ambiguous if you transpose.

JUST (min) in C (Just Temperament (minor)):
Compared with equal temperament, the principle triads sound pure in this tuning. However, this effect is achieved only in one key, and chords will become ambiguous if you transpose.

ARABIC (Arabian Scale):
In this scale, E and B are a quarter note lower and C#, F# and G# are a quarter-note higher compared to equal temperament. The intervals between G and B, C and E, F and G#, Bb and C#, and Eb and F# have a natural third–the interval between a major third and a minor third.

Tune C–B (Part Scale Tune C–B)

Make scale tune settings for each part.
Value: -64–+63

Editing the effect settings for each part of the performance (Performance Part Effect)

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

2. **Select a performance.**

3. **Press [PART SELECT] so it is lit.**

4. **Use [0]–[9] to select the part whose settings you want to edit.**

   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 43).

5. **Press [EFFECTS] so it is lit.**

   Now you can make settings for the performance part effect parameters.

6. **Use PAGE/CURSOR [◄]/[►] to select a parameter, and use VALUE [-]/[+] to specify the value.**

   You can modify the following parameters.

☞
To save the edited performance, refer to **"Saving a performance"** (p. 59).

Master Effects Switch

The Master Effect Switch can also be set here. For details, refer to **"Turning the effect function on and off (MASTER EFFECT SWITCH)"** (p. 65).

MFX Switch

Switches the multi-effect on/bypass (off) in each Part.
Value: BYPASS, ON

Chorus Send Lvl (Chorus Send Level)

Sets the amount of chorus effect applied in each Part.
Value: 0–127

Reverb Send Lvl (Reverb Send Level)

Sets the amount of reverb effect applied in each Part.
Value: 0–127

Saving a performance

Use the following procedure to save a performance you've edited.

1. Press [WRITE].

Use VALUE [-]/[+] to specify the number (U1–U8) at which the user performance is to be saved.

```
WRITE┃PERFORM  [ENT]
To:U 1:INIT PERFORM
```

NOTE

Be aware that if you choose a number in which a user performance has already been saved, the previously saved settings will be overwritten and lost.

2. Press [ENTER].

If you have edited patches for some parts, the following message will appear.

```
Write Edited Patch?
   Yes[ENT]/No[EXIT]
```

If you have not edited any of the patches in the performance, the user performance has been saved and the display will indicate "COMPLETED."

3. If you want to save the edited patch, press [ENTER].

The display will indicate the part where the edited patch is used. Use VALUE [-]/[+] to specify the number (U001–U128) at which the user patch is to be saved.

```
WRITE┃Part 1   [ENT]
To:U001:
```

If you decide not to save the user patch, press [EXIT].

NOTE

Be aware that if you choose a number in which a user patch has already been saved, the previously saved settings will be overwritten and lost.

4. Press [ENTER].

5. Use VALUE [-]/[+] to specify the category for the user patch you want to save.

```
WRITE┃Part 1   [ENT]
              [Pf]PNO
```

☞
For more about the category, refer to **"Patch categories"** (p. 49)

6. Press [ENTER] once again to execute.

When the patch has been saved, the display will indicate "COMPLETED."
If there are more patches that have been edited, the parts that use such patches will be shown in a consecutive manner.
Repeat steps 3.–6.

7. Once all the necessary patches have been saved, you are returned to the screen you were in at step 1.

```
WRITE┃PERFORM  [ENT]
To:U 1:INIT PERFORM
```

8. Press [ENTER].

When the user performance has been saved, the display will indicate "COMPLETED."

MEMO

If you decide not to save the user performance, press [EXIT].

If you do not change **"Name (Performance Name)"** (p. 56), the performance will have the same name as the one you have been editing.

Convenient functions for performance editing (Performance Utility)

Performance Utility provides various functions that you will find convenient when editing performances, allowing you to do things such as copy or initialize a performance.

Copying part or effect parameters (PERFORM PRM COPY)

This operation copies the settings of a specified performance to the current performance. By using this you can edit more efficiently. The following four parameters can be copied. Effect-related parameters can also be copied from a patch.

- **PART:** Copy settings made for each part (p. 56).
- **MFX:** Copy multi-effect settings.
- **CHORUS:** Copy chorus settings.
- **REVERB:** Copy reverb settings.

Copying settings made for each part of a performance

1. Press [PERFORM] so it is lit and you are in Performance mode.

Select the copy-destination performance.

2. Press [UTILITY].

3. Use PAGE/CURSOR [◄]/[►] to select "1:PERFORM PRM COPY."

4. Press [ENTER].

5. Use VALUE [-]/[+] to select "PART."

```
PFM PRM COPY┃      ►
What:        PART
```

6. Press PAGE/CURSOR [►].

Use VALUE [-]/[+] to select the copy-source performance.

```
PFM PRM COPY┃      ►
P01:Pop 1
```

Performance Mode

7. Press PAGE/CURSOR [▶].

Use VALUE [-]/[+] to specify the copy-source part.

```
PFM PRM COPY      ▶
From: part        1
```

MEMO

You can also select the part by pressing [0]–[9] or by holding down [SHIFT] and pressing [1]–[6].

8. Press PAGE/CURSOR [▶].

Use VALUE [-]/[+] to specify the copy-destination part.

```
PFM PRM COPY   [ENT]
To: part         16
```

MEMO

You can also select the part by pressing [0]–[9] or by holding down [SHIFT] and pressing [1]–[6].

9. Press [ENTER].

Settings made for each part of the performance will be copied to the currently selected performance.

When the display indicates "COMPLETED," the copy operation has been completed.

Copying effect settings

1. Press [PERFORM] so it is lit and you are in Performance mode.

Select the copy-destination performance.

2. Press [UTILITY].

3. Use PAGE/CURSOR [◀]/[▶] to select "1:PERFORM PRM COPY."

4. Press [ENTER].

5. Use VALUE [-]/[+] to select "MFX," "CHORUS," or "REVERB."

```
PFM PRM COPY      ▶
What:            MFX
```

6. Press PAGE/CURSOR [▶].

Use VALUE [-]/[+] to specify whether you will copy "PATCH" effect settings or "PERFORM (performance)" effect settings.

```
PFM PRM COPY      ▶
From:        PERFORM
```

7. Press PAGE/CURSOR [▶].

When copying "PATCH" effect settings

Use VALUE [-]/[+] to select the patch whose effect settings you want to copy.

```
PFM PRM COPY   [ENT]
Pf01:RS Grand
```

When copying "PERFORM (Performance)" effect settings

Use VALUE [-]/[+] to select the performance whose effect settings you want to copy.

```
PFM PRM COPY   [ENT]
P01:Pop 1
```

8. Press [ENTER].

The effect settings will be copied to the currently selected performance.

When the display indicates "COMPLETED," the copy operation has been completed.

MEMO

If you copy multi-effect settings, those settings will be pasted into the effect parameters of the performance, regardless of the MFX Source setting (p. 56). This means that if the MFX Source is set to "PART" for either or both the copy source and copy destination, you may not be able to tell that the copy made any difference. If the MFX Source of the current performance is set to "PART," change it to "PERFORM." Additionally, if MFX Source of the copy source is set to "PART," you will need to select "PATCH" in the above step 6, and select the patch assigned to that part in step 7 to copy the effect settings of the patch.

Initializing the parameters of a performance (PERFORM INIT)

This operation initializes the performance settings.
Since all performance parameters will be initialized, this is convenient when you want to create a performance from scratch.

NOTE

The Initialize operation applies only to the currently selected performance; it will not change the content of other performances stored in user memory. If you want to restore all settings to the factory-set condition, execute the Factory Reset operation (p. 17).

1. Press [PERFORM] so it is lit and you are in Performance mode.

Select a performance you want to initialize.

2. Press [UTILITY].

3. Use PAGE/CURSOR [◀]/[▶] to select "2:PERFORM INIT."

4. Press [ENTER].

```
PERFORM INIT   [ENT]

```

5. Press [ENTER] once again to execute.

When initialization is finished, the display will indicate "COMPLETED." This ends the procedure.

Transmitting performance settings from the MIDI OUT connector (XFER to MIDI)

You can transmit the settings of the current performance or user performance from the MIDI OUT connector. This function lets you save performance settings on an external sequencer. If you select "DUMP ALL" for the menu, you can transmit all data stored in the user area to an external sequencer.all data stored in the user area

1. **Press [PERFORM] so it is lit and you are in Performance mode.**

   Select the performance you want to output.

2. **Press [UTILITY].**

3. **Use PAGE/CURSOR [◄]/[►] to select "3:XFER to MIDI."**

4. **Press [ENTER].**

Transmitting the settings of currently selected performance

This operation lets you transmit the settings of the current (edited and unsaved) performance.

5. **Use VALUE [-]/[+] to select "CUR PERFORM."**

```
XFER to MIDI  [ENT]
What:     CUR PERFORM
```

6. **Press [ENTER].**

   The currently selected performance settings will be transmitted from the MIDI OUT connector.

When the display indicates "COMPLETED," the transmission has been completed.

Transmitting the settings of a user performance

5. **Use VALUE [-]/[+] to select "USER PERFORM."**

```
XFER to MIDI        ►
What:    USER PERFORM
```

6. **Press PAGE/CURSOR [►].**

   Specify the range of performances whose settings you want to transmit.
   Use VALUE [-]/[+] to specify the first performance of the range of performances you want to transmit.

```
XFER to MIDI        ►
From:           U 1
```

7. **Press PAGE/CURSOR [►].**

   Use VALUE [-]/[+] to specify the last performance of the range of performances you want to transmit.

```
XFER to MIDI  [ENT]
To:             U 8
```

8. **Press [ENTER].**

   The performance settings of the specified range will be transmitted from the MIDI OUT connector.

When the display indicates "COMPLETED," the transmission operation has been completed.

Transmitting all data stored in the user area

5. **Use VALUE [-]/[+] to select "DUMP ALL."**

```
XFER to MIDI  [ENT]
What:       DUMP ALL
```

6. **Press [ENTER].**

   All data stored in the user area will be transmitted from the MIDI OUT connector.

When the display indicates "COMPLETED," the transmission operation has been completed.

MEMO

   If you want to restore the stored data into the RS-50 once again, send the data to the RS-50's MIDI IN. Do not operate the RS-50 while this data is being received.

Restoring the factory settings (FACTORY RESET)

You can also perform the FACTORY RESET operation from Performance Utility.

For more about FACTORY RESET, refer to **"Reset to default factory settings (Factory Reset)"** (p. 17).

Performance Mode

Using the phrase/arpeggio function

The RS-50 provides arpeggio templates that use phrases suitable for each category of instrument. Some of the arpeggio templates are **phrase templates**, which let you produce arpeggios with a single finger, without having to hold down a chord.

☞
"Playing arpeggios (Phrase/Arpeggio)" (p. 23)

1. Press [PHRASE/ARPEGGIO] so it is lit.

```
  << PHRASE/ARP >>
      Piano Arp 1
```

2. Press [0]–[9] to choose the arpeggio template you want to use.

Play a chord on the keyboard. An arpeggio will begin playing according to the notes in the chord you play. Select a template or style you like.

MEMO
If you select a phrase template, press only one key. If you play a chord, the phrase will play according to the last-played key.

```
  << PHRASE/ARP >>
      Piano Phr 1
```

3. To stop the arpeggio performance, press [PHRASE/ARPEGGIO] once again so it goes out.

Creating your own arpeggio template (User Template)

You can create your own arpeggio template by editing the parameters of one of the preset templates. Your newly created template can be stored as one of eight **user templates**.

1. Press [PHRASE/ARPEGGIO] so it is lit.

```
  << PHRASE/ARP >>
      Piano Arp 1
```

2. Press [0]–[9] to select a template that produces arpeggios similar to what you want to create.

Pressing [0] will select the user template you have created.
You can then use VALUE [-]/[+] to select other user templates.

3. Press [PARAM] so it is lit.

Now you can edit the arpeggio parameters.

```
PHRASE/ARP|
Style: Pno&ErBackng
```

4. Use PAGE/CURSOR [◄]/[►] to move the cursor, and use VALUE [-]/[+] to specify the value.

For details on the types and values of the parameters, refer to the following section **"User template parameter list"** (p. 62).

5. When you are finished editing parameters, press [WRITE].

Use VALUE [-]/[+] to specify the number (UserTemplate 1–8) at which to save the user template.

```
PHR/ARP|WRITE  [ENT]
To:   UserTemplate 1
```

NOTE
Be aware that if you choose a number in which a user template has already been saved, the previously saved settings will be overwritten and lost.

6. Press [ENTER].

When the user template has been saved, the display will indicate "COMPLETED."

MEMO
If you decide not to save the user template, press [EXIT].

Now when you use the arpeggiator, you can press [0] and select the user template you just saved.

User template parameter list

Style (Arpeggio Style)

Specifies the basic way in which the arpeggio will be played.

☞
For details regarding Arpeggio Style, refer to **"Arpeggio style list"** (p. 122).

Variation (Arpeggio Variation)

The arpeggiator provides several variations (performance patterns) for each arpeggio style. This parameter selects the variation number. The number of variations will differ according to the arpeggio style.

Motif (Arpeggio Motif)

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

VALUE

UP:	Notes you press will be sounded, beginning from low to high.
DOWN:	Notes you press will be sounded, from high to low.
UP&DOWN:	Notes you press will be sounded, from low to high, and then back down from high to low.
RANDOM:	Notes you press will be sounded, in random order.
NOTE-ORDER:	Notes you press will be sounded in the order in which you pressed them. By pressing the notes in the appropriate order you can produce melody lines. Up to 128 notes will be remembered.
GLISSANDO:	Each chromatic step between the highest and lowest notes you press will sound in succession, repeating upward and downward. Press only the lowest and the highest notes.
CHORD:	All notes you press will sound simultaneously.
AUTO1:	The timing at which keys will sound will be assigned automatically, giving priority to the lowest key that was pressed.
AUTO2:	The timing at which keys will sound will be assigned automatically, giving priority to the highest key that was pressed.
PHRASE:	Pressing a single key will sound a phrase based on the pitch of that key. If multiple keys are pressed, the last-pressed key will be valid.

MEMO

For a phrase template, this setting will be "PHRASE."

Accent Rate (Arpeggio 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%

Shuf Rate (Arpeggio Shuffle Rate)

This setting lets you modify the note timing to create shuffle rhythms.

With a setting of "50%" the notes will be spaced evenly. As the value is increased, the note timing will have more of a "dotted" (shuffle) feel.

Value: 0–100%

Shuffle Rate = 50%   Shuffle Rate = 90%

50   50   50   50   90   10   90   10

Shuf Resolution (Arpeggio Shuffle Resolution)

A "shuffle" feel is produced by delaying the even-numbered beats (beats 2, 4, 6,...). You can select either 16th notes or 8th notes to be affected by this delay.

Value: ♬ , ♪

Hold (Arpeggio Hold Switch)

Switch between Hold On/Hold Off for the Arpeggiator performance.

Value: OFF, ON

Kbd Velocity (Arpeggio Keyboard Velocity)

Specifies the loudness of the notes that you play.

If you want the velocity value of each note to vary depending on how strongly you play the keyboard, set this parameter to "REAL." If you want each note to have a fixed velocity regardless of how strongly you play the keyboard, set this parameter to the desired value (1–127).

Value: REAL, 1–127

Octave Range (Arpeggio 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 Trigger (Arpeggio Key Trigger)

Turn this "ON" if you want the arpeggio to start at the moment that you press the key. If you want the arpeggio to start playing in synchronization with Rhythm guide or the external sequencer, turn this "OFF."

Value: OFF, ON

Phrase/arpeggio

Using chord memory function

☞
"Playing a chord at the touch of a finger (Multi-chord Memory)" (p. 24)

1. **Press [CHORD MEMORY] so it is lit.**

```
<< CHORD MEMORY >>
      Pop 1
```

2. **Select the desired chord set.**

   When you play the keyboard, a chord of the specified structure will sound according to the key you press. Select the desired chord set (p. 25).

3. **To stop the performance using the chord memory, press [CHORD MEMORY] so it goes out.**

Creating an original chord set (User Chord Set)

1. **Press [CHORD MEMORY] so it is lit.**

2. **Press [PARAM] so it is lit.**

3. **Press PAGE/CURSOR[◄] to move the cursor under the key number.**

```
CHORD MEM|REC
KBD-C :      ooo_____
```

4. **Either press a key or use VALUE [-]/[+] to specify the key (C–B) for which the chord is to be saved.**

5. **Press PAGE/CURSOR[►] to move the cursor to the right.**

```
CHORD MEM|REC
KBD-A :      xxxxxxx
```

6. **Press keys to input chords.**

   The display will indicate how many keys were pressed.

   You can input 8 notes.

```
CHORD MEM|REC
KBD-A :      ooozxxxx
```

7. **Release all the keys.**

   The previously saved chords will be erased, and the new chords will be saved.

8. **Repeat the above steps to continue inputting.**

9. **When you have finished creating the chord set, press [WRITE].**

```
WRITE|CHORD MEM[ENT]
To:        UserSet 1
```

10. **Use VALUE [-]/[+] to specify the user chord set number.**

    You can create up to 8 user chord sets.

11. **Press [ENTER].**

When the user chord set has been saved, the display will indicate "COMPLETED."

Adding effects

The RS-50 contains three effects processors: multi-effects, chorus, and reverb. Settings can be made separately for each effects processor.

There are 47 types of multi-effects, 8 types of chorus, and 8 types of reverb. You can use one of each type in a patch or part.

- Multi-effect/chorus/Reverb parameters can also be saved in a patch (rhythm set) or performance.
- In Patch mode, effects will be applied according to the settings of each patch. For details, refer to **MFX Switch** (p. 46), **Chorus Send Lvl** (p. 46), **Reverb Send Lvl** (p. 46) and in the section entitled **Patch Tone Parameters**. You will not hear the effects if the send level to chorus/reverb is too low, or if the MFX Switch is off. If you cannot hear the results of your editing the effect settings, check the settings listed above.
- In Performance mode, effects will be applied according to the settings of each patch, as well as the settings of each part. For details, refer to **MFX Switch** (p. 58), **Chorus Send Lvl** (p. 58), **Reverb Send Lvl** (p. 58) and in the section entitled **Part Effect Parameters**. Each effect is shared by all parts (patches).
- When using the multi-effect in Performance mode, you will normally apply the multi-effect using "the effect settings stored by the performance." However, if desired, you can set the performance parameter **MFX Source** (p. 56) so that the "effect settings stored by the patch assigned to a part" are used by all parts. When you edit the multi-effect settings, check **MFX Source** to see which of the above you are editing.

Turning the effect function on and off (MASTER EFFECT SWITCH)

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 an external effects processor instead of the onboard effects.

The On/Off settings for each Effect affect the RS-50 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] so it is lit.

The on/off status of each effect (multi-effect, chorus, reverb) will be displayed.

```
FX ▌ MFX│ Cho│ Rev ▶
Sw ▌  ON│  ON│  ON
```

2. Use PAGE/CURSOR [◀]/[▶] to select the effect type, and use VALUE [-]/[+] to switch it on/off.

When you play the keyboard in this state, the effects whose master effect switch is turned on will be applied to each patch.

When the cursor is located at "Rev" and you want to edit the effect settings, press PAGE/CURSOR [▶], and the effect parameters selected previously will be displayed.

For further information, refer to **"Making effects settings"** (p. 67).

Effects

The effect signal path

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

Performance Mode (Patch)
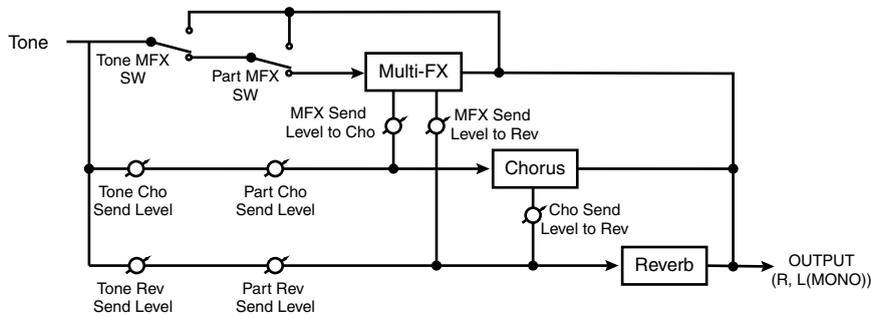
Performance Mode (Rhythm)
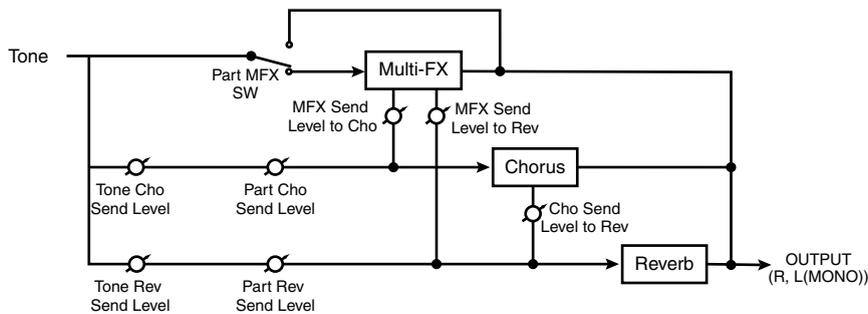
Patch Mode (Patch)
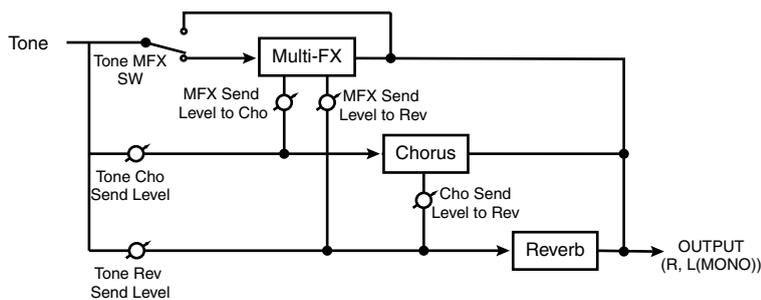
Patch Mode (Rhythm)
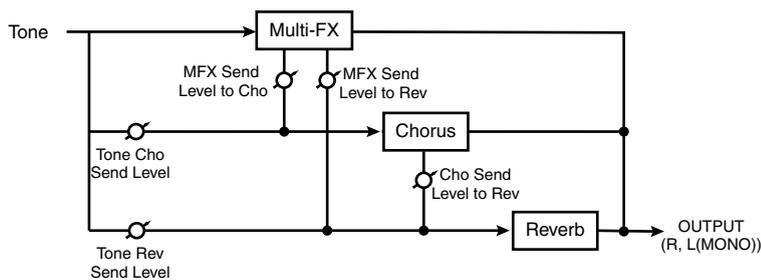
Making effects settings

Selecting effect parameters

Select multi-effect, chorus, or reverb parameters as shown below.

Master Effect Switch

```
FX ‖ MFX| Cho| Rev ▶
Sw ‖  ON|  ON|  ON
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
FX ‖ MFX| Cho| Rev ▶
Sw ‖  ON|  ON|  ON
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
FX ‖ MFX| Cho| Rev ▶
Sw ‖  ON|  ON|  ON
```

[SHIFT] + PAGE/CURSOR [▶]

[SHIFT] + PAGE/CURSOR [◀]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

Multi-Effects Parameters

```
FX ‖PERFORM MFX
Type:16 STEP FLANGER
```

VALUE [+]

```
FX ‖PERFORM MFX
Type:17 St DELAY
```

VALUE [-]
Switches the effect type.

Displays the effect type selected previously.

[SHIFT] + PAGE/CURSOR [▶]

[SHIFT] + PAGE/CURSOR [◀]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
MFX‖16 STEP FLANGER
Pre Delay:   0.5[ms]
```
Displays the parameters for the selected effect type.

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

Chorus Parameters

```
FX ‖PERFORM CHORUS
Type:        CHORUS1
```

[SHIFT] + PAGE/CURSOR [▶]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

[SHIFT] + PAGE/CURSOR [◀]

Reverb Parameters

```
FX ‖PERFORM REVERB
Type:          ROOM1
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
FX ‖PERFORM REVERB
Delay Feedback:    0
```

Effects

Adding effects

1. **Press [EFFECTS] so it is lit.**

   The on/off state of each effect (multi-effect, chorus, reverb) will be displayed.

   ```
   FX ▮ MFX▮ Cho▮ Rev ▶
   Sw ▮ ON▮ ON▮ ON
   ```

2. **When the cursor is located at "Rev," press PAGE/CURSOR [▶], and the effect parameters will be displayed one after another starting with the multi-effect (MFX) parameters.**

   MEMO

   By holding down [SHIFT] and using PAGE/CURSOR [◀]/[▶] you can jump between the four parameter groups; effect on/off, multi-effect, chorus, and reverb.

   Example: for a patch

   ```
   FX ▮PATCH MFX
   Type:16 STEP FLANGER
   ```

   Example: for a rhythm patch

   ```
   FX ▮RHYTHM MFX
   Type:16 STEP FLANGER
   ```

   Example: for a performance

   ```
   FX ▮PERFORM MFX
   Type:16 STEP FLANGER
   ```

   MEMO

   Depending on the type of effect that is selected, what is displayed will be different.

3. **Use PAGE/CURSOR [◀]/[▶] to select the parameter that you want to edit, and use VALUE [-]/[+] to modify the value of the parameter.**

Setting multi-effects parameters

There are 47 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.

Type (Multi-Effects Type)

Selections are made from the following 47 different multi-effects. Additionally, parameters for each of the multi-effects types can be found on the following pages.

Value:

00:	THROUGH	(p. 69)
01:	STEREO EQ	(p. 69)
02:	OVERDRIVE	(p. 69)
03:	DISTORTION	(p. 70)
04:	PHASER	(p. 70)
05:	SPECTRUM	(p. 70)
06:	ENHANCER	(p. 70)
07:	AUTO WAH	(p. 71)
08:	ROTARY	(p. 71)
09:	COMPRESSOR	(p. 71)
10:	LIMITER	(p. 72)
11:	HEXA-CHORUS	(p. 72)
12:	TREMOLO CHO	(p. 72)
13:	SPACE-D	(p. 73)
14:	St CHORUS	(p. 73)
15:	St FLANGER	(p. 73)
16:	STEP FLANGER	(p. 74)
17:	St DELAY	(p. 74)
18:	LONG DELAY	(p. 75)
19:	MOD DELAY	(p. 75)
20:	3 TAP DELAY	(p. 76)
21:	4 TAP DELAY	(p. 76)
22:	TM CTRL DLY	(p. 77)
23:	2V PCH SHIFT	(p. 77)
24:	FB PCH SHIFT	(p. 78)
25:	REVERB	(p. 78)
26:	GATED REVERB	(p. 79)
27:	OD>CHORUS	(p. 79)
28:	OD>FLANGER	(p. 79)
29:	OD>DELAY	(p. 80)
30:	DIST>CHORUS	(p. 80)
31:	DIST>FLANGER	(p. 80)
32:	DIST>DELAY	(p. 80)
33:	ENH>CHORUS	(p. 81)
34:	ENH>FLANGER	(p. 81)
35:	ENH>DELAY	(p. 81)
36:	CHORUS>DELAY	(p. 82)
37:	FLG>DELAY	(p. 82)
38:	CHO>FLANGER	(p. 83)
39:	CHORUS/DELAY	(p. 83)
40:	FLG/DELAY	(p. 83)
41:	CHO/FLANGER	(p. 83)
42:	LOFI	(p. 83)
43:	SLICER	(p. 84)
44:	TREMOLO	(p. 84)
45:	AUTO PAN	(p. 84)
46:	TUMBLING DLY	(p. 85)
47:	FBK RIPPER	(p. 85)

Send Lvl 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

Send Lvl 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

Ctrl 1, 2 (Multi-Effects Control 1, 2)

On the RS-50, certain multi-effect parameters can be assigned to the modulation lever, knobs, pedal or D Beam. Of the parameters explained in **Multi-effect parameters**, the assignable parameters are marked with a "#" symbol. (Parameters marked with "#1" or "#2" can be simultaneously controlled using the controller marked with the same number.) Here you can exchange these assignments, or choose not to use them. For details, refer to p. 33, p. 89.

Value

OFF: Multi-effect control will not be used.

Items with a "#" symbol: The parameters that can be assigned to Ctrl1 or Ctrl2. These differ depending on the multi-effect type.

00: THROUGH

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

01: STEREO EQ (Stereo Equalizer)

This is a four-band stereo equalizer (low, mid x 2, high).
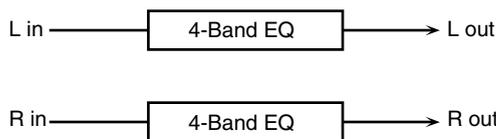
Parameter	Value	Description
Low Freq	200, 400 [Hz]	Selects the frequency of the low range.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Freq	2000, 4000, 8000 [Hz]	Selects the frequency of the high range.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Mid1 Freq	200–8000 [Hz]	Adjusts the frequency of Middle 1 (mid range).
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	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.

Parameter	Value	Description
Mid1 Gain	-15– +15 [dB]	Adjusts the gain for the area specified by the Middle 1 Frequency and Q settings.
Mid2 Freq	200–8000 [Hz]	Adjusts the frequency of Middle 2 (mid range).
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	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.
Mid2 Gain	-15– +15 [dB]	Adjusts the gain for the area specified by the Middle 2 Frequency and Q settings.
Level #	0–127	Adjusts the output level.

02: OVERDRIVE

This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.

Parameter	Value	Description
Drive #	0–127	Adjusts the degree of distortion. The volume will change together with the degree of distortion.
Pan #	L64–63R	Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Selects the type of guitar amp. SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: single-unit type amp 3-STACK: large triple stack amp
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level	0–127	Adjusts the output level.

Effects

03: DISTORTION

This effect produces a more intense distortion than Overdrive.

Parameter	Value	Description
Drive #	0–127	Adjusts the degree of distortion. The volume will change together with the degree of distortion.
Pan #	L64–63R	Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Selects the type of guitar amp. SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: single-unit type amp 3-STACK: large triple stack amp
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level	0–127	Adjusts the output level.

04: PHASER

A phaser adds a phase-shifted sound to the direct sound, producing a twisting modulation that creates spaciousness and depth.
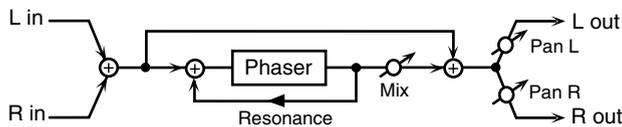
Parameter	Value	Description
Manual #	100–8000 [Hz]	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 [Hz]	Adjusts the frequency (period) of modulation.
Depth	0–127	Adjusts the depth of modulation.
Resonance	0–127	Adjusts the amount of feedback for the phaser.
Mix	0–127	Adjusts the ratio with which the phase-shifted sound is combined with the direct sound.
Pan	L64–63R	Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Level	0–127	Adjusts the output level.

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.
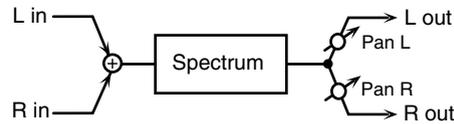
Parameter	Value	Description
Band 1	-15– +15 [dB]	Adjusts the 250 Hz level.
Band 2	-15– +15 [dB]	Adjusts the 500 Hz level.
Band 3	-15– +15 [dB]	Adjusts the 1000 Hz level.
Band 4	-15– +15 [dB]	Adjusts the 1250 Hz level.
Band 5	-15– +15 [dB]	Adjusts the 2000 Hz level.
Band 6	-15– +15 [dB]	Adjusts the 3150 Hz level.
Band 7	-15– +15 [dB]	Adjusts the 4000 Hz level.
Band 8	-15– +15 [dB]	Adjusts the 8000 Hz level.
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted areas for all the frequency bands.
Pan #	L64–63R	Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Level #	0–127	Adjusts the output level.

06: ENHANCER

The enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.
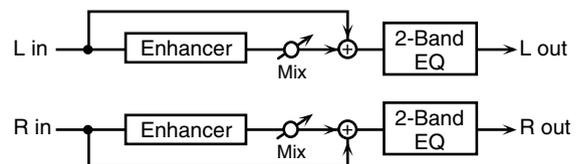
Parameter	Value	Description
Sens #	0–127	Adjusts the sensitivity of the enhancer.
Mix #	0–127	Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level	0–127	Adjusts the output level.

07: AUTO WAH

The Auto Wah cyclically controls a filter to create cyclic change in timbre.

