Roland®

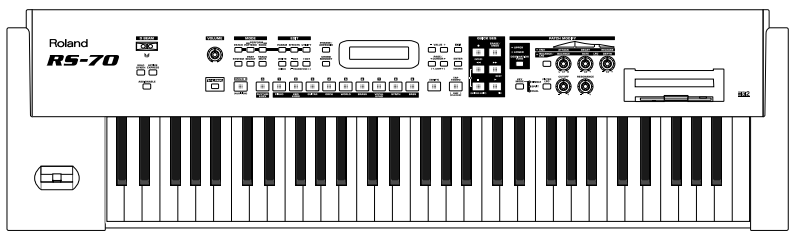
GENERAL MIDI2

RS-70

Owner's Manual

Thank you, and congratulations on your choice of the Roland RS-70.

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.



For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL
BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

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.
- Use only the attached power-supply cord.
- 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.

⚠ WARNING

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

- Immediately turn the power off, remove the AC adaptor from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
  - The AC adaptor, the power-supply cord, or the plug has been damaged; or
  - 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 plug on the AC adaptor cord when plugging into, or unplugging from, an outlet or this unit.

- Any accumulation of dust between the AC adaptor and the power outlet can result in poor insulation and lead to fire. Periodically wipe away such dust with a dry cloth. Also, disconnect the power plug from the power outlet whenever the unit is to remain unused for an extended period of time.

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

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

- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet (p. 19).

- 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.
- Observe the following when using the unit's floppy disk drive. For further details, refer to "Before Using Floppy Disks" (p. 5).
  - Do not place the unit near devices that produce a strong magnetic field (e.g., loudspeakers).
  - Install the unit on a solid, level surface.
  - Do not move the unit or subject it to vibration while the drive is operating.
- 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.

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, all of 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 on a floppy disk, or other devices.
- Unfortunately, it may be impossible to restore the contents of data that was stored on a floppy disk, or in the unit's memory 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.

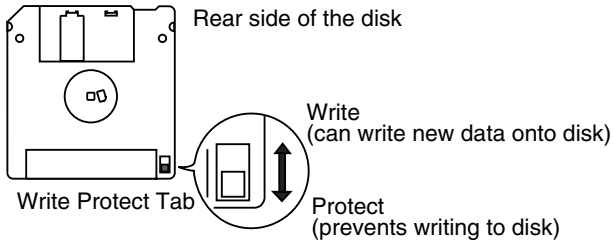
Before Using Floppy Disks

Handling the Floppy Disk Drive

- Install the unit on a solid, level surface in an area free from vibration. If the unit must be installed at an angle, be sure the installation does not exceed the permissible range: upward, 2°; downward, 18°.
- Avoid using the unit immediately after it has been moved to a location with a level of humidity that is greatly different than its former location. Rapid changes in the environment can cause condensation to form inside the drive, which will adversely affect the operation of the drive and/or damage floppy disks. When the unit has been moved, allow it to become accustomed to the new environment (allow a few hours) before operating it.
- To insert a disk, push it gently but firmly into the drive—it will click into place. To remove a disk, press the EJECT button firmly. Do not use excessive force to remove a disk which is lodged in the drive.
- Never attempt to remove a floppy disk from the drive while the drive is operating (the indicator is lit); damage could result to both the disk and the drive.
- Remove any disk from the drive before powering up or down.
- To prevent damage to the disk drive's heads, always try to hold the floppy disk in a level position (not tilted in any direction) while inserting it into the drive. Push it in firmly, but gently. Never use excessive force.
- To avoid the risk of malfunction and/or damage, insert only floppy disks into the disk drive. Never insert any other type of disk. Avoid getting paper clips, coins, or any other foreign objects inside the drive.

Handling Floppy Disks

- Floppy disks contain a plastic disk with a thin coating of magnetic storage medium. Microscopic precision is required to enable storage of large amounts of data on such a small surface area. To preserve their integrity, please observe the following when handling floppy disks:
  - Never touch the magnetic medium inside the disk.
  - Do not use or store floppy disks in dirty or dusty areas.
  - Do not subject floppy disks to temperature extremes (e.g., direct sunlight in an enclosed vehicle). Recommended temperature range: 0 to 50° C (50 to 122° F).
  - Do not expose floppy disks to strong magnetic fields, such as those generated by loudspeakers.
- Floppy disks have a "write protect" tab which can protect the disk from accidental erasure. It is recommended that the tab be kept in the PROTECT position, and moved to the WRITE position only when you wish to write new data onto the disk.



- The identification label should be firmly affixed to the disk. Should the label come loose while the disk is in the drive, it may be difficult to remove the disk.
- Store all disks in a safe place to avoid damaging them, and to protect them from dust, dirt, and other hazards. By using a dirty or dust-ridden disk, you risk damaging the disk, as well as causing the disk drive to malfunction.

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

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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.

An emphasis has also been placed on sounds important for music production, such as guitar, bass, drums, and a variety of analog sounds.

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-70, 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.

"Quick Sequencer" for easy operation

The built-in loop-based **QUICK SEQ** (quick sequencer) is designed for intuitive operation. You can create songs or arrangements simply by layering phrases as you think of them. There's no need to be aware of MIDI settings—creating songs is quick and stress-free. Patterns you create can be connected to create a song.

For those who have no prior experience with MIDI equipment—as well as for experts—the RS-70 is the ideal way to capture your musical ideas.

Numerous rhythm patterns and phrase templates

The loop sequencer contains a variety of preset rhythm patterns covering styles such as R&B, hip-hop, jazz, rock, and techno. In addition, the "**phrase template**" function makes it easy to produce phrases and playing techniques typical of each sound, simply by pressing a key. By using these two features together, you can produce music even more efficiently.

USB connector for connection to your PC

The rear panel has a USB connector for direct connection to your computer. You can immediately start using the included sound editor software or your own commercial sequencer software, without having to provide a USB-MIDI interface.

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. By using this in conjunction with the Quick Sequencer, you can easily create patterns with your favorite chord progressions.

V-LINK function

V-LINK (V-LINK) is a function that provides for the play of music and visual material. By using V-LINK-compatible video equipment, visual effects can be easily linked to, and made part of the expressive elements of a performance. By connecting the RS-70 to the Edirol DV-7PR or V-4, you can switch images in synchronization with music, or use the RS-70's knobs and Pitch Bend/Modulation Lever to control the brightness, color, or playback speed of the images.

Compact and easy to carry

The RS-70 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.

General MIDI

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

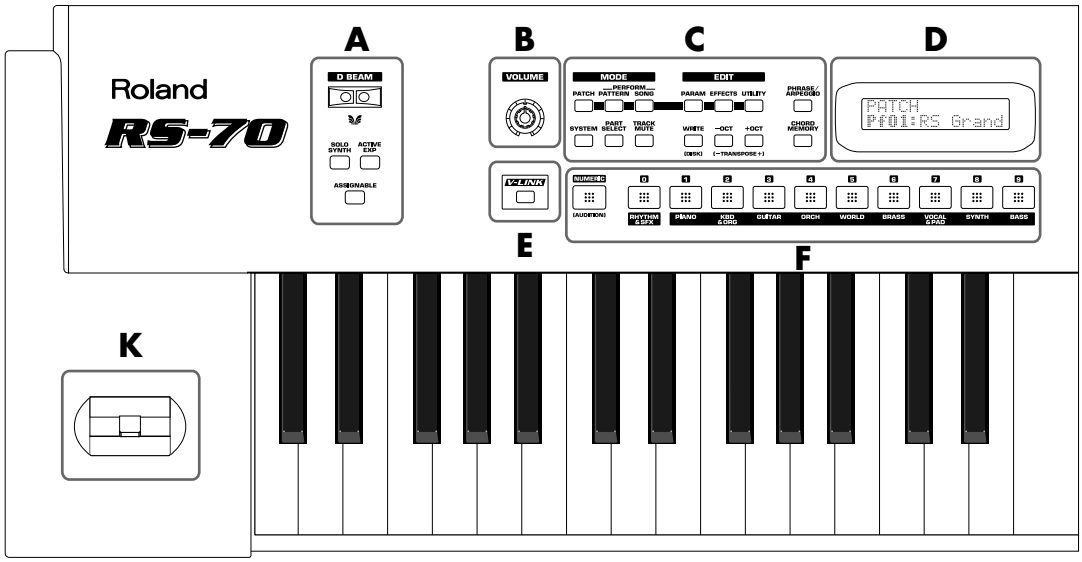
General MIDI 2

The upwardly compatible General MIDI 2 (GENERAL midi2) recommendations pick up where the original General MIDI left off, offering enhanced expressive capabilities, and even greater compatibility. Issues that were not covered by the original General MIDI recommendations, such as how sounds are to be edited, and how effects should be handled, have now been precisely defined. Moreover, the available sounds have been expanded. General MIDI 2 compliant sound generators are capable of reliably playing back music files that carry either the General MIDI or General MIDI 2 logo.

In some cases, the conventional form of General MIDI, which does not include the new enhancements, is referred to as "General MIDI 1" as a way of distinguishing it from General MIDI 2.

Panel descriptions

Front panel



A

D BEAM CONTROLLER

You can apply a variety of effects to patterns and patches simply by moving your hand (p. 35).

[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. 37).

B

[VOLUME] knob

Adjusts the overall volume that is output from the rear panel OUTPUT jacks and PHONES jack (p. 18).

C

MODE Section

[PATCH] button

Switches the RS-70 into the Patch mode (p. 53).

[PATTERN] button

Switches the RS-70 into the Pattern mode (p. 53).

[SONG] button

Switches the RS-70 into the Song mode (p. 53).

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/Pattern/Song) or state.

[EFFECTS] button

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

[UTILITY] button

In Patch/Pattern/Song 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-70, such as tuning, display contrast, and MIDI message reception.

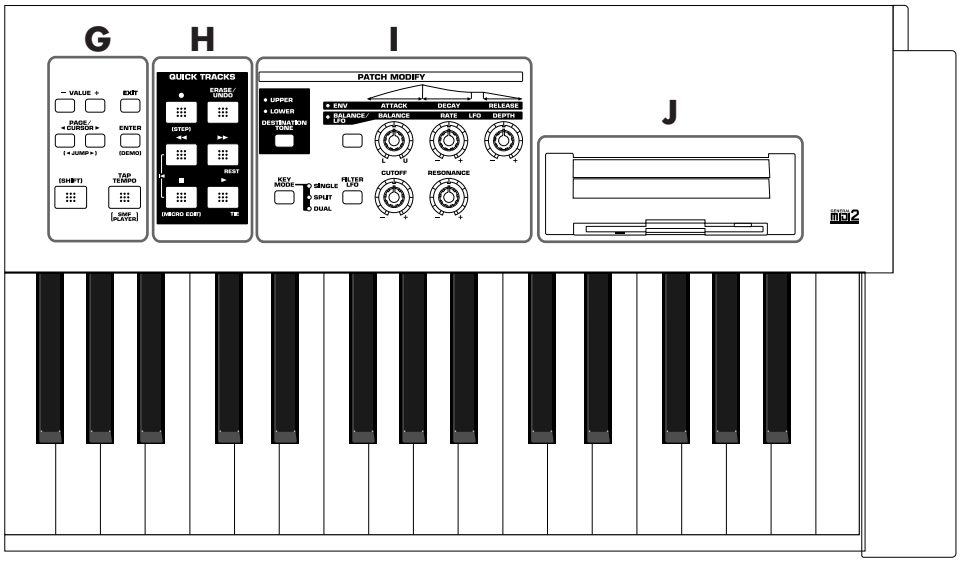
[PART SELECT] button

When this button is lit, you can use the direct access buttons to select a part to play from the keyboard or to edit (p. 54).

[TRACK MUTE] button

When this button is lit, you can use the direct access buttons to mute (silence) individual parts of the music data that is playing (p. 67).

* *You can manually play a part even when it is muted.*



[WRITE] / [DISK] button

WRITE: Saves patch/pattern/song settings or system settings.

DISK: By holding down [SHIFT] and pressing this button, you can make settings related to the floppy disk (p. 119).

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

- /+OCT: These buttons adjust the pitch of the keyboard in octave steps (maximum +/-3 octaves) (p. 34).

- /+TRANSPOSE: Pressing either of these buttons while holding down [SHIFT] allows you to transpose the keyboard in semitone steps (-5–+6) (p. 35).

[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. 27).

[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. 28).

D

DISPLAY

This displays information regarding the operation you are performing.

E

[V-LINK] button

Switches V-LINK on/off (p. 136).

F

[NUMERIC] / [AUDITION] button

NUMERIC: 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).

AUDITION: By holding down [SHIFT] and pressing this button, you can repeatedly listen to an audition phrase for the currently selected patch (p. 26).

[0]–[9] (DIRECT ACCESS buttons)

In Patch mode, use these buttons to switch between the sound categories printed on the panel (p. 24). In Pattern mode, use these buttons to directly select a pattern to play by specifying the lowest digit of the pattern number (p. 66). However, if the [NUMERIC], [PART SELECT], or [TRACK MUTE] 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, pattern, 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. 53).

JUMP: In grouped pages, you can hold down [SHIFT] and use these buttons to move between groups (p. 53).

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] / [SMF PLAYER] button

TAP TEMPO: 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. 67).

SMF PLAYER: You can hold down [SHIFT] and press this button to select SMF Player mode (p. 47).

H

QUICK SEQ (Quick Sequencer) section

* *The buttons in this section are generally valid in Pattern mode, Song mode and SMF Player mode.*

[●] (Recording) button / STEP button

● : Press this to begin pattern or song recording.

STEP: By holding down [SHIFT] and pressing this button, you can enter Step Recording (p. 75).

[ERASE/UNDO] button

This button erases recorded data or cancels the pattern edit operation. During loop recording, you can use this to selectively erase data just like a pencil eraser (p. 69). Immediately after recording is finished, you can press this button to erase (undo) the recording itself (p. 70). If you press it again, the Undo will be cancelled (redo).

[◄◄] (Backward) button

Press this to "rewind" a pattern or song. If you hold down this button as you press [►►], the pattern or song will "rewind" faster. Or, if you hold down [SHIFT] while using this button, the value will change in larger steps (p. 66, p. 114).

Press this button while holding down [■] to return to the beginning of the pattern or song.

[►►] (Forward) button/REST button

►► : Use this button to fast-forward a pattern or song. If you hold down this button as you press [◄◄], the pattern or song will fast-forward faster. Or, if you hold down [SHIFT] while using this button, the value will change in larger steps (p. 66, p. 114).

REST: During step recording, press this button to input a rest (p. 76).

[■] (Stop) button/MICRO EDIT button

■ : Press this button to stop playback of the pattern or song.

MICRO EDIT: You can hold down [SHIFT] and press this button to use the Microscope edit function (p. 76).

[►] (Play) button/TIE button

► : Press this button to start playback of the pattern or song.

TIE: During step recording, press this button to input a tie (p. 76).

I

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. 32).

[DECAY] knob

Adjusts the speed at which the sound decays while you continue holding the key (p. 32).

[RELEASE] knob

Adjusts the length of the release after you take your finger off the key (p. 32).

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

[BALANCE] knob

Adjusts the LOWER and UPPER volume balance (p. 30).

[LFO RATE] knob

Adjusts the rate of the LFO effect, such as vibrato (p. 31).

[LFO DEPTH] knob

Adjusts the depth of the LFO effect, such as vibrato (p. 31).

[KEY MODE] button

Switches the Key Modes (p. 55).

[FILTER LFO] button

This determines whether the LFO changes the filter cutoff frequency (ON), or the pitch (OFF) (p. 31).

[CUTOFF] knob

Changes the tone's Cutoff Frequency value (p. 33).

[RESONANCE] knob

Changes the tone's Resonance value (p. 33).

J

Floppy disk drive

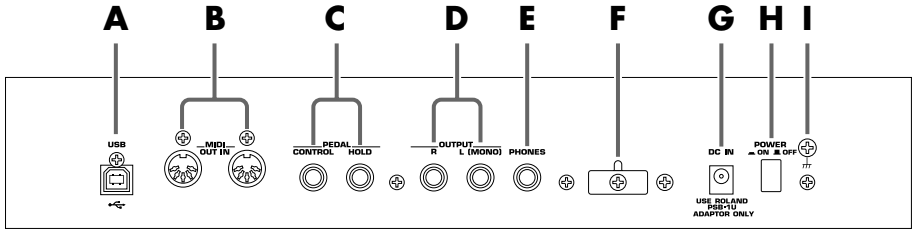
3.5" 2DD/2HD floppy disks can be used. (Hereafter, this manual will refer to "floppy disk" simply as "disk.") To remove the disk, press the eject button located at the right of the disk drive.

K

Pitch bend/Modulation lever

This allows you to control pitch bend or apply vibrato (p. 33).

Rear panel



A

USB connector

This connector lets you use a USB cable to connect your computer to the RS-70 (p. 139).

B

MIDI connectors (IN, OUT)

These connectors can be connected to other MIDI devices to receive and transmit MIDI messages (p. 129). 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.

C

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. 17).

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. 17).

MEMO

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

D

OUTPUT jacks

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

E

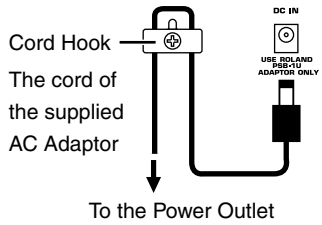
PHONES jack

This is the jack for connecting headphones (sold separately) (p. 17).

F

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.



G

DC IN jack

Connect the AC adaptor here (p. 17).

Be sure to use only the supplied AC adaptor.

H

POWER switch

This switch turns the power on/off (p. 18).

I

Ground terminal

In some cases, depending on the environment in which the unit is installed, the surface of the panel may sometimes feel rough and grainy. 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.

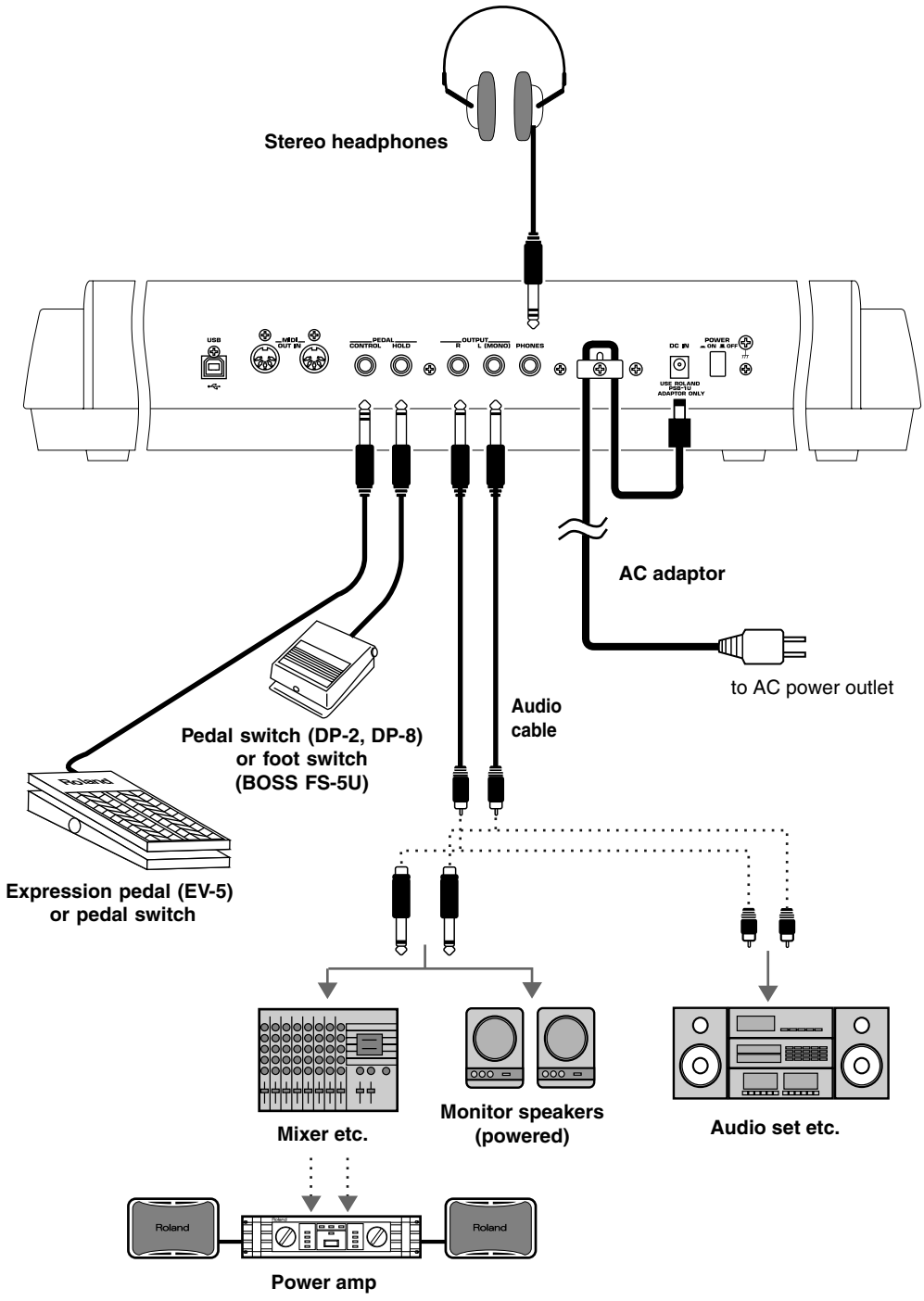
Unsuitable places for connection

- 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-70 to external equipment

The RS-70 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-70 as a stand-alone device.



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-70, and then plug its other end into a power outlet.

NOTE

- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- To prevent the inadvertent disruption of power to your unit (should the plug be pulled out accidentally), and to avoid applying undue stress to the AC adaptor jack, anchor the power cord using the cord hook, as shown in the illustration.
- 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.
- Audio cables, MIDI cables, and stereo headphones are not included. You will need to purchase these items from your dealer.

MEMO

- In order to take full advantage of the RS-70's performance, we recommend using a stereo amp/speaker system, If you are using a mono system, make you connections to the OUTPUT jack L MONO).
- CONTROL PEDAL jack can also accommodate pedal switches.

3. Connect the RS-70 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-70 to play an external MIDI sound module (p. 130)
Playing the RS-70's sound generator from an external MIDI device (p. 131)
Recording to an external sequencer (p. 133)

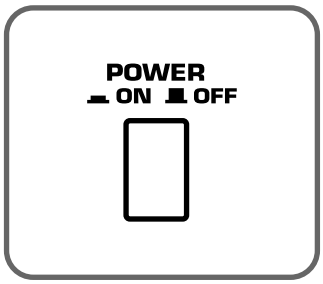
Turning on/off the power

Turning on the power

1. Before turning on the RS-70's power, check the following:

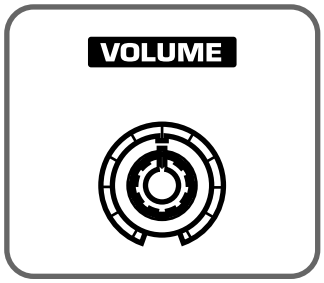
- Are all devices connected properly?
- Are the volume controls of the RS-70 and any other connected equipment turned to the minimum position?
- Is the AC adapter correctly connected to the RS-70?

2. Press the power switch on the rear panel of the RS-70 to turn on the power.



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

4. Play the RS-70's keyboard and gradually raise the volume controls of the RS-70, or the connected audio equipment to an appropriate volume level.



NOTE
Once the connections have been completed (p. 17), 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.

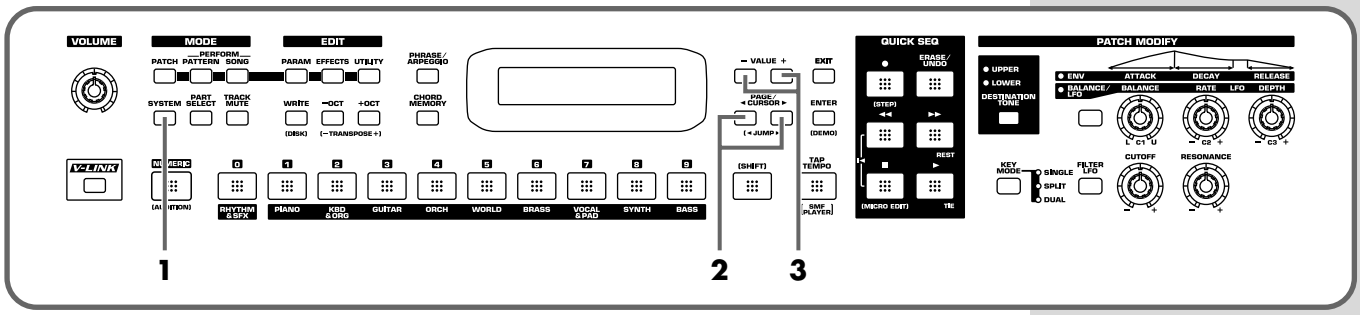
NOTE
Turn up the RS-70's volume level carefully. Excessive volume can damage connected audio devices, your hearing, or annoy your neighbors.

Turning off the power

1. Before you turn off the power, make sure of the following points.
   - Are the volume controls of the RS-70 and the other connected equipment turned to the minimum position?
   - Have you saved the sounds or other data you've created? (p. 59, p. 64, p. 82, p. 115)
2. Turn off the power for all connected audio devices.
3. Turn off the RS-70'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."

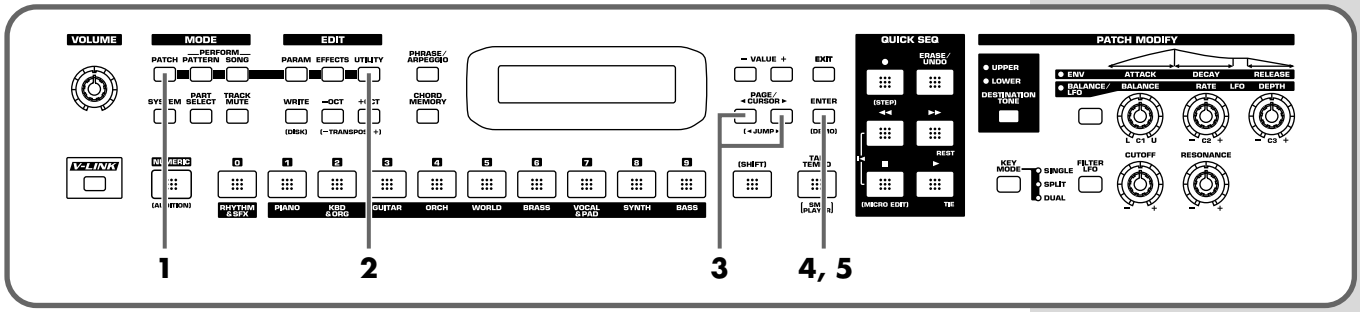
3. Use VALUE [-]/[+] to set the value (1–10).

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-70 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 Factory Reset is being performed, 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."

```
UTIL▮MENU          [ENT]
5:FACTORY RESET
```

4. Press [ENTER].

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

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

NOTE

The Factory Reset operation will require several minutes.

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-70'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 on a disk (p. 120).

MEMO

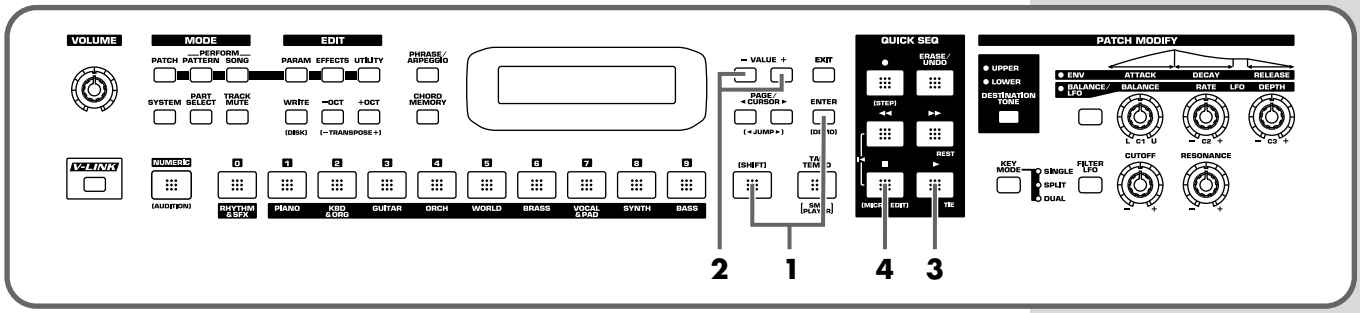
Press [EXIT] to cancel the factory reset.

MEMO

Factory Reset can be executed not only from Patch mode, but also from the Utility functions of Pattern mode or Song mode (p. 90, p. 118).

Listening to the demo songs

The RS-70 contains Demo songs.
Here's how to listen to the demo songs and experience the superb sounds and effects of the RS-70.



1. Press [ENTER] while holding down [SHIFT].

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 [►] 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 [■] to stop playback.

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

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. 59, p. 64, p. 82).
- 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-70 comes with 3 demos.

TightPocket / Ken Suzuki
© Roland Corporation

Crystal Vision / Adrian Scott
© Roland Corporation

Relax Me / Scott Wilkie
© 2003 Scott Wilkie Media (ASCAP)

Memo

Quick Start

Try out the sounds

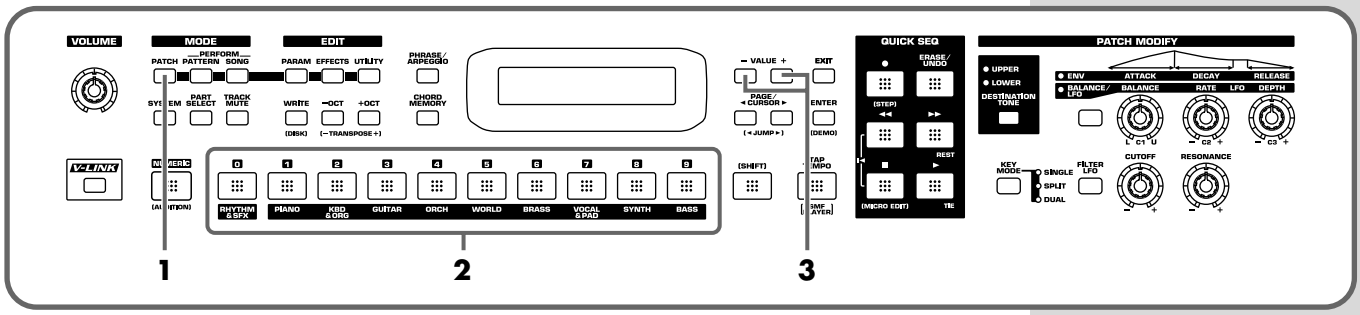
Selecting a patch

On the RS-70, 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. 55), and make independent settings for each tone (p. 57).

■ Selecting a patch by category

The RS-70 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. 26).

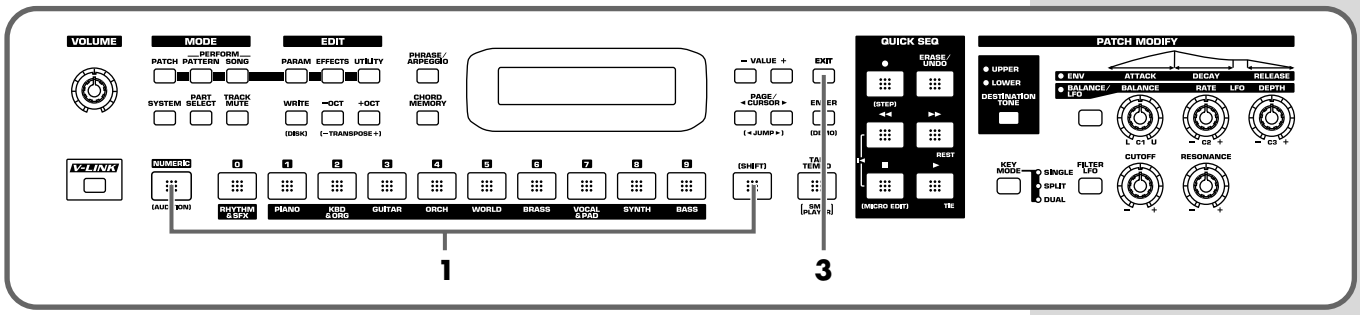
MEMO

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. 54).

Patch List (p. 172)

■ 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. While holding down [SHIFT], press [NUMERIC].

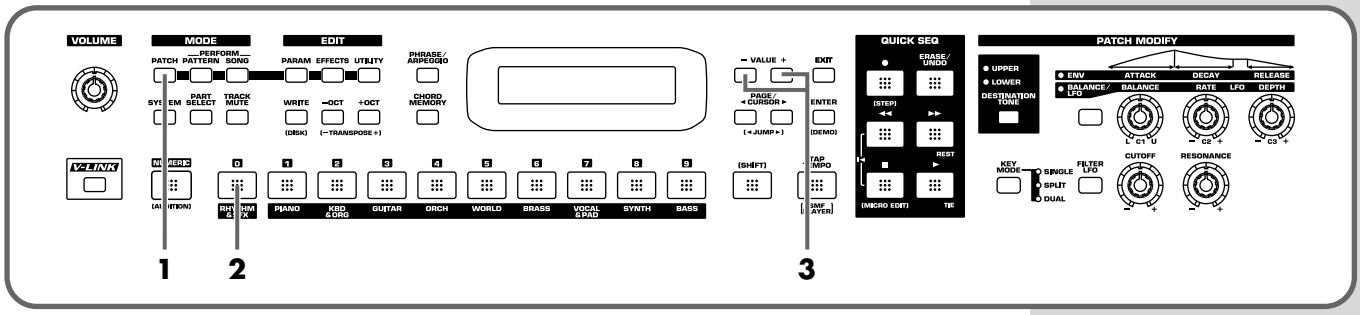
   The currently selected patch will begin sounding.

2. Select patches as described in **Selecting a patch by category** (p. 24).

3. Press [EXIT] to stop the patch audition.

Selecting a rhythm set

The RS-70 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.

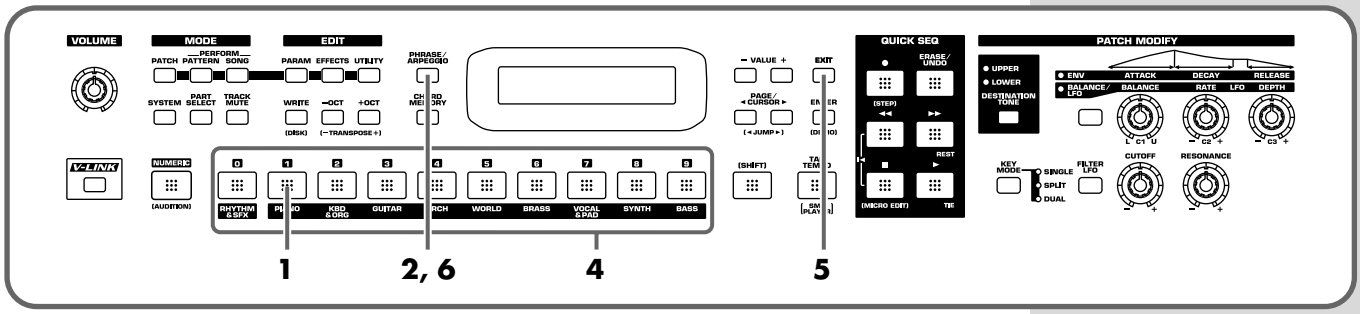
MEMO

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. 54).

Rhythm Set List (p. 178)

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 the Quick Sequencer. Since the RS-70 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. 72).



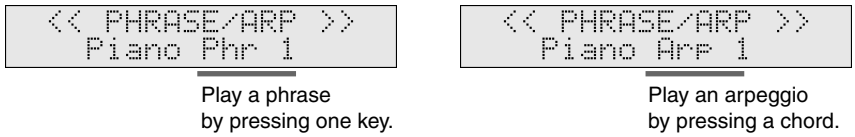
1. In Patch mode, press [1] to select piano sounds.
2. Press [PHRASE/ARPEGGIO] so it is lit.
3. Play the keyboard.

   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.