```
L in ─────┐                          ┌──→ L out
          ⊕──→ ┌──────────┐ ──●──────┤
R in ─────┘    │ Auto Wah │          └──→ R out
               └──────────┘
```
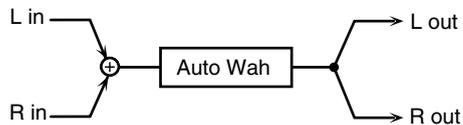
Parameter	Value	Description
Filter Type	LPF, BPF	Selects the type of filter. LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Rate #	0.05–10.00 [Hz]	Adjusts the frequency of the modulation.
Depth	0–127	Adjusts the depth of the modulation.
Sens	0–127	Adjusts the sensitivity with which the filter is controlled.
Manual #	0–127	Adjusts the center frequency from which the effect is applied.
Peak	0–127	Adjusts 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.
Level	0–127	Adjusts the output level.

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.

```
L in ─────┐                      ┌──→ L out
          ⊕──→ ┌────────┐ ───────┤
R in ─────┘    │ Rotary │        └──→ R out
               └────────┘
```
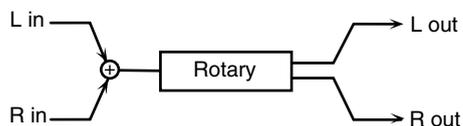
Parameter	Value	Description
High Slow	0.05–10.00 [Hz]	Adjusts the slow speed (SLOW) of the high frequency rotor.
Low Slow	0.05–10.00 [Hz]	Adjusts the slow speed (SLOW) of the low frequency rotor.
High Fast	0.05–10.00 [Hz]	Adjusts the fast speed (FAST) of the high frequency rotor.
Low Fast	0.05–10.00 [Hz]	Adjusts the fast speed (FAST) of the low frequency rotor.

Parameter	Value	Description
Speed #	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. SLOW: Slows down the rotation to the specified speed (the Low Slow/Hi Slow values). FAST: Speeds 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 PARAMETER1 in Pedal Control Assign (p. 90).
High Accel	0–15	Adjusts 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.
Low Accel	0–15	Adjusts 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.
High Level	0–127	Adjusts the volume of the high frequency rotor.
Low Level	0–127	Adjusts the volume of the low frequency rotor.
Separation	0–127	Adjusts the spatial dispersion of the sound.
Level #	0–127	Adjusts the output level.

09: COMPRESSOR

The compressor flattens out high levels and boosts low levels, smoothing out unevenness in volume.

```
L in ─────┐                                         ┌→ L out
          ⊕──→ ┌────────────┐ ┌─────────┐  ○ Pan L  │
R in ─────┘    │ Compressor │ │ 2-Band  │──●────────┤
               └────────────┘ │   EQ    │  ○ Pan R  └→ R out
                              └─────────┘
```
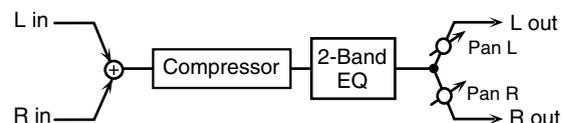
Parameter	Value	Description
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Attack	0–127	Adjusts the attack time of an input sound.
Pan #	L64–63R	Adjusts the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.
Post Gain	0, +6, +12, +18 [dB]	Adjusts the output gain.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level #	0–127	Adjusts the output level.

Effects

10: LIMITER

The limiter compresses signals that exceed a specified volume level, preventing distortion from occurring.
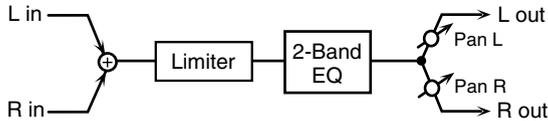
Parameter	Value	Description
Threshold	0–127	Adjusts the volume at which compression will begin.
Release	0–127	Adjusts the time from when the volume falls below the Threshold Level until compression is no longer applied.
Ratio	1.5:1, 2:1, 4:1, 100:1	Adjusts the compression ratio.
Pan #	L64–63R	Adjusts the stereo location of the output sound.L64 is far left, 0 is center, and 63R is far right.
Post Gain	0, +6, +12, +18 [dB]	Adjusts the output gain.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level #	0–127	Adjusts the output level.

11: HEXA-CHORUS

Hexa-chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.

Parameter	Value	Description
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Rate #	0.05–10.00 [Hz]	Adjusts the rate of modulation.
Depth	0–127	Adjusts the depth of modulation.
Pre Delay Dev	0–20	Pre Delay Deviation adjusts the differences in Pre Delay between each chorus sound. Pre Delay determines the time from when the direct sound begins until the processed sound is heard.
Depth Dev	-20– +20	Adjusts the difference in modulation depth between each chorus sound.

Parameter	Value	Description
Pan Dev	0–20	Adjusts 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.
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

12: TREMOLO CHO (Tremolo Chorus)

Tremolo chorus is a chorus effect with added tremolo (cyclic modulation of volume).

Parameter	Value	Description
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Cho Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the chorus effect.
Cho Depth	0–127	Adjusts the modulation depth of the chorus effect.
Treml Rate #	0.05–10.00 [Hz]	Adjusts the modulation speed of the tremolo effect.
Treml Separation	0–127	Adjusts the spread of the tremolo effect.
Phase	0–180 [deg]	Adjusts the spread of the tremolo effect.
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

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.

Parameter	Value	Description
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the processed sound is heard.
Rate #	0.05–10.00 [Hz]	Adjusts the rate of modulation.
Depth	0–127	Adjusts the depth of modulation.
Phase	0–180 [deg]	Adjusts the spatial spread of the sound.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

14: St CHORUS (Stereo Chorus)

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.

Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Selects the type of filter. OFF: A filter will not be used. LPF: Cuts the frequency range above the cutoff frequency. HPF: Cuts the frequency range below the cutoff frequency.
Cutoff Freq	200–8000 [Hz]	Adjusts the basic frequency of the filter.
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the processed sound is heard.
Rate #	0.05–10.00 [Hz]	Adjusts the rate of modulation.

Parameter	Value	Description
Depth	0–127	Adjusts the depth of modulation.
Phase	0–180 [deg]	Adjusts the spatial spread of the sound.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

15: St FLANGER (Stereo Flanger)

This is a stereo flanger. 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.

Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Selects the type of filter. OFF: A filter will not be used. LPF: Cuts the frequency range above the cutoff frequency. HPF: Cuts the frequency range below the cutoff frequency.
Cutoff Freq	200–8000 [Hz]	Adjusts the basic frequency of the filter.
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Rate #	0.05–10.00 [Hz]	Adjusts the rate of modulation.
Depth	0–127	Adjusts the depth of modulation.
Phase	0–180 [deg]	Adjusts the spatial spread of the sound.
Feedback #	-98– +98 [%]	Adjusts 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.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.

Effects

Parameter	Value	Description
Balance	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

16: STEP FLANGER

The Step Flanger effect is a flanger in which the flanger pitch changes in steps.

Parameter	Value	Description
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Rate	0.05–10.00 [Hz]	Adjusts the rate of modulation.
Depth	0–127	Adjusts the depth of modulation.
Feedback #	-98– +98 [%]	Adjusts the amount (%) of the flanger sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.
Step Rate #	0.1–20.0 [Hz], note *2	Adjusts the rate (period) of pitch change.
Phase	0–180 [deg]	Adjusts the spatial spread of the sound.
Balance	D100:0W–D0:100W	Adjusts 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.
Reset	OFF, ON	This setting determines whether the period for the pattern is reset (ON), or not (OFF) when sounds are played. While the rhythm guide is playing, the period for the pattern is not reset even if you set this ON.
Level	0–127	Adjusts the output level.

17: St DELAY (Stereo Delay)

This is a stereo delay.

When Feedback Mode is NORMAL:

When Feedback Mode is CROSS:

Parameter	Value	Description
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. 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.
Delay Left	0–420 [ms], note *1	Adjusts the time from the direct sound until when the left delay sound is heard.
Delay Right	0–420 [ms], note *1	Adjusts the time from the direct sound until when the right delay sound is heard.
Phase Left	NORMAL, INVERT	Selects the phase of the left delay sound. NORMAL: Phase is not changed. INVERT: Phase is inverted.
Phase Right	NORMAL, INVERT	Selects the phase of the right delay sound. NORMAL: Phase is not changed. INVERT: Phase is inverted.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Parameter	Value	Description
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

18: LONG DELAY

This is useful when you want to apply a delay that is longer than 17: St DELAY.
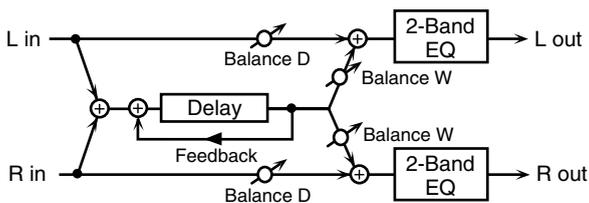
Parameter	Value	Description
Delay	0–840 [ms], note *1	Adjusts the time from the direct sound until the delay sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

19: MOD DELAY (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:

Parameter	Value	Description
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. 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.
Delay Left	0–370 [ms]	Adjusts the time from the direct sound until when the left delay sound is heard.
Delay Right	0–370 [ms]	Adjusts the time from the direct sound until when the right delay sound is heard.
Feedback	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Rate #	0.05–10.00 [Hz]	Adjusts the speed of the modulation.
Depth	0–127	Adjusts the depth of the modulation.
Phase	0–180 [deg]	Adjusts the spatial spread of the sound.

Effects

Parameter	Value	Description
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

20: 3 TAP DELAY (Triple Tap Delay)

The Triple Tap Delay produces three delay sounds; center, left and right.
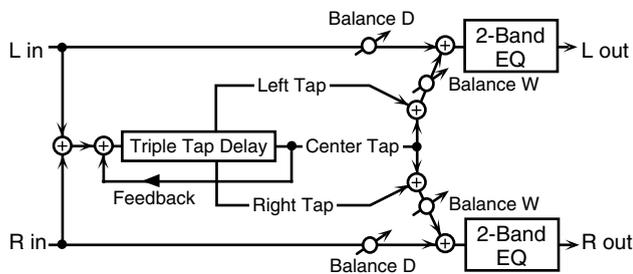
Parameter	Value	Description
Delay Left	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when the left delay sound is heard.
Delay Right	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when the right delay sound is heard.
Delay Center	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when the center delay sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Left Level	0–127	Adjusts the volume of the left delay sound.
Right Level	0–127	Adjusts the volume of the right delay sound.
Center Level	0–127	Adjusts the volume of the center delay sound.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.

Parameter	Value	Description
Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

21: 4 TAP DELAY (Quadruple Tap Delay)

The Quadruple Tap Delay has four delays.
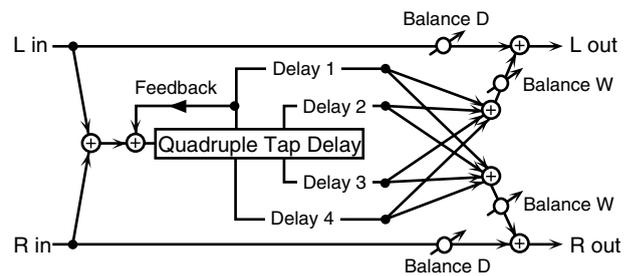
The stereo location of each delay sound is as follows.
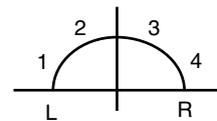
Parameter	Value	Description
Delay 1	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 1 sound is heard.
Delay 2	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 2 sound is heard.
Delay 3	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 3 sound is heard.
Delay 4	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 4 sound is heard.
Level 1	0–127	Adjusts the volume of delay 1 sound.
Level 2	0–127	Adjusts the volume of delay 2 sound.
Level 3	0–127	Adjusts the volume of delay 3 sound.
Level 4	0–127	Adjusts the volume of delay 4 sound.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Parameter	Value	Description
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

22: TM CTRL DLY (Time Control Delay)

You can change the delay time in real time. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.
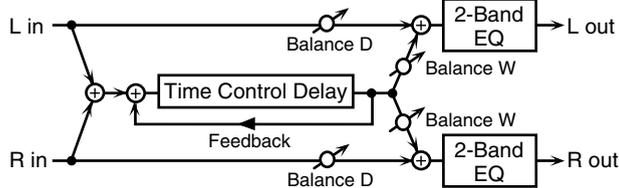
Parameter	Value	Description
Delay #	0–840 [ms]	Adjusts the time delay from the direct sound until when each delay sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Acceleration	0–15	This 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.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Pan	L64–63R	Adjusts the stereo location of the delay sound. L64 is far left, 0 is center, and 63R is far right.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.

Parameter	Value	Description
Balance	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

23: 2V PCH SHIFT (2-Voice 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.
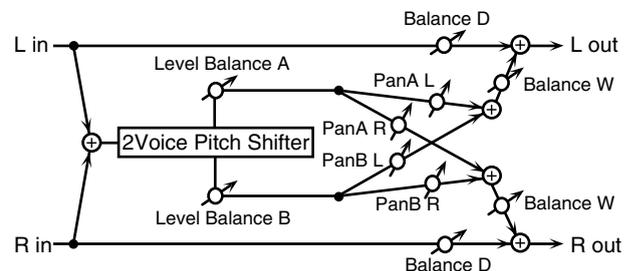
Parameter	Value	Description
Mode	1, 2, 3, 4, 5	Higher settings of this parameter will result in slower response, but steadier pitch.
Coarse A #1	-24– +12 [semi]	Adjusts the pitch of Pitch Shift A in semitone steps (-2- +1 octaves).
Coarse B #2	-24– +12 [semi]	Adjusts the pitch of Pitch Shift B in semitone steps (-2- +1 octaves).
Fine A #1	-100– +100 [cent]	Makes fine adjustments to the pitch of Pitch Shift A in 2-cent steps (-100- +100 cents). One cent is 1/100th of a semitone.
Fine B #2	-100– +100 [cent]	Makes fine adjustments to the pitch of Pitch Shift B in 2-cent steps (-100- +100 cents). One cent is 1/100th of a semitone.
Pre Delay A	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the Pitch Shift A sound is heard.
Pre Delay B	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the Pitch Shift A sound is heard.
Pan A	L64–63R	Adjusts the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center, and 63R is far right.
Pan B	L64–63R	Adjusts the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center, and 63R is far right.

Effects

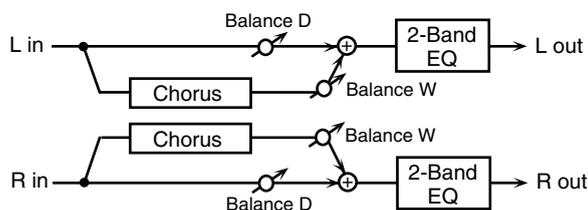| Parameter	Value	Description
Level Balance	A100:0B–A0:100B	Adjusts the volume balance between the Pitch Shift A and Pitch Shift B sounds.
Balance	D100:0W–D0:100W	Adjusts the volume balance between the direct sound and the pitch shift sound. With a setting of D100:0W only the direct sound will be output, and with a setting of D0:100W only the pitch shift sound will be output.
Level	0–127	Adjusts the output level.

24: FB PCH SHIFT (Feedback Pitch Shifter)

This pitch shifter allows the pitch shifted sound to be fed back into the effect.

Parameter	Value	Description
Mode	1, 2, 3, 4, 5	Higher settings of this parameter will result in slower response, but steadier pitch.
Coarse #1	-24– +12 [semi]	Adjusts the pitch of the pitch shifted sound in semitone steps (-2- +1 octaves).
Fine #1	-100– +100 [cent]	Makes fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100- +100 cents).
Pre Delay	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the pitch shifted sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pan	L64–63R	Adjusts the stereo location of the pitch shifted sound. L64 is far left, 0 is center, and 63R is far right.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

25: REVERB

The Reverb effect adds reverberation to the sound, simulating an acoustic space.

Parameter	Value	Description
Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2	Selects the type of Reverb effect. 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	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the reverb sound is heard.
Time #	0–127	Adjusts the time length of reverberation.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

26: GATED REVERB

Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.
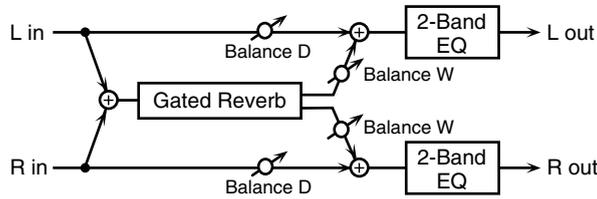
Parameter	Value	Description
Type	NORMAL, RE-VERSE, SWEEP1, SWEEP2	Selects the type of reverb. NORMAL: conventional gate reverb REVERSE: backwards reverb SWEEP1: the reverberant sound moves from right to left SWEEP2: the reverberant sound moves from left to right
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the reverb sound is heard.
Gate Time	5–500 [ms]	Adjusts the time from when the reverb is heard until when it disappears.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Balance #	D100:0W–D0:100W	Adjusts 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.
Level #	0–127	Adjusts the output level.

27: OD>CHORUS (Overdrive→Chorus)

This effect connects an overdrive and a chorus in series.
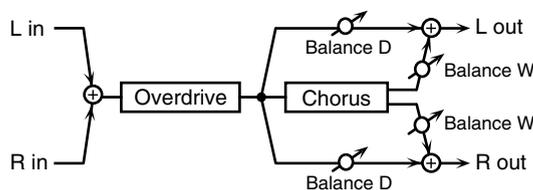
Parameter	Value	Description
OD Drive	0–127	Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.
OD Pan #	L64–63R	Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Parameter	Value	Description
Cho Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Cho Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the chorus effect.
Cho Depth	0–127	Adjusts the modulation depth of the chorus effect.
Cho Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

28: OD>FLANGER (Overdrive→Flanger)

This effect connects an overdrive and a flanger in series.
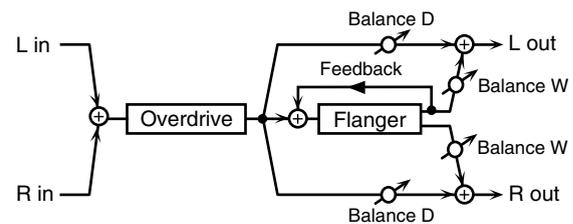
Parameter	Value	Description
OD Drive	0–127	Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.
OD Pan #	L64–63R	Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.
Flg Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Flg Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the flanger effect.
Flg Depth	0–127	Adjusts the modulation depth of the flanger effect.
Flg Feedback	-98– +98 [%]	Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Effects

Parameter	Value	Description
Flg Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

29: OD>DELAY (Overdrive→Delay)

This effect connects an overdrive and a delay in series.

Parameter	Value	Description
OD Drive	0–127	Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.
OD Pan #	L64–63R	Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.
Delay Time	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the delay sound is heard.
Dly Feedback	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Dly HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Dly Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

30: DIST>CHORUS (Distortion→Chorus)

This effect connects distortion and chorus in series. The parameters are essentially the same as "27: OD>CHORUS," with the exception of the following two.

OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Pan→Dist Pan (Specifies the stereo location of the distortion sound.)
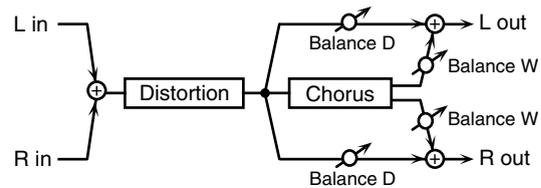
31: DIST>FLANGER (Distortion→Flanger)

This effect connects distortion and flanger in series. The parameters are essentially the same as in "28: OD>FLANGER," with the exception of the following two.

OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Pan→Dist Pan (Specifies the stereo location of the distortion sound.)
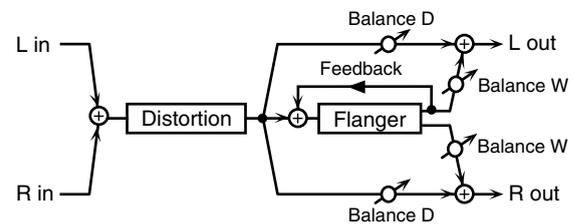
32: DIST>DELAY (Distortion→Delay)

This effect connects distortion and delay in series. The parameters are essentially the same as in "29: OD>DELAY," with the exception of the following two.

OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Pan→Dist Pan (Specifies the stereo location of the distortion sound.)
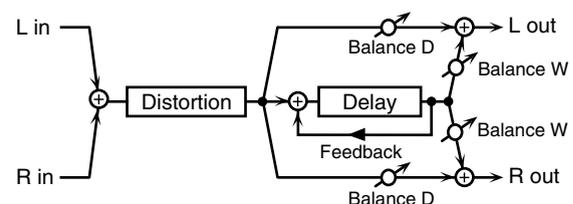
33: ENH>CHORUS (Enhancer→Chorus)

This effect connects an enhancer and a chorus in series.

Parameter	Value	Description
Enhancer Sens #	0–127	Adjusts the sensitivity of the enhancer.
Enhancer Mix	0–127	Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.
Cho Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Cho Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the chorus effect.
Cho Depth	0–127	Adjusts the modulation depth of the chorus effect.
Cho Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

34: ENH>FLANGER (Enhancer→Flanger)

This effect connects an enhancer and a flanger in series.
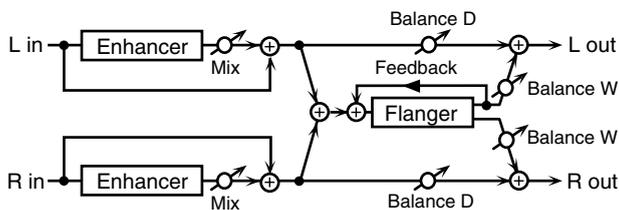
Parameter	Value	Description
Enhancer Sens #	0–127	Adjusts the sensitivity of the enhancer.
Enhancer Mix	0–127	Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.
Flg Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Flg Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the flanger effect.
Flg Depth	0–127	Adjusts the modulation depth of the flanger effect.

Parameter	Value	Description
Flg Feedback	-98– +98 [%]	Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

35: ENH>DELAY (Enhancer→Delay)

This effect connects an enhancer and a delay in series.

Parameter	Value	Description
Enhancer Sens #	0–127	Adjusts the sensitivity of the enhancer.
Enhancer Mix	0–127	Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.
Delay Time	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the delay sound is heard.
Dly Feedback	98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.
Dly HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Dly Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–12	Adjusts the output level.

Effects

36: CHORUS>DELAY

This effect connects a chorus and a delay unit in series.

Parameter	Value	Description
Cho Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Cho Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the chorus effect.
Cho Depth	0–127	Adjusts the modulation depth of the chorus effect.
Cho Balance #	D100:0W–D0:100W	Adjusts 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.
Delay Time	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the delay sound is heard.
Dly Feedback	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.
Dly HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Dly Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

37: FLG>DELAY (Flanger→Delay)

This effect connects a flanger and a delay in series.

Parameter	Value	Description
Flg Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Flg Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the flanger effect.
Flg Depth	0–127	Adjusts the modulation depth of the flanger effect.
Flg Feedback	-98– +98 [%]	Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Balance #	D100:0W–D0:100W	Adjusts 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.
Delay Time	0–500 [ms]	Adjusts the time delay from when the direct sound begins until the delay sound is heard.
Dly Feedback	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.
Dly HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Dly Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

38: CHO>FLANGER (Chorus→Flanger)

This effect connects a chorus and a flanger in series.

Parameter	Value	Description
Cho Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the chorus sound is heard.
Cho Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the chorus effect.
Cho Depth	0–127	Adjusts the modulation depth of the chorus effect.
Cho Balance #	D100:0W–D0:100W	Adjusts 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.
Flg Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Flg Rate	0.05–10.00 [Hz]	Adjusts the modulation speed of the flanger effect.
Flg Depth	0–127	Adjusts the modulation depth of the flanger effect.
Flg Feedback	-98– +98 [%]	Adjusts the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flg Balance #	D100:0W–D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

39: CHORUS/DELAY

This effect connects a chorus and a delay in parallel. The parameters are the same as for "36: CHORUS>DELAY." However, the Dly Balance parameter adjusts the volume balance between the direct sound and the delay sound.
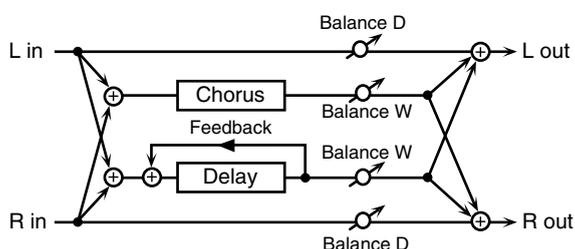
40: FLG/DELAY (Flanger/Delay)

This effect connects a flanger and a delay in parallel. The parameters are the same as for "37: FLG>DELAY." However, the Dly Balance parameter adjusts the volume balance between the direct sound and the delay sound.

41: CHO/FLANGER (Chorus/Flanger)

This effect connects a chorus and a flanger in parallel. The parameters are the same as for "38: CHO>FLANGER." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.
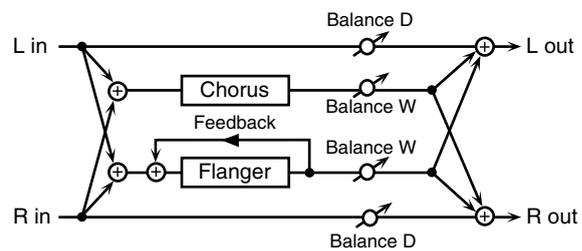
42: LOFI

This effect intentionally degrades the audio quality to simulate a Lo-Fi sound. It is particularly effective on drums.
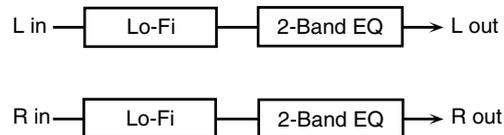
Parameter	Value	Description
Bit Down	0–11	This setting lowers the audio quality. The audio quality will worsen as this setting is increased.
S-RateDown	0–7	This coarsens the output signal. The sound will become coarser as this setting is increased.
Post Gain	0, +6, +12, +18 [dB]	Adjusts the output signal.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Output	MONO, STEREO	Specifies how the sound will be output. With a setting of "MONO," the output sound will be monaural.
Level #	0–127	Specifies the output volume from the Lo-Fi effect.

Effects

43: SLICER

By applying successive cuts to the sound, this effect produces what are heard as backing phrases, even though you've played something much simpler. This is especially effective when applied to sustain-type sounds.

L in ——→ Slicer ——→ L out

R in ——→ Slicer ——→ R out
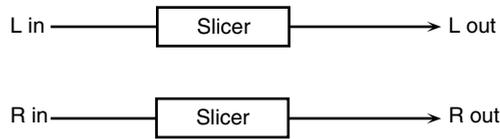
Parameter	Value	Description
Timing Pattern	1–34	Selects a pattern to specify the timing at which the sound will be cut.
Accent Pattern	1–16	Specifies the location of the accents.
Accent Level #	0–127	Adjusts the volume of the accents. As this setting is increased, the accent will be more pronounced.
Attack	0–127	Adjusts the attack time of an input sound. As this setting is increased, the attack will become faster.
Rate #	0.05–10.00 [Hz], note *2	This sets the period for the pattern.
Reset	OFF, ON	Specifies whether the timing pattern at which the sound is cut will be reset (ON) or not (OFF) when you play a sound. While the rhythm guide is playing, the period for the pattern is not reset even if you set this ON.
Level	0–127	Adjusts the output level.

44: TREMOLO

Tremolo cyclically modulates the volume to add tremolo effect to the sound.

L in ——→ Tremolo ——→ 2-Band EQ ——→ L out

R in ——→ Tremolo ——→ 2-Band EQ ——→ R out

Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1/ 2	TRI: The sound will be modulated like a triangle wave. SQR: The sound will be modulated like a square wave. SIN: The sound will be modulated like a sine wave. SAW1/2: The sound will be modulated like a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.
	SAW1 SAW2	

Parameter	Value	Description
Rate #	0.05–10.00 [Hz], note *2	Adjusts the frequency (speed) of the change.
Depth #	0–127	Sets the depth to which the effect is applied.
Reset	OFF, ON	This setting determines whether the period for the pattern is reset (ON), or not (OFF) when sounds are played. While the rhythm guide is playing, the period for the pattern is not reset even if you set this ON.
	RESET LEVEL	
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level	0–127	Adjusts the output level.

45: AUTO PAN

The Auto Pan effect cyclically modulates the stereo location of the sound.

L in ——→ Auto Pan ——→ 2-Band EQ ——→ L out

R in ——→ Auto Pan ——→ 2-Band EQ ——→ R out

Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1/ 2	TRI: The sound will be modulated like a triangle wave. SQR: The sound will be modulated like a square wave. SIN: The sound will be modulated like a sine wave. SAW1/2: The sound will be modulated like a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.
	SAW1 SAW2	
Rate #	0.05–10.00 [Hz], note *2	Adjusts the frequency (speed) of the change.
Depth #	0–127	Sets the depth to which the effect is applied.

Parameter	Value	Description
Reset	OFF, ON	This setting determines whether the period for the pattern is reset (ON), or not (OFF) when sounds are played. While the rhythm guide is playing, the period for the pattern is not reset even if you set this ON.
Low Gain	-15– +15 [dB]	Adjusts the gain of the low frequency.
High Gain	-15– +15 [dB]	Adjusts the gain of the high frequency.
Level	0–127	Adjusts the output level.

46:TUMBLING DLY (Tumbling Delay)

This is a delay that first produces "tumbling" delayed repeats, and then echoes the original sound.

It is most effective when applied to single notes of a "one-shot" sound.
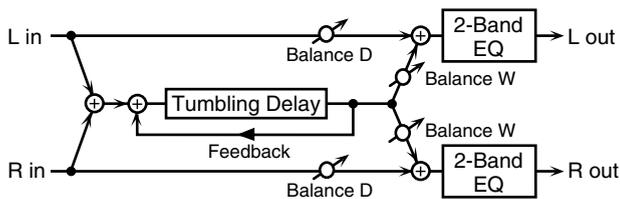
Parameter	Value	Description
Type	TYPE1–TYPE6	Selects one of the six available types for the number of delay sounds heard in time "A" in the diagram below.
Pre Delay	0–500 [ms]	Adjusts time "A" in the diagram below.
Delay Time	0–345 [ms]	Adjusts time "B" in the diagram below.
HF Damp	200–8000 [Hz], BYPASS	Adjusts 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.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Parameter	Value	Description
Balance #	D100:0W– D0:100W	Adjusts 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.
Level	0–127	Adjusts the output level.

47: FBK RIPPER (Feedback Ripper)

This effect repeatedly cuts the sound, and outputs a delayed sound for the cut portion. You can create new phrases by applying this to a drum phrase or other phrase.
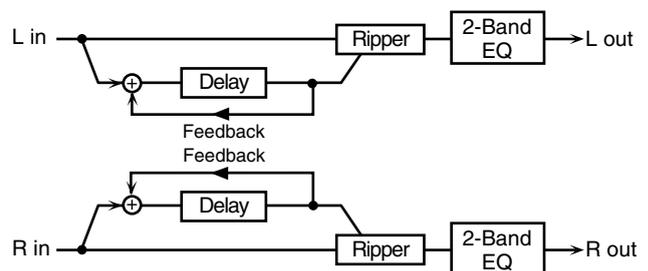
Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1/ 2	TRI: The sound will be cut by a triangle wave. SQR: The sound will be cut by a square wave. SIN: The sound will be cut by a sine wave. SAW1/2: The sound will be cut by a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.
Rate #	0.05–10.00 [Hz], note *2	Adjusts the frequency (speed) of the change.
Depth #	0–127	Sets the depth to which the effect is applied.
Delay Left	0–420 [ms], note *1	Adjusts the time from the direct sound until the left delay sound is heard.
Delay Right	0–420 [ms], note *1	Adjusts the time from the direct sound until the right delay sound is heard.
Dly Feedback	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Reset	OFF, ON	This setting determines whether the period for the pattern is reset (ON), or not (OFF) when sounds are played. While the rhythm guide is playing, the period for the pattern is not reset even if you set this ON.
Level	0–127	Adjusts the output level.

Making chorus settings

Regardless of the mode, only one type of chorus can be used simultaneously.

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.

Type (Chorus Type)

You can choose from 8 types of chorus.

Value

CHORUS 1–4:	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.

MEMO

"Chorus Type" provides several preset-like example settings of the chorus parameters. When you switch types, the other chorus parameters will change according to the settings of the type you select. If you intend to edit the other parameters, select a type first, and then edit the other parameters.

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

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

note *1

♬ (Sixteenth note), ♬₃ (Eighth-note triplet), ♬. (Dotted sixteenth note), ♪ (Eighth note), ♪₃ (Quarter-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet), ♩. (Dotted quarter note), ♩ (Half note),

note *2

♬₃ (Sixty-fourth-note triplet), ♬ (Sixty-fourth note), ♬₃ (Thirty-second-note triplet), ♬ (Thirty-second note), ♬₃ (Sixteenth-note triplet), ♬. (Dotted thirty-second note), ♬ (Sixteenth note), ♬₃ (Eighth-note triplet), ♬. (Dotted sixteenth note), ♪ (Eighth note), ♪₃ (Quarter-note triplet), ♪. (Dotted eighth note), ♩ (Quarter note), ♩₃ (Half-note triplet), ♩. (Dotted quarter note), ♩ (Half note), ○3 (Whole-note triplet), ♩ (Dotted half note), ○ (Whole note), ‖○‖3 (Double-note triplet), ○. (Dotted whole note), ‖○‖ (Double note)

Depth (Chorus Depth)

Sets the depth at which the chorus sound is modulated. Higher values result in deeper modulation.

Value: 0–127

Send Lvl 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

Making reverb settings

Regardless of the mode, only one type of reverb can be used simultaneously.

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.

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.

MEMO

"Reverb Type" provides several preset-like example settings of the reverb parameters. When you switch types, the other reverb parameters will change according to the settings of the type you select. If you intend to edit the other parameters, select a type first, and then edit the other parameters.

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

Effects

Settings common to all modes (System Function)

Settings that affect the entire operating environment of the RS-50, such as tuning and MIDI message reception, are referred to as **system functions**. This section explains how to make settings for the System functions and describes the functions of the different System parameters. The parameters are organized into the following six groups.

- **GENERAL:**
  Make settings common to the entire system (p. 89).
- **CONTROLLER:**
  Make controller-related settings (p. 89).
- **MIDI:** Make MIDI-related settings (p. 90).
- **PATCH SCALE (Patch Scale Tune):**
  Make scale tune settings for a patch (p. 91).

How to make the system function settings

1. **Press [SYSTEM] so it is lit.**

2. **Select the parameter that you want to edit.**

☞
"Selecting system setting parameters" (p. 88)

3. **Use VALUE [-]/[+] to modify the value.**

4. **Repeat steps 2–3 to make the settings for the System function.**

NOTE
Changes you make to the system function settings are temporary, and will be lost when you turn off the power. If you want to save the settings you modified, perform the following operation.

5. **To save the settings you modified, press [WRITE].**