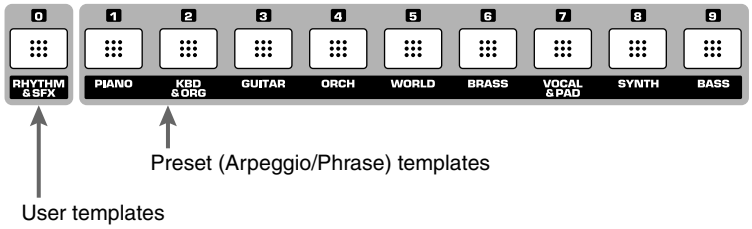
4. Press [0]–[9].



Play a phrase by pressing one key.

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. 28)

Arpeggio Template List (p. 184)

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.

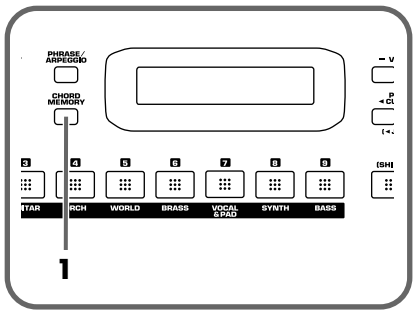
6. To finish playing arpeggios, press [PHRASE/ARPEGGIO] again so the indicator goes out.

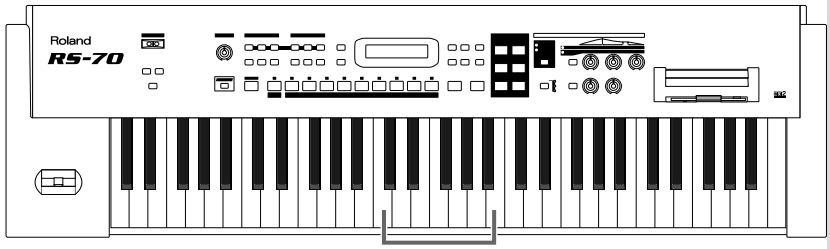
User template

The **user template** lets you set the various arpeggio template parameters as desired. On the RS-70 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. 72).

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-70 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 Quick Sequencer.





Twelve chord forms have been assigned from C to B.

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

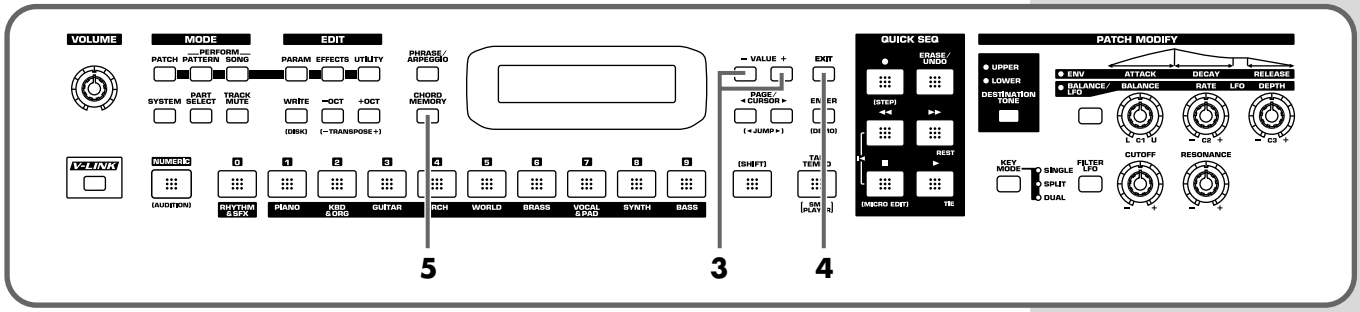
The Chord Memory function will be turned on, and the chord set name will be displayed.

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.

Multi-chord Set List (p. 186)

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. 74).

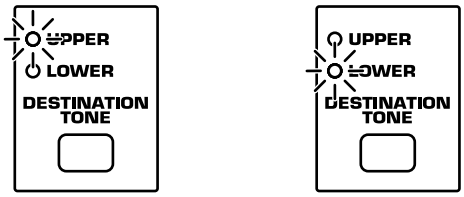
Applying various effects to the sound

Changing the tone with the knobs (Patch Modify)

Using the five panel knobs, you can change the tone in real time.
On the RS-70, each patch consists of two tones; the **upper tone** and the **lower tone** (p. 50). The way that the tones are sounded (Single/Split/Dual) is saved in each patch, and you can change this using [KEY MODE] (p. 55).

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

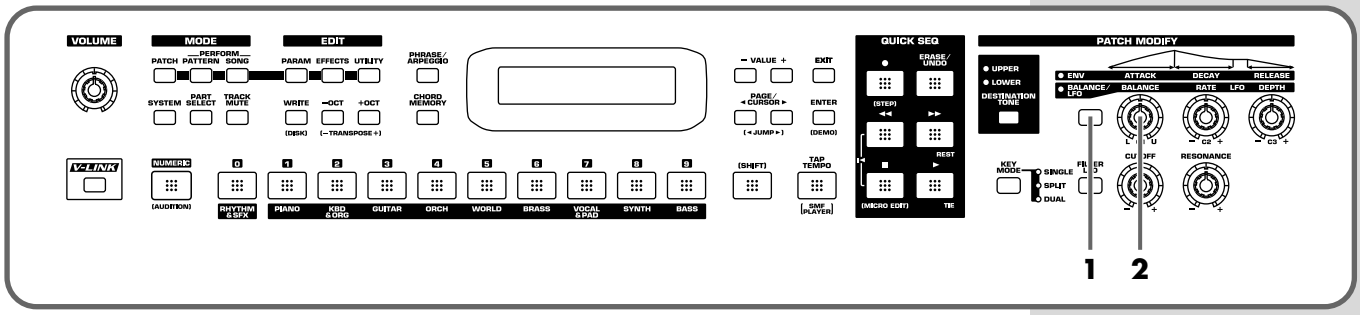
Use the [DESTINATION TONE] button to specify whether you will modify the upper or the lower tone.



- 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

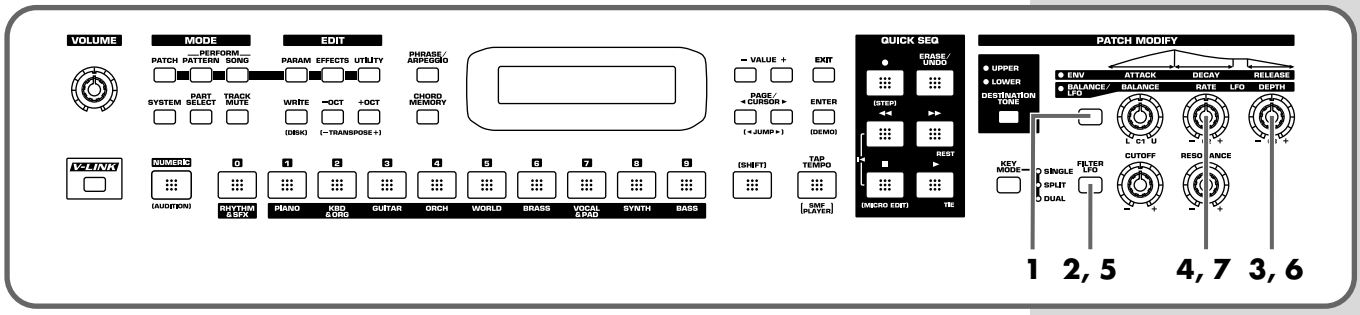
For a rhythm set, Patch Modify applies to the set as a whole.

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.

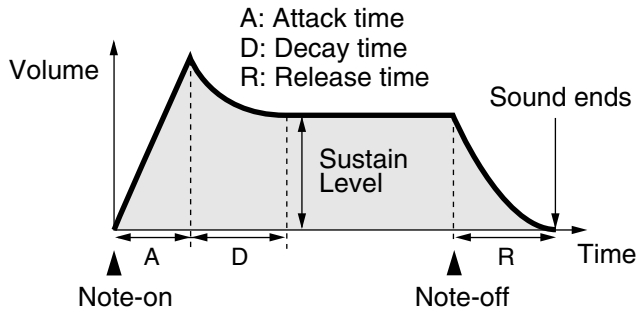
D: Delay Time: The time from when the maximum tonal change is reached until the Sustain Level is reached.

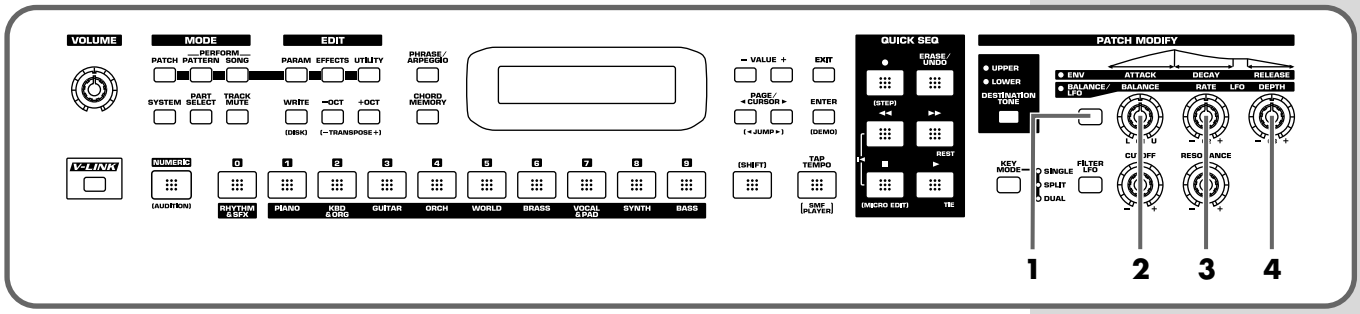
S: Sustain level: Volume that is sustained while you hold down the key

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.*





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.

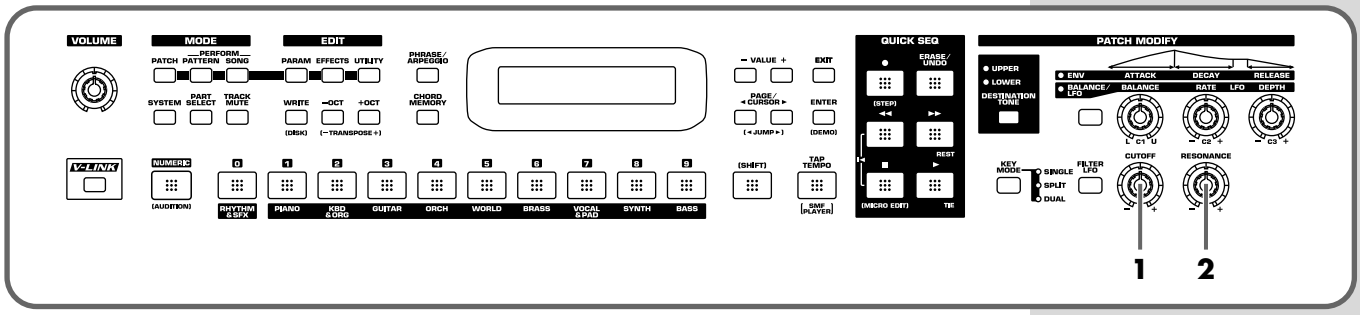
Turning this to the right increases the time it takes for the sound to disappear, while turning it to the left shortens this time.

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.

■ Changing the brightness of the sound and adding special qualities (CUTOFF/RESONANCE)

The sound generator section of the RS-70 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.

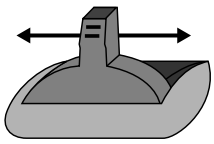
2. Turn the [RESONANCE] knob.

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

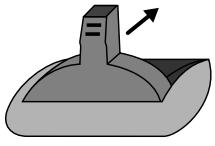
You can set up to a two-octave pitch bend range, adjustable in semitones.
For further information, refer to **Pitch Bend Range** (p. 58).

MEMO

Independently for each patch, you can specify whether the effect is to be applied to the upper or the lower tone (p. 57).

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

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



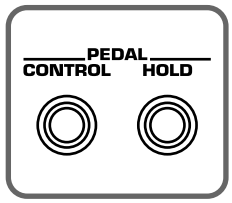
Modulation

When you want to use the Modulation Lever to add effects other than vibrato, refer to **Mod (Modulation Assign)** (p. 126).

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. 126).

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



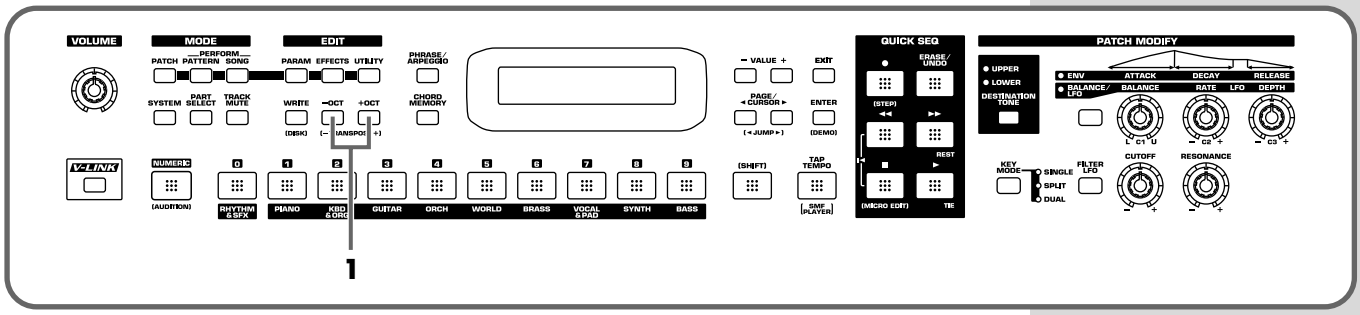
* *When you want to apply the effect that causes the sounds being played to continue playing (called the "hold effect"), connect a pedal switch (the optional DP-2/8) or foot switch (the optional BOSS FS-5U) to the PEDAL HOLD jack.*

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-70 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-70'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

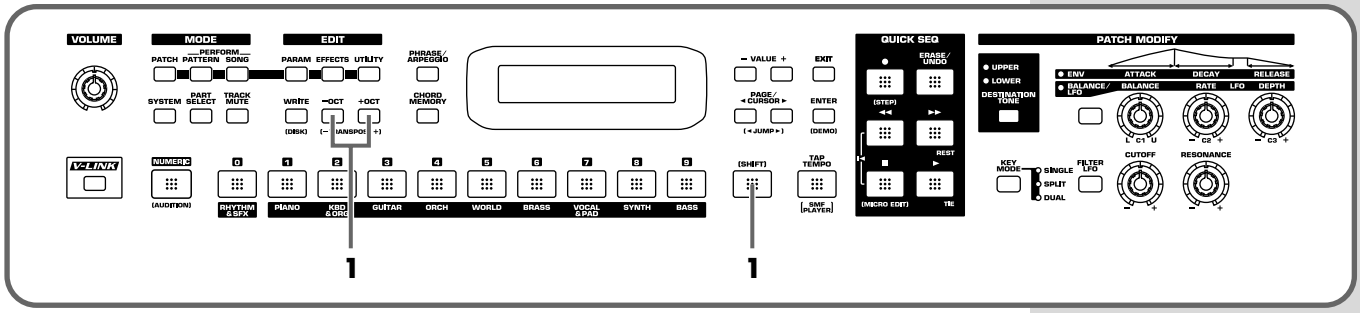
Sometimes melodies may extend outside a vocalist's register. Therefore, if you want to perform with the song changed to a different key, you can play the song in a new key while still using the same fingering as before.

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.

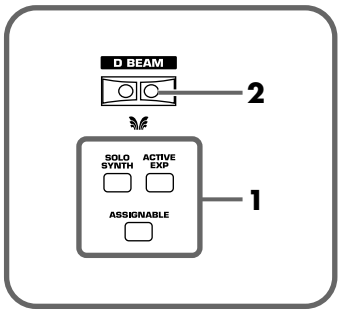


1. While holding down [SHIFT], press OCT [-]/[+].

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

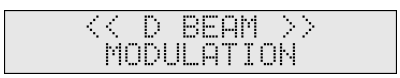
Waving your hand over the D Beam (D Beam Controller)

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.



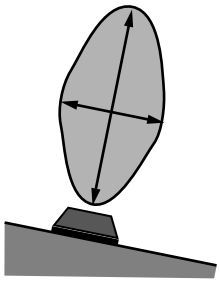
2. While playing the keyboard to produce sound, place your hand over the D Beam, and slowly move it up and down.

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. 38). 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. 38).

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. 57) 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. 58)
VOLUME	CC07	Level
BALANCE	CC08	The volume balance of LOWER and UPPER tones (p. 56)
PAN	CC10	Pan (p. 57)
EXPRESSION	CC11	Level
PORTAMENTO	CC65	Portamento Switch (p. 58)
SOSTENUTO	CC66	Holds the sound of the key being pressed
SOFT	CC67	Softens the Tone
RESONANCE	CC71	Tone Filter Resonance (p. 59)
RELEASE TIME	CC72	Tone Envelope Release Time (p. 59)
ATTACK TIME	CC73	Tone Envelope Attack Time (p. 59)
CUTOFF	CC74	Tone Filter Cutoff (p. 58)
DECAY TIME	CC75	Tone Envelope Decay Time (p. 59)
LFO RATE	CC76	Tone LFO Rate (p. 58)
LFO DEPTH	CC77	Tone LFO Depth (p. 58)
LFO DELAY	CC78	Tone LFO Delay (p. 58)
CHO SEND LEVEL	CC93	Chorus Send Level (p. 57)
REV SEND LEVEL	CC91	Reverb Send Level (p. 57)
MFX PARAMETER1	CC12	The parameter specified by Multi-effect Control 1 (p. 95)
MFX PARAMETER2	CC13	The parameter specified by Multi-effect Control 2 (p. 95)
AFTERTOUCH	----	
BEND UP	----	Pitch bend effect (center → up)
BEND DOWN	----	Pitch bend effect (center → down)
SEQ START/STOP	----	Starts and stops the Quick Sequencer

In Patch mode, the effect will apply to the patch. In Pattern mode, the effect will apply to the patch assigned to the current part. Use [DESTINATION TONE] to specify the tone (p. 30).
"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.