```
WRITE:SYSTEM    [ENT]
```

6. **Press [ENTER] to execute.**

NOTE
When you save system settings, the previously saved settings will be overwritten and lost.
If you decide not to save the system function, press [EXIT].

Selecting system setting parameters

GENERAL

```
SYSTEM:GENERAL
LCD Contrast:        5
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
SYSTEM:GENERAL
Clock Source:      INI
```

[SHIFT] + PAGE/CURSOR [▶]   [SHIFT] + PAGE/CURSOR [◀]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

CONTROLLER

```
SYSTEM:CONTROLLER
Mod:        MODULATION
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

[SHIFT] + PAGE/CURSOR [▶]   [SHIFT] + PAGE/CURSOR [◀]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

MIDI

```
SYSTEM:MIDI
Patch Rx Ch:        1
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

[SHIFT] + PAGE/CURSOR [▶]   [SHIFT] + PAGE/CURSOR [◀]

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

PATCH SCALE

```
SYSTEM:PATCH SCALE
Type:            EQUAL
```

PAGE/CURSOR [▶]   PAGE/CURSOR [◀]

```
SYSTEM:PATCH SCALE
Tune B:            0
```

Functions of the system parameters

System parameter functions are explained here according to the group in which they are found.

Settings common to the entire system (GENERAL)

LCD Contrast

Adjusts the contrast of the display.

VALUE: 1–10

MEMO

The LCD CONTRAST setting is saved automatically, and is retained even while the power is off.

Master Tune

Adjusts the overall tuning of the RS-50. The display shows the frequency of the A4 note (center A).

VALUE: 415.3–466.2 Hz

Master Key Sft (Master Key Shift)

Shifts the overall pitch of the RS-50 in semitone steps.

VALUE: -24–+24

Master Level

Adjusts the volume of the entire RS-50.

VALUE: 0–127

Hold Pedal (Hold Pedal Polarity)

Select the polarity of the Hold 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."

VALUE: STANDARD, REVERSE

Local Control (Local Controller)

The Local Controller determines whether the internal sound generator is disconnected (OFF) from the keyboard controller section (keyboard, pitch bend/modulation lever, knobs, buttons, D Beam controller, pedal, and so on); or not disconnected (ON). Normally, this is left "ON", but if you wish to use the RS-50's keyboard and controllers to control only external sound modules, set it to "OFF."

VALUE: OFF, ON

Clock Source

Select "MIDI" if you want synchronization-related MIDI messages to be received from an external sequencer. Select "INT" if you want to synchronize to the RS-50's internal tempo. The multi-effect changes will also synchronize to this setting.

VALUE: INT, MIDI

Settings related to controllers (CONTROLLER)

Mod (Modulation Assign)

You can use the modulation lever to apply the following effects other than vibrato.

Value	Tx CC#	Function/Parameter Changed
MODULATION	CC01	Vibrato
PORTA TIME	CC05	Portamento Time (p. 47)
VOLUME	CC07	Level
BALANCE	CC08	The volume balance of LOWER and UPPER tones (p. 45).
PAN	CC10	Pan (p. 46)
EXPRESSION	CC11	Level
PORTAMENTO	CC65	Portamento Switch (p. 47)
SOSTENUTO	CC66	Holds the sound of the key being pressed
SOFT	CC67	Softens the tone
RESONANCE	CC71	Tone Filter Resonance (p. 48)
RELEASE TIME	CC72	Tone Envelope Release Time (p. 48)
ATTACK TIME	CC73	Tone Envelope Attack Time (p. 48)
CUTOFF	CC74	Tone Filter Cutoff (p. 47)
DECAY TIME	CC75	Tone Envelope Decay Time (p. 48)
LFO RATE	CC76	Tone LFO Rate (p. 47)
LFO DEPTH	CC77	Tone LFO Depth (p. 47)
LFO DELAY	CC78	Tone LFO Delay (p. 47)
CHO SEND LEVEL	CC93	Chorus Send Level (p. 46)
REV SEND LEVEL	CC91	Reverb Send Level (p. 46)
MFX PARAMETER1	CC12	The parameter specified by Multi-effect Control 1 (p. 69)
MFX PARAMETER2	CC13	The parameter specified by Multi-effect Control 2 (p. 69)
AFTERTOUCH	----	

In Patch mode, the modulation lever will affect the patch. In Performance mode, the modulation lever will affect the patch that is assigned to the current part. Use [DESTINATION TONE] to specify the tone that will be affected (p. 26).

"TxCC#" refers to the controller number of the control change message sent from the MIDI OUT connector when the modulation lever is operated. When set to AFTERTOUCH, Channel Aftertouch messages are sent. Set to AFTERTOUCH mainly when you want to control an external sound generator with Aftertouch messages.

Receiving these control change message from the MIDI IN connector produces the same effect as operating the modulation lever.

* *When set to MFX PARAMETER1 or MFX PARAMETER2, be sure to note the following.*

• *When the multi-effects Type is set to 01: STEREO EQ (p. 69) or 42: LOFI (p. 83), Level is changed regardless of whether MFX PARAMETER1 or MFX PARAMETER2 is selected.*

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

Settings common to all modes (System Function)

Pedal (Pedal Control Assign)

This specifies the function of the pedal connected to the CONTROL PEDAL jack.

VALUE

In addition to the items listed in Modulation Assign, you can use the pedal to apply the following effects.

TAP TEMPO: Use the pedal to make tap tempo settings (p. 37).

C1 (C1 Knob Assign)

C2 (C2 Knob Assign)

C3 (C3 Knob Assign)

Select the effects that will be controlled by the [C1]/[C2]/[C3] knobs.

VALUE

In addition to the items listed in Modulation Assign, you can use the pedal to apply the following effects.

PATCH MODIFY: The effect indicated on the panel will be controlled (p. 26).

  * *If you assign any effects other than PATCH MODIFY to the [C1]/[C2]/[C3] knobs, you must switch the **Patch Modify select button** to [ENV] (envelope). If [BALANCE/LFO] is selected, the balance and LFO will change.*

  * *If you are using the [C1]/[C2]/[C3] knobs in Performance mode to control MFX PARAMETER settings, the **"MFX Source"** (p. 56) setting will determine the part whose effect will be controlled. If **MFX Source** is set to "Part1–16," the effect of that part will be controlled. If MFX Source is set to "PERFORM," the System **"Perform Ctrl Ch (Performance Control Channel)"** (p. 90) setting will determine the part whose effect will be controlled. If this setting is "OFF," no effect will be controlled.*

Settings related to MIDI (MIDI)

Patch Rx Ch (Patch Receive Channel)

Specifies the receive channel of MIDI messages in Patch mode.

VALUE: 1–16

Patch Tx Ch (Patch Transmit Channel)

Specifies the transmit channel of MIDI messages in Patch mode. If you do not want to transmit MIDI messages to external MIDI devices, turn this parameter "OFF." If you want the transmit channel to always match the Patch Receive Channel, set this parameter to "RxCh."

VALUE: 1–16, RxCh, OFF

Perform Ctrl Ch (Performance Control Channel)

Performance Ctrl Ch selects the MIDI receive channel used during switching of performances when MIDI messages (Program Change/Bank Select) are sent from an external MIDI device. Set this to "OFF" if performances are not to be switched from an external MIDI device.

VALUE: 1–16, OFF

NOTE

If only a program change is received, and if the Perform Ctrl Ch parameter setting coincides with the MIDI receive channel of a part, priority will be given to switching the performance.

MEMO

If this is set to 1–16, the RS-50 will transmit MIDI messages (program change/bank select) on that channel when the performance is switched.

Rx Prog Chg (Receive Program Change Switch)

Specifies whether Program Change messages will be received (ON) or not (OFF).

VALUE: OFF, ON

Rx Bank Sel (Receive Bank Select Switch)

Specifies whether Bank Select messages will be received (ON) or not (OFF).

VALUE: OFF, ON

Rx Sys Exc (Receive System Exclusive Switch)

Specifies whether System Exclusive messages will be received (ON) or not (OFF).

VALUE: OFF, ON

Tx Prog Chg (Transmit Program Change Switch)

Specifies whether Program Change messages will be transmitted (ON) or not (OFF).

VALUE: OFF, ON

Tx Bank Sel (Transmit Bank Select Switch)

Specifies whether Bank Select messages will be transmitted (ON) or not (OFF).

VALUE: OFF, ON

Tx Edit Data (Transmit Edit Data Switch)

Specify whether changes you make in the settings of a patch or performance will be transmitted as system exclusive messages (ON), or will not be transmitted (OFF).

VALUE: OFF, ON

Tx Active Sens (Transmit Active Sensing Switch)

Specifies whether Active Sensing messages will be transmitted (ON) or not (OFF).

VALUE: OFF, ON

Device ID (Device ID Number)

When you want to transmit or receive System Exclusive messages, set this parameter to match the Device ID number of the other MIDI device.

VALUE: 17–32

Soft Thru (Soft Through Switch)

The Thru function re-transmits all messages received at the MIDI IN connector to the MIDI OUT connector without modifying them in any way.

VALUE: OFF, ON

Making scale tune settings for a patch (PATCH SCALE)

The Patch Scale function lets you use a variety of tunings for patches used in Patch mode.

☞

If you want to make scale tune settings for each part in Performance mode, refer to **"Editing the scale tune settings (SCALE TUNE)"** (p. 58).

Type (Patch Scale Tune Type)

You can switch the "Type" parameter to recall various sample settings for Patch Scale. When you change "Type," all patch scale tune parameters will be changed automatically.

VALUE: EQUAL, JUST (maj) in C, JUST (min) in C, ARABIC

☞

For details on each type, refer to **"Type (Part Scale Tune Type)"** (p. 58).

Tune C–Tune B (Patch Scale Tune C–B)

Make scale tune settings for Patch mode.

VALUE: -64–+63

System Function

Performing with an external MIDI device

About MIDI

MIDI (Musical Instrument Digital Interface) is a standard specification that allows music data to be exchanged among electronic musical instruments and computers. By 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-50 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-50 using an external MIDI device, or master other advanced techniques.

MIDI connectors

The RS-50 has the following two types of MIDI connectors.

- **MIDI IN Connector**

Performance messages from an external MIDI device are received here. When the RS-50 receives MIDI messages, it will produce sound, change the sound it's using, or perform other operations.

- **MIDI OUT Connector**

This connector transmits MIDI messages to external MIDI devices. The RS-50's MIDI OUT connector is used for sending the performance data of the keyboard controller section, as well as the data used for saving various settings.

MIDI channels and multitimbral 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.
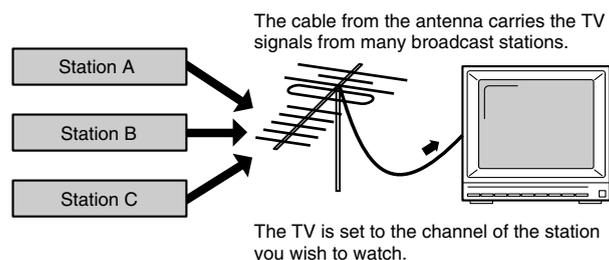
MIDI uses sixteen channels, numbered 1–16. Normally, receiving devices should be set so they receive only the channels they need to receive.

Example:

Set the RS-50 to send on Channel 1 and Channel 2, then set sound module A to receive only Channel 1, and sound module B to receive 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.
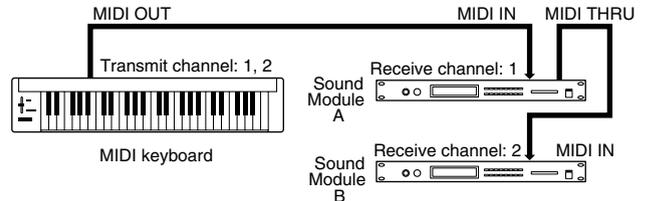
When used as a sound module, the RS-50 can receive on up to sixteen MIDI channels. Sound modules like the RS-50, which can receive multiple MIDI channels simultaneously and play different sounds on each channel, are called "**multitimbral sound modules**."

MIDI messages used by the RS-50

MIDI uses various types of messages 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-50 mainly uses the following MIDI messages.

Channel messages

These are messages used for conveying 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 three types of information:

Note-on: A key has been played.

Note number: Which key was played

Velocity: The amount of force (velocity) used when the key 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
Note number	0 ← 36 ── 48 ── 60 ── 72 ── 84 → 127
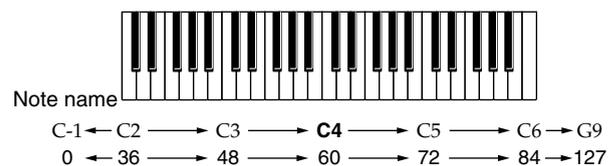
Note Off

This message is sent when a key is released. When a Note-off message is received, the relevant note will be turned off. A Note-off message contains the following three types of information:

Note-off: A key was released

Note number: Which key was released

Velocity: The force (velocity) used during release of the key.

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 individual notes.

The RS-50 cannot transmit Aftertouch messages when its keys are pressed. Instead, you can do this by transmitting the Aftertouch assigned to the D Beam, Modulation lever, a pedal, or a knob.

Program Change

This message changes the instrument sound. You can switch Patches and Rhythm Sets on the RS-50 using program numbers 1–128 (p. 95).

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. 89).

Bank Select (CC#0, CC#32) messages are used in combination with Program Change messages to switch Patches and Rhythm Sets (p. 95).

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 patches and other kinds of data between compatible devices from the same manufacturer.

If messages exchanged using MIDI were limited only to those that conform to the universally shared MIDI specifications, it would not be possible to transmit messages that are unique to a particular manufacturer, or that are designed specifically for a certain device. For this reason, MIDI allows for an exclusive format for each manufacturer, which can be used to exchange a variety of messages. On the RS-50, you can use Exclusive messages to store Patch settings and other data to sequencers (p. 98).

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.

Using the RS-50 to play an external MIDI sound module

By connecting the RS-50 to an external MIDI sound module with a MIDI cable and setting the channels, the external MIDI module can be used to produce sound when you play the RS-50's keyboard.

Connecting to external MIDI sound modules

Example 1: Connecting to one external MIDI sound module
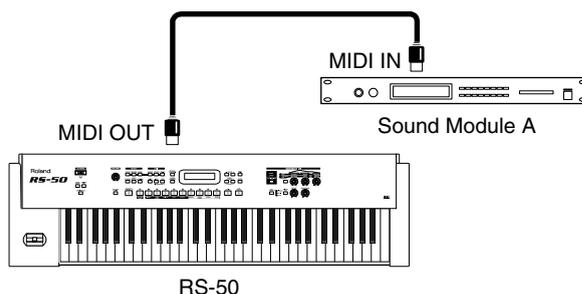
Example 2: Connecting to two external MIDI sound modules
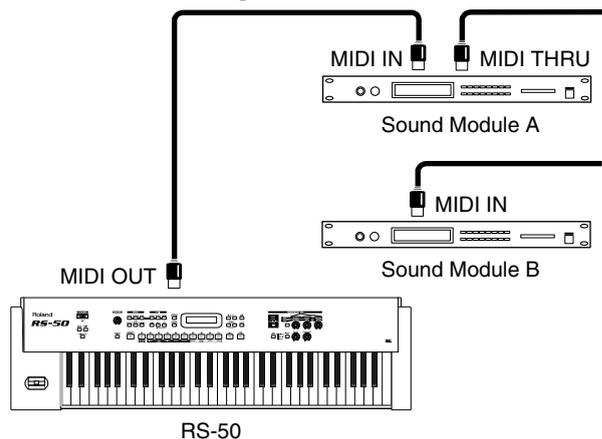
*   *Messages received at the MIDI IN connector are output from the MIDI THRU connector unchanged.*

Example 3: Connecting to three or more external MIDI sound modules
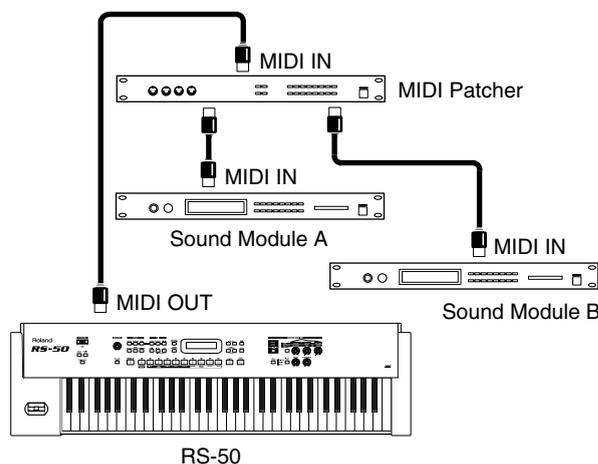
* If you "daisy-chain" three or more MIDI devices using IN → THRU → IN → THRU ..., the MIDI signal may become garbled, and data errors may occur. In such cases, use a MIDI Patcher. MIDI Patcher are devices that allow a single stream of MIDI data to be sent to a large number of MIDI devices without causing 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-50 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 above.**

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. Here we will explain the settings for using the RS-50 in Patch mode.

* If you are using the RS-50 in Performance mode, the part and channel numbers will be the same unless you change the settings.

1. **Press [SYSTEM] so it is lit.**

2. **Use PAGE/CURSOR [◄]/[►] to select "Patch Tx Ch."**

```
SYSTEM|MIDI
Patch Tx Ch:      RxCH
```

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/ [►] you can quickly select the "SYSTEM|MIDI" group (p. 88).

3. **Use VALUE [-]/[+] to modify the value.**
   Value
   1–16:   Performance data from the RS-50 will be transmitted on the selected channel.
   RxCH: Performance data will be transmitted on the same channel as the Receive Channel (p. 57) of the part.
   OFF: Performance data will not be transmitted.
   Normally, you will use the "RxCH" setting.

4. **Press [WRITE] to save the settings.**

For further information, refer to **"How to make the system function settings"** (p. 88).
Press [EXIT] to cancel the operation and return to the previous page.
With the above settings, when the RS-50's keyboard is played, sounds are simultaneously played by the RS-50 and the external MIDI sound generator.
For instructions on setting the Receive channel for each of the Parts of the external MIDI sound generator, refer to the owner's manual that came with the device.

* If you want sounds to be played only by the external MIDI sound generator, set Local control to OFF (p. 96).

NOTE

When you select a patch or rhythm set on the RS-50, a bank number and program number will be transmitted to the external MIDI sound module as described in the **"Bank number/ program number correspondence table"** (p. 95). This will switch sounds on the external MIDI sound module, but if the external MIDI sound module receives a bank number for which it provides no sounds, it may choose a substitute sound or may produce no sound at all. In order to select a sound reliably, you may wish to first select the sound group on your external MIDI sound module, and then transmit only a program number. This will allow you to switch sounds within the same group.
If you want to transmit only the program number, turn **"Tx Bank Sel (Transmit Bank Select Switch)"** (p. 90) off.

Playing the RS-50's sound generator from an external MIDI device

Next, try playing the RS-50 from an external MIDI device.

Connecting an external MIDI device
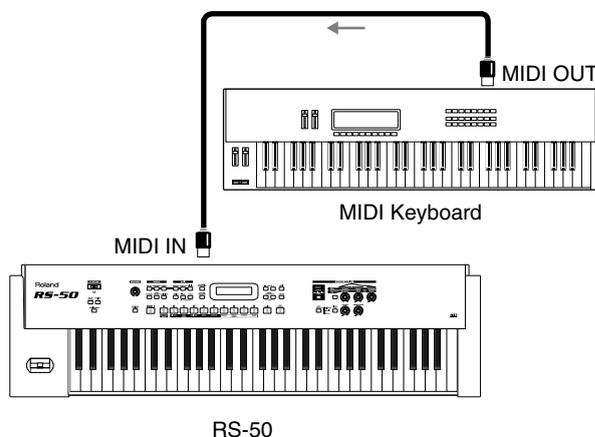
MIDI OUT
MIDI Keyboard
MIDI IN
RS-50

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

2. **After reading "Connecting the RS-50 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.**

Setting the patch receive channel

When you have finished connecting the external MIDI device, match RS-50's Receive channel with the external MIDI device's Transmit channel. Here we will explain the settings for using the RS-50 in Patch mode.

* *If you are using the RS-50 in Performance mode, the part and channel numbers will be the same unless you change the settings.*

1. **Press [SYSTEM] so it is lit.**

2. **Use PAGE/CURSOR [◄]/[►] to select "Patch Rx Ch" (patch receive channel).**

```
SYSTEM|MIDI
Patch Rx Ch:          1
```

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/ [►] you can quickly select the "SYSTEM | MIDI" group (p. 90).

3. **Use VALUE [-]/[+] to modify the value.**
   VALUE
   1–16:   Performance data of each part will be received on the selected channel.

Setting the program change receive switch

Then, to enable tones to be switched from the external MIDI device, set the Receive Switch for Program Change and Bank Select to ON. Factory settings have these set to ON.

1. **Press [SYSTEM] so it is lit.**

2. **Use PAGE/CURSOR [◄]/[►] to select "Rx Prog Chg" (Receive Program Change Switch) and "Rx Bank Sel" (Receive Bank Select Switch).**

3. **Use VALUE [-]/[+] to set both parameters to "ON."**

4. **Press [WRITE] to save the settings.**

For further information, refer to **"How to make the system function settings"** (p. 88).

Press [EXIT] to cancel the operation and return to the previous page.

* *For instructions on setting the external MIDI device's Transmit channel, refer to the owner's manual for that device.*

* *If you are using Performance mode, you will also need to set "Receive Sw," "Receive Prg Chg," and "Receive Bank Sel" for each part in addition to the settings described above (p. 57).*

Selecting RS-50 sounds from an external MIDI device

Transmitting Bank Select (Controller Numbers 0 & 32) and Program Change messages from the external MIDI device to the RS-50 allows you to switch patches and rhythm sets.

1. **Transmit a value for the Bank Select MSB (controller number 0) (BnH 00H mmH) message to the RS-50.**

2. **Transmit a value for the Bank Select LSB (controller number 32) (BnH 20H IIH) message to the RS-50.**

3. **Transmit a Program Change (CnH ppH) to the RS-50.**
   n: MIDI channel number
   mm, ll: Bank number
   pp: Program number

MEMO

The "Perform Ctrl Ch" (Performance Control Channel) setting lets you switch performances in Performance mode. With the factory settings, this is set to "OFF"; performances will not be switched.

Bank number/program number correspondence table

The MIDI messages transmitted by an external MIDI device correspond with patches/rhythm sets on the RS-50 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-50 receives a Program Change message without receiving the Bank Select, it switches to the patch or rhythm set with the same Bank number as the currently selected patch or rhythm set.*

☞
For details on how numbers in the table correspond to the sound of the RS-50, refer to **"Patch list"** (p. 111).

Performance

Group	Number	Bank Number		Program Number
		MSB	LSB	
User	001–008	085	000	001–008
Preset	001–032	085	064	001–032

Patch

Group	Number	Bank Number		Program Number
		MSB	LSB	
User	001–128	087	000	001–128
Preset	001–128	087	064	001–128
	129–256	087	065	001–128
	257–384	087	066	001–128
	385–512	087	067	001–128
	513–640	087	068	001–128
GM Patch	001–256	121	000–	001–128

95

Rhythm Set

Group	Number	Bank Number		Program Number
		MSB	LSB	
User	001–002	086	000	001–002
Preset	001–020	086	064	001–020
GM Rhythm	001–009	120	000	001–057

Using an external MIDI controller to change the RS-50's tones

Use of the Modulation lever, pedals, and control knobs to make changes to the RS-50's tones in real time is explained in **"Settings related to controllers (CONTROLLER)"** (p. 89).

Transmitting Controller numbers set with Modulation Assign (p. 89), Pedal Control Assign (p. 90), and Knob Assign (p. 90) to the RS-50 achieves the same effect as working the Modulation lever, pedals, and knobs.

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
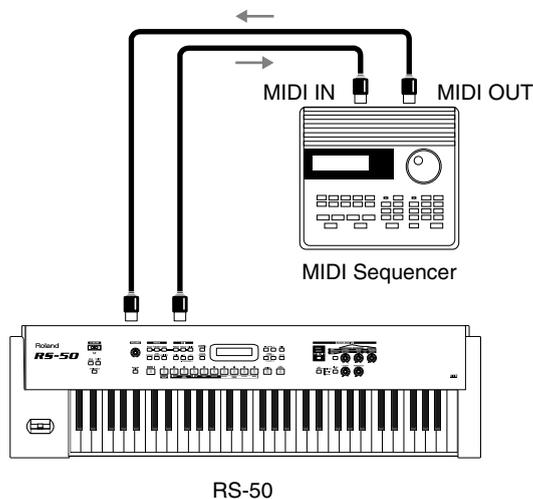
MIDI IN   MIDI OUT

MIDI Sequencer

RS-50

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

2. **After reading "Connecting the RS-50 to external equipment" (p. 14), connect an audio device/system or headphones.**

3. **Connect the external MIDI sound device with a 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.**

Making settings before recording

When recording to an external sequencer, the following steps must be carried out.

• Set the RS-50's Local Control to OFF (refer to the next section).

• Turn on the external sequencer's Thru function (p. 97).

• Set the performance (p. 97).

Setting the RS-50's local control to OFF

The setting that determines whether the keyboard controller section (p. 40) 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 generator of the RS-50 will produce sound only in response to messages received from an external MIDI device.

Sequencer

Recording

Set Thru Function to 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 Local Control to Off.

While at this setting, the RS-50's keyboard and controllers are disconnected from the sound generating section, so they will not directly control it.

Keyboard Controller Section
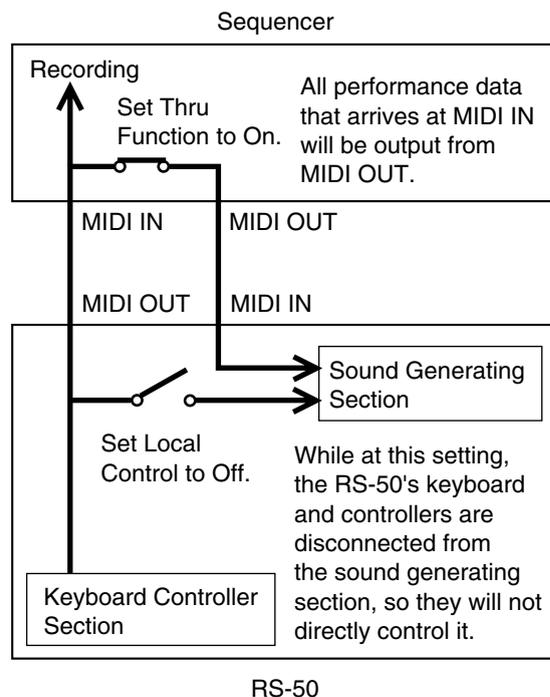
RS-50

The performance data from the RS-50'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-50 from the sequencer's MIDI OUT connector and played by the RS-50's sound generator.

If Local Control were ON, each note would be played twice; once by the music 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 generating section.

* *If your sequencer does not have a Thru function, set the RS-50's Local Control to ON.*

1. **Press [SYSTEM] so it is lit.**

2. Use PAGE/CURSOR [◄]/[►] to select "Local Control."

```
SYSTEM|GENERAL
Local Control:     ON
```

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/
[►] you can quickly select the "SYSTEM | GENERAL" group
(p. 90).

3. Use VALUE [-]/[+] to set the parameter to "OFF."

4. Press [WRITE] to save the settings.

For further information, refer to **"How to make the system
function settings"** (p. 88).

Press [EXIT] to cancel the operation and return to the previous page.

   * *Regardless of the Local Control setting, music data from an external
     MIDI device is always received and will play the internal sound
     generator.*

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 setting,
refer to the owner's manual for your sequencer.

   * *If your sequencer does not have a Thru function, set the RS-50's Local
     Control to ON.*

Setting the performance

Before beginning to record, first make the Performance settings
(select the Patches and Key mode, make any multi-effects, chorus,
and reverb settings, set the knobs, and so on).

NOTE

Also set the Receive Channel and Receive Switch for each part
(p. 57)

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-50 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-50 may not be able to correctly receive the
     settings for the recorded Performance, which may prevent proper
     playback of the performance data.*

1. In Performance mode, press [UTILITY] so it is lit.

2. Use PAGE/CURSOR [◄]/[►] to select "XFER to MIDI."

3. Press [ENTER].
   Make "XFER to MIDI" settings as described in **"Transmitting
   performance settings from the MIDI OUT connector (XFER
   to MIDI)"** (p. 61).
   Select "CUR PERFORM" for "What."

**4. Put your external sequencer in recording mode before you
   execute "XFER to MIDI."**

5. Press [ENTER] to transmit the settings.
   Do not press any key on the keyboard while the transmission is
   in progress. Pressing a key sends Note messages from the MIDI
   OUT connector.
   To cancel the transmission, press [EXIT].

**6. After the transmission is finished, the display will indicate
   "COMPLETED."**

7. Stop the external sequencer.

Recording each part separately

Next, we will record the music data for each Part onto separate
tracks. We will start recording the song from the measure following
the one in which the Performance settings were recorded.

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 9
Accompaniment:	Part 6
Melody:	Part 3

   * *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. You may record at a tempo that is comfortable for you.*

Listening to the recorded performance

When you finish recording all Parts, play it back and listen to the
result. Note the following when playing back a song.

   * *If you modify the settings of each Part (volume, panning, etc.), you will
     need to re-record the modified performance settings at the beginning of
     the song.*

Set the "Rx Sys Exc" (System Exclusive Receive Switch) to ON (p. 90)

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. 91)

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-50'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.

1. Press [SYSTEM] so it is lit.

2. Use PAGE/CURSOR [◄]/[►] to select "Master Key Sft."

```
SYSTEM|GENERAL
Master Key Sft:      0
```

3. Use VALUE [-]/[+] to specify the value (-24– +24).

Value: -24– +24

4. Press [WRITE] to save the settings.

For further information, refer to **"How to make the system function settings"** (p. 88).

Press [EXIT] to cancel the operation and return to the previous page.

Backing-up (saving) all RS-50 settings on your external MIDI sequencer

By executing the Performance or Patch Utility "XFER to MIDI" command (p. 51, p. 61) with DUMP ALL selected as the content to be transmitted (What), you can transmit all of the user area data (patches, performances, system, etc.) from the MIDI OUT connector. By recording these messages on your external MIDI sequencer and saving them, you can back up all of the RS-50's data. If you want to restore the backed-up data into the RS-50 once again, send the data to the RS-50's MIDI IN. Do not operate the RS-50 while this data is being received.

Using the RS-50 as a General MIDI/General MIDI 2 system-compatible sound module

You can play back music data designed for General MIDI and General MIDI 2 sound generators by connecting an external sequencer and using the RS-50 as a sound module.

☞

Playing back General MIDI/General MIDI 2 music data

Be sure to note the following when playing back General MIDI or General MIDI 2 music data.

Set the System Exclusive Receive Switch to ON (p. 90).

When set to OFF, GM System On and GM 2 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 won't be reset to the default settings for General MIDI and General MIDI 2, so the song won't be played back correctly.

Performing with a computer

If you are using music software running on a computer, you can use the computer to operate the RS-50's controls. Not only can you create and play back song data, you can also have Tones switch automatically.

What's more, you can use the included RS Editor software to create Tones using the computer.

Connecting with MIDI cables

A MIDI interface is required for making MIDI connections with a computer. The MIDI interface is connected to the computer, and two MIDI cables connect the MIDI connectors of the MIDI interface to the RS-50's MIDI connectors.
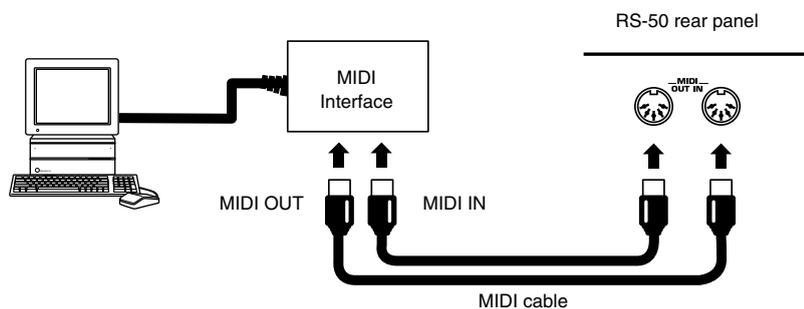
Installing the included editor software

To help you get more out of your RS-50, it comes with RS Editor software. Use RS Editor to freely create your own original sounds.

Detailed instructions on installing the software can be found in the online manual contained on the RS Editor CD-ROM.

- **Windows users**

  In the RS Editor CD-ROM, open the Readme_E.txt.

- **Macintosh users**

  In the RS Editor CD-ROM, open the ReadMe(English).

Memo

Appendix

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/Messages"** *(p. 105).*

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? (p. 15)

Is the volume turned down?

Check the volume settings for the RS-50 and any connected amp or mixer (p. 15).

Are the components properly connected? (p. 14)

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 you are in Performance mode, have the Part Level settings been lowered? (p. 56)

Have you switched the RS-50 mode to that for listening to demo songs?

Press [EXIT] to return to regular performance mode (p. 18).

Is [SOLO SYNTH] set to ON?

The RS-50 does not sound if you just switch [SOLO SYNTH] on. Hold down keys, then move your hand over the D Beam (p. 32).

Are the effects settings correct?

Check effects ON/OFF (p. 65), multi-effects levels (p. 46, p. 56), and other related settings.

Has the pitch of the patch exceeded the range in which it can be sounded normally?

Use "Octave Shift" to lower (raise) the range being played (p. 30).

If no sound is produced when you press keys on the keyboard, is Local control set to OFF?

Set Local Control to ON (p. 89).

Do the transmission and reception channels match?

• If using the RS-50 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. 93).

• If using an external MIDI device to sound the RS-50, 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. 94).

Are volume levels being lowered by pedal movements, or by MIDI messages (expression messages) received from an external MIDI device?

Is the MIDI Rx (Receive) Switch of the corresponding part set to "OFF"?

If using the RS-50 with an external MIDI device, turn it "ON" (p. 95).

Could the Bank Select and Program Change messages transmitted by an external device have the wrong values?

If using the RS-50 with an external MIDI device, make sure that the correct Bank Select and Program Change messages (p. 95) are transmitted.

Is the Clock Source set to MIDI?

If you set the clock source to "MIDI," some of the effects that are synchronized with the tempo will not work. Set the clock source to "INT" except when you want to synchronize the RS-50 with an external MIDI device (p. 89).

The pitch is off

Could Transpose be on? (p. 31)

Are the Octave Shift settings correct? (p. 30)

Are the Scale Tune settings correct? (p. 91, p. 58)

Are the Master Key Shift settings correct? (p. 89)

Are the Master Tune settings correct? (p. 89)

Sounds are missing

Could a Solo switch be set to ON?

When a Solo switch (p. 46) 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.

Are you attempting to play more than 64 voices simultaneously?

• Reduce the number of notes that are played simultaneously.

• Set Voice Reserve higher for an important Part, to help assure that it will always be sounded (p. 56).

Effects not being applied correctly

Are the master effects switches set to OFF? (p. 65)

Are the Chorus settings correct?

Check the Chorus Level (p. 86), Chorus Depth (p. 87), and Chorus Send Level (p. 46, p. 58) settings.

Are the Reverb settings correct?

Check the Reverb Level (p. 87) and Reverb Send Level (p. 46, p. 58) settings.

Are the Chorus or Reverb settings for the rhythm set correct?

Check the Chorus Send Level (p. 53) and Reverb Send Level (p. 53) settings for each note of the rhythm set.

Is any Multi-Effects switch set to "BYPASS?"

Set the Multi-Effects switch for the part being used to ON (p. 46, p. 58).

Are the Multi-Effects Source setting correct? (p. 56)

Is the Clock Source set to "MIDI?"

If you set the clock source (p. 89) to "MIDI," some of the effects that are synchronized with the tempo will not work. Set the clock source to "INT" except when you want to synchronize the RS-50 with an external MIDI device.

Is the Tone Delay time value set to the note?

There is a maximum permissible value for the Delay Time parameter for such as 17: St DELAY. So, if the time setting is specified in terms of a note value, and the tempo is slowed down, this maximum permissible value will be reached, and it cannot be increased further.

The upper time limit for each is the maximum value that can be set other than the numerical value for the beat.

Effect control does not work

If you are using the [C1]/[C2]/[C3] knobs in Performance mode to control MFX PARAMETER settings, the **"MFX Source"** (p. 56) setting will determine the part whose effect will be controlled.

If MFX Source is set to "Part1–16," the effect of that part will be controlled.

If MFX Source is set to "PERFORM," the System **"Perform Ctrl Ch (Performance Control Channel)"** (p. 90) setting will determine the part whose effect will be controlled. If this setting is "OFF," no effect will be controlled.

Notes are delayed or unsteady during playback a song from an external sequencer

The RS-50 contains some patches that are intended for live playing in Patch mode; these include tones that use four voices for each note, or patches that use the Dual function to produce rich sounds. If you are using the RS-50 as a multitimbral sound module, playback may be smoother if you avoid using such sounds, and instead choose sounds that use fewer voices.

- Refer to **"Patch list"** (p. 111), and switch to patches that use tones with fewer voices.
- Select patches whose KEY MODE is other than "DUAL."
- If the number of notes you are attempting to play simultaneously is significantly greater than the maximum polyphony, reduce the number of note messages in the data.
- In some cases, you may be able to lighten the load of multiple notes by shortening the release of patches used in sections where the data is especially dense.

If you playback a song that contains an extremely large amount of data, notes may be delayed or unsteady during playback. This problem can also occur if the tempo is speeded up excessively.

- Delete unneeded note data or knob data from the song.
- Move notes that were input at the same location as chords, so that they are staggered slightly.
- Move data of parts other than the rhythm part slightly forward or backward.

Song data cannot be played back correctly

Did you start playback at some point other than the beginning of the song?

Songs meant for playback with General MIDI System and General MIDI 2 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 you playing back data whose format is something other than General MIDI 2 or General MIDI?

The sound generator of the RS-50 conforms to General MIDI 2 system. It is not compatible with song data that uses formats other than General MIDI 2 or General MIDI.

Appendix

Cannot play phrase/arpeggios

Is the MIDI clock not being received when Clock Source (p. 89) 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-50 except during recording or playback.

Sound does not stop when key is pressed

Is the Hold Pedal Polarity reversed? (p. 89)

MIDI messages not received correctly

Are the Patch Receive channel settings correct? (p. 90).

Is each Receive switch set correctly?

Check the Performance Control Channel (p. 90), Receive Program Change switch (p. 90), Receive Bank Select switch (p. 90), Receive System Exclusive switch (p. 90) settings.

Are Device ID number settings correct?

Set the Device ID number (p. 91) 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.

MIDI messages not transmitted correctly

Are the Patch transmission channel settings correct? (p. 95)

Is each Transmission switch set correctly?

Check the Transmit Program Change switch (p. 90), Transmit Bank Select switch (p. 90), Transmit Edit Data switch (p. 91), Transmit Active Sensing switch (p. 91) settings.

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. 89).

Error Messages/Messages

Message	Meaning	Action
Checksum Error	The checksum of a received System Exclusive message was incorrect.	Set the correct checksum value.
MIDI Buffer Full	Due to an inordinate volume of MIDI messages received, the RS-50 has failed to process them properly.	Reduce the amount of MIDI messages to be transmitted.
MIDI Communication Error	A problem has occurred with the MIDI cable connections.	Check that MIDI cables are not broken or pulled out.
Receive Data Error	A MIDI message was received incorrectly.	If the same error message is displayed repeatedly, the problem lies with the MIDI messages that are being transmitted to the RS-50.
User Memory Damaged	The data in user memory has been lost.	Use the Factory Reset function to initialize the memory to the factory settings.
CANCELED	Processing is canceled. (This is not an error message.)	—

Parameter list

Patch parameters

Patches

Patch Common parameters (p. 45)

Parameters		Value
Name	Patch Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` {	}
Category		* Refer to **"Selecting a patch by category"** (p. 20).
Key Mode		SINGLE, SPLIT, DUAL
Patch Level		0–127
Tone Balance		-64 (LOWER) – +63 (UPPER)
Split Point		A0–C8
Split Arp	Split Arpeggio	UPPER, LOWER, BOTH
Solo Switch		OFF, ON, UPPER, LOWER
ModulationDst	Modulation Destination	UPPER, LOWER, BOTH
PitchBend Dst	Pitch Bend Destination	UPPER, LOWER, BOTH
Modify Dest	Modify Destination	UPPER, LOWER, BOTH * This is linked with the panel's [DESTINATION TONE] setting.
ExpressionDst	Expression Destination	UPPER, LOWER, BOTH
Active Exp Sw	Active Expression Switch	OFF, ON

Patch Tone parameters (p. 46)

Parameters		Value
No.	Original Tone Number	0001–0640
Tone Pan		L64–63R
MFX Switch	Multi-Effects Switch	BYPASS, ON
Chorus Send Lvl	Chorus Send Level	0–127
Reverb Send Lvl	Reverb Send Level	0–127
Coarse Tune		-48– +48
Fine Tune		-50– +50
Portamento Sw	Portamento Switch	OFF, ON
Portamento Time		0–127
Velo Sens Depth	Velocity Sensitivity Depth	-64– +63
Velo Sens Ofs	Velocity Sensitivity Offset	-64– +63
Pitch Bend Range		0–24
Filter LFO	Filter LFO Switch	OFF(PCH), ON(FLT)
LFO Rate		-64– +63
LFO Depth		-64– +63
LFO Delay		-64– +63
Cutoff Freq	Cutoff Frequency	-64– +63
Resonance		-64– +63
Attack Time		-64– +63
Decay Time		-64– +63
Release Time		-64– +63

Patch Effects parameters

* *The same parameters are also provided for Rhythm sets.*

Parameters		Value
Multi-effects group		
Type	Multi-effects Type	00 THROUGH–47 FBK RIPPER
---	Multi-effects Parameters	The number of parameters varies depending on the Multi-effects Type. Refer to **"Setting multi-effects parameters"** (p. 68).
Send Lvl to Cho	Multi-effect send level to chorus	0–127
Send Lvl to Rev	Multi-effect send level to reverb	0–127
Ctrl 1	Multi-effects Control 1	Refer to **"Setting multi-effects parameters"** (p. 68).
Ctrl 2	Multi-effects Control 2	Refer to **"Setting multi-effects parameters"** (p. 68).
Chorus effects group		
Type	Chorus type	CHORUS1, CHORUS2, CHORUS3, CHORUS4, FEEDBACK CHORUS, FLANGER, SHORT DELAY, SHORT DELAY(FB)
Pre-LPF	Chorus pre-low pass filter	0–7
Level	Chorus Level	0–127

Parameters		Value
Feedback	Chorus Feedback Level	0–127
Delay	Chorus Delay Time	0–127
Rate	Chorus Rate	0–127
Depth	Chorus Depth	0–127
Send Lvl to Rev	Chorus send level to reverb	0–127
Reverb effects group		
Type	Reverb Type	ROOM1, ROOM2, ROOM3, HALL1, HALL2, PLATE, DELAY, PANNING DELAY
Character	Reverb Character	0–7
Pre-LPF	Reverb pre-low pass filter	0–7
Level	Reverb Level	0–127
Time	Reverb Time	0–127
Delay Feedback	Reverb Delay Feedback	0–127

Rhythm Patches

Rhythm Common parameters (p. 52)

Parameters		Value
Name	Rhythm Set Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` {	}

Rhythm Tone parameters (p. 52)

Parameters		Value
Pitch		-60– +67
Level		0–127
Pan		RND, L63–63R
Chorus Send Lvl	Chorus Send Level	0–127
Reverb Send Lvl	Reverb Send Level	0–127

Performance parameters

Performance Common parameters (p. 56)

Parameters		Value
Name	Performance Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` {	}
Voice Rsv 1–16	Voice Reserve 1–16	0–32
Level	Performance Level	0–127
MFX Source		PERFORM, PART1–PART16

Performance Effects parameters

Parameters		Value
Multi-effects group		
Type	Multi-Effects Type	00 THROUGH–47 FBK RIPPER
---	Multi-effects Parameters	The number of parameters varies depending on the Multi-effects Type. Refer to **"Setting multi-effects parameters"** (p. 68).
Send Lvl to Cho	Multi-effect send level to chorus	0–127
Send Lvl to Rev	Multi-effect send level to reverb	0–127
Ctrl 1	Multi-Effects Control 1	Refer to **"Setting multi-effects parameters"** (p. 68).
Ctrl 2	Multi-Effects Control 2	Refer to **"Setting multi-effects parameters"** (p. 68).
Chorus effects group		
Type	Chorus type	CHORUS1, CHORUS2, CHORUS3, CHORUS4, FEEDBACK CHORUS, FLANGER, SHORT DELAY, SHORT DELAY(FB)
Pre-LPF	Chorus pre-low pass filter	0–7
Level	Chorus Level	0–127
Feedback	Chorus Feedback Level	0–127
Delay	Chorus Delay Time	0–127
Rate	Chorus Rate	0–127
Depth	Chorus Depth	0–127

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Parameters		Value
Send Lvl to Rev	Chorus send level to reverb	0–127
Reverb effects group		
Type	Reverb Type	ROOM1, ROOM2, ROOM3, HALL1, HALL2, PLATE, DELAY, PANNING DELAY
Character	Reverb Character	0–7
Pre-LPF	Reverb pre-low pass filter	0–7
Level	Reverb Level	0–127
Time	Reverb Time	0–127
Delay Feedback	Reverb Delay Feedback	0–127

Performance Part Setup parameters (p. 56)

Parameters		Value
Level	Part Level	0–127
Pan	Part Pan	RND, L63–63R
Receive Ch	Receive Channel	1–16
Receive Sw	Receive Switch	OFF, ON
Receive Prg Chg	Receive Program Change Switch	OFF, ON
Receive Bank Sel	Receive Bank Select Switch	OFF, ON
PART SCALE group		
Type	Part Scale Tune Type	EQUAL, JUST(maj) in C, JUST(min) in C, ARABIC
Tune C–TuneB	Part Scale Tune C–B	-64–63

System parameters (p. 89)

Parameters		Value
GENERAL group		
LCD Contrast		1–10
Master Tune		415.3–466.2
Master Key Sft	Master Key Shift	-24– +24
Master Level		0–127
Hold Pedal	Hold Pedal Polarity	STANDARD, REVERSE
Local Control	Local Controller	OFF, ON
Clock Source		INT, MIDI
CONTROLLER group		
Mod	Modulation Assign	MODULATION, PORTA TIME, VOLUME, BALANCE, PAN, EXPRESSION, PORTAMENTO, SOSTENUTO, SOFT, RESO-NANCE, RELEASE TIME, ATTACK TIME, CUTOFF, DECAY TIME, LFO RATE, LFO DEPTH, LFO DELAY, CHO SEND LEVEL, REV SEND LEVEL, MFX PARAMETER1, MFX PARAMETER2, AFTERTOUCH
Pedal	Pedal Control Assign	Values for Modulation Assign, TAP TEMPO
C1–C3	C1–C3 Knob Assign	Values for Modulation Assign, PATCH MODIFY
MIDI group		
Patch Rx Ch	Patch Receive Channel	1–16
Patch Tx Ch	Patch Transmit Channel	1–16, RxCH, OFF
Perform Ctrl Ch	Performance Control Channel	1–16, OFF
Rx Prog Chg	Receive Program Change Switch	OFF, ON
Rx Bank Sel	Receive Bank Select Switch	OFF, ON
Rx Sys Exc	Receive System Exclusive Switch	OFF, ON
Tx Prog Chg	Transmit Program Change Switch	OFF, ON
Tx Bank Sel	Transmit Bank Select Switch	OFF, ON
Tx Edit Data	Transmit Edit Data Switch	OFF, ON
Tx Active Sens	Transmit Active Sensing Switch	OFF, ON
Device ID	Device ID Number	17–32
Soft Thru	Soft Through Switch	OFF, ON
PATCH SCALE group		
Type	Patch Scale Tune Type	EQUAL, JUST(maj) in C, JUST(min) in C, ARABIC
Tune C–Tune B	Patch Scale Tune C–B	-64– +63

Original tone list

No.	Name	Voice
0001	Piano 1	2
0002	Piano 1w	1
0003	European Pf	2
0004	RS Grand 1	2
0005	RS Grand 2	2
0006	Piano F	2
0007	LA Piano	4
0008	Piano 2	2
0009	Piano 2w	1
0010	Mono Piano	1
0011	Piano 3	2
0012	Piano 3w	1
0013	Rock Piano 1	2
0014	Rock Piano 2	2
0015	Dance Piano	2
0016	Brite Piano	1
0017	Honky-tonk 1	2
0018	Honky-tonk 2	2
0019	Honky-tonk 3	2
0020	E.Piano 1	1
0021	St.Soft EP	2
0022	FM+SA EP	2
0023	60's Rhodes	1
0024	RS Rhodes	1
0025	Touch Rhodes	1
0026	70's Ballad	2
0027	Dyno Rhodes	2
0028	MKS20Rhodes	2
0029	StageRhodes1	2
0030	StageRhodes2	1
0031	Swurly	1
0032	BalladPanner	2
0033	Sine Rhodes	2
0034	Phase EP	2
0035	Phase Rhodes	2
0036	Tremolo Dyno	2
0037	E.Piano 2	1
0038	Detuned EP 2	2
0039	St.FM EP	2
0040	EP Legend	2
0041	EP Phase	2
0042	Pure EP	1
0043	FM Rhodes 1	1
0044	FM Rhodes 2	2
0045	Stack EPiano	2
0046	Hard FM	2
0047	Harpsichord1	1
0048	Coupled Hps.	2
0049	Harpsi.w	1
0050	Harpsi.o	2
0051	Harpsichord2	2
0052	Harpsichord3	2
0053	Synth Harpsi	2
0054	Clav.	1
0055	Pulse Clav	1
0056	RS Clavi 1	1
0057	RS Clavi 2	1
0058	RS Clavi 3	1
0059	RS Clavi 4	1
0060	RS Clavi 5	2
0061	RS Clavi 6	1
0062	AnalogClav 1	1
0063	AnalogClav 2	2
0064	Celesta	1
0065	Glockenspiel	1
0066	Music Box	1
0067	Vibraphone	1
0068	Vibraphone w	1
0069	RS Vibe	2
0070	Tr. Vibe	2

No.	Name	Voice
0071	SA Vibe	1
0072	Marimba	1
0073	Marimba w	1
0074	Xylophone	1
0075	Tubular-bell	1
0076	Church Bell	1
0077	Carillon	1
0078	Singing Bell	2
0079	Analog Bell	2
0080	Hyper Bell	2
0081	Warm Bell	2
0082	RS Crystal	4
0083	Chime Bells	4
0084	Tiny Bell	1
0085	Pretty Bell	2
0086	RS Digi Bell	2
0087	SouthernWind	4
0088	Mysterious	4
0089	Santur	1
0090	Organ 1	3
0091	Trem. Organ	2
0092	60's Organ 1	2
0093	70's E.Organ	2
0094	RS Organ 1	1
0095	RS Organ 2	1
0096	RS Organ 3	3
0097	RS Organ 4	3
0098	RS Organ 5	2
0099	Animal Organ	1
0100	Old Organ	1
0101	D-50 Organ	1
0102	Surf Organ	1
0103	Organ 2	1
0104	Chorus Or.2	3
0105	Perc. Organ	2
0106	Garage Organ	2
0107	Club Organ	2
0108	R&B Organ	3
0109	FM PercOrg	1
0110	Org Perc	1
0111	Organ 3	2
0112	Power B Slw	1
0113	Power B Fst	1
0114	Gospel B	3
0115	Purple B	2
0116	RS Mad Org	2
0117	Church Org.1	1
0118	Church Org.2	2
0119	Church Org.3	2
0120	Reed Organ	1
0121	Puff Organ	2
0122	Accordion Fr	2
0123	Accordion It	2
0124	Harmonica	1
0125	Bandoneon	2
0126	Vodkakordion	4
0127	Squeeze Me!	4
0128	Guinguette	4
0129	Nylon-str.Gt	2
0130	Ukulele	1
0131	Nylon Gt.o	2
0132	Nylon Gt.2	1
0133	Spanish Gtr	2
0134	Requint Gtr	2
0135	Steel-str.Gt	1
0136	12str Gtr 1	2
0137	Mandolin	2
0138	Steel + Body	2
0139	6str Gtr	1
0140	St.SteelGtr.	2

No.	Name	Voice
0141	RS Ac.Gtr 2	1
0142	Nylon+Steel	2
0143	12str Gtr 2	2
0144	Jazz Gt.	1
0145	Pedal Steel	1
0146	Clean Gt.	1
0147	Chorus Gt.	2
0148	Mid Tone GTR	1
0149	St.Strat Gtr	2
0150	12str EGtr	2
0151	E.Guitar	1
0152	Wah Gt.	1
0153	WahWah Gtr	1
0154	Muted Gt.	1
0155	Funk Pop	1
0156	Funk Gt.2	1
0157	Jazz Man	2
0158	D.Mute Gtr	1
0159	Overdrive Gt	2
0160	Guitar Pinch	1
0161	5th OverDrv.	2
0162	DistortionGt	2
0163	Feedback Gtr	2
0164	Dist Rhy Gtr	1
0165	Heavy Gtr.	1
0166	Dazed Guitar	2
0167	5th Dist.	2
0168	Gt.Harmonics	1
0169	Gt. Feedback	1