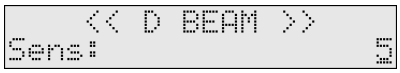
* *When set to MFX PARAMETER1 or MFX PARAMETER2, be sure to note the following.*
- *When the multi-effects Type is set to 01: STEREO EQ (p. 95) or 42: LOFI (p. 109), Level is changed regardless of whether MFX PARAMETER1 or MFX PARAMETER2 is selected.*
- *When the multi-effects Type is set to 23: 2V PCH SHIFT (p. 103), or 24: FB PCH SHIFT (p. 104), 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."



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."

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-70 effects

Three separate effects are always available in the RS-70. You can independently edit each effect's settings.

Multi-Effects

The RS-70 contains 47 different multi-effects, including distortion and a rotary speaker simulation.

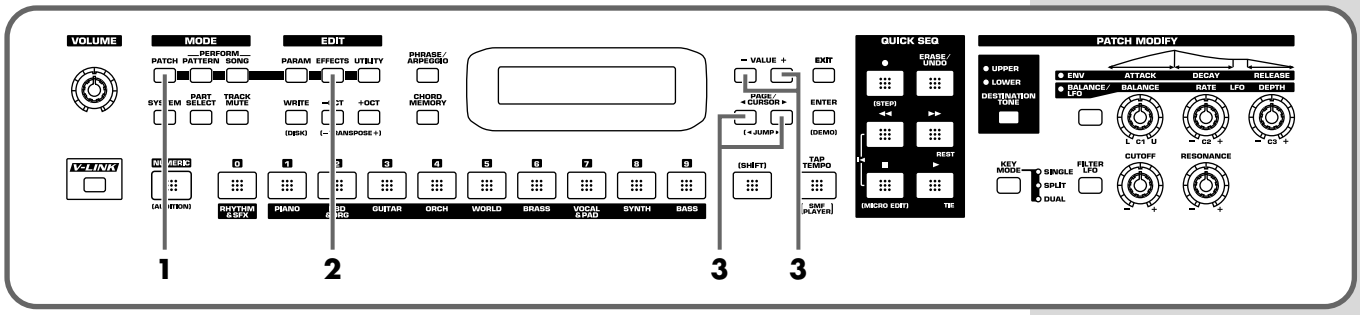
Chorus

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)

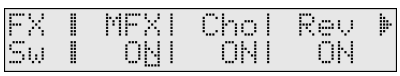


Turn on a switch to enable the corresponding effect (multi-effect, chorus, reverb). You may wish to turn these switches off when you want to listen to the unprocessed sound while editing it, or if you are using an external effects processor and do not want to use the built-in effects.
When shipped from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



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. 93).

MEMO

The On/Off settings for each Effect affect the RS-70 as a whole (i.e., are system settings). This setting remains stored in memory even while the power is off.

Using the sequencer to create a pattern

The RS-70's **QUICK SEQ** (**Quick Sequencer**) provides numerous patterns that play only rhythms. This means that you don't need to input the drums from scratch in order to create your own melodies or patterns. Simply play the keyboard while you listen to a rhythm pattern repeat, and practice until you find a bass or melodic line you like. When you have come up with something, add layers for additional parts to create your own original pattern. Patterns that you create in this way can be connected to make a longer song.
The RS-70 makes it easy for you to create songs. While continuing the looped playback, you can change the part you are recording, switch sounds, or even continue deleting the previous take in real time until you are satisfied.

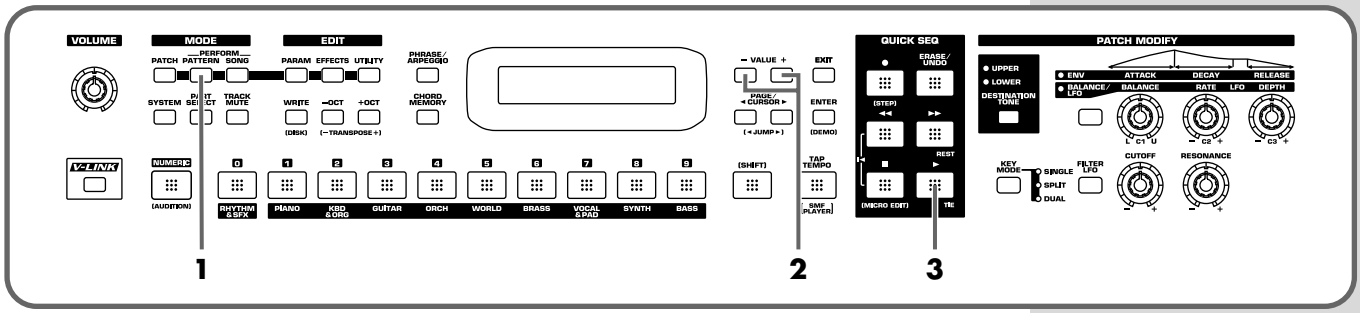
Creating a new pattern based on a preset rhythm pattern

The RS-70 lets you save 256 user patterns (001–256). The first 128 of these (001–128) are already occupied by **preset patterns**. (You can also edit and overwrite them as user patterns.) Preset patterns 010–119 consist only of rhythm sounds.
Here's how you can start with a preset rhythm pattern, and add additional non-rhythm parts.

This chapter explains how to create a pattern like the following.

1. Select a preset pattern.
2. Recording the bass part.
3. Recording the solo (synth) part.

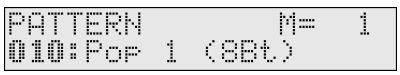
1. Select a preset pattern



1. Press [PATTERN] so it is lit and you are in Pattern mode.

   The currently selected pattern name will be displayed.

2. Use VALUE [-]/[+] to select "010:POP 1 (8Bt)."

3. Press [►] to play the pattern.

   The pattern will play the rhythm part repeatedly until you press [■] or switch patterns.

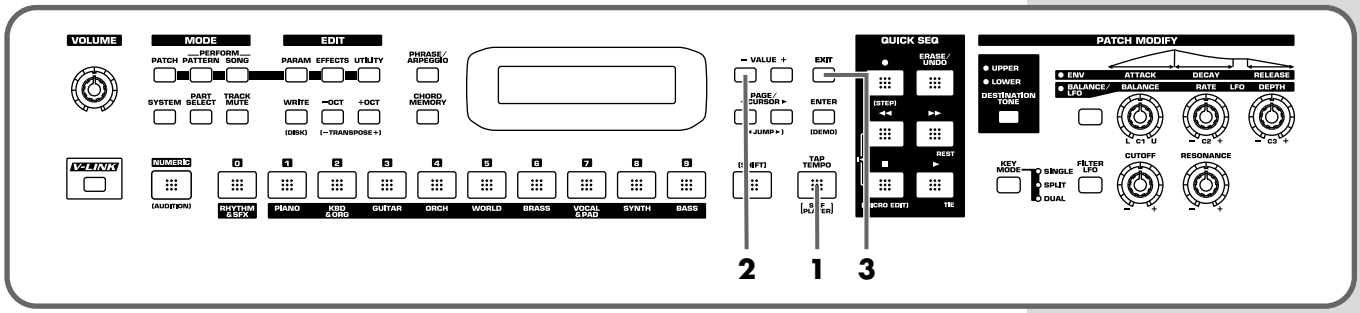
MEMO

At this time, make sure that both [PART SELECT] and [TRACK MUTE] are unlit.

MEMO

There are various convenient ways to select a pattern in addition to using VALUE [-]/[+]. For more about selecting patterns, refer to **Selecting a pattern to play back** (p. 66).

2. Set 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.

2. Use VALUE [-] to adjust the tempo to "90."

You can change the BPM before or after the recording.

Here, we've set the tempo slower than that of the original so the keyboard can be played slowly, but if you find it difficult to play at this tempo, you can change it to any value you like.

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

MEMO

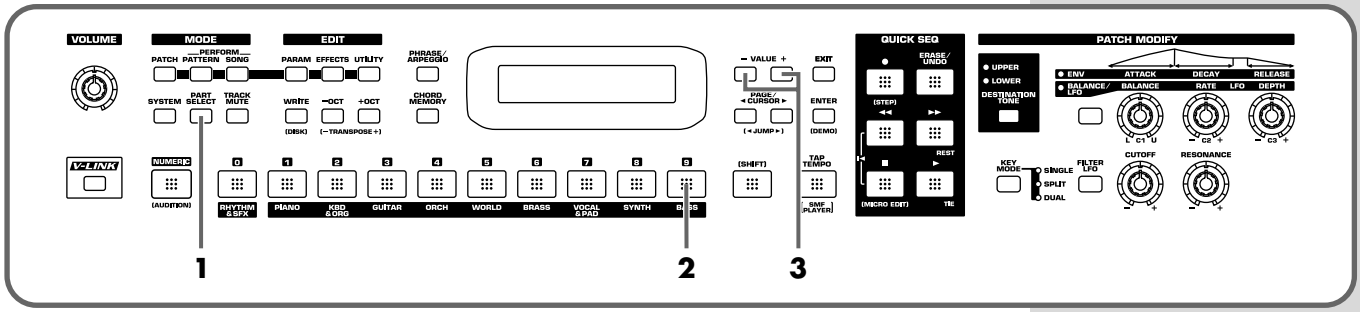
You can also set the tempo by tapping [TAP TEMPO] (p. 67).

MEMO

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

3. Record the bass part

Next, record (overdub) the bass part while you listen to the rhythm.



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

2. Press [9].

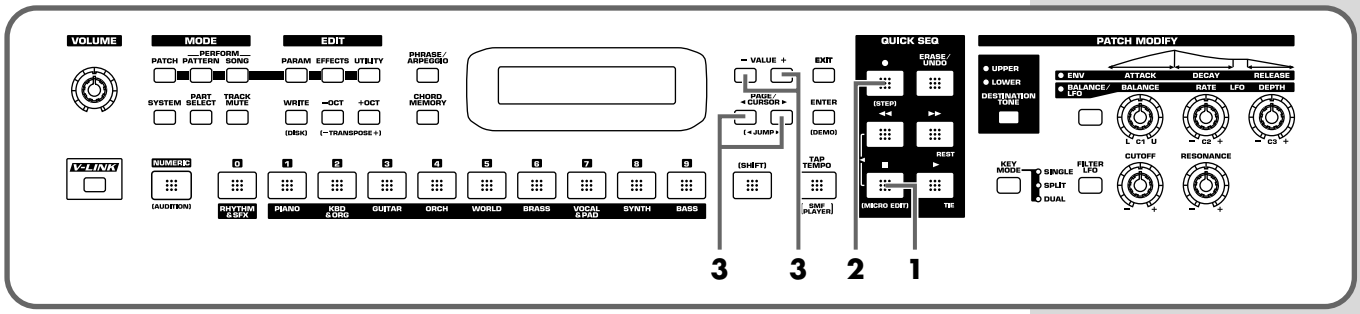
The button will light, and the part 9 is selected.

3. Use VALUE [-]/[+] to select your favorite patch.

Selecting a part (p. 54)

You can only select patches from the category that is assigned to the part you are recording. If you want to use a patch from another category, you must assign that category to the part to be recorded. You can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to step through the categories assigned to [0]–[9]. For details, refer to **Assigning patches of the same category to multiple buttons** (p. 68).

4. Recording standby



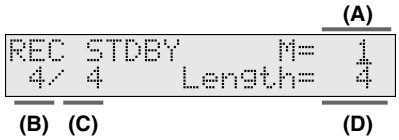
1. If the pattern is playing, stop the pattern.

2. Press [●].

The button will blink and you will be in the recording standby state.
If you do not want to record, press [■].

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

Here you do not need to change the value.



Values

A: Specify the measure location at which recording will begin. Normally, you will start from 1.

B/C: Specify the time signature of the pattern. As you are using a preset pattern, this cannot be changed.

D: Specify the number of measures that you want to record. This time, you can leave this at the length of the preset pattern.
If for some reason you want to change this, it can be set longer than the number of measures in the preset pattern, but cannot be set to a shorter number.

Deleting unwanted measures (PTN DELETE) (p. 84)

5. Begin recording

Finally, you are ready to begin recording.

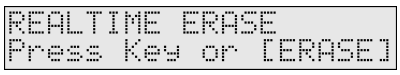
1. Press [►] to begin recording.

Recording will begin as specified by the Count In setting (p. 71). When the recording starts,[●] will light.
Play the keyboard along with the drum sounds of the preset pattern.
When the specified number of measures have finished playing, playback will continue repeating from the beginning of the pattern, allowing you to listen to the performance that you just recorded.

6. If you make a mistake (Realtime Erase)

If you made a mistake or were not satisfied with your playing, you can use **realtime erase** to erase the performance that you just recorded.

1. While recording, press [ERASE/UNDO] to select the realtime erase standby state.



2. Erase the unwanted notes.

To erase only specific notes from the notes you just recorded

Hold down the key of the note(s) you want to erase. Note data of that key will be erased while you continue holding down the key.

If you hold down two or more keys, all note data between the lowest and highest keys will be erased while you continue holding down the keys.

To erase all of the notes you just recorded

Press [ERASE/UNDO]. All the musical data of the current part will be erased while you continue holding down the button.

In either case, you will return to the realtime erase standby state when you release the key(s) or button.

3. Press [EXIT] to return to recording.

If you press [■], recording itself will end.

7. Record the synth part

8. Practice before you record (Recording Rehearsal)

When you have come up with a bass phrase that you like, you can then record the synth part.
From the recording state, press [●] once again. [●] will blink, and you will be in the **recording rehearsal** state. Operation is the same as during normal recording, but the data will not actually be recorded. In other words, you can listen to the looped playback while choosing the next sound or practicing your playing.

MEMO
You can sound the metronome while recording (p. 125).

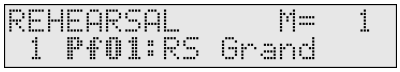
MEMO
You can apply realtime quantization to correct the timing of your performance (Quantize Mode; p. 71).

Recording with the phrase/arpeggio function

Using chord memory to record (p. 74)

1. Press [●] in the recording state.

[●] will blink, and you will be in the recording rehearsal state.



2. Press [8].

The button will light, and part 8 will be selected.

Selecting a part (p. 54)

3. Use VALUE [-]/[+] to select your favorite patch.

Play the keyboard to practice the part that you will record next while you listen to the drums and bass.

4. Press [●] again.

[●] will light, and recording will begin.
If you press [■] when in the recording rehearsal state, you will exit the recording state itself.

9. Repeat steps 5.–8.

If you want to record additional parts, repeat steps 5–8.

Realtime erase can also be used even after you have recorded other parts. Use [0]–[9] to select the part that contains the data you want to erase. Then erase the data as described in step 6.

NOTE
You cannot change parts while actually erasing data.

10. Stop recording

When you have completed your pattern, press [■] to stop recording.
If after you stop recording, you decide that you are not satisfied with your previous realtime recording, you can return to the state prior to recording (Undo) or cancel the Undo operation to bring back the prior state (Redo). For details, refer to **Undo/redo the previous recording operation** (p. 70).

11. Re-set the tempo

Change the tempo you specified for recording in step 2 back to the original tempo.

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

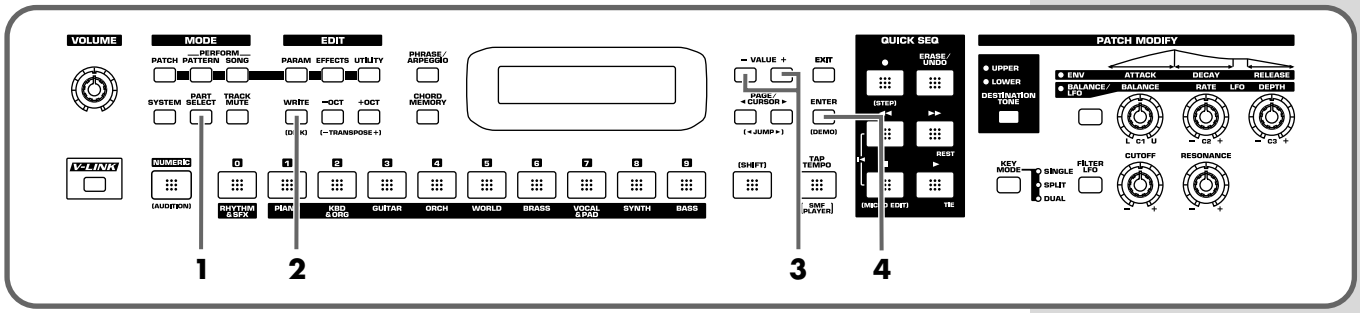
The current tempo of the pattern will be displayed.

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

Press [►] to play back the pattern, and check the modified tempo. You can change the tempo even while the pattern is playing. Set the tempo as desired.

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

12. Saving your pattern



A pattern you create will be lost when you turn off the power of the RS-70 unless you have saved it.
When you have created a pattern that you like, be sure to save it.
Use the following procedure to save a pattern that you recorded.

1. Press [PART SELECT] so the indicator goes out.

2. Press [WRITE].

```
WRITE:PTN          [ENT]
To: 010:Pop 1 (8Bt.)
```

Initially, the number of the preset pattern you selected will be displayed. Although you are free to overwrite the data onto this number, this will make it difficult to return to the original state in which it contained only the rhythm pattern. For this example, we will save the data in a new number that currently contains no data.

3. Use VALUE [-]/[+] to specify the pattern number (001–256) in which you want to save your pattern.

Select "129."

```
WRITE:PTN          [ENT]
To: 129:
```

Numbers in which no data has been saved will be displayed as shown above.
If data has already been saved in "129," use VALUE [+]/[-] to select a number that does not contain data.

NOTE

Be aware that if you save data in a pattern number (including a preset pattern; 001–128) that already contains data, all of the settings it originally contained will be overwritten and lost. To avoid accidentally overwriting data, we recommend that you always assign a name to a new pattern that you create.
By using the Factory Reset operation (p. 20) you can restore the modified preset patterns.