0170	Acoustic Bs.	2
0171	RS Ac.Bass 1	2
0172	RS Ac.Bass 2	2
0173	Upright Bs	2
0174	Fingered Bs.	1
0175	Finger Slap	2
0176	RS FngBs 1	2
0177	RS FngBs 2	2
0178	RS Jazz Bs	2
0179	Picked Bass1	1
0180	Picked Bass2	1
0181	RS Rock Bs	2
0182	Fretless Bs.	1
0183	RS FrtlessBs	2
0184	Syn Fretless	2
0185	Mr.Smooth	2
0186	Slap Bass 1	1
0187	Unison Slap	2
0188	Slap Bass 2	2
0189	Slap Bass 3	3
0190	Synth Bass 1	1
0191	SynthBass101	1
0192	Acid Bass	1
0193	Clavi Bass	2
0194	Hammer	2
0195	101Bass 1	1
0196	101Bass 2	1
0197	MC202 Bs	1
0198	House Bs 1	1
0199	House Bs 2	1
0200	Low Bass	2
0201	SH Dullbass	2
0202	Deep Bass	3
0203	No Rez 4 You	2
0204	Square Bass	2
0205	Jungle Bass	1
0206	Organ Bass	1
0207	Garage Bass	1
0208	SH-2 Bass	2
0209	106Bass	1
0210	Mini Bs	1

No.	Name	Voice
0211	Juno Bass	1
0212	MG Bass	2
0213	MG PunchBass	2
0214	MG LiteBass	2
0215	Synth Bass 2	2
0216	Beef FM Bass	2
0217	RubberBass 2	2
0218	Attack Pulse	1
0219	TB Bass	1
0220	FatTB Bass	2
0221	Acid TB Bs	1
0222	TB Dist Saw	1
0223	RS SynBass 1	3
0224	PopSynthBass	2
0225	LightSynBass	2
0226	101Bass 3	1
0227	Smooth Bass	2
0228	Mild Bass	2
0229	Dark Bass	2
0230	Beef Bass	3
0231	RS SynBass 2	3
0232	Unison Bass	2
0233	OilDrum Bass	4
0234	Detune Bass	3
0235	Violin	2
0236	Slow Violin	1
0237	VlnSolo Marc	1
0238	Viola	1
0239	Cello	2
0240	VlcSolo Spic	1
0241	Contrabass	1
0242	Tremolo Str	2
0243	PizzicatoStr	1
0244	Captain Pizz	4
0245	Pizzy Techno	1
0246	Harp	1
0247	Yang Qin	2
0248	Brite Harp	2
0249	Timpani	1
0250	Strings	2
0251	Orchestra	3
0252	60's Strings	2
0253	Orchestra 1	3
0254	Orchestra 2	2
0255	Orchestra 3	3
0256	Dry Strings	2
0257	St.JV Str	2
0258	JV Strings	2
0259	DanceStrings	1
0260	Str Spiccato	1
0261	RS St.Str	2
0262	Brite Str	2
0263	Velo Strings	4
0264	Oct Strings1	2
0265	Oct Strings2	2
0266	Tron Strings	1
0267	Slow Strings	2
0268	SlowStrings2	2
0269	Warm Strings	2
0270	St.Slow Str.	2
0271	Syn.Strings1	2
0272	Syn.Strings3	2
0273	StraightStr.	2
0274	LoFi Strings	2
0275	RS Syn Str1	2
0276	JP Saws	2
0277	Hybrid Str	2
0278	JUNOFullStr.	2
0279	Atk Syn Str.	2
0280	Syn.Strings2	2

No.	Name	Voice
0281	Warm JP STR	2
0282	Saw Strings	2
0283	Soft JP Str.	3
0284	JP Strings	4
0285	RS Syn Str 2	3
0286	OB Str 1	2
0287	OB Str 2	2
0288	JUNO Strings	2
0289	Choir Aahs 1	2
0290	Chorus Aahs	2
0291	Choir VSw	2
0292	Choir Aahs 2	2
0293	St.ChoirAahs	4
0294	Melted Choir	2
0295	RS Choir	3
0296	Church Choir	2
0297	Voice Oohs	1
0298	Humming	2
0299	Jazz Scat	1
0300	Fem&Male Chr	1
0301	Female Oohs	2
0302	SynVox	2
0303	Analog Voice	1
0304	SH-2000 Vox	1
0305	RS SynVox 1	2
0306	RS SynVox 2	1
0307	SynVox Key	2
0308	FM Vox	1
0309	Tape Choir	1
0310	Doos Arpeg	4
0311	ChaosChoir 1	4
0312	ChaosChoir 2	4
0313	ChaosChoir 3	2
0314	OrchestraHit	2
0315	Bass Hit	2
0316	6th Hit	2
0317	Euro Hit	2
0318	Club Hit	4
0319	Back Hit	2
0320	Techno Hit	1
0321	Philly Hit	1
0322	Noise&SawHit	2
0323	Trumpet	2
0324	Dark Trumpet	1
0325	Bright Tp	2
0326	RS Trumpet 1	1
0327	RS Trumpet 2	1
0328	RS Solo Tp	1
0329	Penny Tpt	1
0330	Flugel Horn	1
0331	Dual Horns	2
0332	Trombone 1	1
0333	Trombone 2	1
0334	Bright Tb	1
0335	RS Trombone1	1
0336	RS Trombone2	1
0337	Tuba	1
0338	RS Tuba	1
0339	MuteTrumpet1	1
0340	MuteTrumpet2	1
0341	French Horns	1
0342	Fr.Horn 2	2
0343	RS F.Horn	1
0344	RS F.Horns 1	1
0345	RS F.Horns 2	1
0346	Wide Fr.Hrns	2
0347	Strings+Horn	2
0348	Orch Brass 1	2
0349	Orch Brass 2	2
0350	St.Orch Brs1	2

Original tone list

No.	Name	Voice	No.	Name	Voice	No.	Name	Voice	No.	Name	Voice	No.	Name	Voice
0351	St.Orch Brs2	4	0421	Pan Flute 1	1	0491	TranceSaws 3	2	0561	RandomEnding	2	0631	Applause	2
0352	St.Orch Brs3	4	0422	Bottle Blow1	2	0492	Power Stack	2	0562	Acid Copter	2	0632	Laughing	1
0353	Henry IV	4	0423	RS Sicu Pipe	1	0493	Alpha Rave	1	0563	Etherality	4	0633	Screaming	1
0354	Brass 1	2	0424	RS Calliope	3	0494	Retro Rave	4	0564	Just Before	4	0634	Punch	1
0355	Brass 2	2	0425	Bottle Blow2	3	0495	Chrd Maj7	4	0565	Labo-Feedbak	4	0635	Heart Beat	1
0356	Brite Brass	2	0426	Shakuhachi 1	1	0496	RndmFltrChrd	4	0566	Faveoravo	4	0636	Footsteps	1
0357	BigBand	2	0427	Shakuhachi 2	1	0497	Cool Beam	4	0567	Time Warp	3	0637	Gun Shot	1
0358	Octave Brass	2	0428	Nay	2	0498	Syn.Calliope	2	0568	RS Wire Key	3	0638	Machine Gun	1
0359	RS Brass 1	4	0429	Tin Whistle1	1	0499	Chiffer Lead	2	0569	Echo Drops	1	0639	Lasergun	1
0360	RS Brass 2	4	0430	Tin Whistle2	2	0500	Charang	2	0570	Echo Bell	2	0640	Explosion	2
0361	RS Brass 3	2	0431	ShakuBamboo	4	0501	Wire Lead	2	0571	Echo Pan	2			
0362	RS Brass 4	1	0432	Whistle	2	0502	Solo Vox	2	0572	Star Theme	2			
0363	Lo Brass	2	0433	Ocarina	2	0503	5th Saw Wave	2	0573	Sitar 1	1			
0364	TP&TB Sect	2	0434	Square Wave1	2	0504	Bass & Lead	2	0574	Sitar 2	2			
0365	Tp Sect	1	0435	MG Square	1	0505	Delayed Lead	2	0575	Banjo	1			
0366	Tb Sect	1	0436	2600 Sine	1	0506	Fantasia	2	0576	Shamisen 1	1			
0367	TSax Sect	1	0437	Sine	1	0507	Warm Pad	1	0577	Shamisen 2	2			
0368	St.Sax Sect	2	0438	Twin Sine	2	0508	Sine Pad	2	0578	Time Vault	4			
0369	FatPop Brass	2	0439	Shmoog	2	0509	Soft Pad	1	0579	Koto	2			
0370	Brass sfz	2	0440	Square Wave2	1	0510	OB2 Pad 1	2	0580	Taisho Koto	2			
0371	Synth Brass1	2	0441	Dual Sqr&Saw	4	0511	OB2 Pad 2	1	0581	Kalimba	1			
0372	JP Brass	2	0442	Hollo Lead	2	0512	Stacked Pad	2	0582	Jublag	1			
0373	Oct SynBrs 1	2	0443	OB Lead	2	0513	FS Hollow 1	2	0583	Bagpipe	2			
0374	Jump Brass	1	0444	JD Triangle	1	0514	FS Hollow 2	3	0584	Fiddle	1			
0375	Hybrid Brass	2	0445	800 Lead	1	0515	JP8 Sqr Pad	2	0585	Shanai	1			
0376	BPF Brass	2	0446	RS Lead	1	0516	Warm Sqr Pad	3	0586	Tinkle Bell	3			
0377	Oct SynBrs 2	2	0447	JP8Pls 05	1	0517	Pipe Pad	3	0587	Agogo	1			
0378	Oct SynBrs 3	4	0448	JP8Pls 15	1	0518	Square Pad	3	0588	Steel Drum	1			
0379	Synth Brass2	2	0449	JP8Pls 30	1	0519	JP8 Hollow	4	0589	Woodblock	1			
0380	SynBrass sfz	2	0450	JP8Pls 45	1	0520	JP8 Haunting	4	0590	Castanets	1			
0381	Velo Brass 1	2	0451	TB Dst Sqr 1	1	0521	Sugar Key	2	0591	Taiko	1			
0382	SoaringHorns	4	0452	TB Dst Sqr 2	1	0522	BriteSaw Key	2	0592	Concert BD	1			
0383	Saw Brass 1	4	0453	260 Sub Osc	1	0523	SuperJupiter	4	0593	Melo. Tom 1	1			
0384	Saw Brass 2	2	0454	Spectrum	1	0524	Polysynth	2	0594	Melo. Tom 2	1			
0385	Reso Brass	2	0455	Saw Wave	2	0525	Space Voice	2	0595	Synth Drum	2			
0386	DistSqrBrass	2	0456	OB2 Saw	1	0526	Itopia	2	0596	TR808 Tom	2			
0387	JP8000SawBrs	2	0457	Doctor Solo	2	0527	D50 Heaven	1	0597	Elec Perc	1			
0388	Velo Brass 2	2	0458	Natural Lead	2	0528	Heaven Pad	2	0598	Reverse Cym.	1			
0389	Transbrass	2	0459	SequencedSaw	2	0529	Vox Pad	2	0599	Gt.FretNoise	1			
0390	LA Brass	4	0460	SequencedPls	2	0530	Bowed Glass	3	0600	Gt.Cut Noise	1			
0391	WarmSynBrass	2	0461	Pattern It	2	0531	Metal Pad	3	0601	String Slap	1			
0392	DeepSynBrass	2	0462	Fat Saw	2	0532	Halo Pad	2	0602	NylonGtr Nz	1			
0393	Spit Brass	2	0463	D-50 FatSaw	2	0533	Sweep Pad	1	0603	Breath Noise	1			
0394	Soprano Sax	1	0464	Waspy Synth	2	0534	LFO Sweep	1	0604	Fl.Key Click	1			
0395	RS Sop Sax	1	0465	Naked Cheese	1	0535	Saws Sweep	3	0605	Seashore	1			
0396	Alto Sax	1	0466	MG Saw	1	0536	Soft Sweep	2	0606	Rain	1			
0397	AltoSax Soft	1	0467	OB Warm Saw	1	0537	ForwardSweep	2	0607	Thunder	1			
0398	Alto Sax Vel	1	0468	P5 Saw	2	0538	ReverseSweep	2	0608	Wind	1			
0399	Tenor Sax	1	0469	RS SawLead 1	2	0539	Deep Sweep	2	0609	Stream	2			
0400	Tenor Sax F	2	0470	MG Lead 1	1	0540	Shaku Pad	3	0610	Bubble	2			
0401	Blown Tenor	1	0471	MG Lead 2	1	0541	RS Combing	4	0611	Bird 1	2			
0402	Honky Tenor	1	0472	Homey Lead	1	0542	Killer Pad	1	0612	Dog	1			
0403	BaritoneSax1	1	0473	GR500 Lead	1	0543	LFO Pad	4	0613	Horse-Gallop	1			
0404	BaritoneSax2	1	0474	PM Lead	1	0544	RS RandomPad	3	0614	Bird 2	1			
0405	Oboe 1	1	0475	WindSyn Lead	2	0545	Ice Rain	2	0615	Telephone 1	1			
0406	Oboe 2	1	0476	RS SawLead 2	2	0546	W.Chime Pad	4	0616	Telephone 2	1			
0407	EnglishHorn1	1	0477	MG Lead 3	1	0547	Saw Impulse	3	0617	DoorCreaking	1			
0408	EnglishHorn2	1	0478	RS SawLead 3	2	0548	Soundtrack	2	0618	Door	1			
0409	Bassoon 1	1	0479	PureFlatLead	2	0549	Strobe	4	0619	Scratch	1			
0410	Bassoon 2	1	0480	Air Wave	1	0550	Riff the 5th	2	0620	Wind Chimes	1			
0411	Clarinet 1	1	0481	Theramax	1	0551	Star Dust	4	0621	Helicopter	1			
0412	Clarinet 2	1	0482	JP SuperSaw	1	0552	Sweep Stack	4	0622	Car-Engine	1			
0413	Piccolo 1	1	0483	JP8000Detune	1	0553	Crystal	2	0623	Car-Stop	1			
0414	Piccolo 2	1	0484	Velo Cheese	3	0554	Syn Mallet	1	0624	Car-Pass	1			
0415	Flute	1	0485	Dance Saws	1	0555	TarzanBottom	2	0625	Car-Crash	2			
0416	RS Flute 1	1	0486	DanceStack 1	3	0556	Atmosphere	2	0626	Siren	1			
0417	RS Flute 2	2	0487	DanceStack 2	3	0557	Brightness	2	0627	Train	1			
0418	Tron Flute 1	2	0488	TranceSaws 1	3	0558	Bell Sugar	3	0628	Jetplane	2			
0419	Tron Flute 2	1	0489	Trance Keys	3	0559	D-50 Retour	4	0629	Starship	2			
0420	Recorder	1	0490	TranceSaws 2	2	0560	Goblin	2	0630	Burst Noise	2			

Patch list

[1] PIANO

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
001	Pf01	RS Grand	PNO	64	1	---	---	2	SPLIT
002	Pf02	RS Grand 2	PNO	64	2	---	---	2	SINGLE
003	Pf03	Bright Grand	PNO	64	3	---	---	2	SINGLE
004	Pf04	Mono Piano	PNO	64	4	---	---	1	SINGLE
005	Pf05	Rock Piano 1	PNO	64	5	---	---	2	SINGLE
006	Pf06	Rock Piano 2	PNO	64	6	---	---	2	SINGLE
007	Pf07	Dance Piano	PNO	64	7	---	---	2	SINGLE
008	Pf08	Brite Piano	PNO	64	8	---	---	1	SINGLE
009	Pf09	EL.Grand	PNO	64	9	---	---	2	SINGLE
010	Pf10	Honky-tonk 3	PNO	64	10	---	---	2	SINGLE
011	Pf11	LA Piano	PNO	64	11	---	---	4	SINGLE
012	Pf12	RS Grand/ABs	PNO	64	12	---	---	2	SPLIT
013	Pf13	RS Grand&Pad	PNO	64	13	---	---	4	DUAL
014	Pf14	RS Grand&Vox	PNO	64	14	---	---	4	DUAL
015	Pf15	AEx PianoVox	PNO	64	15	---	---	6	DUAL
016	Pf16	Stage Rhodes	EP	64	16	---	---	2	SINGLE
017	Pf17	StageRhodes2	EP	64	17	---	---	2	SINGLE
018	Pf18	StageRhodes3	EP	64	18	---	---	2	SINGLE
019	Pf19	Sweet Stage	EP	64	19	---	---	2	SINGLE
020	Pf20	70's Ballad	EP	64	20	---	---	2	SINGLE
021	Pf21	Dyno Rhodes	EP	64	21	---	---	2	SINGLE
022	Pf22	RS Rhodes 1	EP	64	22	---	---	1	SINGLE
023	Pf23	Pure EP	EP	64	23	---	---	1	SINGLE
024	Pf24	EP Panner	EP	64	24	---	---	2	SINGLE
025	Pf25	Tremolo Dyno	EP	64	25	---	---	2	SINGLE
026	Pf26	RS Rhodes 2	EP	64	26	---	---	1	SINGLE
027	Pf27	MKS20 Rhds 1	EP	64	27	---	---	2	SINGLE
028	Pf28	MKS20 Rhds 2	EP	64	28	---	---	2	SINGLE
029	Pf29	Touch Rhodes	EP	64	29	---	---	1	SINGLE
030	Pf30	Phase Rhodes	EP	64	30	---	---	2	SINGLE
031	Pf31	Phase Rhds 2	EP	64	31	---	---	2	SINGLE
032	Pf32	Phase EP	EP	64	32	---	---	2	SINGLE
033	Pf33	Psycho Rhds	EP	64	33	---	---	2	SINGLE
034	Pf34	StageRhds/Bs	EP	64	34	---	---	2	SPLIT
035	Pf35	RS Wurly	EP	64	35	---	---	1	SINGLE
036	Pf36	Sine Rhodes	EP	64	36	---	---	2	SINGLE
037	Pf37	FM EP	EP	64	37	---	---	1	SINGLE
038	Pf38	RS St.FM EP	EP	64	38	---	---	2	SINGLE
039	Pf39	Stacked EP	EP	64	39	---	---	2	SINGLE
040	Pf40	FM Rhodes	EP	64	40	---	---	2	SINGLE
041	Pf41	Hard FM	EP	64	41	---	---	2	SINGLE
042	Pf42	RS EP & Vox	EP	64	42	---	---	4	DUAL
043	Pf43	Piano 1	PNO	67	1	0	1	2	SPLIT
044	Pf44	Piano 1w	PNO	67	2	1	1	1	SPLIT
045	Pf45	European Pf	PNO	67	3	2	1	2	SINGLE
046	Pf46	Piano 2	PNO	67	4	0	2	2	SINGLE
047	Pf47	Piano 2w	PNO	67	5	1	2	1	SINGLE
048	Pf48	Piano 3	PNO	67	6	0	3	2	SINGLE
049	Pf49	Piano 3w	PNO	67	7	1	3	1	SINGLE
050	Pf50	Honky-tonk	PNO	67	8	0	4	2	SINGLE
051	Pf51	Honky-tonk 2	PNO	67	9	1	4	2	SINGLE
052	Pf52	E.Piano 1	EP	67	10	0	5	1	SINGLE
053	Pf53	St.Soft EP	EP	67	11	1	5	2	SINGLE
054	Pf54	FM+SA EP	EP	67	12	2	5	2	SINGLE
055	Pf55	60's Rhodes	EP	67	13	3	5	1	SINGLE
056	Pf56	E.Piano 2	EP	67	14	0	6	1	SINGLE
057	Pf57	Detuned EP 2	EP	67	15	1	6	2	SINGLE
058	Pf58	St.FM EP	EP	67	16	2	6	2	SINGLE
059	Pf59	EP Legend	EP	67	17	3	6	2	SINGLE
060	Pf60	EP Phase	EP	67	18	4	6	2	SINGLE

[2] KBD & ORG

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
061	Ky01	RS Clavi 1	KEY	64	43	---	---	1	SINGLE
062	Ky02	RS Clavi 2	KEY	64	44	---	---	2	SINGLE
063	Ky03	RS Clavi 3	KEY	64	45	---	---	1	SINGLE
064	Ky04	RS Clavi 4	KEY	64	46	---	---	1	SINGLE
065	Ky05	Phaser Clav	KEY	64	47	---	---	1	SINGLE
066	Ky06	AnalogClav 1	KEY	64	48	---	---	1	SINGLE
067	Ky07	AnalogClav 2	KEY	64	49	---	---	2	SINGLE
068	Ky08	Harpsichord2	KEY	64	50	---	---	2	SINGLE
069	Ky09	Synth Harpsi	KEY	64	51	---	---	2	SINGLE
070	Ky10	Pretty Bell	BEL	64	52	---	---	2	SINGLE
071	Ky11	Hyper Bell	BEL	64	53	---	---	2	SINGLE
072	Ky12	Warm Bell	BEL	64	54	---	---	2	SINGLE
073	Ky13	RS Crystal	BEL	64	55	---	---	4	SINGLE
074	Ky14	SouthernWind	BEL	64	56	---	---	4	SINGLE
075	Ky15	Singing Bell	BEL	64	57	---	---	2	SINGLE
076	Ky16	MOD Bell	BEL	64	58	---	---	2	SINGLE
077	Ky17	MOD 5th Bell	BEL	64	59	---	---	4	DUAL
078	Ky18	Mysterious	BEL	64	60	---	---	4	SINGLE
079	Ky19	RS Digi Bell	BEL	64	61	---	---	2	SINGLE
080	Ky20	RS Bell Str	BEL	64	62	---	---	5	DUAL
081	Ky21	AEx SynBells	BEL	64	63	---	---	8	DUAL
082	Ky22	RS Marimba	MLT	64	64	---	---	1	SINGLE
083	Ky23	RS Vibe	MLT	64	65	---	---	2	SINGLE
084	Ky24	SA Vibe	MLT	64	66	---	---	1	SINGLE
085	Ky25	RS Vibe/AcBs	MLT	64	67	---	---	2	SPLIT
086	Ky26	RS Organ 1	ORG	64	68	---	---	3	SINGLE
087	Ky27	RS Organ 2	ORG	64	69	---	---	3	SINGLE
088	Ky28	RS Organ 3	ORG	64	70	---	---	1	SINGLE
089	Ky29	RS Organ 4	ORG	64	71	---	---	1	SINGLE
090	Ky30	RS Organ 5	ORG	64	72	---	---	3	SINGLE
091	Ky31	Jazz Organ 1	ORG	64	73	---	---	1	SINGLE
092	Ky32	Jazz Organ 2	ORG	64	74	---	---	1	SINGLE
093	Ky33	R&B Organ	ORG	64	75	---	---	3	SINGLE
094	Ky34	Power B Slw	ORG	64	76	---	---	1	SINGLE
095	Ky35	Power B Fst	ORG	64	77	---	---	1	SINGLE
096	Ky36	Gospel B	ORG	64	78	---	---	3	SINGLE
097	Ky37	Dist Mad Org	ORG	64	79	---	---	2	SINGLE
098	Ky38	Purple B	ORG	64	80	---	---	2	SINGLE
099	Ky39	Animal Organ	ORG	64	81	---	---	1	SINGLE
100	Ky40	Surf Organ	ORG	64	82	---	---	1	SINGLE
101	Ky41	Old Organ	ORG	64	83	---	---	1	SINGLE
102	Ky42	D-50 Organ	ORG	64	84	---	---	1	SINGLE
103	Ky43	House Organ	ORG	64	85	---	---	1	SINGLE
104	Ky44	Garage Organ	ORG	64	86	---	---	2	SINGLE
105	Ky45	Club Organ	ORG	64	87	---	---	2	SINGLE
106	Ky46	FM Prc Organ	ORG	64	88	---	---	1	SINGLE
107	Ky47	PipeOrgan/Bs	ORG	64	89	---	---	1	SPLIT
108	Ky48	Vodkakordion	ACD	64	90	---	---	4	SINGLE
109	Ky49	Squeeze Me!	ACD	64	91	---	---	4	SINGLE
110	Ky50	Guinguette	ACD	64	92	---	---	4	SINGLE
111	Ky51	Harpsichord	KEY	67	19	0	7	1	SINGLE
112	Ky52	Coupled Hps.	KEY	67	20	1	7	2	SINGLE
113	Ky53	Harpsi.w	KEY	67	21	2	7	1	SINGLE
114	Ky54	Harpsi.o	KEY	67	22	3	7	1	SINGLE
115	Ky55	Clav.	KEY	67	23	0	8	1	SINGLE
116	Ky56	Pulse Clav	KEY	67	24	1	8	1	SINGLE
117	Ky57	Celesta	KEY	67	25	0	9	1	SINGLE
118	Ky58	Glockenspiel	BEL	67	26	0	10	1	SINGLE
119	Ky59	Music Box	BEL	67	27	0	11	1	SINGLE
120	Ky60	Vibraphone	MLT	67	28	0	12	1	SINGLE
121	Ky61	Vibraphone w	MLT	67	29	1	12	1	SINGLE
122	Ky62	Marimba	MLT	67	30	0	13	1	SINGLE
123	Ky63	Marimba w	MLT	67	31	1	13	1	SINGLE
124	Ky64	Xylophone	MLT	67	32	0	14	1	SINGLE
125	Ky65	Tubular-bell	BEL	67	33	0	15	1	SINGLE
126	Ky66	Church Bell	BEL	67	34	1	15	1	SINGLE
127	Ky67	Carillon	BEL	67	35	2	15	1	SINGLE
128	Ky68	Organ 1	ORG	67	37	0	17	3	SINGLE
129	Ky69	Trem. Organ	ORG	67	38	1	17	2	SINGLE
130	Ky70	60's Organ 1	ORG	67	39	2	17	2	SINGLE
131	Ky71	70's E.Organ	ORG	67	40	3	17	2	SINGLE
132	Ky72	Organ 2	ORG	67	41	0	18	1	SINGLE

Patch list

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
133	Ky73	Chorus Or.2	ORG	67	42	1	18	3	SINGLE
134	Ky74	Perc. Organ	ORG	67	43	2	18	2	SINGLE
135	Ky75	Organ 3	ORG	67	44	0	19	2	SINGLE
136	Ky76	Church Org.1	ORG	67	45	0	20	1	SINGLE
137	Ky77	Church Org.2	ORG	67	46	1	20	2	SINGLE
138	Ky78	Church Org.3	ORG	67	47	2	20	2	SINGLE
139	Ky79	Reed Organ	ORG	67	48	0	21	1	SINGLE
140	Ky80	Puff Organ	ORG	67	49	1	21	2	SINGLE
141	Ky81	Accordion Fr	ACD	67	50	0	22	2	SINGLE
142	Ky82	Accordion It	ACD	67	51	1	22	2	SINGLE
143	Ky83	Harmonica	HRM	67	52	0	23	1	SINGLE
144	Ky84	Bandoneon	ACD	67	53	0	24	2	SINGLE
145	Ky85	Crystal	BEL	68	56	0	99	2	SINGLE
146	Ky86	Syn Mallet	BEL	68	57	1	99	1	SINGLE
147	Ky87	Tinkle Bell	BEL	68	75	0	113	3	SINGLE
148	Ky88	Steel Drums	MLT	68	77	0	115	1	SINGLE

[3] GUITAR

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
149	Gt01	St.Steel Gtr	AGT	64	93	---	---	2	SINGLE
150	Gt02	RS Ac.Guitar	AGT	64	94	---	---	1	SINGLE
151	Gt03	12str Gtr 2	AGT	64	95	---	---	2	SINGLE
152	Gt04	Hybrid12stGt	AGT	64	96	---	---	4	DUAL
153	Gt05	Nylon+Steel	AGT	64	97	---	---	2	SINGLE
154	Gt06	Nylon Guitar	AGT	64	98	---	---	2	SINGLE
155	Gt07	Spanish Gtr	AGT	64	99	---	---	2	SINGLE
156	Gt08	Requint Gtr	AGT	64	100	---	---	2	SINGLE
157	Gt09	AEx BeyondGt	AGT	64	101	---	---	6	DUAL
158	Gt10	RS Strat 1	EGT	64	102	---	---	1	SINGLE
159	Gt11	RS Strat 2	EGT	64	103	---	---	1	SINGLE
160	Gt12	St.Strat Gtr	EGT	64	104	---	---	1	SINGLE
161	Gt13	12str E-Gtr	EGT	64	105	---	---	2	SINGLE
162	Gt14	RS Jazz Gtr	EGT	64	106	---	---	1	SINGLE
163	Gt15	E.Guitar	EGT	64	107	---	---	1	SINGLE
164	Gt16	Funk Gtr	EGT	64	108	---	---	1	SINGLE
165	Gt17	Wah Guitar	EGT	64	109	---	---	1	SINGLE
166	Gt18	Wah-Wah Gtr	EGT	64	110	---	---	1	SINGLE
167	Gt19	Darmstrat	DGT	64	111	---	---	4	DUAL
168	Gt20	Dazed Guitar	DGT	64	112	---	---	2	SINGLE
169	Gt21	RS OD-Guitar	DGT	64	113	---	---	2	SINGLE
170	Gt22	Heavy Gtr	DGT	64	114	---	---	1	SINGLE
171	Gt23	Dist Mute	DGT	64	115	---	---	1	SINGLE
172	Gt24	D.Mute Gtr	DGT	64	116	---	---	1	SINGLE
173	Gt25	5th OverDrv.	DGT	64	117	---	---	2	SINGLE
174	Gt26	Power Chord	DGT	64	118	---	---	2	SINGLE
175	Gt27	Nylon-str.Gt	AGT	67	54	0	25	2	SINGLE
176	Gt28	Ukulele	AGT	67	55	1	25	1	SINGLE
177	Gt29	Nylon Gt.o	AGT	67	56	2	25	2	SINGLE
178	Gt30	Nylon Gt.2	AGT	67	57	3	25	1	SINGLE
179	Gt31	Steel-str.Gt	AGT	67	58	0	26	1	SINGLE
180	Gt32	12-str.Gt	AGT	67	59	1	26	2	SINGLE
181	Gt33	Mandolin	AGT	67	60	2	26	2	SINGLE
182	Gt34	Steel + Body	AGT	67	61	3	26	1	SINGLE
183	Gt35	Jazz Gt.	EGT	67	62	0	27	1	SINGLE
184	Gt36	Pedal Steel	EGT	67	63	1	27	1	SINGLE
185	Gt37	Clean Gt.	EGT	67	64	0	28	1	SINGLE
186	Gt38	Chorus Gt.	EGT	67	65	1	28	2	SINGLE
187	Gt39	Mid Tone GTR	EGT	67	66	2	28	1	SINGLE
188	Gt40	Muted Gt.	EGT	67	67	0	29	1	SINGLE
189	Gt41	Funk Pop	EGT	67	68	1	29	1	SINGLE
190	Gt42	Funk Gt.2	EGT	67	69	2	29	1	SINGLE
191	Gt43	Jazz Man	EGT	67	70	3	29	2	SINGLE
192	Gt44	Overdrive Gt	DGT	67	71	0	30	2	SINGLE
193	Gt45	Guitar Pinch	DGT	67	72	1	30	1	SINGLE
194	Gt46	DistortionGt	DGT	67	73	0	31	2	SINGLE
195	Gt47	Feedback Gt.	DGT	67	74	1	31	2	SINGLE
196	Gt48	Dist Rtm GTR	DGT	67	75	2	31	1	SINGLE
197	Gt49	Gt.Harmonics	EGT	67	76	0	32	1	SINGLE
198	Gt50	Gt. Feedback	EGT	67	77	1	32	1	SINGLE
199	Gt51	Atmosphere	AGT	68	58	0	100	2	SINGLE

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
200	Gt52	Gt.FretNoise	AGT	68	88	0	121	1	SINGLE
201	Gt53	Gt.Cut Noise	AGT	68	89	1	121	1	SINGLE
202	Gt54	String Slap	AGT	68	90	2	121	1	SINGLE

[4] ORCH

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
203	Or01	RS Strings 1	STR	64	119	---	---	4	DUAL
204	Or02	RS Strings 2	STR	64	120	---	---	4	DUAL
205	Or03	RS Strings 3	STR	64	121	---	---	4	DUAL
206	Or04	RS Strings 4	STR	64	122	---	---	3	DUAL
207	Or05	RS Strings 5	STR	64	123	---	---	2	SINGLE
208	Or06	VeloStrings	STR	64	124	---	---	5	DUAL
209	Or07	SlowStrings1	STR	64	125	---	---	2	SINGLE
210	Or08	SlowStrings2	STR	64	126	---	---	2	SINGLE
211	Or09	Oct Strings	STR	64	127	---	---	2	SINGLE
212	Or10	Str Spic 1	STR	64	128	---	---	1	SINGLE
213	Or11	Str Spic 2	STR	65	1	---	---	2	DUAL
214	Or12	Tron Strings	STR	65	2	---	---	1	SINGLE
215	Or13	Dance Str	STR	65	3	---	---	1	SINGLE
216	Or14	LoFi Strings	STR	65	4	---	---	2	SINGLE
217	Or15	RS Orch 1	STR	65	5	---	---	3	SINGLE
218	Or16	RS Orch 2	STR	65	6	---	---	4	DUAL
219	Or17	HybrdStrings	STR	65	7	---	---	5	DUAL
220	Or18	JP Strings 1	STR	65	8	---	---	5	DUAL
221	Or19	JP Strings 2	STR	65	9	---	---	3	DUAL
222	Or20	JP Strings 3	STR	65	10	---	---	3	SINGLE
223	Or21	OB Strings 1	STR	65	11	---	---	2	SINGLE
224	Or22	OB Strings 2	STR	65	12	---	---	5	DUAL
225	Or23	SawStrings 1	STR	65	13	---	---	2	SINGLE
226	Or24	SawStrings 2	STR	65	14	---	---	6	DUAL
227	Or25	JUNO Strings	STR	65	15	---	---	2	SINGLE
228	Or26	AEx Orchstra	STR	65	16	---	---	6	DUAL
229	Or27	RS Violin 1	STR	65	17	---	---	2	DUAL
230	Or28	RS Violin 2	STR	65	18	---	---	2	SINGLE
231	Or29	Violin Marc	STR	65	19	---	---	1	SINGLE
232	Or30	RS Viola	STR	65	20	---	---	1	SINGLE
233	Or31	RS Cello 1	STR	65	21	---	---	3	DUAL
234	Or32	RS Cello 2	STR	65	22	---	---	2	SINGLE
235	Or33	Cello Spic	STR	65	23	---	---	1	SINGLE
236	Or34	RS Contrabas	STR	65	24	---	---	1	SINGLE
237	Or35	Trad Pizz	STR	65	25	---	---	1	SINGLE
238	Or36	RS Pizz	STR	65	26	---	---	5	DUAL
239	Or37	RS Harp	OCH	65	27	---	---	2	SINGLE
240	Or38	RS Oboe	WND	65	28	---	---	1	SINGLE
241	Or39	RS EnglshHrn	WND	65	29	---	---	1	SINGLE
242	Or40	RS Bassoon	WND	65	30	---	---	1	SINGLE
243	Or41	RS Clarinet	WND	65	31	---	---	1	SINGLE
244	Or42	RS Flute 1	FLT	65	32	---	---	1	SINGLE
245	Or43	RS Flute 2	FLT	65	33	---	---	2	SINGLE
246	Or44	Tron Flute	FLT	65	34	---	---	1	SINGLE
247	Or45	RS Piccolo	FLT	65	35	---	---	1	SINGLE
248	Or46	RS Calliope	FLT	65	36	---	---	3	SINGLE
249	Or47	RS Sicu Pipe	FLT	65	37	---	---	1	SINGLE
250	Or48	RS Blow	FLT	65	38	---	---	3	SINGLE
251	Or49	Club Hit	HIT	65	39	---	---	4	SINGLE
252	Or50	Back Hit	HIT	65	40	---	---	1	SINGLE
253	Or51	Techno Hit	HIT	65	41	---	---	1	SINGLE
254	Or52	Philly Hit	HIT	65	42	---	---	1	SINGLE
255	Or53	Violin	STR	67	94	0	41	1	SINGLE
256	Or54	Slow Violin	STR	67	95	1	41	1	SINGLE
257	Or55	Viola	STR	67	96	0	42	1	SINGLE
258	Or56	Cello	STR	67	97	0	43	2	SINGLE
259	Or57	Contrabass	STR	67	98	0	44	1	SINGLE
260	Or58	Tremolo Str	STR	67	99	0	45	2	SINGLE
261	Or59	PizzicatoStr	STR	67	100	0	46	1	SINGLE
262	Or60	Strings	STR	67	104	0	49	2	SINGLE
263	Or61	Orchestra	OCH	67	105	1	49	3	SINGLE
264	Or62	60s Strings	STR	67	106	2	49	2	SINGLE
265	Or63	Slow Strings	STR	67	107	0	50	2	SINGLE
266	Or64	Syn.Strings1	STR	67	108	0	51	2	SINGLE

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
267	Or65	Syn.Strings3	STR	67	109	1	51	2	SINGLE
268	Or66	OrchestraHit	HIT	67	117	0	56	2	SINGLE
269	Or67	Bass Hit	HIT	67	118	1	56	2	SINGLE
270	Or68	6th Hit	HIT	67	119	2	56	2	SINGLE
271	Or69	Euro Hit	HIT	67	120	3	56	2	SINGLE
272	Or70	Oboe	WND	68	16	0	69	1	SINGLE
273	Or71	English Horn	WND	68	17	0	70	1	SINGLE
274	Or72	Bassoon	WND	68	18	0	71	1	SINGLE
275	Or73	Clarinet	WND	68	19	0	72	1	SINGLE
276	Or74	Piccolo	FLT	68	20	0	73	1	SINGLE
277	Or75	Flute	FLT	68	21	0	74	1	SINGLE
278	Or76	Recorder	FLT	68	22	0	75	1	SINGLE
279	Or77	Pan Flute	FLT	68	23	0	76	1	SINGLE
280	Or78	Bottle Blow	FLT	68	24	0	77	2	SINGLE
281	Or79	Whistle	FLT	68	26	0	79	2	SINGLE
282	Or80	Ocarina	FLT	68	27	0	80	2	SINGLE
283	Or81	Fiddle	STR	68	73	0	111	1	SINGLE

[5] WORLD

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
284	Wr01	RS Sitar 1	PLK	65	43	---	---	1	SINGLE
285	Wr02	RS Sitar 2	PLK	65	44	---	---	2	SINGLE
286	Wr03	RS Shamisen	ETH	65	45	---	---	2	SINGLE
287	Wr04	RS Kalimba	ETH	65	46	---	---	1	SINGLE
288	Wr05	Jublag	ETH	65	47	---	---	1	SINGLE
289	Wr06	Tin Whistle	ETH	65	48	---	---	1	SINGLE
290	Wr07	RS Shaku	ETH	65	49	---	---	1	SINGLE
291	Wr08	ShakuBamboo	ETH	65	50	---	---	4	SINGLE
292	Wr09	Nay	ETH	65	51	---	---	2	SINGLE
293	Wr10	AEx CelticFl	ETH	65	52	---	---	2	DUAL
294	Wr11	Santur	PLK	67	36	0	16	1	SINGLE
295	Wr12	Harp	PLK	67	101	0	47	1	SINGLE
296	Wr13	Yang Qin	PLK	67	102	1	47	2	SINGLE
297	Wr14	Shakuhachi	ETH	68	25	0	78	1	SINGLE
298	Wr15	Sitar	PLK	68	65	0	105	1	SINGLE
299	Wr16	Sitar 2	PLK	68	66	1	105	2	SINGLE
300	Wr17	Banjo	FRT	68	67	0	106	1	SINGLE
301	Wr18	Shamisen	PLK	68	68	0	107	1	SINGLE
302	Wr19	Koto	PLK	68	69	0	108	2	SINGLE
303	Wr20	Taisho Koto	PLK	68	70	1	108	2	SINGLE
304	Wr21	Kalimba	PLK	68	71	0	109	1	SINGLE
305	Wr22	Bagpipe	ETH	68	72	0	110	2	SINGLE
306	Wr23	Shanai	ETH	68	74	0	112	1	SINGLE

[6] BRASS

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
307	Br01	RS Brass 1	BRS	65	53	---	---	8	DUAL
308	Br02	RS Brass 2	BRS	65	54	---	---	2	SINGLE
309	Br03	RS Brass 3	BRS	65	55	---	---	4	SINGLE
310	Br04	RS Brass 4	BRS	65	56	---	---	2	SINGLE
311	Br05	RS Brass 5	BRS	65	57	---	---	2	SINGLE
312	Br06	Tp&Tb Sect 1	BRS	65	58	---	---	2	SINGLE
313	Br07	Tp&Tb Sect 2	BRS	65	59	---	---	2	SINGLE
314	Br08	Tp Sect	BRS	65	60	---	---	1	SINGLE
315	Br09	Tb Sect	BRS	65	61	---	---	1	SINGLE
316	Br10	Brass sfz	BRS	65	62	---	---	2	SINGLE
317	Br11	St.Sax Sect	BRS	65	63	---	---	2	SINGLE
318	Br12	AEx UniTp+Tb	BRS	65	64	---	---	2	DUAL
319	Br13	F.HornSect 1	BRS	65	65	---	---	1	SINGLE
320	Br14	F.HornSect 2	BRS	65	66	---	---	2	DUAL
321	Br15	Wide FrHorns	BRS	65	67	---	---	2	SINGLE
322	Br16	Str + Horns	BRS	65	68	---	---	2	SINGLE
323	Br17	Orch Brass 1	BRS	65	69	---	---	2	SINGLE
324	Br18	Orch Brass 2	BRS	65	70	---	---	2	SINGLE
325	Br19	St.OrchBrs 1	BRS	65	71	---	---	2	SINGLE
326	Br20	St.OrchBrs 2	BRS	65	72	---	---	4	SINGLE

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
327	Br21	St.OrchBrs 3	BRS	65	73	---	---	4	SINGLE
328	Br22	Henry IV	BRS	65	74	---	---	4	SINGLE
329	Br23	Oct Brass	BRS	65	75	---	---	2	SINGLE
330	Br24	Power Saws	SBR	65	76	---	---	3	DUAL
331	Br25	RS Saw Brs 1	SBR	65	77	---	---	6	DUAL
332	Br26	RS Saw Brs 2	SBR	65	78	---	---	6	DUAL
333	Br27	RS OctSynBrs	SBR	65	79	---	---	6	DUAL
334	Br28	Soft SynBrs	SBR	65	80	---	---	4	DUAL
335	Br29	Deep SynBrs	SBR	65	81	---	---	4	SINGLE
336	Br30	RS Velo Brs	SBR	65	82	---	---	2	SINGLE
337	Br31	JP Saw Brs	SBR	65	83	---	---	4	DUAL
338	Br32	OB Brass	SBR	65	84	---	---	5	DUAL
339	Br33	LA Brass	SBR	65	85	---	---	4	SINGLE
340	Br34	BPF Brass	SBR	65	86	---	---	4	DUAL
341	Br35	Dist SqrBrs	SBR	65	87	---	---	2	SINGLE
342	Br36	Soaring Horn	SBR	65	88	---	---	4	SINGLE
343	Br37	RS Trumpet 1	BRS	65	89	---	---	1	SINGLE
344	Br38	RS Trumpet 2	BRS	65	90	---	---	1	SINGLE
345	Br39	Bright Tp	BRS	65	91	---	---	2	SINGLE
346	Br40	Flugel Horn	BRS	65	92	---	---	1	SINGLE
347	Br41	Dual Tp	BRS	65	93	---	---	2	SINGLE
348	Br42	MuteTrumpt 1	BRS	65	94	---	---	1	SINGLE
349	Br43	MuteTrumpt 2	BRS	65	95	---	---	1	SINGLE
350	Br44	RS Tb 1	BRS	65	96	---	---	1	SINGLE
351	Br45	RS Tb 2	BRS	65	97	---	---	1	SINGLE
352	Br46	RS Tuba	BRS	65	98	---	---	1	SINGLE
353	Br47	RS F.Horn	BRS	65	99	---	---	1	SINGLE
354	Br48	RS Sop Sax	SAX	65	100	---	---	1	SINGLE
355	Br49	RS Alto Sax	SAX	65	101	---	---	1	SINGLE
356	Br50	AltoSax Sft	SAX	65	102	---	---	1	SINGLE
357	Br51	Honky Tenor	SAX	65	103	---	---	1	SINGLE
358	Br52	RS Tnr Sax	SAX	65	104	---	---	2	SINGLE
359	Br53	Blown Tenor	SAX	65	105	---	---	1	SINGLE
360	Br54	RS Bari Sax	SAX	65	106	---	---	1	SINGLE
361	Br55	Trumpet	BRS	67	121	0	57	2	SINGLE
362	Br56	Dark Trumpet	BRS	67	122	1	57	1	SINGLE
363	Br57	Trombone	BRS	67	123	0	58	1	SINGLE
364	Br58	Trombone 2	BRS	67	124	1	58	1	SINGLE
365	Br59	Bright Tb	BRS	67	125	2	58	1	SINGLE
366	Br60	Tuba	BRS	67	126	0	59	1	SINGLE
367	Br61	MutedTrumpet	BRS	67	127	0	60	1	SINGLE
368	Br62	MuteTrumpet2	BRS	67	128	1	60	1	SINGLE
369	Br63	French Horns	BRS	68	1	0	61	1	SINGLE
370	Br64	Fr.Horn 2	BRS	68	2	1	61	2	SINGLE
371	Br65	Brass 1	BRS	68	3	0	62	2	SINGLE
372	Br66	Brass 2	BRS	68	4	1	62	2	SINGLE
373	Br67	Synth Brass1	SBR	68	5	0	63	2	SINGLE
374	Br68	JP Brass	SBR	68	6	1	63	2	SINGLE
375	Br69	Oct SynBrass	SBR	68	7	2	63	2	SINGLE
376	Br70	Jump Brass	SBR	68	8	3	63	1	SINGLE
377	Br71	Synth Brass2	SBR	68	9	0	64	2	SINGLE
378	Br72	SynBrass sfz	SBR	68	10	1	64	2	SINGLE
379	Br73	Velo Brass 1	SBR	68	11	2	64	2	SINGLE
380	Br74	Soprano Sax	SAX	68	12	0	65	1	SINGLE
381	Br75	Alto Sax	SAX	68	13	0	66	1	SINGLE
382	Br76	Tenor Sax	SAX	68	14	0	67	1	SINGLE
383	Br77	Baritone Sax	SAX	68	15	0	68	1	SINGLE

[7] VOCAL &PAD

No.		NAME	Cate-gory	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
384	Vo01	Jazz Scat	VOX	65	107	---	---	1	SINGLE
385	Vo02	RS Vox Oohs	VOX	65	108	---	---	1	SINGLE
386	Vo03	FemMm Choir	VOX	65	109	---	---	1	SINGLE
387	Vo04	RS Choir	VOX	65	110	---	---	2	SINGLE
388	Vo05	St.ChoirAhs	VOX	65	111	---	---	4	SINGLE
389	Vo06	SH-2000 Vox	VOX	65	112	---	---	1	SINGLE
390	Vo07	RS SynVox 1	VOX	65	113	---	---	2	SINGLE
391	Vo08	FM Vox	VOX	65	114	---	---	1	SINGLE
392	Vo09	Vox Pad	VOX	65	115	---	---	2	SINGLE
393	Vo10	ChaosChoir 1	VOX	65	116	---	---	8	DUAL

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
394	Vo11	ChaosChoir 2	VOX	65	117	---	---	7	DUAL
395	Vo12	AEx StackVox	VOX	65	118	---	---	4	DUAL
396	Vo13	Heaven Pad	SPD	65	119	---	---	2	SINGLE
397	Vo14	D-50 Retour	SPD	65	120	---	---	4	SINGLE
398	Vo15	Warm Sqr Pad	SPD	65	121	---	---	3	SINGLE
399	Vo16	Hollow Pad	SPD	65	122	---	---	5	DUAL
400	Vo17	RS Hollow	SPD	65	123	---	---	8	DUAL
401	Vo18	JP8 Hollow	SPD	65	124	---	---	4	SINGLE
402	Vo19	JP8Haunting	SPD	65	125	---	---	4	SINGLE
403	Vo20	OB2 Pad 1	SPD	65	126	---	---	2	SINGLE
404	Vo21	OB2 Pad 2	SPD	65	127	---	---	1	SINGLE
405	Vo22	Saw Sweep 1	SPD	65	128	---	---	3	SINGLE
406	Vo23	Saw Sweep 2	SPD	66	1	---	---	2	SINGLE
407	Vo24	Saw Sweep 3	SPD	66	2	---	---	3	SINGLE
408	Vo25	Soft Pad 1	SPD	66	3	---	---	3	DUAL
409	Vo26	Soft Pad 2	SPD	66	4	---	---	1	SINGLE
410	Vo27	Oct SynStr	SPD	66	5	---	---	5	DUAL
411	Vo28	Stacked Pad	SPD	66	6	---	---	2	SINGLE
412	Vo29	RS Saw Pad	BPD	66	7	---	---	4	SINGLE
413	Vo30	SuperJupiter	BPD	66	8	---	---	4	SINGLE
414	Vo31	ReverseSweep	BPD	66	9	---	---	2	SINGLE
415	Vo32	RS Atmos	BPD	66	10	---	---	5	DUAL
416	Vo33	RS Combing	BPD	66	11	---	---	4	SINGLE
417	Vo34	Comb Pad	BPD	66	12	---	---	4	SINGLE
418	Vo35	Saws Strobe	BPD	66	13	---	---	8	DUAL
419	Vo36	Star Dust	BPD	66	14	---	---	4	SINGLE
420	Vo37	RS Wind Pad	BPD	66	15	---	---	7	DUAL
421	Vo38	Shakupad	BPD	66	16	---	---	3	SINGLE
422	Vo39	Sweep Stack	BPD	66	17	---	---	4	SINGLE
423	Vo40	Reso Pad	BPD	66	18	---	---	2	SINGLE
424	Vo41	ForwardSweep	BPD	66	19	---	---	2	SINGLE
425	Vo42	Power Stack	BPD	66	20	---	---	3	DUAL
426	Vo43	DanceStack	BPD	66	21	---	---	5	DUAL
427	Vo44	Trance Pad	BPD	66	22	---	---	2	SINGLE
428	Vo45	RS Rave	BPD	66	23	---	---	5	DUAL
429	Vo46	AEx StackPad	BPD	66	24	---	---	6	DUAL
430	Vo47	Syn.Strings2	SPD	67	110	0	52	2	SINGLE
431	Vo48	Choir Aahs	VOX	67	111	0	53	2	SINGLE
432	Vo49	Chorus Aahs	VOX	67	112	1	53	2	SINGLE
433	Vo50	Voice Oohs	VOX	67	113	0	54	1	SINGLE
434	Vo51	Humming	VOX	67	114	1	54	2	SINGLE
435	Vo52	SynVox	VOX	67	115	0	55	2	SINGLE
436	Vo53	Analog Voice	VOX	67	116	1	55	1	SINGLE
437	Vo54	Warm Pad	SPD	68	45	0	90	1	SINGLE
438	Vo55	Sine Pad	SPD	68	46	1	90	2	SINGLE
439	Vo56	Space Voice	VOX	68	48	0	92	2	SINGLE
440	Vo57	Itopia	VOX	68	49	1	92	2	SINGLE
441	Vo58	Bowed Glass	SPD	68	50	0	93	3	SINGLE
442	Vo59	Metal Pad	BPD	68	51	0	94	3	SINGLE
443	Vo60	Halo Pad	SPD	68	52	0	95	2	SINGLE
444	Vo61	Sweep Pad	SPD	68	53	0	96	1	SINGLE
445	Vo62	Soundtrack	SPD	68	55	0	98	2	SINGLE
446	Vo63	Echo Drops	BPD	68	61	0	103	1	SINGLE
447	Vo64	Echo Bell	BPD	68	62	1	103	2	SINGLE
448	Vo65	Echo Pan	BPD	68	63	2	103	2	SINGLE
449	Vo66	Star Theme	BPD	68	64	0	104	2	SINGLE

[8] SYNTH

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
450	Sy01	RS SawLead 1	HLD	66	25	---	---	2	SINGLE
451	Sy02	RS SawLead 2	HLD	66	26	---	---	4	DUAL
452	Sy03	RS SawLead 3	HLD	66	27	---	---	2	SINGLE
453	Sy04	MG Lead 1	HLD	66	28	---	---	1	SINGLE
454	Sy05	MG Lead 2	HLD	66	29	---	---	1	SINGLE
455	Sy06	MG Lead 3	HLD	66	30	---	---	1	SINGLE
456	Sy07	MG Lead 4	HLD	66	31	---	---	1	SINGLE
457	Sy08	PM Lead	HLD	66	32	---	---	1	SINGLE
458	Sy09	Sqr&Saw Ld	HLD	66	33	---	---	4	SINGLE
459	Sy10	800 Lead	HLD	66	34	---	---	1	SINGLE
460	Sy11	Homey Lead	HLD	66	35	---	---	1	SINGLE

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
461	Sy12	D-50 FatSaw	HLD	66	36	---	---	2	SINGLE
462	Sy13	P5 Saw	HLD	66	37	---	---	2	SINGLE
463	Sy14	MG Saw	HLD	66	38	---	---	1	SINGLE
464	Sy15	OB Saw	HLD	66	39	---	---	1	SINGLE
465	Sy16	Waspy Synth	HLD	66	40	---	---	2	SINGLE
466	Sy17	Naked Cheese	HLD	66	41	---	---	1	SINGLE
467	Sy18	Velo Cheese	HLD	66	42	---	---	3	SINGLE
468	Sy19	Spectrum	HLD	66	43	---	---	1	SINGLE
469	Sy20	RS Sqr Wave	HLD	66	44	---	---	1	SINGLE
470	Sy21	OB Lead	SLD	66	45	---	---	2	SINGLE
471	Sy22	Shmoog	SLD	66	46	---	---	2	SINGLE
472	Sy23	RS Theramax	SLD	66	47	---	---	1	SINGLE
473	Sy24	JD Triangle	SLD	66	48	---	---	1	SINGLE
474	Sy25	Sine	SLD	66	49	---	---	1	SINGLE
475	Sy26	Twin Sine	SLD	66	50	---	---	2	SINGLE
476	Sy27	Rndm Ending	PLS	66	51	---	---	2	SINGLE
477	Sy28	Rndm Pad	PLS	66	52	---	---	3	SINGLE
478	Sy29	Etherality	PLS	66	53	---	---	4	SINGLE
479	Sy30	Saw Impulse	PLS	66	54	---	---	3	SINGLE
480	Sy31	LFO Pad	PLS	66	55	---	---	4	SINGLE
481	Sy32	RS Strobe	PLS	66	56	---	---	6	DUAL
482	Sy33	Step Pad	PLS	66	57	---	---	4	SINGLE
483	Sy34	RndmFltrChrd	PLS	66	58	---	---	4	SINGLE
484	Sy35	Slicer	PLS	66	59	---	---	5	DUAL
485	Sy36	Sugar Key	SYN	66	60	---	---	2	SINGLE
486	Sy37	Bell Sugar	SYN	66	61	---	---	3	SINGLE
487	Sy38	BriteSawKey	SYN	66	62	---	---	2	SINGLE
488	Sy39	RS WireKeys	SYN	66	63	---	---	3	SINGLE
489	Sy40	DualWireKeys	SYN	66	64	---	---	5	DUAL
490	Sy41	Trance Keys	SYN	66	65	---	---	2	SINGLE
491	Sy42	Time Warp	TEK	66	66	---	---	3	SINGLE
492	Sy43	Riff the 5th	TEK	66	67	---	---	2	SINGLE
493	Sy44	Seq Pulse	TEK	66	68	---	---	2	SINGLE
494	Sy45	Chord Maj7	TEK	66	69	---	---	4	SINGLE
495	Sy46	Just Before	FX	66	70	---	---	4	SINGLE
496	Sy47	Square Wave	HLD	68	28	0	81	2	SINGLE
497	Sy48	MG Square	HLD	68	29	1	81	2	SINGLE
498	Sy49	2600 Sine	HLD	68	30	2	81	1	SINGLE
499	Sy50	Saw Wave	HLD	68	31	0	82	2	SINGLE
500	Sy51	OB2 Saw	HLD	68	32	1	82	1	SINGLE
501	Sy52	Doctor Solo	HLD	68	33	2	82	2	SINGLE
502	Sy53	Natural Lead	HLD	68	34	3	82	2	SINGLE
503	Sy54	SequencedSaw	HLD	68	35	4	82	2	SINGLE
504	Sy55	Syn.Calliope	SLD	68	36	0	83	2	SINGLE
505	Sy56	Chiffer Lead	SLD	68	37	0	84	2	SINGLE
506	Sy57	Charang	HLD	68	38	0	85	2	SINGLE
507	Sy58	Wire Lead	HLD	68	39	1	85	2	SINGLE
508	Sy59	Solo Vox	SLD	68	40	0	86	2	SINGLE
509	Sy60	5th Saw Wave	HLD	68	41	0	87	2	SINGLE
510	Sy61	Bass & Lead	HLD	68	42	0	88	2	SINGLE
511	Sy62	Delayed Lead	HLD	68	43	1	88	2	SINGLE
512	Sy63	Fantasia	SYN	68	44	0	89	2	SINGLE
513	Sy64	Polysynth	SYN	68	47	0	91	2	SINGLE
514	Sy65	Ice Rain	SYN	68	54	0	97	2	SINGLE
515	Sy66	Brightness	SYN	68	59	0	101	2	SINGLE
516	Sy67	Goblin	PLS	68	60	0	102	2	SINGLE
517	Sy68	Breath Noise	FX	68	91	0	122	1	SINGLE
518	Sy69	Fl.Key Click	FX	68	92	1	122	1	SINGLE

[9] BASS

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
519	Bs01	RS Ac.Bass 1	BS	66	71	---	---	2	SINGLE
520	Bs02	RS Ac.Bass 2	BS	66	72	---	---	2	SINGLE
521	Bs03	Upright Bs	BS	66	73	---	---	2	SINGLE
522	Bs04	RS Fng Bs 1	BS	66	74	---	---	4	DUAL
523	Bs05	RS Fng Bs 2	BS	66	75	---	---	2	SINGLE
524	Bs06	RS Fng Bs 3	BS	66	76	---	---	2	SINGLE
525	Bs07	RS Jazz Bs	BS	66	77	---	---	2	SINGLE
526	Bs08	Bright Bass	BS	66	78	---	---	1	SINGLE
527	Bs09	RS Rock Bs	BS	66	79	---	---	2	SINGLE
528	Bs10	RS FretlsBs1	BS	66	80	---	---	2	SINGLE
529	Bs11	RS FretlsBs2	BS	66	81	---	---	2	SINGLE
530	Bs12	Mr.Smooth	BS	66	82	---	---	2	SINGLE
531	Bs13	RS Slap Bs 1	BS	66	83	---	---	1	SINGLE
532	Bs14	RS Slap Bs 2	BS	66	84	---	---	2	SINGLE
533	Bs15	Unison Slap	BS	66	85	---	---	2	SINGLE
534	Bs16	AEx FingerBs	BS	66	86	---	---	3	DUAL
535	Bs17	MC202 Bass	SBS	66	87	---	---	1	SINGLE
536	Bs18	House Bass 1	SBS	66	88	---	---	1	SINGLE
537	Bs19	SH101 Bass 1	SBS	66	89	---	---	1	SINGLE
538	Bs20	SH101 Bass 2	SBS	66	90	---	---	1	SINGLE
539	Bs21	Dark Bass	SBS	66	91	---	---	2	SINGLE
540	Bs22	Smooth Bass	SBS	66	92	---	---	2	SINGLE
541	Bs23	Low Bass	SBS	66	93	---	---	2	SINGLE
542	Bs24	Deep Bass	SBS	66	94	---	---	3	SINGLE
543	Bs25	SH DullBass	SBS	66	95	---	---	2	SINGLE
544	Bs26	Square Bass	SBS	66	96	---	---	2	SINGLE
545	Bs27	Jungle Bass	SBS	66	97	---	---	1	SINGLE
546	Bs28	Organ Bass	SBS	66	98	---	---	1	SINGLE
547	Bs29	Garage Bass	SBS	66	99	---	---	1	SINGLE
548	Bs30	Attack Bass	SBS	66	100	---	---	5	DUAL
549	Bs31	House Bass 2	SBS	66	101	---	---	1	SINGLE
550	Bs32	RS SynBass 1	SBS	66	102	---	---	2	SINGLE
551	Bs33	SH-2 Bass	SBS	66	103	---	---	2	SINGLE
552	Bs34	MG Punch Bs	SBS	66	104	---	---	2	SINGLE
553	Bs35	MG Lite Bs	SBS	66	105	---	---	2	SINGLE
554	Bs36	RS SynBass 2	SBS	66	106	---	---	3	SINGLE
555	Bs37	FatTB Bass	SBS	66	107	---	---	2	SINGLE
556	Bs38	TB Bass	SBS	66	108	---	---	1	SINGLE
557	Bs39	PopSynthBass	SBS	66	109	---	---	2	SINGLE
558	Bs40	Acid TB Bs	SBS	66	110	---	---	1	SINGLE
559	Bs41	TB Dist Saw	SBS	66	111	---	---	1	SINGLE
560	Bs42	RS SynBass 3	SBS	66	112	---	---	2	DUAL
561	Bs43	Mini Bass	SBS	66	113	---	---	1	SINGLE
562	Bs44	JUNO Bass 1	SBS	66	114	---	---	1	SINGLE
563	Bs45	JUNO Bass 2	SBS	66	115	---	---	1	SINGLE
564	Bs46	MG Bass 1	SBS	66	116	---	---	2	SINGLE
565	Bs47	MG Bass 2	SBS	66	117	---	---	2	SINGLE
566	Bs48	Unison Bs 1	SBS	66	118	---	---	2	SINGLE
567	Bs49	Unison Bs 2	SBS	66	119	---	---	3	SINGLE
568	Bs50	Unison Bs 3	SBS	66	120	---	---	3	SINGLE
569	Bs51	Unison Bs 4	SBS	66	121	---	---	2	SINGLE
570	Bs52	Unison Bs 5	SBS	66	122	---	---	4	SINGLE
571	Bs53	Detune Bass	SBS	66	123	---	---	3	SINGLE
572	Bs54	AEx Synth Bs	SBS	66	124	---	---	3	DUAL
573	Bs55	Acoustic Bs.	BS	67	78	0	33	2	SINGLE
574	Bs56	Fingered Bs.	BS	67	79	0	34	1	SINGLE
575	Bs57	Finger Slap	BS	67	80	1	34	2	SINGLE
576	Bs58	Picked Bass	BS	67	81	0	35	1	SINGLE
577	Bs59	Fretless Bs.	BS	67	82	0	36	1	SINGLE
578	Bs60	Slap Bass 1	BS	67	83	0	37	1	SINGLE
579	Bs61	Slap Bass 2	BS	67	84	0	38	2	SINGLE
580	Bs62	Synth Bass 1	BS	67	85	0	39	1	SINGLE
581	Bs63	SynthBass101	SBS	67	86	1	39	1	SINGLE
582	Bs64	Acid Bass	SBS	67	87	2	39	1	SINGLE
583	Bs65	Clavi Bass	SBS	67	88	3	39	2	SINGLE
584	Bs66	Hammer	SBS	67	89	4	39	2	SINGLE
585	Bs67	Synth Bass 2	SBS	67	90	0	40	2	SINGLE
586	Bs68	Beef FM Bass	SBS	67	91	1	40	2	SINGLE
587	Bs69	RubberBass 2	SBS	67	92	2	40	2	SINGLE
588	Bs70	Attack Pulse	SBS	67	93	3	40	1	SINGLE

[0] RHYTHM & SFX

No.		NAME	Category	Patch Select MSB = 87		GM2 Patch Select MSB = 121		Voice	Key Mode
				LSB	PC	LSB	PC		
		Rh01–Rh20: Rhythm set list (p. 116)							
589	Rh21	RS SteelDrum	PRC	66	125	---	---	1	SINGLE
590	Rh22	W.Chime Down	PRC	66	126	---	---	1	SINGLE
591	Rh23	Nz & SawHit	SFX	66	127	---	---	2	SINGLE
592	Rh24	NylonGtr Nz	SFX	66	128	---	---	1	SINGLE
593	Rh25	Timpani	PRC	67	103	0	48	1	SINGLE
594	Rh26	Agogo	PRC	68	76	0	114	1	SINGLE
595	Rh27	Woodblock	PRC	68	78	0	116	1	SINGLE
596	Rh28	Castanets	PRC	68	79	1	116	1	SINGLE
597	Rh29	Taiko	PRC	68	80	0	117	1	SINGLE
598	Rh30	Concert BD	PRC	68	81	1	117	1	SINGLE
599	Rh31	Melo. Tom 1	PRC	68	82	0	118	1	SINGLE
600	Rh32	Melo. Tom 2	PRC	68	83	1	118	1	SINGLE
601	Rh33	Synth Drum	PRC	68	84	0	119	2	SINGLE
602	Rh34	808 Tom	PRC	68	85	1	119	2	SINGLE
603	Rh35	Elec Perc	PRC	68	86	2	119	1	SINGLE
604	Rh36	Reverse Cym.	PRC	68	87	0	120	1	SINGLE
605	Rh37	Seashore	SFX	68	93	0	123	1	SINGLE
606	Rh38	Rain	SFX	68	94	1	123	1	SINGLE
607	Rh39	Thunder	SFX	68	95	2	123	1	SINGLE
608	Rh40	Wind	SFX	68	96	3	123	1	SINGLE
609	Rh41	Stream	SFX	68	97	4	123	2	SINGLE
610	Rh42	Bubble	SFX	68	98	5	123	2	SINGLE
611	Rh43	Bird	SFX	68	99	0	124	2	SINGLE
612	Rh44	Dog	SFX	68	100	1	124	1	SINGLE
613	Rh45	Horse-Gallop	SFX	68	101	2	124	1	SINGLE
614	Rh46	Bird 2	SFX	68	102	3	124	1	SINGLE
615	Rh47	Telephone 1	SFX	68	103	0	125	1	SINGLE
616	Rh48	Telephone 2	SFX	68	104	1	125	1	SINGLE
617	Rh49	DoorCreaking	SFX	68	105	2	125	1	SINGLE
618	Rh50	Door	SFX	68	106	3	125	1	SINGLE
619	Rh51	Scratch	SFX	68	107	4	125	1	SINGLE
620	Rh52	Wind Chimes	SFX	68	108	5	125	1	SINGLE
621	Rh53	Helicopter	SFX	68	109	0	126	1	SINGLE
622	Rh54	Car-Engine	SFX	68	110	1	126	1	SINGLE
623	Rh55	Car-Stop	SFX	68	111	2	126	1	SINGLE
624	Rh56	Car-Pass	SFX	68	112	3	126	1	SINGLE
625	Rh57	Car-Crash	SFX	68	113	4	126	2	SINGLE
626	Rh58	Siren	SFX	68	114	5	126	1	SINGLE
627	Rh59	Train	SFX	68	115	6	126	1	SINGLE
628	Rh60	Jetplane	SFX	68	116	7	126	1	SINGLE
629	Rh61	Starship	SFX	68	117	8	126	2	SINGLE
630	Rh62	Burst Noise	SFX	68	118	9	126	2	SINGLE
631	Rh63	Applause	SFX	68	119	0	127	2	SINGLE
632	Rh64	Laughing	SFX	68	120	1	127	1	SINGLE
633	Rh65	Screaming	SFX	68	121	2	127	1	SINGLE
634	Rh66	Punch	SFX	68	122	3	127	1	SINGLE
635	Rh67	Heart Beat	SFX	68	123	4	127	1	SINGLE
636	Rh68	Footsteps	SFX	68	124	5	127	1	SINGLE
637	Rh69	Gun Shot	SFX	68	125	0	128	1	SINGLE
638	Rh70	Machine Gun	SFX	68	126	1	128	1	SINGLE
639	Rh71	Lasergun	SFX	68	127	2	128	1	SINGLE
640	Rh72	Explosion	SFX	68	128	3	128	2	SINGLE

Rhythm set list

Note	Rh01:Standard Kit (PC:001)	Voice	Rh02:Rock Kit (PC:002)	Voice	Rh03:Jazz Kit (PC:003)	Voice	Rh04:Brush Kit (PC:004)	Voice	Rh05:Orch Kit (PC:005)	Voice
16	-----		-----		-----		-----		-----	
17	-----		-----		-----		-----		-----	
18	-----		-----		-----		-----		-----	
19	-----		-----		-----		-----		-----	
20	-----		-----		-----		-----		-----	
21	-----		-----		-----		-----		-----	
22	-----		-----		-----		-----		-----	
23	-----		-----		-----		-----		-----	
C1 24	-----		-----		-----		-----		Tubular-bell	1
25	-----		-----		-----		-----		Tubular-bell	1
26	-----		-----		-----		-----		Tubular-bell	1
27	R&B Snr 1	2	RS Snr 3	2	Dry Snr 1	1	Dry Snr 2	1	Tubular-bell	1
28	Sharp Kick	2	Old Kick	2	Sharp Kick	2	Mix Kick	1	Tubular-bell	1
29	Old Kick	2	Sharp Kick	2	Mix Kick	1	JazzDryKick2	2	Tubular-bell	1
30	RS Snr 4	2	RS Snr 4	2	Dry Snr 2	1	Jazz Rim	1	Tubular-bell	1
31	OldSharpKick	2	RS Kick 1	2	JazzDryKick1	2	JazzDryKick1	2	Tubular-bell	1
32	RS Snr 3	2	RS Snr 1	2	Brush Slap 1	1	RS Jazz Snr	1	Tubular-bell	1
33	RS Kick 3	2	RS Kick 2	2	Jazz Kick 2	1	Jazz Kick 2	2	Tubular-bell	1
34	RS PHH [EXC1]	1	RS PHH [EXC1]	1	Jazz PHH [EXC1]	1	Brush PHH [EXC1]	1	Tubular-bell	1
35	RS Kick 1	2	Power Kick	1	Jazz Kick 3	2	Jazz Kick 1	1	Tubular-bell	1
C2 36	RS Kick 2	2	Hard Kick	3	JazzDryKick2	2	Jazz Kick 3	2	Concert BD	1
37	RS Stick	2	RS Stick	2	Dry Stick 1	1	Brush Slap 2	3	Side Stick	1
38	RS Snr 1	2	RS Snr 1	2	Jazz Rim	1	BrushSwirl 2	2	Concert Snr	1
39	Ghost&Flm	2	Ghost&Flm	2	SnareGhost	1	Brush Slap 1	1	TR909 Clap 1	1
40	RS Snr 2	2	Rock Snr	4	RS Jazz Snr	1	BrushSwirl 1	1	Concert Snr	1
41	RS Tom L	1	RS Tom L	1	JazzTom L	1	Brush Tom L	3	Timpani	1
42	RS CHH 3 [EXC1]	1	RS CHH 1 [EXC1]	1	RS CHH 1 [EXC1]	1	Brush CHH [EXC1]	1	Timpani	1
43	RS Tom L Flm	1	RS Tom L	1	JazzTomL/Flm	1	Brush Tom L	3	Timpani	1
44	RS CHH 4 [EXC1]	1	RS CHH 2 [EXC1]	1	RS CHH 2 [EXC1]	1	Brush PHH [EXC1]	1	Timpani	1
45	RS Tom M	1	RS Tom M	1	JazzTom M	1	Brush Tom M	3	Timpani	1
46	RS OHH 2 [EXC1]	1	RS OHH 1 [EXC1]	1	RS OHH 1 [EXC1]	1	Brush OHH [EXC1]	1	Timpani	1
47	RS Tom M Flm	1	RS Tom M	1	JazzTomM/Flm	1	Brush Tom M	3	Timpani	1
C3 48	RS Tom H	1	RS Tom H	1	JazzTom H	1	Brush Tom H	3	Timpani	1
49	Crash Cym.3	2	Crash Cym.3	2	Jazz Crash	2	Brush Crash	1	Timpani	1