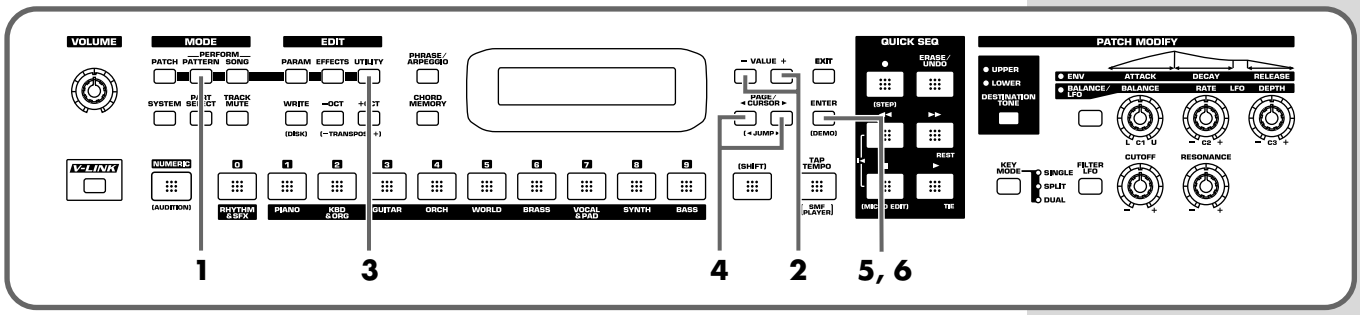
4. Press [ENTER].

When the pattern has been saved, the display will indicate "COMPLETED."
If you want to rename the pattern, refer to p. 79.

MEMO

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

Creating a pattern from scratch (Pattern Initialize)



If you want to create a pattern completely from scratch (i.e., without using a preset pattern), you must first create a blank pattern by initializing a pattern.

NOTE

Be aware that when you initialize a pattern (including a preset pattern; 001–128) that already contains data, all of the settings it contained will be lost.
By using the Factory Reset operation (p. 20) you can restore the modified preset patterns.

1. Press [PATTERN] so it is lit and you are in Pattern mode.
2. Use VALUE [-]/[+] to select a pattern number to be initialized.
3. Press [UTILITY].
4. Use PAGE/CURSOR [◄]/[►] to select "11:PTN INIT."

5. Press [ENTER].
6. Press [ENTER] again to execute the pattern initialization.

When the display indicates "COMPLETED," the pattern initialize operation has been completed.
Now you can simply repeat steps 2 and following of **Creating a new pattern based on a preset rhythm pattern** (p. 40).

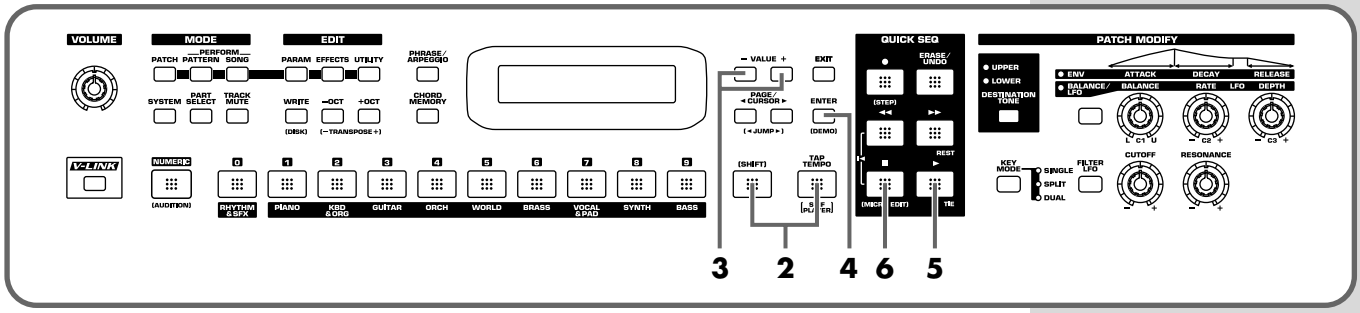
Editing a recorded pattern

A pattern you record can be edited later using a variety of editing functions.
To further polish your pattern, you can edit the pattern parameters (p. 79) or use the microscope (p. 76) to edit individual events of the recorded data.

Playing along with SMF data (SMF Player mode)

Standard MIDI file is a format that allows performance data to be exchanged between many different musical applications.
The RS-70 can playback commercially available General MIDI/General MIDI 2-compatible standard MIDI files.
In this mode, you can directly play back an SMF file stored on a floppy disk without having to load it into the RS-70.
This provides a simple way for you to enjoy **minus-one performance**—listening to an accompaniment provided by music data, muting one of the recorded parts, and playing the muted part yourself.

NOTE
Never attempt to remove a floppy disk from the drive while the SMF data is playing back; damage could result to both the disk and the drive.



1. Insert the disk that contains the SMF files into the disk drive.
2. While holding down [SHIFT], press [TAP TEMPO].

   [SONG] will blink and the RS-70 will be in SMF Player mode.
   And the song titles of the SMF files on the floppy disk will be displayed.

3. Use VALUE [-]/[+] to select an SMF file.
4. Press [ENTER].
5. Press [►] to play back the file.
6. Press [■] to stop play.

MEMO
If no song title has been assigned, the file name will be displayed.

HINT
If you press PAGE/CURSOR [►], the display will always show the file name.

Using minus-one performance

1. In SMF Player mode, press [TRACK MUTE] so it is lit.

   The buttons for all parts will light.
2. Press the button for the part that you want to mute, so it blinks.
3. Press [TRACK MUTE] again so the indicator goes out.
4. Press [PART SELECT] so it is lit, and then press one of the [0]–[9] buttons to select the part that you yourself will play.

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

Selecting a part (p. 54)

Memo

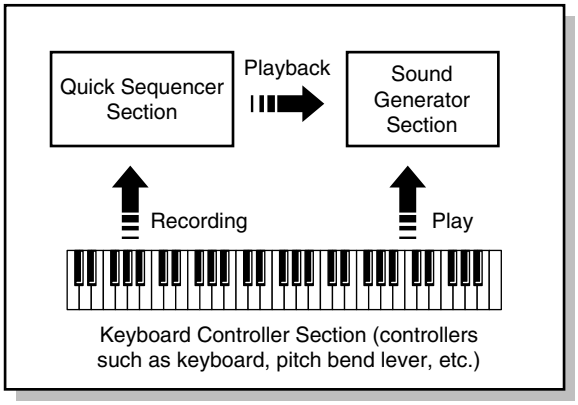
Advanced Use

Overview of the RS-70

How the instrument is organized

Basic structure

Broadly speaking, the RS-70 consists of a **keyboard controller** section, a **sound generator** section, and a **quick sequencer** 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, sequencer section, and/or an external sound device.

Sound generator section

According to the performance data it receives from the Keyboard Controller section and Quick Sequencer 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).

Quick sequencer section

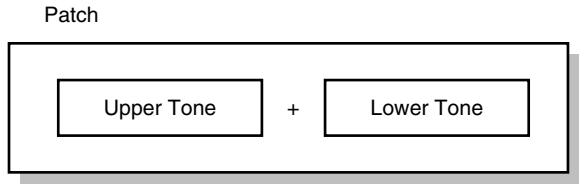
This section records operations such as your keyboard playing on several independent parts, and sends this data to the sound generator section to play it back. A loop recording function makes it easy to create a musical pattern of any desired length. The patterns you create can be connected in any desired order and played as a song.

Classification of RS-70 sound types

When using the RS-70, 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-70, 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.

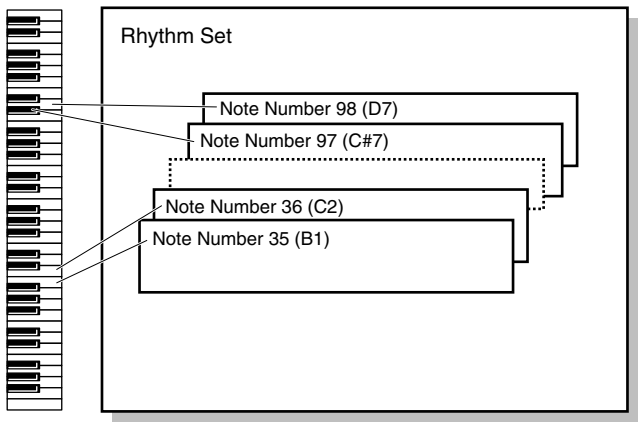


Patches

On the RS-70, 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. 55). Detailed settings can be made independently for each of the two tones (p. 57).

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.



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).

Sequencer

A **sequencer** is a device that records musical performance data, and can play back the performance data that was recorded.
The RS-70 is a sequencer that plays back patterns and adds changes to the playback method. This type of sequencer is referred to as a **pattern sequencer**.

Part

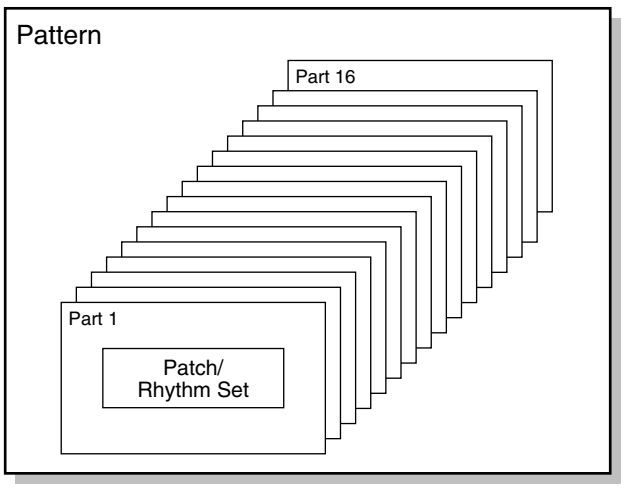
A part corresponds to a single musician in a band or orchestra. Since the RS-70 has sixteen parts, you can use sixteen different patches or rhythm sets to play as many as sixteen performances simultaneously.

Current part

The "current part" is the part that will sound when you play the keyboard; this is the part that your recording and editing will affect. The RS-70 has a total of sixteen parts. For details on how to switch the current part, refer to **"Selecting a part"** (p. 54).

Pattern

A **pattern** is 1–998 measures of performance data consisting of sounds (patches or rhythm sets) for up to 16 parts.



Song

Two or more patterns connected in the order of playback are called a song.
In one song, you can register up to 50 patterns in the desired order of playback.

Number of voices

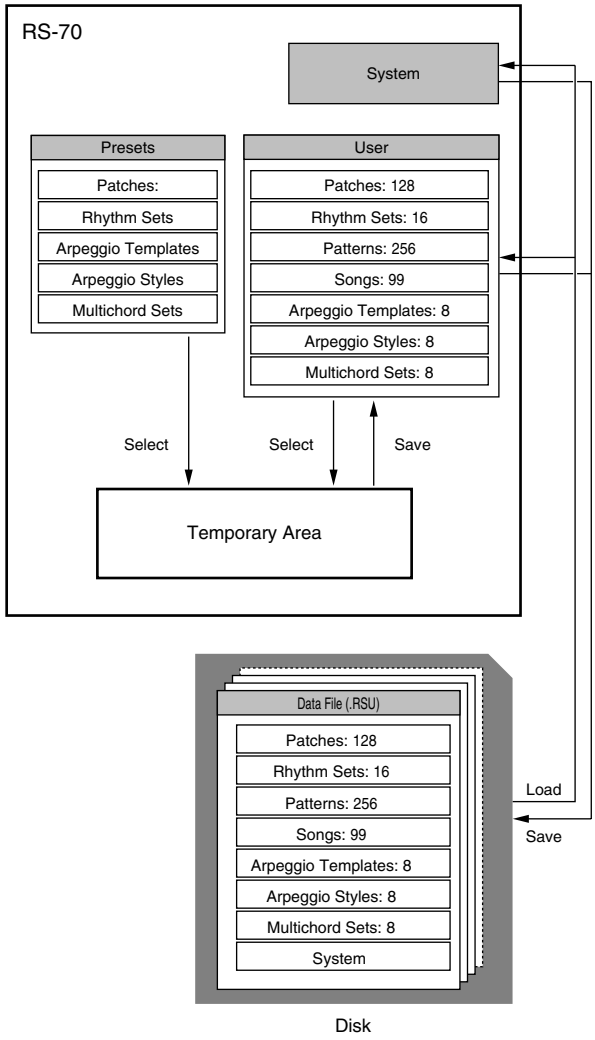
Maximum polyphony

The sound generator of the RS-70 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-70 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. 79).

☞ 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. 169).

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.



MEMO

An image of all data stored in the user area can be stored by the RS-70 on a floppy disk in a single file with an extension of ".RSU" (p. 120). If you load the saved ".RSU" file back into the RS-70, all settings of the entire RS-70 will return to the state they were in when the file was saved. You may wish to keep files of this type on separate floppy disks for different situations, such as various types of live performances.

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 a 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-70 functions.

User memory

User memory is where you normally store the data you need. USER memory contains 128 patches, 16 rhythm sets, 256 patterns at the maximum, and 99 songs at the maximum.

Disk (Optional: 3.5" 2DD, 2HD)

You can use a disk to store data that has been saved to user memory (including system settings such as chord memory, arpeggio user templates, and arpeggio styles) (p. 119). Patterns you create can be stored on a disk as SMF data, so that they can be used on your computer (p. 121).

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.

Basic operation of the RS-70

Switching the mode

The RS-70 has numerous functions, and these functions are organized into the following four 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-70 will start up in Patch mode. From other modes, you can press [PATCH] to enter this mode.

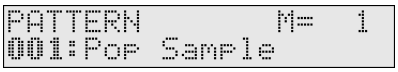
All of the three built-in effects processors are used only for the patch you are playing.

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

Pattern mode

In this mode, you can simultaneously play different sounds on up to sixteen parts. You can use the Quick Sequencer function to select and play patterns (p. 51), or create your own patterns. After turning on the power, press [PATTERN] 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 256 user patterns.



MEMO

Use Pattern mode if you are using the RS-70 as a multitimbral sound module connected to an external device, such as a computer.

Song mode

In this mode, you can create a song by connecting two or more patterns in the order of playback.

In one song, you can register up to 50 patterns.

After turning on the power, press [SONG] to select this mode.

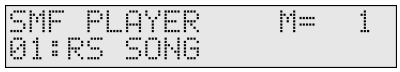
In Song mode you can select, play, and create songs.

SMF Player mode

In this mode, SMF (Standard MIDI File) format music data can be read directly from a floppy disk and played back.

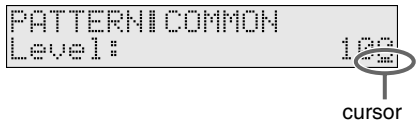
You can use General MIDI/General MIDI 2 compatible music data in this mode to enjoy **minus-one performance** — listening to a musical accompaniment with the melody part muted, and playing the melody yourself.

You can select this mode by holding down [SHIFT] and pressing [TAP TEMPO] (p. 47).



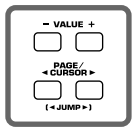
Editing parameters

On the RS-70, 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.



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. 68).

Executing a command

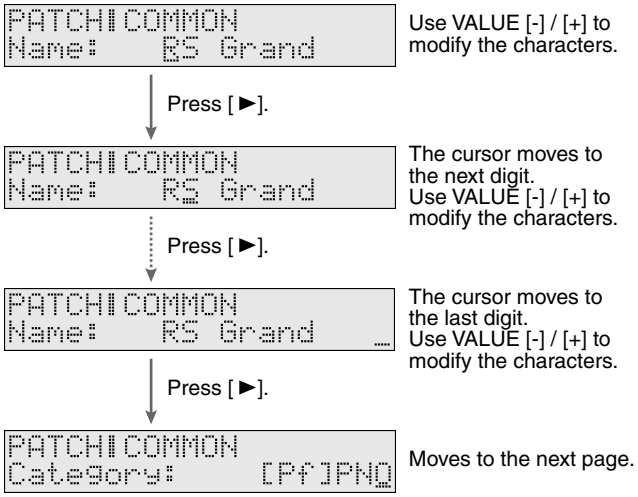
If [ENT] is indicated in the upper right of the display, you can execute the command you have selected by pressing [ENTER].

In the example above, pressing [ENTER] executes the Patch Parameter copy (p. 60).

Assigning a name

As an exception, in pages where you can assign a name to a patch/pattern/song, 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.



By pressing VALUE [-]/[+], you can change the character at the cursor position.

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

MEMO

You can use the same method as described above to input a Standard MIDI File name or a volume label, but you will not be able to use lowercase characters or some symbols (space, ! " * + , . / : ; < = > ? [¥] ^ _ ` { | }).

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) and (B), and use VALUE [-]/[+] to modify the value of each parameter.

Example: Microscope

Inputting numbers and numerals

On the RS-70, you can select a patch/pattern 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-70 you can use [0]–[9] to select parts.

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

1. **Press [PATTERN] or [SONG] so it lights and you are in either Pattern or Song 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]		

Creating a patch (Patch mode)

To create a sound (patch) of your own on the RS-70, 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. 91).

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. 63).

Three tips for editing patches

Select a patch that is similar to the sound you wish to create (p. 24).

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. 30)

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. 91).

Since the RS-70'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.

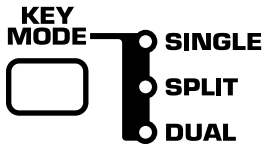
How to make the patch settings

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-70, the sound of each patch is produced by combining two tones; the **upper tone** and the **lower tone** (p. 50). 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. 56).

DUAL: The upper and lower tones are layered to create a rich sound.

Editing the patch parameters

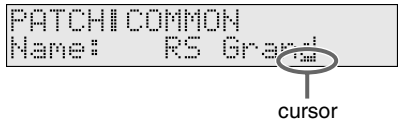
1. **Press [PATCH] so it lights and you are in Patch mode.**
2. **Select a patch.**
3. **Press [PARAM] so it is lit.**

   Now you can edit the patch parameters.