50	RS Tom H Flm	1	RS Tom H	1	JazzTomH/Flm	1	Brush Tom H	3	Timpani	1
51	Rock Ride 1	1	Rock Ride 3	1	Jazz Ride 3	1	Jazz Ride 1	1	Timpani	1
52	ChinaCymbal2	2	ChinaCymbal2	2	ChinaCymbal1	1	ChinaCymbal1	1	Timpani	1
53	Ride Bell 1	1	Rock Ride 2	1	Ride Bell 2	1	Ride Bell 1	1	Timpani	1
54	Tambourine 1	1	Tambourine 1	1	Tambourine 1	1	Tambourine 3	1	Tambourine 3	1
55	Splash Cym	1	ChinaCymbal2	2	Splash Cym	1	Splash Cym	1	Splash Cym	1
56	Cowbell	1	Cowbell	1	Cowbell	1	Cowbell	1	ChinaCymbal2	2
57	Rock Crash	2	Rock Crash	2	Crash Cym.2	1	Crash Cym.2	1	ConcertCym 1	1
58	Vibraslap	1	Vibraslap	1	Vibraslap	1	Vibraslap	1	Rev.Cymbl 2	1
59	Rock Ride 2	1	Ride Cymbal	1	Jazz Ride 2	1	Jazz Ride 2	1	ConcertCym 2	2
C4 60	Bongo High 2	1	Bongo High 2	1	Bongo High 2	1	Bongo High 2	1	SlowAtackCym	1
61	Bongo Low 2	1	Bongo Low 2	1	Bongo Low 2	1	Bongo Low 2	1	SlowAtackCym	1
62	Conga Hi Mt2 [EXC2]	1	Conga Hi Mt2 [EXC2]	1	Conga Hi Mt2 [EXC2]	1	Conga Hi Mt2 [EXC2]	1	Taiko	1
63	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp	1
64	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1
65	Timbale Hi 2	1	Timbale Hi 2	1	Timbale Hi 2	1	Timbale Hi 2	1	Timbale Hi 2	1
66	Timbale Lw 2	1	Timbale Lw 2	1	Timbale Lw 2	1	Timbale Lw 2	1	Timbale Lw 2	1
67	Agogo	1	Agogo	1	Agogo	1	Agogo	1	Agogo	1
68	Agogo	1	Agogo	1	Agogo	1	Agogo	1	Agogo	1
69	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1
70	Maracas	1	Maracas	1	Maracas	1	Maracas	1	Maracas	1
71	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1
C5 72	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1
73	Guiro Short [EXC4]	1	Guiro Sw	1	Guiro Sw	1	Guiro Sw	1	Cowbell	1
74	Guiro Long [EXC4]	1	Castanets 2	2	Castanets 2	2	Castanets 2	2	Vibraslap	1
75	Claves	1	Claves	1	Claves	1	Claves	1	Claves	1
76	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1
77	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1
78	Cuica Mute [EXC5]	1	Cuica Sw	1	Cuica Sw	1	Cuica Sw	1	Castanets 2	2
79	Cuica Open [EXC5]	1	Shaker Sw	1	Shaker Sw	1	Shaker Sw	1	Cuica Sw	1
80	Triangl Mt 1 [EXC6]	1	Triangl Mt 1 [EXC6]	1	Triangl Mt 1 [EXC6]	1	Triangl Mt 1 [EXC6]	1	Triangl Mt 1 [EXC6]	1
81	Triangl Op 1 [EXC6]	1	Bell Tree	1	Triangl Op 1 [EXC6]	1	Bell Tree	1	Triangl Op 1 [EXC6]	1
82	Shaker 1	1	Jingle Bell	1	Bell Tree	1	Jingle Bell	1	Shaker Sw	1
83	Jingle Bell	1			Jingle Bell	1			Jingle Bell	1
C6 84	WindChimeDwn	1	WindChimeDwn	1	WindChimeDwn	1	WindChimeDwn	1	Bell Tree	1
85	Castanets 2	2	W.ChimeShort	1	W.ChimeShort	1	W.ChimeShort	1	WindChimeDwn	1
86	Surdo Mute [EXC7]	1	Surdo Mute [EXC7]	1	Surdo Mute [EXC7]	1	Surdo Mute [EXC7]	1	W.ChimeShort	1
87	Surdo Open [EXC7]	1	Surdo Open [EXC7]	1	Surdo Open [EXC7]	1	Surdo Open [EXC7]	1	Bird 1	2
88	FingerSnap	1	FingerSnap	1	FingerSnap	1	FingerSnap	1	Church Bell	1
89	TR909 Clap 2	1	TR909 Clap 2	1	TR909 Clap 1	1	TR909 Clap 1	1	Church Bell	1
90	Cheap Clap	1	TR808 Clap	1	TR808 Clap	1	TR808 Clap	1	FingerSnap	1
91	Bass Hit	2	Bass Hit	2	Bass Hit	2	Bass Hit	2	TR909 Clap 2	1
92	OrchestraHit	2	OrchestraHit	2	OrchestraHit	2	OrchestraHit	2	TR808 Clap	1
93	6th Hit	2	6th Hit	2	6th Hit	2	6th Hit	2	OrchestraHit	2
94	Euro Hit	2	Euro Hit	2	Applause	2	Applause	2	Applause	2
95	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1
C7 96	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1
97	-----		-----		-----		-----		-----	
98	-----		-----		-----		-----		-----	
99	-----		-----		-----		-----		-----	
100	-----		-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh01–Rh05: MSB=086, LSB=064

Note	Rh06:R&B/HHop Kit (PC:006)	Voice	Rh07:Techno Kit (PC:007)	Voice	Rh08:House Kit (PC:008)	Voice	Rh09:808&909 Kit (PC:009)	Voice	Rh10:Perc Menu (PC:010)	Voice
16	-----		-----		-----		-----		-----	
17	-----		-----		-----		-----		-----	
18	-----		-----		-----		-----		-----	
19	-----		-----		-----		-----		-----	
20	-----		-----		-----		-----		-----	
21	-----		-----		-----		-----		-----	
22	-----		-----		-----		-----		-----	
23	-----		-----		-----		-----		-----	
C1 24	-----		-----		-----		-----		-----	
25	-----		-----		-----		-----		-----	
26	-----		-----		-----		-----		-----	
27	Dry Snr 2	1	Elec Snare 2	2	R&B Snr 2	2	House Snr	1	Mtrnm Click	1
28	Sharp Kick	2	PlasticKick1	2	Old Kick	2	House Kick	2	Mtrnm Bell	1
29	Old Kick	2	House Kick	2	House Kick	2	SH32 Kick	2	Scratch 1	1
30	Jazz Rim	1	Elec Snare 1	1	Elec Snare 2	1	Elec Snare 2	2	Scratch 2	1
31	TR909 Kick 2	1	SH32 Kick	2	SH32 Kick	2	PlasticKick1	2	Scratch Push [EXC1]	1
32	RS Jazz Snr	1	Flnger Snr	1	Elec Snare 3	1	Elec Snare 3	1	Scratch Pull [EXC1]	1
33	TechnoKick 1	2	TR909 Kick 1	1	TR909 Kick 2	1	TR808 Kick 1	1	ScratchPush2 [EXC2]	1
34	RS PHH [EXC1]	1	TR909 PHH [EXC1]	2	TR909 PHH [EXC1]	1	TR909 PHH [EXC1]	1	ScratchPull2 [EXC2]	1
35	R&B Kick 2	2	TR909 Kick 2	1	TechnoKick 1	2	TR808 Kick 2	1	Beam HiQ	1
C2 36	R&B Kick 1	2	TechnoKick1	2	PlasticKick1	2	TR808 Kick 3	1	Taiko	1
37	R&B Stick	3	TR909 Rim	1	Dry Stick 2	2	TR808 Rim	1	Surdo Mute [EXC3]	1
38	R&B Snr 1	2	TR909 Snr 3	2	TR909 Snr 3	2	TR808 Snr 1	2	Surdo Open [EXC3]	1
39	Cheap Clap	1	TR909 Clap 1	1	TR909 Clap 2	1	TR808 Clap	1	Bongo High 1	1
40	R&B Snr 2	2	TR909 Snr 2	1	House Snr	1	TR808 Snr 2	1	Bongo Low 1	1
41	R&B Tom L	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom 2	1	Bongo High 2	1
42	RS CHH 5 [EXC1]	1	TR909 CHH 2 [EXC1]	1	TR909 CHH 2 [EXC1]	1	TR808 CHH 1 [EXC1]	1	Bongo Low 2	1
43	TR808 Kick 1	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom	1	Conga Hi Mt [EXC4]	1
44	RS CHH 6 [EXC1]	1	TR909 CHH 1 [EXC1]	1	TR909 CHH 1 [EXC1]	1	TR808 CHH 2 [EXC1]	1	CongaHi Open [EXC4]	1
45	R&B Tom M	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom 2	1	CongaLowOpen	1
46	RS OHH 3 [EXC1]	1	TR909 OHH [EXC1]	1	TR909 OHH [EXC1]	1	TR808 OHH [EXC1]	1	Conga Hi Mt2 [EXC4]	1
47	TR808 Kick 1	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom	1	CongHiOp/Slp [EXC4]	1
C3 48	R&B Tom H	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom 2	1	CongLwOp/Slp	1
49	Crash Cym.3	2	TR909 Crash	1	TR909 Crash	1	TR808 Crash	1	TR808Conga 1	1
50	TR808 Kick 1	1	TR909 Tom	1	TR909 Tom	1	TR808 Tom	1	Timbale Hi 1	1
51	R&B Ride	1	TR909 Ride 1	1	TR909 Ride 2	1	TR909 Ride 3	1	Timbale Lw 1	1
52	TR808 Crash	1	ChinaCymbal2	2	ChinaCymbal2	2	TR909 Splash	1	Timbale Lw 2	1
53	TR909RideBl1	1	TR909RideBl2	1	TR909RideBl1	1	TR909RideBl2	1	Cuica Mute [EXC5]	1
54	Tambourine 1	1	Tambourine 2	1	Tambourine 1	1	TR808Conga 1	1	Cuica Open [EXC5]	1
55	TR909 Splash	1	NoiseCymbal	1	TR909 Splash	1	TR909 Splash	1	Cuica Sw	1
56	TR808Cowbell	1	TR808Cowbell	1	Cowbell	1	TR808Cowbell	1	Castanets	1
57	TR909 Crash	1	TR808 Crash	1	TR808 Crash	1	TR808 Crash	1	Castanets 2	2
58	Vibraslap	1	Vibraslap	1	Vibraslap	1	TR909 PHH [EXC1]	2	Tambourine 1	1
59	TR909 Ride 2	1	TR909 Ride 3	1	TR909 Ride 3	1	TR909 Kick 1	1	Tambourine 1	1
C4 60	Bongo High 2	1	Bongo High 2	1	Bongo High 2	1	TR909 Kick 2	1	Tambourine 3	1
61	Bongo Low 2	1	Bongo Low 2	1	Bongo Low 2	1	TR909 Rim	1	Cabasa	1
62	Conga Hi Mt2 [EXC2]	1	TR808Conga 1	1	Conga Hi Mt2 [EXC2]	1	TR909 Snr 1	1	Maracas	1
63	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	TR909 Snr 2	1	TR808Maracas	1
64	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	TR909 Snr 2	1	Claves	1
65	Timbale Hi 2	1	Timbale Hi 2	1	Timbale Hi 2	1	TR909 Tom	1	TR808 Clave	1
66	Timbale Lw 2	1	Timbale Lw 2	1	Timbale Lw 2	1	TR909 CHH 1 [EXC1]	1	Woodblock	1
67	Agogo	1	Agogo	1	Agogo	1	TR909 Tom	1	Woodblock	1
68	Agogo	1	Agogo	1	Agogo	1	TR909 CHH 2 [EXC1]	1	Cowbell	1
69	Cabasa	1	Cabasa	1	Cabasa	1	TR909 Tom	1	TR808Cowbell	1
70	Maracas	1	TR808Maracas	1	Maracas	1	TR909 OHH [EXC1]	1	Vibraslap	1
71	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1	ShortWhistle [EXC3]	1	TR909 Tom	1		
C5 72	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1	LongWhistle2 [EXC3]	1	TR909 Tom	1	Shaker 1 [EXC6]	1
73	Shaker Sw	1	Cuica Sw	1	Guiro Short [EXC4]	1	TR909 Crash	1	Shaker 2 [EXC6]	1
74	Cuica Sw	1	Shaker Sw	1	Guiro Long	1	TR909 Tom	1	Shaker Sw	1
75	Castanets 2	2	TR808 Clave	1	Shaker 2	1	TR909 Ride 1	1	Guiro Short [EXC7]	1
76	Triangl Mt 2 [EXC6]	1	Guiro Sw	1	Castanets	1	ChinaCymbal2	2	Guiro Long [EXC7]	1
77	Triangl Op 2 [EXC6]	1	Castanets 2	2	TR808 Clave	1	TR909RideBl1	1	Guiro Sw	1
78	Bell Tree	1	Triangl Mt 1 [EXC6]	1	Cuica Mute [EXC5]	1	TR808Maracas	1	Triangl Mt 1 [EXC8]	1
79	Jingle Bell	1	Triangl Op 1 [EXC6]	1	Cuica Open [EXC5]	1	TR909 Splash	1	Triangl Op 1 [EXC8]	1
80	WindChimeDwn	1	Jingle Bell	1	Bell Tree	1	TR808Cowbell	1	Triangl Mt 2 [EXC9]	1
81	Surdo Mute [EXC7]	1	Surdo Mute [EXC7]	1	Surdo Mute [EXC7]	1	TR909 Crash	1	Triangl Op 2 [EXC9]	1
82	Surdo Open [EXC7]	1	Surdo Open [EXC7]	1	Surdo Open [EXC7]	1	TR808 Clave	1	Agogo	1
83	FingerSnap	1	FingerSnap	1	FingerSnap	1	TR909 Ride 2	1	Agogo	1
C6 84	TR909 Clap 2	1	TR909 Clap 2	1	TR808 Clap	1	NoiseCymbal	1	ShortWhistle [EXC10]	1
85	TR808 Clap	1	TR808 Clap	1	Rev.909Crash	1	TR909 Clap 1	1	Long Whistle [EXC10]	1
86	TR909 Clap 1	1	Rev.909Crash	1	Rev.909 OHH	1	TR909 Clap 2	1	LongWhistle2 [EXC10]	1
87	ScratchPush2 [EXC8]	1	Rev.909 OHH	1	Rev.909Kick2	1	TR808 Clap	1	FingerSnap	1
88	ScratchPull2 [EXC8]	1	Rev.909Kick2	1	Rev.909HClap	1	Rev.909Kick2	1	Cheap Clap	1
89	Scratch Push [EXC9]	1	Rev.909HClap	1	Beam HiQ	1	Rev.909Crash	1	TR909 Clap 1	1
90	Scratch Pull [EXC9]	1	Beam HiQ	1	Techno Hit	1	Rev.909 OHH	1	TR909 Clap 2	1
91	Scratch 2	1	Techno Hit	1	Bass Hit	2	Rev.909HClap	1	TR808 Clap	1
92	Rev.909HClap	1	Bass Hit	2	6th Hit	2	Square Click	1	Jingle Bell	1
93	Philly Hit	1	6th Hit	2	Euro Hit	2	High-Q	1	Bell Tree	1
94	Siren	1	Euro Hit	2	MC500 Beep 2	1	Beam HiQ	1	W.ChimeShort	1
95	Mtrnm Click	1	MC500 Beep 2	1	MC500 Beep 1	1	MC500 Beep 2	1	WindChimeDwn	1
C7 96	Mtrnm Bell	1	MC500 Beep 1	1	-----		MC500 Beep 1	1	Church Bell	1
97	-----		-----		-----		-----		-----	
98	-----		-----		-----		-----		-----	
99	-----		-----		-----		-----		-----	
100	-----		-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh06–Rh10: MSB=086, LSB=064

Appendix

Rhythm set list

Note	Rh11:Drums Menu (PC:011)	Voice	Rh12:GM2 STANDARD (PC:001)	Voice	Rh13:GM2 ROOM (PC:009)	Voice	Rh14:GM2 POWER (PC:017)	Voice	Rh15:GM2 ELECTRIC (PC:025)	Voice
16	-----		-----		-----		-----		-----	
17	-----		-----		-----		-----		-----	
18	-----		-----		-----		-----		-----	
19	-----		-----		-----		-----		-----	
20	-----		-----		-----		-----		-----	
21	RS Kick 1	2	-----		-----		-----		-----	
22	RS Kick 2	2	-----		-----		-----		-----	
23	RS Kick 3	2	-----		-----		-----		-----	
C1 24	StandardKick	1	-----		-----		-----		-----	
25	Jazz Kick 1	1	-----		-----		-----		-----	
26	Jazz Kick 2	2	-----		-----		-----		-----	
27	Jazz Kick 3	2	High-Q	1	High-Q	1	High-Q	1	High-Q	1
28	JazzDryKick1	2	Slap	1	Slap	1	Slap	1	Slap	1
29	JazzDryKick2	2	Scratch Push [EXC7]	1	Scratch Push [EXC7]	1	Scratch Push [EXC7]	1	Scratch Push [EXC7]	1
30	Mix Kick	1	Scratch Pull [EXC7]	1	Scratch Pull [EXC7]	1	Scratch Pull [EXC7]	1	Scratch Pull [EXC7]	1
31	Power Kick	1	Sticks	1	Sticks	1	Sticks	1	Sticks	1
32	Hard Kick	3	Square Click	1	Square Click	1	Square Click	1	Square Click	1
33	R&B Kick 1	2	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1
34	R&B Kick 2	2	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1
35	OldSharpKick	2	Mix Kick	1	Mix Kick	1	Mix Kick	1	Mix Kick	1
C2 36	Sharp Kick	2	StandardKick	1	StandardKick	1	Power Kick	1	Elec Kick	2
37	Old Kick	2	Side Stick	1	Side Stick	1	Side Stick	1	Side Stick	1
38	SH32 Kick	2	Standard Snr	1	Standard Snr	1	Dance Snare	1	Elec Snare 1	1
39	TechnoKick 1	2	TR909 Clap 1	1	TR909 Clap 1	1	TR909 Clap 1	1	TR909 Clap 1	1
40	TR909 Kick 1	1	Elec Snare 3	1	Elec Snare 3	1	Elec Snare 3	1	Elec Snare 2	2
41	TR909 Kick 2	1	Real Tom 3	1	Room Tom 2	1	Rock Tom 2	1	Synth Drum	2
42	Elec Kick	2	Close HiHat [EXC1]	1	Close HiHat [EXC1]	1	Close HiHat [EXC1]	1	Close HiHat [EXC1]	1
43	TR808 Kick 1	1	Real Tom 3	1	Room Tom 2	1	Rock Tom 2	1	Synth Drum	2
44	TR808 Kick 2	1	Standard PHH [EXC1]	1	Standard PHH [EXC1]	1	Standard PHH [EXC1]	1	Standard PHH [EXC1]	1
45	TR808 Kick 3	1	Real Tom 2	1	Room Tom 1	1	Rock Tom 2	1	Synth Drum	2
46	House Kick	2	Standard OHH [EXC1]	1	Standard OHH [EXC1]	1	Standard OHH [EXC1]	1	Standard OHH [EXC1]	1
47	PlasticKick1	2	Real Tom 2	1	Room Tom 1	1	Rock Tom 2	1	Synth Drum	2
C3 48	PlasticKick2	1	Real Tom 1	1	Room Tom 1	1	Rock Tom 1	1	Synth Drum	2
49	RS Snr 1	2	Crash Cym.1	1	Crash Cym.1	1	Crash Cym.1	1	Crash Cym.1	1
50	RS Snr 2	2	Real Tom 1	1	Room Tom 1	1	Rock Tom 1	1	Synth Drum	2
51	RS Snr 3	2	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1
52	RS Snr 4	2	ChinaCymbal1	1	ChinaCymbal1	1	ChinaCymbal1	1	Rev.Cymbl 1	1
53	Standard Snr	1	Ride Bell 2	1	Ride Bell 2	1	Ride Bell 2	1	Ride Bell 2	1
54	Rock Snr	4	Tambourine 3	1	Tambourine 3	1	Tambourine 3	1	Tambourine 3	1
55	RS Jazz Snr	1	Splash Cym	1	Splash Cym	1	Splash Cym	1	Splash Cym	1
56	Jazz Snr	1	Cowbell	1	Cowbell	1	Cowbell	1	Cowbell	1
57	Brush Slap 1	1	Crash Cym.2	1	Crash Cym.2	1	Crash Cym.2	1	Crash Cym.2	1
58	Brush Slap 2	3	Vibraslap	1	Vibraslap	1	Vibraslap	1	Vibraslap	1
59	BrushSwirl 1	1	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1
C4 60	BrushSwirl 2	2	Bongo High 1	1	Bongo High 1	1	Bongo High 1	1	Bongo High 1	1
61	R&B Snr 1	2	Bongo Low 1	1	Bongo Low 1	1	Bongo Low 1	1	Bongo Low 1	1
62	R&B Snr 2	2	Conga Hi Mt	1	Conga Hi Mt	1	Conga Hi Mt	1	Conga Hi Mt	1
63	Dry Snr 1	1	CongaHi Open	1	CongaHi Open	1	CongaHi Open	1	CongaHi Open	1
64	Dry Snr 2	1	CongaLowOpen	1	CongaLowOpen	1	CongaLowOpen	1	CongaLowOpen	1
65	TR909 Snr 1	1	Timbale Hi 1	1	Timbale Hi 1	1	Timbale Hi 1	1	Timbale Hi 1	1
66	TR909 Snr 2	1	Timbale Lw 1	1	Timbale Lw 1	1	Timbale Lw 1	1	Timbale Lw 1	1
67	TR909 Snr 3	2	Agogo	1	Agogo	1	Agogo	1	Agogo	1
68	TR808 Snr 1	2	Agogo	1	Agogo	1	Agogo	1	Agogo	1
69	TR808 Snr 2	1	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1
70	House Snr	1	Maracas	1	Maracas	1	Maracas	1	Maracas	1
71	Flnger Snr	1	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1
C5 72	Dance Snare	1	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1
73	Elec Snare 1	1	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1
74	Elec Snare 2	2	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1
75	Elec Snare 3	1	Claves	1	Claves	1	Claves	1	Claves	1
76	Jazz Rim	1	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1
77	RS Stick	2	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1
78	Dry Stick 1	1	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1
79	Dry Stick 2	2	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1
80	R&B Stick	3	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1
81	Sticks	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1
82	Side Stick	1	Shaker 1	1	Shaker 1	1	Shaker 1	1	Shaker 1	1
83	TR909 Rim	1	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1
C6 84	TR808 Rim	1	Bell Tree	1	Bell Tree	1	Bell Tree	1	Bell Tree	1
85	RS CHH 1 [EXC1]	1	Castanets	1	Castanets	1	Castanets	1	Castanets	1
86	RS CHH 2 [EXC1]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1
87	RS CHH 3 [EXC1]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1
88	RS CHH 4 [EXC1]	1	-----		-----		-----		-----	
89	RS CHH 5 [EXC1]	1	-----		-----		-----		-----	
90	RS CHH 6 [EXC1]	1	-----		-----		-----		-----	
91	Close HiHat [EXC1]	1	-----		-----		-----		-----	
92	Brush CHH [EXC1]	1	-----		-----		-----		-----	
93	TR909 CHH 1 [EXC1]	1	-----		-----		-----		-----	
94	TR909 CHH 2 [EXC1]	1	-----		-----		-----		-----	
95	TR808 CHH 1 [EXC1]	1	-----		-----		-----		-----	
C7 96	TR808 CHH 2 [EXC1]	1	-----		-----		-----		-----	
97	RS OHH 1 [EXC1]	1	-----		-----		-----		-----	
98	RS OHH 2 [EXC1]	1	-----		-----		-----		-----	
99	RS OHH 3 [EXC1]	1	-----		-----		-----		-----	
100	Standard OHH [EXC1]	1	-----		-----		-----		-----	
101	Brush OHH [EXC1]	1	-----		-----		-----		-----	
102	TR909 OHH [EXC1]	1	-----		-----		-----		-----	
103	TR808 OHH [EXC1]	1	-----		-----		-----		-----	
104	RS PHH [EXC1]	1	-----		-----		-----		-----	
105	Jazz PHH [EXC1]	1	-----		-----		-----		-----	
106	Brush PHH [EXC1]	1	-----		-----		-----		-----	
107	TR909 PHH [EXC1]	2	-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh11: MSB=086, LSB=064

Rh12–Rh15: MSB=120, LSB=000

Note	Rh16:GM2 ANALOG (PC:026)	Voice	Rh17:GM2 JAZZ (PC:033)	Voice	Rh18:GM2 BRUSH (PC:041)	Voice	Rh19:GM2 ORCHSTRA (PC:049)	Voice	Rh20:GM2 SFX (PC:057)	Voice
16	-----		-----		-----		-----		-----	
17	-----		-----		-----		-----		-----	
18	-----		-----		-----		-----		-----	
19	-----		-----		-----		-----		-----	
20	-----		-----		-----		-----		-----	
21	-----		-----		-----		-----		-----	
22	-----		-----		-----		-----		-----	
23	-----		-----		-----		-----		-----	
C1 24	-----		-----		-----		-----		-----	
25	-----		-----		-----		-----		-----	
26	-----		-----		-----		-----		-----	
27	High-Q	1	High-Q	1	High-Q	1	Close HiHat [EXC1]	1	-----	
28	Slap	1	Slap	1	Slap	1	Standard PHH [EXC1]	1	-----	
29	Scratch Push [EXC7]	1	Scratch Push [EXC7]	1	Scratch Push [EXC7]	1	Standard OHH [EXC1]	1	-----	
30	Scratch Pull [EXC7]	1	Scratch Pull [EXC7]	1	Scratch Pull [EXC7]	1	Ride Cymbal	1	-----	
31	Sticks	1	Sticks	1	Sticks	1	Sticks	1	-----	
32	Square Click	1	Square Click	1	Square Click	1	Square Click	1	-----	
33	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1	Mtrnm Click	1	-----	
34	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1	Mtrnm Bell	1	-----	
35	Mix Kick	1	Jazz Kick 2	2	Jazz Kick 2	2	Concert BD	1	-----	
C2 36	TR808 Kick 1	1	Jazz Kick 1	1	Jazz Kick 1	1	ConcertBD Mt	1	-----	
37	TR808 Rim	1	Side Stick	1	Side Stick	1	Side Stick	1	-----	
38	TR808 Snr 2	1	Jazz Snr	1	BrushSwirl 2	2	Concert Snr	1	-----	
39	TR909 Clap 1	1	TR909 Clap 1	1	Brush Slap 1	1	Castanets	1	High-Q	1
40	Elec Snare 3	1	Elec Snare 3	1	BrushSwirl 1	1	Concert Snr	1	Slap	1
41	TR808 Tom 2	1	Real Tom 3	1	Real Tom 3	1	Timpani	1	Scratch Push [EXC7]	1
42	TR808 CHH 2 [EXC1]	1	Close HiHat [EXC1]	1	Brush CHH [EXC1]	1	Timpani	1	Scratch Pull [EXC7]	1
43	TR808 Tom 2	1	Real Tom 3	1	Real Tom 3	1	Timpani	1	Sticks	1
44	TR808 CHH 1 [EXC1]	1	Standard PHH [EXC1]	1	Brush PHH [EXC1]	1	Timpani	1	Square Click	1
45	TR808 Tom 2	1	Real Tom 2	1	Real Tom 2	1	Timpani	1	Mtrnm Click	1
46	TR808 OHH [EXC1]	1	Standard OHH [EXC1]	1	Brush OHH [EXC1]	1	Timpani	1	Mtrnm Bell	1
47	TR808 Tom 2	1	Real Tom 2	1	Real Tom 2	1	Timpani	1	Gt.FretNoise	1
C3 48	TR808 Tom 2	1	Real Tom 1	1	Real Tom 1	1	Timpani	1	Gt.CutNoise	1
49	TR808 Crash	1	Crash Cym.1	1	Brush Crash	1	Timpani	1	Gt.CutNoise	1
50	TR808 Tom 2	1	Real Tom 1	1	Real Tom 1	1	Timpani	1	String Slap	1
51	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1	Timpani	1	Fl.KeyClick	1
52	ChinaCymbal1	1	ChinaCymbal1	1	ChinaCymbal1	1	Timpani	1	Laughing	1
53	Ride Bell 2	1	Ride Bell 2	1	Ride Bell 2	1	Timpani	1	Screaming	1
54	Tambourine 3	1	Tambourine 3	1	Tambourine 3	1	Tambourine 3	1	Punch	1
55	Splash Cym	1	Splash Cym	1	Splash Cym	1	Splash Cym	1	Heart Beat	1
56	TR808Cowbell	1	Cowbell	1	Cowbell	1	Cowbell	1	Footsteps	1
57	Crash Cym.2	1	Crash Cym.2	1	Crash Cym.2	1	ConcertCym 1	1	Footsteps	1
58	Vibraslap	1	Vibraslap	1	Vibraslap	1	Vibraslap	1	Applause	2
59	Ride Cymbal	1	Ride Cymbal	1	Ride Cymbal	1	ConcertCym 2	2	Creaking	1
C4 60	Bongo High 1	1	Bongo High 1	1	Bongo High 1	1	Bongo High 1	1	Door	1
61	Bongo Low 1	1	Bongo Low 1	1	Bongo Low 1	1	Bongo Low 1	1	Scratch 1	1
62	TR808Conga 1	1	Conga Hi Mt	1	Conga Hi Mt	1	Conga Hi Mt	1	Wind Chimes	1
63	TR808Conga 1	1	CongaHi Open	1	CongaHi Open	1	CongaHi Open	1	Car-Engine	1
64	TR808Conga 1	1	CongaLowOpen	1	CongaLowOpen	1	CongaLowOpen	1	Car-Stop	1
65	Timbale Hi 1	1	Timbale Hi 1	1	Timbale Hi 1	1	Timbale Hi 1	1	Car-Pass	1
66	Timbale Lw 1	1	Timbale Lw 1	1	Timbale Lw 1	1	Timbale Lw 1	1	Car-Crash	2
67	Agogo	1	Agogo	1	Agogo	1	Agogo	1	Siren	1
68	Agogo	1	Agogo	1	Agogo	1	Agogo	1	Train	1
69	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1	Jetplane	2
70	TR808Maracas	1	Maracas	1	Maracas	1	Maracas	1	Helicopter	1
71	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1	ShortWhistle [EXC2]	1	Starship	2
C5 72	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1	Long Whistle [EXC2]	1	Gun Shot	1
73	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1	Guiro Short [EXC3]	1	Machine Gun	1
74	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1	Guiro Long [EXC3]	1	Lasergun	1
75	TR808 Clave	1	Claves	1	Claves	1	Claves	1	Explosion	2
76	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1	Dog	1
77	Woodblock	1	Woodblock	1	Woodblock	1	Woodblock	1	Horse-Gallop	1
78	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1	Cuica Mute [EXC4]	1	Bird 1	2
79	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1	Cuica Open [EXC4]	1	Rain	1
80	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Thunder	1
81	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Wind	1
82	Shaker 1	1	Shaker 1	1	Shaker 1	1	Shaker 1	1	Seashore	1
83	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1	Stream	2
C6 84	Bell Tree	1	Bell Tree	1	Bell Tree	1	Bell Tree	1	Bubble	2
85	Castanets	1	Castanets	1	Castanets	1	Castanets	1	-----	
86	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	-----	
87	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	-----	
88	-----		-----		-----		Applause	2	-----	
89	-----		-----		-----		-----		-----	
90	-----		-----		-----		-----		-----	
91	-----		-----		-----		-----		-----	
92	-----		-----		-----		-----		-----	
93	-----		-----		-----		-----		-----	
94	-----		-----		-----		-----		-----	
95	-----		-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh16–Rh20: MSB=120, LSB=000

Appendix

Performance list

No.	Name
01	Pop 1
02	Pop 2
03	Pop 3
04	Pop 4
05	Pop 5
06	Rock 1
07	Rock 2
08	Contmporary1
09	Contmporary2
10	Funk 1

No.	Name
11	Funk 2
12	Jazz 1
13	Jazz 2
14	Bossa
15	Orchestra
16	Techno 1
17	Techno 2
18	Trance 1
19	Trance 2
20	House 1

No.	Name
21	House 2
22	Hip Hop 1
23	Hip Hop 2
24	R&B 1
25	R&B 2
26	Drum'n'Bass 1
27	Drum'n'Bass 2
28	BreakBeats 1
29	BreakBeats 2
30	Reggae 1

No.	Name
31	Reggae 2
32	SEQ Template

Rhythm guide list

No.	Name
01	Pop 1
02	Pop 2
03	Pop 3
04	Pop 4 (Bld)
05	Pop 5 (Shfl)
06	Pop 6 (Shfl)
07	Pop 7 (Vari)
08	Pop 8 (Vari)
09	Pop 9 (Vari)
10	Rock 1

No.	Name
11	Rock 2
12	Rock 3
13	Contmporary1
14	Contmporary2
15	Funk 1
16	Funk 2
17	Jazz 1
18	Jazz 2
19	Bossa
20	Techno 1

No.	Name
21	Techno 2
22	Trance 1
23	Trance 2
24	House 1
25	House 2
26	Hip Hop 1
27	Hip Hop 2
28	R&B 1
29	R&B 2
30	Drum'n'Bass

No.	Name
31	Reggae 1
32	Reggae 2
---	Metronm 4/4
---	Metronm 2/4
---	Metronm 3/4

*   Bld: Ballad, Shfl: Shuffle, Vari: Variation

Arpeggio template list

Category	Button	Name
Ac.Piano	[1]	Piano Phr 1
	[2]	Piano Phr 2
	[3]	Piano Phr 3
	[4]	Piano Phr 4
	[5]	Piano Phr 5
	[6]	Piano Arp 1
	[7]	Piano Arp 2
	[8]	Piano Arp 3
	[9]	Piano Arp 4

Category	Button	Name
Bell	[1]	Bell Phr 1
	[2]	Bell Phr 2
	[3]	Bell Phr 3
	[4]	Bell Phr 4
	[5]	Bell Phr 5
	[6]	Bell Arp 1
	[7]	Bell Arp 2
	[8]	Bell Arp 3
	[9]	Bell Arp 4

Category	Button	Name
Accordion	[1]	ACD Phr 1
	[2]	ACD Phr 2
	[3]	ACD Phr 3
	[4]	ACD Phr 4
	[5]	ACD Arp 1
	[6]	ACD Arp 2
	[7]	ACD Arp 3
	[8]	ACD Arp 4
	[9]	ACD Arp 5

Category	Button	Name
El.Guitar	[1]	E.Gt Phr 1
	[2]	E.Gt Phr 2
	[3]	E.Gt Phr 3
	[4]	E.Gt Phr 4
	[5]	E.Gt Phr 5
	[6]	E.Gt Arp 1
	[7]	E.Gt Arp 2
	[8]	E.Gt Arp 3
	[9]	E.Gt Arp 4

Category	Button	Name
El.Piano	[1]	E.Piano Phr1
	[2]	E.Piano Phr2
	[3]	E.Piano Phr3
	[4]	E.Piano Phr4
	[5]	E.Piano Phr5
	[6]	E.Piano Arp1
	[7]	E.Piano Arp2
	[8]	E.Piano Arp3
	[9]	E.Piano Arp4

Category	Button	Name
Mallet	[1]	Marimba Phr1
	[2]	Marimba Phr2
	[3]	Xylophne Phr
	[4]	Vibrphne Phr
	[5]	Steel Dr Phr
	[6]	MLT Arp 1
	[7]	MLT Arp 2
	[8]	MLT Arp 3
	[9]	MLT Arp 4

Category	Button	Name
Harmonica	[1]	HRM Phr 1
	[2]	HRM Phr 2
	[3]	HRM Phr 3
	[4]	HRM Phr 4
	[5]	HRM Phr 5
	[6]	HRM Arp 1
	[7]	HRM Arp 2
	[8]	HRM Arp 3
	[9]	HRM Arp 4

Category	Button	Name
Dist.Guitar	[1]	D.Gt Phr 1
	[2]	D.Gt Phr 2
	[3]	D.Gt Phr 3
	[4]	D.Gt Phr 4
	[5]	D.Gt Phr 5
	[6]	D.Gt Arp 1
	[7]	D.Gt Arp 2
	[8]	D.Gt Arp 3
	[9]	D.Gt Arp 4

Category	Button	Name
Keyboard	[1]	Clavi Phr 1
	[2]	Clavi Phr 2
	[3]	Clavi Phr 3
	[4]	Clavi Phr 4
	[5]	Clavi Phr 5
	[6]	Harpsi Phr
	[7]	Clavi Arp1
	[8]	Clavi Arp2
	[9]	Clavi Arp3

Category	Button	Name
Organ	[1]	Organ Phr 1
	[2]	Organ Phr 2
	[3]	Organ Phr 3
	[4]	Organ Phr 4
	[5]	Organ Phr 5
	[6]	Organ Arp 1
	[7]	Organ Arp 2
	[8]	Organ Arp 3
	[9]	Organ Arp 4

Category	Button	Name
Ac.Guitar	[1]	A.Gt Phr 1
	[2]	A.Gt Phr 2
	[3]	A.Gt Phr 3
	[4]	A.Gt Phr 4
	[5]	A.Gt Phr 5
	[6]	A.Gt Arp 1
	[7]	A.Gt Arp 2
	[8]	A.Gt Arp 3
	[9]	A.Gt Arp 4

Category	Button	Name
Strings	[1]	Strings Phr1
	[2]	Strings Phr2
	[3]	Strings Phr3
	[4]	Pizz Phr
	[5]	Violin Phr
	[6]	Strings Arp1
	[7]	Strings Arp2
	[8]	Strings Arp3
	[9]	Strings Arp4

Category	Button	Name
Orchestra	[1]	Orch Phr 1
	[2]	Orch Phr 2
	[3]	Orch Phr 3
	[4]	Orch Phr 4
	[5]	Orch Phr 5
	[6]	Orch Arp 1
	[7]	Orch Arp 2
	[8]	Orch Arp 3
	[9]	Orch Arp 4

Category	Button	Name
Ac.Brass	[1]	Brass Phr 1
	[2]	Brass Phr 2
	[3]	Brass Phr 3
	[4]	Brass Phr 4
	[5]	MuteTp Phr
	[6]	TrombonePhr1
	[7]	TrombonePhr2
	[8]	Trumpet Phr1
	[9]	Trumpet Phr2

Category	Button	Name
Soft Lead	[1]	Soft Ld Phr1
	[2]	Soft Ld Phr2
	[3]	Soft Ld Phr3
	[4]	Soft Ld Phr4
	[5]	Soft Ld Phr5
	[6]	Soft Ld Arp1
	[7]	Soft Ld Arp2
	[8]	Soft Ld Arp3
	[9]	Soft Ld Arp4

Category	Button	Name
Drums	[1]	Fill Phr 1
	[2]	Fill Phr 2
	[3]	Fill Phr 3
	[4]	Fill Phr 4
	[5]	Fill Phr 5
	[6]	SnrRol Phr
	[7]	Tamb Phr
	[8]	Conga Phr
	[9]	Triangle Phr

Category	Button	Name
Hit & Stab	[1]	Hit Phr 1
	[2]	Hit Phr 2
	[3]	Hit Phr 3
	[4]	Hit Phr 4
	[5]	Hit Phr 5
	[6]	Hit Arp 1
	[7]	Hit Arp 2
	[8]	Hit Arp 3
	[9]	Hit Arp 4

Category	Button	Name
Synth Brass	[1]	SynBrassPhr1
	[2]	SynBrassPhr2
	[3]	SynBrassPhr3
	[4]	SynBrassPhr4
	[5]	SynBrassPhr5
	[6]	SynBrassArp1
	[7]	SynBrassArp2
	[8]	SynBrassArp3
	[9]	SynBrassArp4

Category	Button	Name
Techno Synth	[1]	TekSyn Phr 1
	[2]	TekSyn Phr 2
	[3]	TekSyn Phr 3
	[4]	TekSyn Phr 4
	[5]	TekSyn Phr 5
	[6]	TekSyn Arp 1
	[7]	TekSyn Arp 2
	[8]	TekSyn Arp 3
	[9]	TekSyn Arp 4

Category	Button	Name
Percus-sion	[1]	Timpani Phr
	[2]	Timpani Roll
	[3]	CastanetPhr
	[4]	Taiko Phr
	[5]	Perc Arp 1
	[6]	Perc Arp 2
	[7]	Perc Arp 3
	[8]	Perc Arp 4
	[9]	Perc Arp 5

Category	Button	Name
Wind	[1]	ClarinetPhr1
	[2]	ClarinetPhr2
	[3]	Oboe Phr 1
	[4]	Oboe Phr 2
	[5]	Oboe Phr 3
	[6]	Wind Arp 1
	[7]	Wind Arp 2
	[8]	Wind Arp 3
	[9]	Wind Arp 4

Category	Button	Name
Sax	[1]	Sax Phr 1
	[2]	Sax Phr 2
	[3]	Sax Phr 3
	[4]	Sax Phr 4
	[5]	Sax Phr 5
	[6]	Sax Arp 1
	[7]	Sax Arp 2
	[8]	Sax Arp 3
	[9]	Sax Arp 4

Category	Button	Name
Pulsating	[1]	Plsatng Phr1
	[2]	Plsatng Phr2
	[3]	Plsatng Phr3
	[4]	Plsatng Phr4
	[5]	Plsatng Phr5
	[6]	Plsatng Arp1
	[7]	Plsatng Arp2
	[8]	Plsatng Arp3
	[9]	Plsatng Arp4

Category	Button	Name
Sound FX	[1]	Car Pass Phr
	[2]	FootStep Phr
	[3]	Heart Bt Phr
	[4]	SFX Arp 1
	[5]	SFX Arp 2
	[6]	SFX Arp 3
	[7]	SFX Arp 4
	[8]	SFX Arp 5
	[9]	SFX Arp 6

Category	Button	Name
Flute	[1]	Flute Phr 1
	[2]	Flute Phr 2
	[3]	Flute Phr 3
	[4]	Flute Phr 4
	[5]	Piccolo Phr
	[6]	Flute Arp 1
	[7]	Flute Arp 2
	[8]	Flute Arp 3
	[9]	Flute Arp 4

Category	Button	Name
Bright Pad	[1]	BrghtPd Phr1
	[2]	BrghtPd Phr2
	[3]	BrghtPd Phr3
	[4]	BrghtPd Phr4
	[5]	BrghtPd Phr5
	[6]	BrghtPd Arp1
	[7]	BrghtPd Arp2
	[8]	BrghtPd Arp3
	[9]	BrghtPd Arp4

Category	Button	Name
Synth FX	[1]	FX Phr 1
	[2]	FX Phr 2
	[3]	FX Phr 3
	[4]	FX Phr 4
	[5]	FX Phr 5
	[6]	FX Phr 6
	[7]	FX Arp 1
	[8]	FX Arp 2
	[9]	FX Arp 3

Category	Button	Name
Beat & Groove	[1]	BTS Phr 1
	[2]	BTS Phr 2
	[3]	BTS Phr 3
	[4]	BTS Phr 4
	[5]	BTS Phr 5
	[6]	BTS Arp 1
	[7]	BTS Arp 2
	[8]	BTS Arp 3
	[9]	BTS Arp 4

Category	Button	Name
Plucked	[1]	Harp Phr 1
	[2]	Harp Phr 2
	[3]	Harp Phr 3
	[4]	Kalimba Phr
	[5]	Koto Phr
	[6]	PLK Arp 1
	[7]	PLK Arp 2
	[8]	PLK Arp 3
	[9]	PLK Arp 4

Category	Button	Name
Soft Pad	[1]	SoftPad Phr1
	[2]	SoftPad Phr2
	[3]	SoftPad Phr3
	[4]	SoftPad Phr4
	[5]	SoftPad Phr5
	[6]	SoftPad Arp1
	[7]	SoftPad Arp2
	[8]	SoftPad Arp3
	[9]	SoftPad Arp4

Category	Button	Name
Other Synth	[1]	Synth Phr 1
	[2]	Synth Phr 2
	[3]	Synth Phr 3
	[4]	Synth Phr 4
	[5]	Synth Phr 5
	[6]	Synth Phr 6
	[7]	Synth Phr 7
	[8]	Synth Phr 8
	[9]	Synth Arp

Category	Button	Name
Combina-tion	[1]	CMB Phr 1
	[2]	CMB Phr 2
	[3]	CMB Arp 1
	[4]	CMB Arp 2
	[5]	CMB Arp 3
	[6]	CMB Arp 4
	[7]	CMB Arp 5
	[8]	CMB Arp 6
	[9]	CMB Arp 7

Category	Button	Name
Ethnic	[1]	Shamisen Phr
	[2]	SitarGls Phr
	[3]	Bug Pipe Phr
	[4]	ShakuhatiPhr
	[5]	Mizmar Phr
	[6]	Gamelan Phr
	[7]	Tabla Phr
	[8]	Ethnic Arp 1
	[9]	Ethnic Arp 2

Category	Button	Name
Vox	[1]	Vox Phr 1
	[2]	Vox Phr 2
	[3]	Vox Phr 3
	[4]	Vox Phr 4
	[5]	Vox Phr 5
	[6]	Vox Arp 1
	[7]	Vox Arp 2
	[8]	Vox Arp 3
	[9]	Vox Arp 4

Category	Button	Name
Bass	[1]	FngerBs Phr1
	[2]	FngerBs Phr2
	[3]	FngerBs Phr3
	[4]	FngerBs Phr4
	[5]	SlapBs Phr 1
	[6]	SlapBs Phr 2
	[7]	FretlsBs Phr
	[8]	AcBass Phr
	[9]	BsSlide Phr

Category	Button	Name
Fretted	[1]	Banjo Phr 1
	[2]	Banjo Phr 2
	[3]	Banjo Phr 3
	[4]	Banjo Arp 1
	[5]	Banjo Arp 2
	[6]	Banjo Arp 3
	[7]	Fretted Arp1
	[8]	Fretted Arp2
	[9]	Fretted Arp3

Category	Button	Name
Hard Lead	[1]	Hard Ld Phr1
	[2]	Hard Ld Phr2
	[3]	Hard Ld Phr3
	[4]	Hard Ld Phr4
	[5]	Hard Ld Phr5
	[6]	Hard Ld Arp1
	[7]	Hard Ld Arp2
	[8]	Hard Ld Arp3
	[9]	Hard Ld Arp4

Category	Button	Name
Synth Bass	[1]	SynBass Phr1
	[2]	SynBass Phr2
	[3]	SynBass Phr3
	[4]	SynBass Phr4
	[5]	SynBass Phr5
	[6]	SynBass Phr6
	[7]	SynBass Phr7
	[8]	SynBass Phr8
	[9]	SynBass Phr9

Appendix

Arpeggio style list

No.	Name	Variation
01	Note Values *	12
02	1/8 Basic 1	5
03	1/8 Basic 2	5
04	1/8 Basic 3	5
05	1/8 Basic 4	5
06	1/8 Sync 1-1	5
07	1/8 Sync 1-2	5
08	1/8 Sync 1-3	5
09	1/8 Sync 1-4	5
10	1/8 Sync 2-1	5
11	1/8 Sync 2-2	5
12	1/8 Sync 2-3	5
13	1/8 Sync 2-4	5
14	1/8 Drive 1	5
15	1/8 Drive 2	5
16	1/8 Drive 3	5
17	1/8 Drive 4	5
18	1/8 Triplet1	5
19	1/8 Triplet2	5
20	1/16 Basic 1	5
21	1/16 Basic 2	5
22	1/16 Basic 3	5
23	1/16 Basic 4	5
24	1/16 Sync1-1	5
25	1/16 Sync1-2	5

No.	Name	Variation
26	1/16 Sync1-3	5
27	1/16 Sync1-4	5
28	1/16 Sync2-1	5
29	1/16 Sync2-2	5
30	1/16 Sync2-3	5
31	1/16 Sync2-4	5
32	1/16 Drive 1	5
33	1/16 Drive 2	5
34	1/16 Drive 3	5
35	1/16 Drive 4	5
36	Rhythmix 1	5
37	Rhythmix 2	5
38	Piano Phr	6
39	E.Piano Phr	6
40	Pno&EpBackng	9
41	Clavi Phr	6
42	Harpsi Phr	1
43	Bell Phr	6
44	Mallet Phr	6
45	Organ Phr	8
46	Org Backing	4
47	AccordionPhr	5
48	ACD Backing	2
49	Harm Phr	6
50	A.Gt Phr	6

No.	Name	Variation
51	A.Gt Backing	8
52	E.Gt Phr	5
53	E.Gt Backing	5
54	D.Gt Phr	6
55	D.Gt Backing	4
56	Str&Orc Phr	12
57	Hit&Stab Phr	6
58	Wind Phr	6
59	Flute Phr	6
60	Plucked Phr	6
61	Ethnic Phr	8
62	Banjo Phr	4
63	BanjoBacking	3
64	Brass Phr	10
65	SynBrs Phr	6
66	Sax Phr	6
67	BrightPadPhr	6
68	SoftPad Phr	6
69	Vox Phr	6
70	Hard Ld Phr	6
71	Soft Ld Phr	6
72	TeknoSyn Phr	6
73	Pulse Phr	6
74	FX Phr	7
75	Synth Phr	9

No.	Name	Variation
76	Ac&E.Bass	12
77	Synth Bs	11
78	Drum Phr	10
79	Perc Phr	5
80	SFX Phr	4
81	BTS Phr	6
82	CMB Phr	3

* Variations based on note values : 1/4, 1/8, 1/12, 1/16, 1/32 (Single and Dual)*

Multi-chord set list

1. Pop 1

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	Cadd9	C3, G3, D4, E4
C#	C#maj9	C#3, C4, D#4, F4
D	D-7	D3, F4, A3, C4
D#	D#maj7	D#3, A#3, D4, G4
E	Cadd9 (on E)	E3, C4, D4, G4
F	Fmaj9	F2, A3, E4, G4
F#	Dadd9 (on F#)	F#2, A3, D4, E4
G	Cadd9 (on G)	G2, D4, E4, G4
G#	F-6 (on Ab)	G#2, C4, D4, F4
A	F (on A)	A2, A3, C4, F4
A#	G- (on Bb)	A#2, A#3, D4, G4
B	G (on B)	B2, B3, D4, G4

2. Pop 2

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	Cmaj9	C3, E3, B3, D4
C#	C#dim7	C#3, G3, A#3, E4
D	D-9	D3, F3, C4, E4
D#	D#dim7	D#3, A3, C4, F#4
E	E-7	E3, B3, D4, G4
F	Fmaj9	F3, A3, E4, G4
F#	F#-7 (b5)	F#3, A3, C4, E4
G	G7sus4 (9 13)	G2, A3, F4, E4
G#	G#dim7	G#2, B3, D4, F4
A	A-9	A2, B3, C4, G4
A#	C7(on Bb)	A#2, G3, C4, E4
B	B-7(b5)	B2, A3, D4, F4

3. Jazz 1

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C6 9	C3, E3, A3, D4
C#	C#7(#9)	C#3, F3, B3, E4
D	D-9	D3, F3, C4, E4
D#	D#7(#9)	D#3, G3, C#4, F#4
E	E#7(#9)	E3, G#3, D4, G4
F	Fmaj9	F3, A3, E4, G4
F#	F#7(#9)	F#3, A#3, A4, A4
G	G7(13)	G2, F3, B3, E4
G#	G#7(13)	G#2, F#3, C4, F4
A	A-7(11)	A2, G3, C4, D4
A#	Bb9	A#2, G#3, C4, D4
B	B-7(11)	B2, A3, D4, E4

4. Jazz 2

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C6 9	C3, E3, A3, D4
C#	C#9	C#3, F3, B3, D#4
D	D-9	D3, F3, C4, E4
D#	D#9	D#3, G3, C#4, F4
E	E-9	E3, G3, D4, F#4
F	F-9	F2, G#3, D#4, G4
F#	F#-7(b5)	F#2, A3, C4, E4
G	G7(13)	G2, F3, B3, E4
G#	G#7(13)	G#2, F#3, C4, F4
A	A7(b13)	A2, G3, C#4, F4
A#	Bb7(13)	A#2, G#3, D4, G4
B	B-7(11)	B2, A3, D4, E4

5. Blues

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C7(9)	C3, A#3, D4, E4
C#	C#7(9)	C#3, F3, B3, D#4
D	D7(9)	D3, F#3, C4, E4
D#	D#7(9)	D#3, G3, C#4, F4
E	E7(#9)	E3, G#3, D4, G4
F	F7(9)	F2, A3, D#4, G4
F#	F#dim7	F#2, A3, C4, D#4
G	G7(13)	G2, F3, B3, E4
G#	G#dim7	G#2, B3, D4, F4
A	A7(b13)	A2, G3, C#4, F4
A#	Bb7(13)	A#2, G#3, D4, G4
B	B-7(b5)	B2, A3, D4, F4

6. Trad Maj

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C	C3, E4, G4, C5
C#	C#dim7	C#3, E4, G4, A#4
D	D-	D3, D4, F4, A4
D#	D#dim7	D#3, F4, A4, C5
E	E-	E3, E4, G4, B4
F	F	F3, F4, A4, C5
F#	F#-7(b5)	F#3, E4, A4, C5
G	G	G3, D4, G4, B4
G#	G#dim7	G#3, D4, F4, B4
A	A-	A2, E4, A4, C5
A#	Bb	A#2, D4, F4, A#4
B	Bdim	B2, D4, F4, B4

7. Trad Min 1

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-	C3, D#4, G4, C5
C#	Db	C#3, C#4, F4, G#4
D	Ddim	D3, D4, F4, G#4
D#	Eb	D#3, D#4, G4, A#4
E	Edim7	E3, C#4, G4, A#4
F	F-	F2, C4, F4, G#4
F#	Gbdim7	F#2, C4, D#4, A4
G	G-	G2, A#3, D4, G4
G#	Ab	G#2, C4, D#4, G#4
A	A-7(b5)	A2, C4, D#4, G4
A#	Bb	A#2, D4, F4, A#4
B	Bdim7	B2, D4, F4, G#4

8. Trad Min 2

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-	C3, D#4, G4, C5
C#	Db	C#3, C#4, F4, G#4
D	Ddim	D3, D4, F4, G#4
D#	Eaug	D#3, D#4, G4, B4
E	E-	E3, E4, G4, B4
F	F-	F2, C4, F4, G#4
F#	Gbdim7	F#2, C4, D#4, A4
G	G	G2, B3, D4, G4
G#	Ab	G#2, G#4, D#4, C4
A	A-7(b5)	A2, C4, D#4, G4
A#	Bb	A#2, D4, F4, A#4
B	Bdim	B2, D4, F4, B4

9. Pop Min 1

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-add9	C3, D4, D#4, G4
C#	Dbmaj7	C#3, G#3, C4, F4
D	D-7(b5)	D3, C4, F4, G#4
D#	Ebmaj7	D#3, A#3, D4, G4
E	Edim7	E3, A#3, C#4, G4
F	F-7(9)	F2, G#3, D#4, G4
F#	Gbdim7	F#2, A3, C4, D#4
G	G-7	G2, A#3, D4, F4
G#	Abmaj7	G#2, C4, D#4, G4
A	A-7(b5)	A2, C4, D#4, G4
A#	Bb7sus4(9 13)	A#2, G#3, C4, D#4
B	Bdim7	B2, G#3, D4, F4

10. Pop Min 2

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-add9	C3, D4, D#4, G4
C#	Eb7(on Db)	C#3, A#3, D#4, G4
D	D-7(b5)	D3, G#3, C4, F4
D#	Ebmaj7	D#3, A#3, D4, G4
E	Emaj7(9)	E3, G#3, D#4, F#4
F	F-7(9)	F2, G#3, D#4, G4
F#	Gbdim7	F#2, A3, C4, D#4
G	G7(b13)	G2, F3, B3, D#4
G#	Abmaj7	G#2, C4, D#4, G4
A	A-7(b5)	A2, C4, D#4, G4
A#	C-7(on Bb)	A#2, C4, D#4, G4
B	C-maj7(B)	B2, D4, D#4, G4

11. Jazz Min 1

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-7(11)	C3, A#3, D#4, F4
C#	Db7(#9)	C#3, F3, B3, E4
D	D-7(b5)	D3, C4, F4, G#4
D#	Ebaug maj7	D#3, B3, D4, G4
E	E7(9)	E2, G#3, D4, F#4
F	F7(9)	F2, A3, D#4, G4
F#	Gbdim7	F#2, A3, C4, D#4
G	G7(#9)	G2, B3, F4, A#4
G#	Abmaj7(#11)	G#2, C4, D4, G4
A	A-7(b5)	A2, C4, D#4, G4
A#	Bb-7	A#2, G#3, C#4, F4
B	Bdim7	B2, G#3, D4, F4

12. Jazz Min 2

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	C-7(9)	C3, D#3, A#3, D4
C#	Db7(9)	C#3, F3, B3, D#4
D	D-7(9)	D3, F3, C4, E4
D#	Eb7(9)	D#3, G3, C#4, F4
E	Emaj7(9)	E2, G#3, D#4, F#4
F	F-7(9)	F2, G#3, D#4, G4
F#	Gbdim7	F#2, A3, C4, D#4
G	G7(13)	G2, F3, B3, E4
G#	Ab-6	G#2, B3, D#4, F4
A	A-7(b5)	A2, C4, D#4, G4
A#	Bb-7	A#2, G#3, C#4, F4
B	B-7(b5)	B2, A3, D4, F4

13. Oct Stack

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	---	C4, C5
C#	---	C#4, C#5
D	---	D4, D5
D#	---	D#4, D#5
E	---	E4, E5
F	---	F4, F5
F#	---	F#4, F#5
G	---	G4, G5
G#	---	G#4, G#5
A	---	A4, A5
A#	---	A#4, A#5
B	---	B4, B5

14. 4th Stack

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	---	C4, F4
C#	---	C#4, F#4
D	---	D4, G4
D#	---	D#4, G#4
E	---	E4, A4
F	---	F4, A#4
F#	---	F#4, B4
G	---	G4, C5
G#	---	G#4, C#5
A	---	A4, D5
A#	---	A#4, D#5
B	---	B4, E5

15. 5th Stack

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	---	C4, G4
C#	---	C#4, G#4
D	---	D4, A4
D#	---	D#4, A#4
E	---	E4, B4
F	---	F4, C5
F#	---	F#4, C#5
G	---	G4, D5
G#	---	G#4, D#5
A	---	A4, E5
A#	---	A#4, F5
B	---	B4, F#5

16. Scale Set

Assign Key	Chord Name	Constituent Notes of Chord Forms
C	Major Scale	C4, D4, E4, F4, G4, A4, B4
C#	Major Pentatonic Scale	C4, D4, E4, G4, A4,
D	Minor Scale	C4, D4, D#4, F4, G4, G#4, A#4
D#	Harmonic Minor Scale	C4, D4, D#4, F4, G4, G#4, B4
E	Melodic Minor Scale	C4, D4, D#4, F4, G4, A4, B4
F	Whole Tone Scale	C4, D4, E4, F#4, G#4, A#4
F#	Blue note Scale	C4, D#4, F4, F#4, G4, A#4
G	Japanese Minor	C4, C#4, F4, G4, A#4
G#	Ryukyu Scale	C4, E4, F4, G4, B4
A	Bari Scale	C4, C#4, D#4, G4, G#4
A#	Spanish Scale	C4, C#4, E4, F4, G4, G#4, A#4
B	Gypsy Scale	C4, C#4, E4, F4, G4, G#4, B4

*   If you wish to modify the key of each chord set, use the Transpose function.*

Appendix

MIDI implementation chart

SYNTHESIZER

Date : May. 1, 2003

Model RS-50

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	1–16 1–16	1–16 1–16	
Mode	Default Messages Altered	Mode 3 X **************	Mode 3 Mode 3, 4 (M = 1)	* 2
Note Number :	True Voice	0–127 **************	0–127 0–127	
Velocity	Note On Note Off	O O	O O	
After Touch	Key's Channel's	X O	O *1 O *1	
Pitch Bend		O	O *1	
Control Change	0, 32 1 5 6, 38 7 8 10 11 12 13 64 65 66 67 71 72 73 74 75 76 77 78 84 91 93 98, 99 100, 101	O *1 O O O O O O O O O O O O O O O O O O O O O X O O X X	O *1 O (Reverb) *1 O (Chorus) *1 O *1 O *1	Bank select Modulation Portamento time Data entry Volume Balance Panpot Expression Effect control 1 Effect control 2 Hold 1 Portamento Sostenuto Soft Resonance Release time Attack time Cutoff Decay time Vibrato rate Vibrato depth Vibrato delay Portamento control General purpose effects 1 General purpose effects 3 NRPN LSB, MSB 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 : Song Select : Tune Request	X X X	X X X	
System Real Time	: Clock : Commands	X X	O *3 X	
Aux Messages	: All Sound Off : Reset All Controllers : Local On/Off : All Notes Off : Active Sensing : System Reset	X X X X O *1 X	O (120, 126, 127) O X O (123–127) O X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1. * 3 Recognized when the Clock Source parameter (SYSTEM) is set to "MIDI."		

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-50: Synthesizer Keyboard (conforms to General MIDI 2 System)

Keyboard

61 keys (with velocity)

[Sound Generator]

Maximum Polyphony

64 voices

Parts

16

> * Two Tones can be assigned to each part (Patch), and can be split or
> layered.

Wave Memory

32 M bytes (16-bit linear equivalent)

Preset Memory

Original Tones: 640
Patches: 640 (RS-50 original: 384, General MIDI 2: 256)
Rhythm Sets: 20 (RS-50 original: 11, General MIDI 2: 9)
Performances: 32

User Memory

Patches: 128

> * Two Tones can be assigned to each Patch.

Rhythm Sets: 2
Performances: 8

Effects

Multi-Effects: 47 types
Reverb: 8 types
Chorus: 8 types

Rhythm Guide

Preset Patterns: 32
Tempo: 5–300 BPM (with tap tempo function)

Multi-Chord Memory

Preset Chord Sets: 16

> * 12 chord forms are assigned to each set.

User Chord Sets: 8

> * 12 chord forms can be assigned to each set.

Phrase/Arpeggio

Templates: 342
User Templates: 8
Styles (Variations): 473

Controllers

D Beam Controller: 1
Pitch Bend/Modulation Lever: 1
Control Knobs: 5

Display

20 characters, 2 lines (Backlit LCD)

Connectors

Output Jacks (L/MONO, R)
Headphones Jack
MIDI Connectors (IN, OUT)
Hold Pedal Jack
Control Pedal Jack

Power Supply

DC 9 V (AC Adaptor)

Current draw

1,000 mA

Dimensions

1,033 (W) x 294 (D) x 103 (H) mm
40-11/16 (W) x 11-5/8 (D) x 4-1/16 (H) inches

Weight

5.5 kg/12 lbs 3 oz (excluding AC adaptor)

Accessories

Owner's Manual
AC Adaptor (ACI Series or PSB-1U)
CD-ROM (Editor program for PC/Mac)

Options

Pedal Switch: DP-2, DP-8
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.

Appendix

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
9, EBN Hagar A1 Askalany Street,
ARD E1 Golf, Heliopolis,
Cairo 11341, EGYPT
TEL: 20-2-417-1828

REUNION
Maison FO - YAM Marcel
25 Rue Jules Hermann,
Chaudron - BP79 97 491
Ste Clotilde Cedex,
REUNION ISLAND
TEL: (0262) 218-429

SOUTH AFRICA
That Other Music Shop (PTY) Ltd.
11 Melle St., Braamfontein,
Johannesbourg, SOUTH AFRICA

P.O.Box 32918, Braamfontein 2017
Johannesbourg, SOUTH AFRICA
TEL: (011) 403 4105

Paul Bothner (PTY) Ltd.
17 Werdmuller Centre,
Main Road, Claremont 7708
SOUTH AFRICA

P.O.BOX 23032, Claremont 7735,
SOUTH AFRICA
TEL: (021) 674 4030

ASIA

CHINA
Roland Shanghai Electronics Co.,Ltd.
5F. No.1500 Pingliang Road
Shanghai 200090, CHINA
TEL: (021) 5580-0800

**Roland Shanghai Electronics Co.,Ltd.
(BEIJING OFFICE)**
10F. No.18 Anhuaxili
Chaoyang District, Beijing 100011
CHINA
TEL: (010) 6426-5050

**Roland Shanghai Electronics Co.,Ltd.
(GUANGZHOU OFFICE)**
2/F., No.30 Si You Nan Er Jie Yi
Xiang, Wu Yang Xin Cheng,
Guangzhou 510600, CHINA
Tel: (020) 8736-0428

HONG KONG
**Tom Lee Music Co., Ltd.
Service Division**
22-32 Pun Shan Street, Tsuen
Wan, New Territories,
HONG KONG
TEL: 2415 0911

Parsons Music Ltd.
8th Floor, Railway Plaza, 39
Chatham Road South, T.S.T,
Kowloon, HONG KONG
TEL: 2333 1863

INDIA
Rivera Digitec (India) Pvt. Ltd.
409, Nirman Kendra Mahalaxmi
Flats Compound Off. Dr. Edwin
Moses Road, Mumbai-400011,
INDIA
TEL: (022) 2493 9051

INDONESIA
PT Citra IntiRama
J1. 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) 2144-3333

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: 6846-3676

CRISTOFORI MUSIC PTE LTD
Blk 3014, Bedok Industrial Park E,
#02-2148, SINGAPORE 489980
TEL: 6243-9555

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
Suite DP-8
40 Ba Huyen Thanh Quan Street
Hochiminh City, VIETNAM
Tel: (08) 930-1969

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 Ltd.
32 Shaddock Street, Mount Eden,
Auckland, NEW ZEALAND
TEL: (09) 3098 715

CENTRAL/LATIN AMERICA

ARGENTINA
Instrumentos Musicales S.A.
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