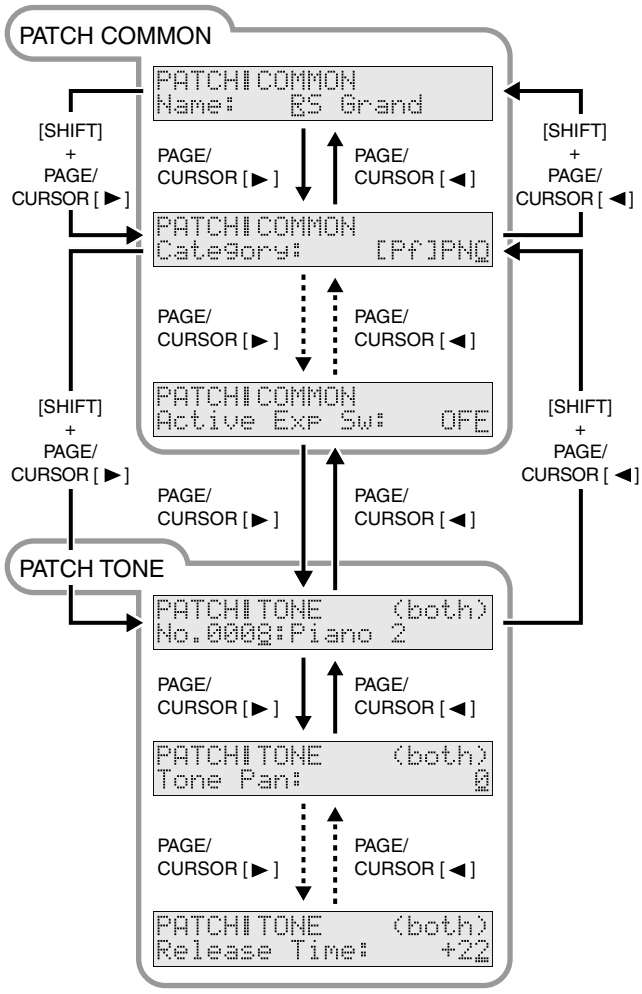
   Use PAGE/CURSOR [◄]/[►] to select the parameter that you want to edit.

"Selecting patch parameters" (p. 56)

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.**



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. 54)

Category

Changes the category of the patch.

☞ **"Selecting a patch by category"** (p. 24)

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. 55).

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. 56).

DUAL: The upper and lower tones are layered to create a rich sound.

☞ **"Changing the way that the tones are sounded (Key Mode)"** (p. 55)

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. 30).

VALUE: -64 (LOWER)– +63 (UPPER)

Split Point

When **"Key Mode"** (p. 56) is set to SPLIT, this specifies the transition point between the upper and lower tones.

VALUE: A0–C8

Split Arp

When **"Key Mode"** (p. 56) 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. 33).

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. 33).

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. 30).

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. 36) 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. 30).

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 1,024 different original tones.

VALUE: 0001–1024

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/off.

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 volume 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-70 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. 110).

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. 31).

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. 31).

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. 31).

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-70 contains a **filter** that can cut or boost specific frequency regions of the sound. Each original tone in the RS-70 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. 33).

VALUE: -64–+63

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. 33).

VALUE: -64–+63

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

Each original tone of the RS-70 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. 32).

VALUE: -64–+63

Decay Time

Adjusts the envelope decay time. This is linked with the operation of the [DECAY] knob of the panel (p. 32).

VALUE: -64–+63

Release Time

Adjusts the envelope release time. This is linked with the operation of the [RELEASE] knob of the panel (p. 32).

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 lights 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. 30)
"How to make the patch settings" (p. 55).

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).

   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.**

For more about the category, refer to **"Patch categories"** (p. 60).

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. 56), the patch will have the same name as the one you selected in step 2.

Patch categories

On the RS-70, 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.

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 lights 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."**

6. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to select the copy-source patch.
   You can select from patches Pf01–U128 (user patches).

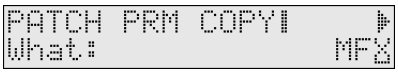
7. **Press PAGE/CURSOR [►].**
   Use VALUE [-]/[+] to specify whether the data is to be copied to the upper tone or the lower tone of the currently selected patch.

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.

Copying MFX, CHORUS, or REVERB effect settings

1. **Press [PATCH] so it lights 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."**



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

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

   Copying "PTN (Pattern)" effect settings
   Use VALUE [-]/[+] to select the copy-source pattern.

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. 20).

1. **Press [PATCH] so it lights 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].**

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 lights and you are in Patch mode.**
2. **Press [UTILITY].**
3. **Use PAGE/CURSOR [◄]/[►] to select "3:PATCH REMOVE."**
4. **Press [ENTER].**

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 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.

1. **Press [PATCH] so it lights 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].**
5. **Use VALUE [-]/[+] to select "CURRENT PATCH" or "USER PATCHES."**
   If you selected "CURRENT PATCH," proceed to step 8.
6. **Press PAGE/CURSOR [►] to specify the first number of the range of user patch numbers that you want to transmit.**

7. **Press PAGE/CURSOR [►] to specify the last number of the range of user patch numbers that you want to transmit.**

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.

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. 20).

Creating a rhythm set (Patch mode)

The RS-70 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

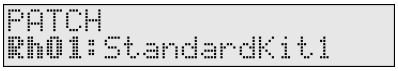
A rhythm set consists of the following types of settings.

- 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 lights and you are in Patch mode.**
2. **Select a rhythm set (p. 26).**

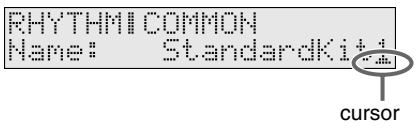


3. **Press [PARAM] so it is lit.**

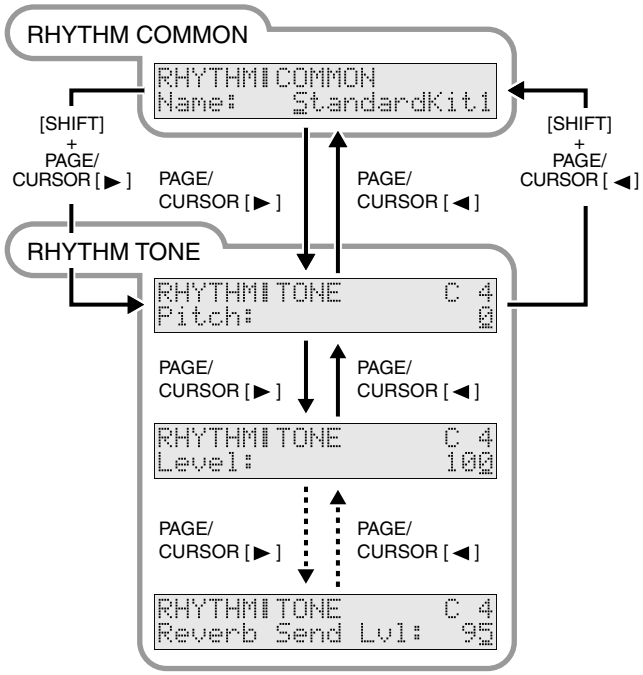
   Now you can edit the rhythm set parameters.

   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.**



Selecting rhythm set parameters



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.

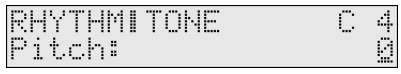
Value: space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }

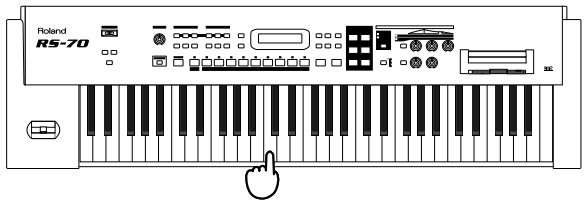
For further information, refer to **"Assigning a name"** (p. 54).

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.





MEMO

The range that can be edited on the RS-70 and by sound editing software is A0–C8. Some rhythm sets place rhythm tones outside this range. These tones cannot be edited.

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)

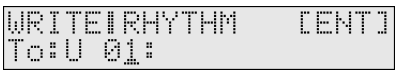
Once you have edited a rhythm set to your liking, use the following procedure to save it.

1. **Press [PATCH] so it lights 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. 63)
"Editing the settings of each rhythm tone (key) (Rhythm Tone parameters)" (p. 63)

MEMO
The patch modify settings (p. 30) 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–U16).



   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. 60).

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. 63), 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 lights 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."**

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

   Copying "RHYTHM" effect settings

   Select the copy-source rhythm set.

   Copying "PTN (Pattern)" effect settings

   Select the copy-source pattern.

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. 63) 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. 20).

1. **Press [PATCH] so it lights 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].**

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 lights and you are in Patch mode.**
2. **Press [UTILITY].**
3. **Use PAGE/CURSOR [◄]/[►] to select "3:RHY REMOVE."**
4. **Press [ENTER].**

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. 62**)** about **Transmitting patch/rhythm settings from the MIDI OUT connector (XFER to MIDI)**, or **Restoring the factory settings (FACTORY RESET)**.

Using the sequencer to create patterns (Pattern mode)

The **Quick Sequencer (QUICK SEQ)** built into the RS-70 makes it easy to loop-record over preset rhythms or your own original rhythms to quickly create **patterns** (performance data several measures in length). If you're not satisfied with the recorded content, you can erase it at the touch of a button and try again until you are happy with the results, in this way building up an original song.

MEMO

By using preset patterns 001–128 as well, you can create a maximum of 256 patterns. (This will depend on the amount of performance data within each pattern.) As necessary, you can create patterns that are as long as 998 measures.

MEMO

You will use Pattern mode to create and play back patterns. In Song mode you can arrange the created patterns in the desired order to create an entire song (p. 114).

Playing patterns

In Pattern mode you can simultaneously play up to sixteen parts, each with their own sound (Patch or Rhythm Set). For example, with parts configured as shown below, drums, piano, guitar, and bass will play simultaneously, giving you a band-like ensemble.

EXAMPLE

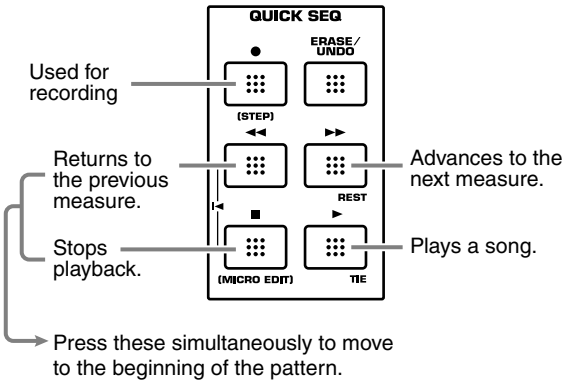
0 RHYTHM & SFX part:	rhythm set
1 PIANO part:	acoustic piano
3 GUITAR part:	electric guitar
9 BASS part:	fretless bass

MEMO

By switching patterns and adding or removing parts (instruments) while playback continues, you can perform dance music in a way similar to when using Roland's "Groovebox" series.

Basic playback operation

Use the following buttons to control the playback.

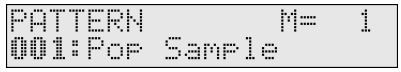


Selecting a pattern to play back

1. Press [PATTERN] so it is lit and you are in Pattern mode.
The name of the currently selected pattern is displayed.

MEMO

Make sure that both [PART SELECT] and [TRACK MUTE] are unlit.



2. Select the pattern number that you want to play.
Select the pattern number from 001 to 256.

HINT

In addition to rhythms, 001–009 also contain performances already recorded on each part. When first trying out playback methods, you may want to start by selecting these sample patterns.

3. Press [►] to play the pattern.
Press [■] to stop play.

Selecting pattern numbers

Using VALUE [-]/[+]

Pressing VALUE [-]/[+] will select the pattern that precedes or follows the currently selected pattern.
You do not need to press [ENTER] after making your selection. The number you select will take effect immediately, and the pattern will be selected.

Using the direct access buttons

- **When not using the [NUMERIC] function**
  Use the [0]–[9] buttons to input a number.
  The two upper digits 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 pattern will be selected.
- **When using the [NUMERIC] function**

1. Press [NUMERIC] so it is lit.

2. Use the [0]–[9] buttons to input a three-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].

Switching patterns during playback

If you switch patterns while a pattern is playing, the newly selected pattern will begin playing after the currently playing pattern ends. You can also perform a song by connecting patterns in this way.

1. While a pattern is playing, select the pattern that you want to play next.

2. When the currently playing pattern ends, the pattern you selected in step 1 will begin playing.

When the currently playing pattern nears the end, the pattern number in the lower line of the display will begin to blink. Once the number begins to blink, you will no longer be able to specify the next pattern, since preparations for switching patterns have already begun.

Muting a part (Track Mute)

By switching the play/mute status of various parts while the pattern plays, you can add dynamic variation to the playback without switching to a different pattern.

HINT

If you want to do things such as mute only the kick drum, or mute individual drum tones (percussion instrument sounds), you can use parts that are not used by that pattern, then assign rhythm sets to several parts (p. 68) and record the percussion instruments separately.

1. Press [TRACK MUTE] so it is lit.

2. Press a lit or blinking button ([0]–[9]) corresponding to each part to switch it between play and muted status.

Lit:	The playback data is not muted
Blinking:	The playback data is muted.
Unlit:	There is no playback data.

The RS-70 has a total of sixteen parts.

To switch the play/mute status of parts 11–16, hold down [SHIFT] and press [1]–[6].

☞ **"Selecting a part"** (p. 54)

Selecting a sound (patch) for each part

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

2. Use [0]–[9] to select the part to change the sound.

To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).

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

☞ **"Selecting a patch"** (p. 24)

Set the pattern tempo

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

The current tempo of the pattern will be displayed.

MEMO

When the pattern changes, the tempo display will also change.

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

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

MEMO

When you press [TAP TEMPO], the tempo display will always be updated according to tempo changes in the pattern.

MEMO

You cannot realtime-record tempo changes.

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, the button will blink in red on the first beat of each measure, and in green on subsequent beats.

MEMO

BPM

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

Standard tempo

An optimal tempo is already set for each pattern. This is called the "standard tempo." Regardless of whether the pattern is playing or stopped, switching to another pattern will switch to the standard tempo value of that pattern.

Recording your performance while you play it (Realtime recording)

Recording

1. Select a part and sound to record

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

2. Use [0]–[9] to select the part that you want to record.

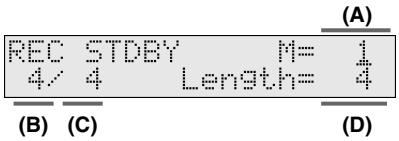
To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).

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

☞ **"Selecting a patch"** (p. 24)

2. Recording standby

1. **If the pattern is playing, stop the pattern.**
2. **Press [●].**
   [●] will blink, and you will be in the **recording standby** state.
3. **Use PAGE/CURSOR [◄]/[►] to move the cursor, and use VALUE [-]/[+] to specify the value.**



Values

A: Specify the measure location at which recording is to begin.

B/C: Specify the time signature of the pattern. You can set the time signature of a pattern only when the pattern length is 0.

D: Specify the number of measures that you want to record. It can be set longer than the number of measures in the pattern, but cannot be set to a shorter number.

☞ **"Deleting unwanted measures (PTN DELETE)"** (p. 84)
"Settings related to the metronome (METRONOME)" (p. 125)

MEMO
At this point you can press [PARAM] to set the recording mode or quantization settings (p. 70).

3. Recording

1. **Press [►] to begin recording.**
   [●] will lit, recording will begin as specified by the Count In setting (p. 71).

4. Rehearsing before you record the next part (Recording Rehearsal)

From the recording state, press [●] once again. [●] will blink, and you will be in the **recording rehearsal** state. Operation is the same as during normal recording, but the data will not actually be recorded. In other words, you can listen to the looped playback while choosing the next sound or practicing your playing.

1. **While in the recording state, press [●] again.**
   [●] will blink, and you will be in the **recording rehearsal** state. The data you play during rehearsal will not be recorded.

MEMO
If you press [■] when in the recording rehearsal state, you will exit the recording state itself.
If you press [ERASE/UNDO] when in the recording rehearsal state, you will be in the realtime erase standby state.

2. **Use [0]–[9] to select the part that you want to record next.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
3. **Use VALUE [-]/[+] to select a patch.**
   Find the patch that you want to use.

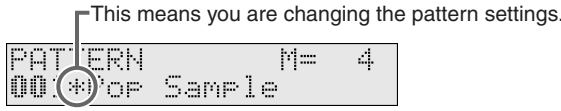
MEMO
You can only select patches from the category that is assigned to the part you are recording. If you want to use a patch from another category, you must assign that category to the part to be recorded. For details, refer to **"Assigning patches of the same category to multiple buttons"** (See below).

5. Recording the next part

1. **While in the recording rehearsal state, press [●] again.**
   [●] will light, and recording will begin.
   Repeat steps 4 and 5, and switch parts as you record the pattern.
   You can press [TRACK MUTE] to select a recorded part and mute it (p. 67).

6. Stop recording

1. **When you have completed your pattern, press [■] to stop recording.**



Assigning patches of the same category to multiple buttons

While [PART SELECT] is lit, you can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to step through the categories assigned to [0]–[9], 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 [0]–[9]. 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-70 / 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-70 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.*

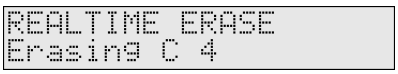
Erasing unwanted data while you record (Realtime Erase)

If you make a mistake while recording, you can erase the incorrect data while you continue to record.

1. **While recording, press [ERASE/UNDO] to select the realtime erase standby state.**

2. **Erase the unwanted notes.**

- **To erase all of the notes you just recorded**
  Press [ERASE/UNDO]. All the music data of the current part will be erased while you continue holding down the button.
- **To erase only specific notes from the notes you just recorded**
  Hold down the key of the note you want to erase. Note data of that key will be erased while you continue holding down the key.



If you hold down two or more keys, all note data between the lowest and highest keys will be erased while you continue holding down the keys.

In either case, you will return to the realtime erase standby state when you release the key(s) or button.

3. **Use [0]–[9] to select the part that contains the data you want to erase.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
4. **Erase the recorded data in the same way as in step 2.**
   In this way, you can switch between parts and erase unwanted data.

NOTE
You cannot switch parts while actually erasing data.

5. **Press [EXIT] to return to recording.**
   If you press [●], you will be in the recording rehearsal state.
   If you press [■], recording itself will end.

Re-recording just a specific region (Punch In/Punch Out)

You can play back a pattern and re-record just a specific region. This is called "Punch-In Recording." This is a convenient way to selectively replace a portion that you are not satisfied with.

Specifying the region for re-recording while the song plays (Manual Punch In/Out)

1. **Set the Recording Mode (p. 71) to [M.PUNCH].**
2. **From the recording standby state, use [0]–[9] to select the part that you want to record.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
3. **Press [►].**
   At this time the display will be as follows, but actual recording has not yet begun.

4. **At the point where you want to begin recording, press [●].**
   Playback will switch to record mode.
5. **At the point where you want to stop recording, once again press [●].**
   You will return to playback mode.
6. **When you have completed your pattern, press [■] to stop recording.**

Specifying the region for re-recording before you start playback (Auto Punch-In/Out)

When using Auto Punch-In/Out, you simply play along with the previously recorded performance, and the recorded data will be replaced over the region that you specify beforehand.

1. **Set the recording mode to [A.PUNCH], and set the "PunchIn" and "PunchOut" parameters to specify the region that you want to re-record (p. 71).**
2. **From the recording standby state, use [0]–[9] to select the part that you want to record.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
3. **Press [►].**
   At this time the display will be as follows, but actual recording has not yet begun.

4. **At the location you specified for "PunchIn," playback will change to recording.**

5. **At the location you specified for "PunchOut," recording will end and playback will resume.**
6. **When you have completed your pattern, press [■] to stop recording.**

Undo/redo the previous recording operation

If you are not satisfied with the previous realtime-recording, you can return to the state prior to recording (**Undo**), or cancel (**Redo**) the Undo operation you executed.

Undo

1. **While the pattern is stopped, press [ERASE/UNDO].**
   If you are in a state where Undo is possible, the following display will appear.

   ```
   << UNDO >>
   [ENTER]
   ```

2. **Press [ENTER] to execute the Undo.**
   If you decide to cancel, press [EXIT].
   If Undo cannot be performed, a display like the following will appear.

   ```
   Cannot UNDO
   ```

Redo

1. **After performing Undo, press [ERASE/UNDO].**
   If you are in a state where Redo is possible, the following display will appear.

   ```
   << REDO >>
   [ENTER]
   ```

2. **Press [ENTER] to execute the Redo.**
   If you decide to cancel, press [EXIT].

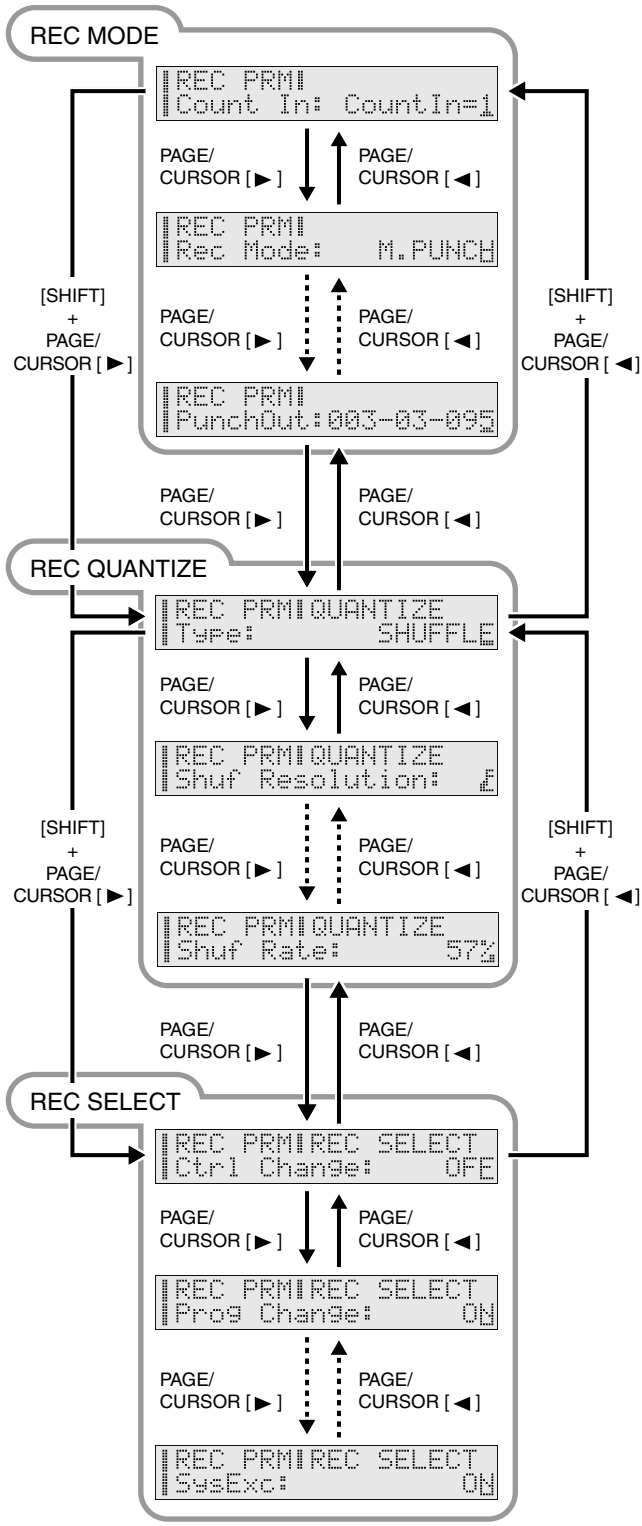
* *If you had previously been editing a pattern, those actions will be the object of Undo/Redo.*

Various settings for realtime recording

In the Recording Standby (p. 68) states, you can press [PARAM] to specify the recording mode and make quantization settings. The parameters you can set are organized into the following three groups.

- **REC MODE (Recording Mode):**
  Select how recording is to take place (p. 71).
- **QUANTIZE (Recording Quantize):**
  Correct the timing of your playing as you record (p. 71).
- **REC SELECT (Recording Select):**
  Select the music data to be recorded (p. 72).

How to select recording parameters



Selecting how recording will occur (REC MODE)

Count In

Select how recording is to begin.

VALUE

CountIn= 0: Recording will begin immediately when you press [►] in the recording standby state.

CountIn= 1: When you press [►] in the recording standby state, a count (playback) will begin one measure before the recording-start location, and recording will begin when you reach the recording-start location.

CountIn= 2: When you press [►] in the recording standby state, a count (playback) will begin two measures before the recording-start location, and recording will begin when you reach the recording-start location.

WAIT NOTE: Recording will begin when you play the keyboard or press [►].
You can also start recording using a hold pedal.

REC MODE (Recording Mode)

Select how recording is to take place.

VALUE

MIX: Mix-recording will be carried out. If a performance has already been recorded on the recording-destination track, your newly recorded performance will be added to the existing performance without erasing it. The RS-70's Quick Sequencer is designed for loop-recording patterns of several measures, so normally you will select this "MIX" setting.

REPLACE: Replace-recording will be carried out.
If a performance has already been recorded on the recording-destination track, it will be erased as you record your new performance. Use this when you want to re-record a part of rather long pattern.

A.PUNCH: Recording will occur in the region you pre-specified using "PunchIn" and "PunchOut" (Auto Punch-In/Out). This is convenient when you want to re-record an area where you made a mistake (p. 69).

M.PUNCH: After recording begins, you can press [●] so it lights, and from that moment, you'll be overwriting (replacing) the existing data that occurs while you allow [●] to remain lit (Manual Punch-In). This is convenient when you want to re-record mistakes that you made in several different locations (p. 69).

PunchIn (Punch In)

Specify the measure, beat, and clock at which auto PunchIn recording is to begin.

PunchOut (Punch Out)

Specify the measure, beat, and clock at which auto PunchIn recording is to stop.

MEMO

Clock is the smallest unit used to indicate time. On the RS-70, time is expressed in terms of 96 clocks per quarter note. For example, with a time signature of 4/4 (four quarter notes per measure), a measure will be 384 clocks (4 x 96) long. Time is calculated in terms of Measures:Beats, and the remaining number of clocks shown at the end in the format **measure:beat:clock**.

Correct the timing of your playing as you record (REC QUANTIZE)

The Quantize function automatically corrects inaccuracies in the timing of your keyboard performance, aligning the notes to accurate timing intervals. During realtime recording, you can quantize while you record.

Applying quantization to already-recorded data (p. 84)

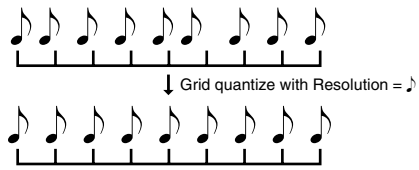
Type

Specify whether to quantize while recording.

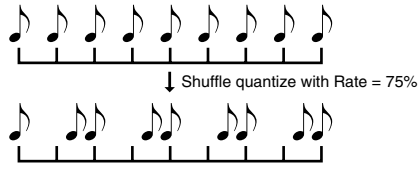
Value

OFF: Quantize will not be applied while recording.

GRID: Grid Quantize will be applied while recording. Use this when you want the timing to be accurate, such as when recording drums or bass.



SHUFFLE: Shuffle Quantize will be applied while recording. Use this when you want to give the rhythm a "shuffle" or "swing" character.



Grid Resolution

Make this setting when you are using Grid Quantize. Specify the quantization interval in terms of a note value. Select the shortest note value that will occur in the range to which Grid Quantize will be applied.

Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅯₃ , 𝅘𝅥𝅮 , 𝅘𝅥𝅮₃ , ♪ , ♩₃ , ♩

Grid Strength

Make this setting when you are using Grid Quantize. It specifies the degree to which notes will be adjusted toward the timing intervals specified by the Grid Resolution parameter. With a setting of "100%," the notes will be corrected precisely to the timing of the Grid Resolution parameter. As you lower this setting, the note timing will be corrected to a lesser extent, and with a setting of "0%" the timing will not be adjusted at all.

Value: 0–100 (%)

Shuf Resolution (Shuffle Resolution)

Make this setting when you are using Shuffle Quantize. Specifies the note value used for quantization.

Value: 𝅘𝅥𝅯 , ♪

Shuf Rate (Shuffle Quantize Rate)

Make this setting when using Shuffle Quantize. It specifies the degree to which the backbeat will be separated from the downbeat specified by the Shuffle Resolution parameter. With a setting of "50%," the backbeat will be exactly between adjacent downbeats. With a setting of "0%," the backbeat will be moved to the same timing as the preceding downbeat. With a setting of "100%," the backbeat will be moved to the same timing as the following downbeat.

Value: 0–100 (%)

Selecting the music data to be recorded (REC SELECT)

When you use realtime recording, all of your music data will normally be recorded. If you want to avoid recording a specific type of data, you can turn its Recording Select setting "OFF."

Ctrl Change (Control Change)

These events correspond to various control numbers, and are used to apply effects such as modulation or pan. These are used mainly to operate knobs and lever.

Value: OFF, ON

Prog Change (Program Change)

These events are used to select sounds (patches). The sound corresponding to the program number will be selected.

Value: OFF, ON

Ch After (Channel Aftertouch)

These events apply aftertouch to an entire MIDI channel.

Value: OFF, ON

MEMO

Channel aftertouch is data transmitted for an entire channel to indicate the force with which the keys are being pressed down after notes are played. The RS-70's keyboard is not able to transmit channel aftertouch, but you can assign channel aftertouch transmission to a controller such as a knob or pedal, and record these messages (p. 37, p. 126).

Pitch Bend

These events change the pitch.

Value: OFF, ON

SysEx (System Exclusive)

These are events that make settings specifically for the RS-70, such as specifying the sound and tonal character.

Value: OFF, ON

Recording with the phrase/arpeggio function

The RS-70 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. In the same way as a manually played performance, a performance created using the arpeggiator can also be realtime-recorded as a pattern.

"Playing arpeggios (Phrase/Arpeggio)" (p. 27)

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

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.

3. **Begin recording.**

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

MEMO

You can also change arpeggio templates and styles even during recording standby (p. 68) or recording rehearsal (p. 68).

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.**

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.

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. 73).

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.

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. 186).

MEMO

You can also create and store your own styles (User Arpeggio Style) (p. 88).

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.

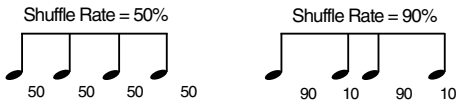
Value: 0–100%

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%



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 the sequencer, turn this "OFF."

Value: OFF, ON

Using chord memory to record

When recording a pattern, you can press [CHORD MEMORY] to record a performance using chord memory.

☞ **"Playing a chord at the touch of a finger (Multi-chord Memory)"** (p. 28)

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

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. 29).

3. Begin recording.

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

MEMO

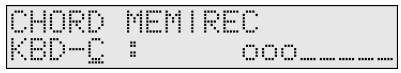
You can change chord sets even during recording standby (p. 68) or recording rehearsal (p. 68).

Creating an original chord set (User Chord Set)

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

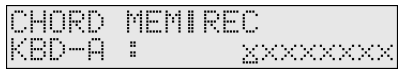
2. Press [PARAM] so it is lit.

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



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

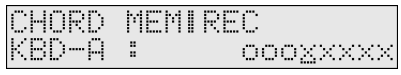
5. Press PAGE/CURSOR[►] to move the cursor to the right.



6. Press keys to input chords.

The display will indicate how many keys were pressed.

You can input 8 notes.

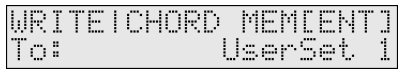


7. Release all the keys.

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].



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."

Recording notes one at a time (Step Recording)

Step recording is the method in which individual notes are input one by one. Use this method when you need to input notes at a precise timing, as when entering percussion or bass parts.

* *You cannot record data other than note messages, such as knob movements or other control changes.*

1. Select a part and sound to record

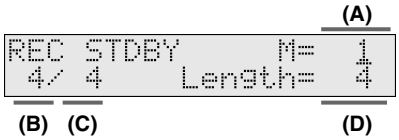
1. **Press [PART SELECT] so it is lit.**
2. **Use [0]–[9] to select the part that you want to record.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
3. **Use VALUE [-]/[+] to select a patch.**

"Selecting a patch" (p. 24)

You can only select patches from the category that is assigned to the part you are recording. If you want to use a patch from another category, you must assign that category to the part to be recorded. For details, refer to **"Assigning patches of the same category to multiple buttons"** (p. 68).

2. Recording standby

1. **If the pattern is playing, stop the pattern.**
2. **While holding down [SHIFT], press [●].**
   [●] will blink, and you will be in the **recording standby** state.
3. **Use PAGE/CURSOR [◄]/[►] to move the cursor, and use VALUE [-]/[+] to specify the value.**



Values

A: Specify the measure location at which recording is to begin.

B/C: Specify the time signature of the pattern. You can set the time signature of a pattern only when the pattern length is 0.

D: Specify the number of measures that you want to record. It can be set longer than the number of measures in the pattern, but cannot be set to a shorter number.

"Deleting unwanted measures (PTN DELETE)" (p. 84)

3. Recording

1. **Press [►] to begin recording.**
2. **Use VALUE [+]/[-] to set "Step."**

Step (Step Time)

Specify the length of the note.

Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅯𝅘𝅥𝅯 , 𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯3 , 𝅘𝅥𝅯𝅘𝅥𝅯 , 𝅘𝅥𝅯𝅘𝅥𝅯3 , 𝅘𝅥𝅯 , 𝅘𝅥𝅮3 , 𝅘𝅥𝅮 , 𝅗𝅥

3. **Press [PARAM].**
   Make other settings for step recording.
4. **Use PAGE/CURSOR [◄]/[►] to select "Gate Time Ratio," or "Velocity."**
   Use VALUE [-]/[+] to set their value.

Gate (Gate Time Ratio)

Specify the proportion of the gate time relative to the step time. Specify a lower value if you want the notes to be played staccato, or a higher value if you want the notes to be played tenuto, or as a slur. Normally, you will set this to about "80%."

Value: 1–100%

Velocity

Specify the strength with which the note will be played. If you want this to be the strength with which you actually pressed the key, select "REAL." Otherwise, use settings of p (piano)=60, mf (mezzo forte)=90, or f (forte)=120 as general guidelines.

Value: REAL, 1–127

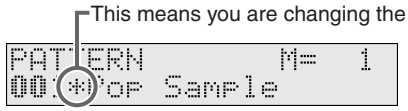
5. **Press a key on the keyboard.**
   When you release the key, the note you input will be finalized, and you will be ready to input the next note.
   The position will advance by the length of the step time.

If you input a note or a rest by mistake, press [ERASE/UNDO] to delete it. When you delete a note, the deleted note will sound by way of confirmation.

6. **Continue inputting notes.**
   The Gate Time Ratio and Velocity values of the previously input note will be maintained. If you are satisfied with the existing settings for the next note you wish to input, it is not necessary to change them.

The position cannot go beyond the length of the pattern. When you reach the end of the pattern, the display will indicate "END."

7. **Once you've entered all the notes you need, press [■] to end the recording.**



Inputting various types of notes

Inputting a chord

Press the chord. A chord will be input when you release all keys simultaneously. The chord will not be input as long as even one key remains pressed, so you can change the keys being pressed to correct the chord.

Inputting a rest

Press [►►] instead of pressing the key.
A note will not be input, but the position will advance by the length of the step time.

Inputting a tie

If you press [►] instead of pressing a new key, the previously input note will be lengthened by the length of the step time, inputting a tie. For example, if you want to connect three quarter notes, step-input a quarter note, and then press [►] twice.

Inputting a whole note

Press [►] after inputting a half note.

Inputting a dotted note

First input an un-dotted note. Next, set the step time to a length of half the note you input previously, and press [►].
For example, to input a dotted half note, first input the half note. Next, change the step time to a quarter note and press [►].

If you make a mistake

If you input a note or a rest by mistake, press [ERASE/UNDO] to delete it. When you delete a note, the deleted note will sound by way of confirmation.

Editing individual items of music data (Microscope edit)

The Microscope lets you edit individual items (**events**) of recorded performance data; for example you can move an individual event's location, make precise changes to it, or delete or insert a single note.
In Pattern mode, hold down [SHIFT] and press [■] to switch to the Microscope screen. The events in the current part of the currently selected pattern will be displayed together with the current location (measure–beat–clock).

Music data handled in Microscope mode

The Microscope lets you view and edit the following 8 types of music data (event).

Note

Data that plays a sound.

VALUE

Note: C-1–G9 (Note)
Velo: 1–127 (Velocity)
Gate: 1–65535 (Gate Time)

PAft (Polyphonic Aftertouch)

These events apply aftertouch to individual keys.

VALUE

Note: C-1–G9 (Note)
Value: 0–127

The note name will be displayed in brackets.

MEMO

Polyphonic aftertouch is data transmitted independently from each key to indicate the force with which each key is being pressed down after it is played. Since the RS-70 is not able to transmit polyphonic aftertouch, these events cannot be recorded from the RS-70's keyboard.

CtrlChg (Control Change)

These events correspond to various control numbers, and are used to apply effects such as modulation or pan. These are used mainly to operate knobs and lever.

VALUE

CC#: 0–127 (Controller Number)
Value: 0–127

If you want to know more about the function of each controller number, refer to **"Settings related to controllers (CONTROLLER)"** (p. 126).

ProgChg (Program Change)

These events are used to select sounds (patches). The sound corresponding to the program number will be selected.

Value: 1–128 (Program Number)

Ch Aft (Channel Aftertouch)

These events apply aftertouch to each MIDI channel.

Value: 0–127

MEMO

Channel aftertouch is data transmitted for an entire channel to indicate the force with which the keys are being pressed down after notes are played. The RS-70's keyboard is not able to transmit channel aftertouch, but you can assign channel aftertouch transmission to a controller such as a knob or pedal, and record these messages.

PitchBend

These events change the pitch.

Value: -8192–+8191

TUNE (Tune Request)

This event causes an analog synthesizer to tune itself. This does not affect the operation of the RS-70 itself.

SYS-EX (System Exclusive messages)

These are events unique to the RS-70. If the entire message cannot be shown on one line, a " ⊪ " will appear at the right edge of the display.

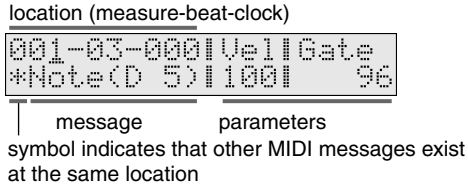
You can use PAGE/CURSOR [◄]/[►] to scroll the display screen.

Editing the music data

MEMO

If you want to edit system exclusive messages, refer to **"Modifying system exclusive data"** (p. 77).

1. **Select a pattern you want to edit.**
2. **While holding down [SHIFT], press [■].**
   The Microscope screen will appear.
3. **Use [0]–[9] to select the part that you want to edit.**
   To select the parts 11–16, hold down [SHIFT] and press [1]–[6] (p. 54).
4. **Use PAGE/CURSOR [◄]/[►] to move the cursor under the location (measure-beat-clock) and use VALUE [-]/[+] to move the location forward or back.**
   The type and value of the event recorded at that location will be displayed.
   You can also use [◄◄]/[►►] to move the current location a measure at a time, without regard to the cursor position.



MEMO

If you want to display a clock location at which no event is recorded (such as when you want to add an event), move the cursor to the clock and press [NUMERIC] so it is lit. Use [0]–[9] to specify the desired value, then press [ENTER].

5. **Press PAGE/CURSOR [►] to move the cursor under the event and use VALUE [-]/[+] to modify its value.**

Modifying system exclusive data

1. **In the above step 4., select the system exclusive message that you wish to modify.**

2. **Press PAGE/CURSOR [►].**
   The system exclusive input page will appear.
   Press PAGE/CURSOR [►] move the cursor to the location that you wish to modify. (You cannot choose "F0" or "F7.")

MEMO

You can hold down [SHIFT] and use PAGE/CURSOR [◄]/[►] to move the cursor to the beginning or end of the exclusive data.

3. **Input the value.**
   - To input a value: press VALUE [-]/[+] or [0]–[9].
   - To input A–F: hold down [SHIFT] and press [0] (A)–[5] (F).
   - To insert a value midway: move the cursor to that location, and press [●]. A value of "00" will be inserted, and you can modify this to the desired value.
   - To delete a value: move the cursor to that location, and press [ERASE/UNDO].
4. **Press [ENTER], and the modified settings will be finalized.**
   If you decide to cancel, press [EXIT].

Auto calculate checksum

While editing an exclusive message, you can press [PARAM] to set it so the checksum is calculated automatically.

If this setting is "ON," and you press [ENTER] after editing the message, the checksum will be calculated automatically, and inserted before the last byte (F7) of the message.

MEMO

This setting will always be ON when you turn on the power.

Selecting the types of music data for viewing (View Filter)

You can specify the types of music data that will be displayed. Since you can specify that only certain events will be displayed, this lets you rapidly find the data that you are looking for.

1. **In the Microscope screen, press [PARAM].**
2. **Use PAGE/CURSOR [◄]/[►] to select the type of music data, and use VALUE [-]/[+] to turn "ON" the display of music data that you wish to view.**
   VALUE
   Note: OFF, ON
   Poly After (Polyphonic Aftertouch): OFF, ON
   Ctrl Change (Control Change): OFF, ON
   Prog Change (Program Change): OFF, ON
   Ch After (Channel Aftertouch): OFF, ON
   Pitch Bend: OFF, ON
   SysEx (System Exclusive): OFF, ON
3. **Press [EXIT] to return to the Microscope screen.**

Microscope Utility

Microscope Utility provides various functions. For details on each menu, refer to the corresponding reference page.

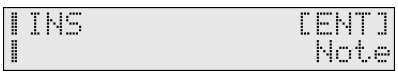
1: INS (Insert Event) (p. 78)
2: DEL (Delete Event) (p. 78)
3: MOVE (Move Event) (p. 78)
4: COPY (Copy Event) (p. 78)
5: PASTE (Paste Event) (p. 78)

MEMO

If you want to display a clock location at which no event is recorded, move the cursor to the clock and press [NUMERIC] so it is lit. Use [0]–[9] to specify the desired value, then press [ENTER].

Inserting music data (INS)

1. **In the Microscope screen, display the location (measure–beat–clock) at which you want to insert an event.**
2. **Press [UTILITY].**
3. **Press [1] to select "1.INS."**
4. **Use VALUE [-]/[+] to select the type of music data that will be inserted.**



You can insert the following events.

Note
PAft: Polyphonic Aftertouch
CtrlChg: Control Change
ProgChg: Program Change
Ch After: Channel Aftertouch
PitchBend: Pitch Bend
Tune: Tune Request
SysEx (Default): System Exclusive
SysEx (GM-ON): System Exclusive (GM-ON)
SysEx (GM2-ON): System Exclusive (GM2-ON)
SysEx (GM-OFF): System Exclusive (GM-OFF)

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

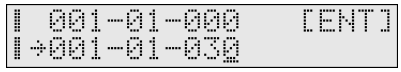
Deleting music data (DEL)

1. **In the Microscope screen, display the event that you want to delete.**
2. **Press [UTILITY].**
3. **Press [2] to select "2.DEL."**
   The event will be deleted.
   The event that you deleted can be pasted in later if desired.

☞ **"Pasting music data (PASTE)"** (p. 78)

Moving music data (MOVE)

1. **In the Microscope screen, display the event that you want to move.**
2. **Press [UTILITY].**
3. **Press [3] to select "3.MOVE."**
4. **Input the location (measure–beat–clock) to which you want to move the event.**



Use PAGE/CURSOR [◄]/[►] to select measure–beat–clock, and use VALUE [-]/[+] to input the value. Or, press [NUMERIC] so it is lit, use [0]–[9] to specify the desired value, then press [ENTER].

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

Copying music data (COPY)

If you execute **copy**, that event will be temporarily saved, allowing you to **paste** it to the desired location.

1. **In the Microscope screen, display the event that you want to copy.**
2. **Press [UTILITY].**
3. **Press [4] to execute "4.COPY."**

Pasting music data (PASTE)

If you execute **copy**, that event will be temporarily saved, allowing you to **paste** it to the desired location.

1. **In the Microscope screen, display the desired location you want to paste the copied event.**
2. **Press [UTILITY].**
3. **Press [5] to execute "5.PASTE."**

Editing the settings of a pattern

The **patterns** of the RS-70 contain settings that are made for the entire pattern, and settings that are made individually for each part of the pattern.

Settings made for the entire pattern are:

- Settings for the entire pattern, such as the pattern name and settings for playing back the sequence data (p. 79)
- Effect settings for the pattern (p. 80)

Settings made individually for each part of the pattern are:

- Pattern part settings (p. 80)
- Effect settings for pattern parts (p. 82)

Making settings that apply to the entire pattern

1. **Press [PATTERN] so it is lit and you are in Pattern mode.**
2. **Select a pattern.**
3. **Press [PARAM] so it is lit.**

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 pattern, refer to **"Saving a pattern"** (p. 82).

Making settings that apply to the entire pattern (Pattern Common Parameters)

Name (Pattern Name)

You can change the name of the pattern.

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. 54).

Voice Rsv 1–16 (Voice Reserve 1–16)

The sound generator of the RS-70 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-70 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-70 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.

:

Value: 0–32

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

Level (Pattern Level)

Specifies the volume of the pattern.

Value: 0–127

MFX Source

When the MFX effect is applied in Pattern mode, this specifies whether the effect will use the parameters of the pattern itself, or the parameters of the patch assigned to the part (p. 91).

VALUE

PTN/PERF: The MFX effect will be applied according to the effect parameters of the pattern itself.

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

Sequencer-related parameters (Pattern Sequencer Parameters)

Pattern Tempo

Specifies the tempo at the beginning of the pattern.

Value: 5–300 (bpm)

Tempo Change (Pattern Tempo Change)

You can make the tempo of a pattern change gradually from beginning to end. If this parameter is **ON**, the tempo will change toward the **Pattern End Tempo** (see following items) as playback approaches the end of the pattern.

Value: OFF, ON

MEMO This setting cannot be changed while the pattern is playing.

End Tempo (Pattern End Tempo)

Specifies the tempo at the end of the pattern when the **Pattern Tempo Change** setting is **ON**.

Value: 5–300 (bpm)

MEMO This setting cannot be changed while the pattern is playing.

Tempo Chg Crv (Pattern Tempo Change Curve)

Specifies the curve of tempo change.

VALUE

LINEAR: The tempo will change linearly over the entire pattern.

CURVE1: The tempo will change gradually at first, and then with increasing steepness.

CURVE2: The tempo will change steeply at first, and then with increasing gradualness.

Editing the effect settings of a pattern

In Pattern mode you can press [EFFECTS] to edit the effect settings of a pattern. For details, refer to **"Adding effects"** (p. 91).

☞ To save the edited pattern, refer to **"Saving a pattern"** (p. 82).

Editing the part settings of a pattern (Part Setup)

1. **Press [PATTERN] so it is lit and you are in Pattern mode.**
2. **Select a pattern.**
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. 54).

   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 pattern, refer to **"Saving a pattern"** (p. 82).

Part parameters of a pattern (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)

When you select a pattern, the RS-70 will operate as a sixteen-part MIDI multitimbral sound module. This parameter specifies the MIDI receive channel for each part.

Value: 1–16

NOTE

If you are using the internal Quick Sequencer, each part is set to the following channels unless you change them. Do not change these settings when using the Quick Sequencer.

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-70's keyboard will not play internal sound generator parts whose Receive Switch is turned OFF. If you don't want a specific part to sound during pattern playback (e.g., so you can play the missing part from the keyboard in "minus-one" style), use the Track Mute function to silence it (p. 67).

Receive Prg Chg (Receive Program Change Switch)

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

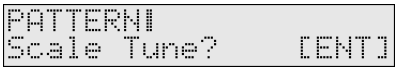
Value: OFF, ON

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

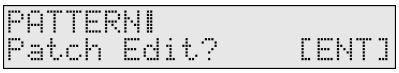
Scale Tune



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. 81).

☞ If you want to edit the scale tune for Patch mode, refer to **"Making scale tune settings for a patch (PATCH SCALE)"** (p. 128).

Part Patch Edit



The patch assigned to each part can also be edited from Pattern mode. You can press [ENTER], and edit the patch parameters and save the patch in the same way as from Patch mode (p. 55).

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

NOTE

Patch mode and Pattern 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 Pattern mode, please be aware of this when you save patches.

If the same patch happens to be selected in both Patch mode and Pattern 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 pattern again, the patch will then sound in accord with the newly saved settings.

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. 128).

1. **Select the part setup parameter "Scale Tune" (p. 81).**
2. **Press [ENTER].**

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 pattern (Pattern Part Effect)

1. **Press [PATTERN] so it is lit and you are in Pattern mode.**
2. **Select a pattern.**
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. 54).
5. **Press [EFFECTS] so it is lit.**
   Now you can make settings for the pattern 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 pattern, refer to **"Saving a pattern"** (p. 82).

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. 91).

MFX Switch

Switches the multi-effect on/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 pattern

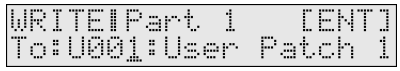
Use the following procedure to save a pattern you've recorded or edited.

1. **Press [WRITE].**
   Use VALUE [-]/[+] to specify the number (001–256) at which the user pattern is to be saved.

NOTE
Be aware that if you choose a number in which a user pattern 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.

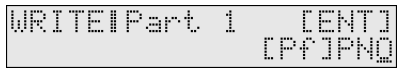
   If you have not edited any of the patches in the pattern, the user pattern has been saved and the display will indicate "COMPLETED."
3. **If you want to save the edited patch, press [ENTER].**
   The display will indicate the part where the edited patch is used.
   Use VALUE [-]/[+] to specify the number (U001-U128) at which the user patch is to be saved.



   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.**




For more about the category, refer to **"Patch categories"** (p. 60)

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.**

8. **Press [ENTER].**

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

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

If you do not change **"Name (Pattern Name)"** (p. 79), the pattern will have the same name as the one you have been editing.

Convenient functions for pattern editing (Pattern Utility)

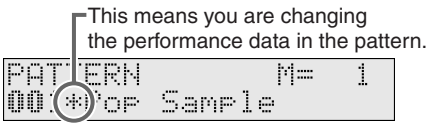
Pattern Utility provides various functions that you will find convenient when editing patterns, allowing you to do things such as copy or initialize a pattern.

1. **Press [PATTERN] so it is lit and you are in Pattern mode.**
2. **Select a pattern.**
3. **Press [UTILITY].**
4. **Use PAGE/CURSOR [◄]/[►] to select an item from the following utility menu.**

   For details on each menu, refer to the corresponding reference page.

   1: PTN ERASE (Pattern Erase) (p. 83)
   2: PTN DELETE (Pattern Delete) (p. 84)
   3: PTN QUANTIZE (Pattern Quantize) (p. 84)
   4: PTN COPY (Pattern Copy) (p. 84)
   5: PTN INSERT (Pattern Insert) (p. 85)
   6: PTN TRANSPOSE (Pattern Transpose) (p. 85)
   7: PTN CHG VEL (Pattern Change Velocity) (p. 86)
   8: PTN CHG GT (Pattern Change Gate Time) (p. 86)
   9: PTN SHIFT CLK (Pattern Shift Clock) (p. 87)
   10: PTN DATA THIN (Pattern Data Thin) (p. 87)
   11: PTN INIT (Pattern Initialize) (p. 88)
   12: PTN→ ARP CONV (Pattern to Arpeggio Convert) (p. 88)
   13: PTN PRM COPY (Pattern Parameter Copy) (p. 89)
   14: XFER to MIDI (Transfer to MIDI) (p. 90)
   15: FACTORY RESET (Factory Reset) (p. 90)
5. **Press [ENTER].**
6. **Use PAGE/CURSOR [◄]/[►] to select a parameter, and use VALUE [-]/[+] to specify the value.**

   * *For parameters that allow you to specify a range, you can press PAGE/CURSOR [►] to move the cursor.*
7. **When you have finished making all settings, press [ENTER] to execute the function.**
8. **Press [EXIT] to return to the previous screen.**



Erasing unwanted performance data (PTN ERASE)

This operation erases all or part of the performance data from a pattern. The performance data that is erased will be replaced by rests, so the measures will remain.

Part

Specifies the part(s) from which you wish to erase data.
If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures from which data will be erased.

VALUE

Meas: Specifies the measure at which erasure is to begin.

for: Specifies the number of measures from which data is to be erased. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be erased.

Event

Specifies the type of music data that you wish to erase.

VALUE

ALL: All music data

NOTE: Note (C-1–G 9)
Specify the range of notes. You can also press keys on the keyboard to specify the range.

P.AFT: Polyphonic Aftertouch

C.C.: Controller numbers (0–127)

PROG: Program numbers (1–128)

C.AFT: Channel Aftertouch

BEND: Pitch Bend

SYS-EX: System Exclusive

TUNE: Tune Request

Deleting unwanted measures (PTN DELETE)

Meas (Measure)

Sets the range of measures from which data will be deleted.

VALUE

Meas: Specifies the measure at which deletion is to begin.

for: Specifies the number of measures to be deleted. If you select "ALL," the measures from what you specified for **Meas** to the last measure of the pattern will be deleted.

Correcting the timing of a pattern (PTN QUANTIZE)

This operation corrects the timing of the data in a pattern according to the note values you specify.

Part

Specifies the part (s) for which you wish to carry out quantize.
If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures for which you wish to carry out quantize.

VALUE

Meas: Specifies the measure at which quantize is to begin.

for: Specifies the number of measures to be quantized. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be quantized.

Note

Specify the range of notes that will be quantized. You can also press keys on the keyboard to specify the range.

Value: C-1-G 9

Type

Selects the type of quantization.

VALUE

GRID: Notes will be quantized to intervals of the note value you specify.

SHUFFLE: Notes will be quantized to give a "shuffle" feel to the performance.

Grid Resolution

Make this setting when you are using Grid Quantize. Specify the quantization interval in terms of a note value. Select the shortest note value that will occur in the range to which Grid Quantize will be applied.

Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅯₃ , 𝅘𝅥𝅮 , 𝅘𝅥𝅮₃ , 𝅘𝅥𝅯 , 𝅗𝅥₃ , 𝅗𝅥

Grid Strength

Make this setting when you are using Grid Quantize. It specifies the degree to which notes will be adjusted toward the timing intervals specified by the Grid Resolution parameter. With a setting of "100%," the notes will be corrected precisely to the timing of the Grid Resolution parameter. As you lower this setting, the note timing will be corrected to a lesser extent, and with a setting of "0%" the timing will not be adjusted at all.

Value: 0–100 (%)

Shuf Resolution (Shuffle Resolution)

Make this setting when you are using Shuffle Quantize. Specifies the note value used for quantization.

Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅮

Shuf Rate (Shuffle Quantize Rate)

Make this setting when using Shuffle Quantize. It specifies the degree to which the backbeat will be separated from the downbeat specified by the Shuffle Resolution parameter. With a setting of "50%," the backbeat will be exactly between adjacent downbeats. With a setting of "0%," the backbeat will be moved to the same timing as the preceding downbeat. With a setting of "100%," the backbeat will be moved to the same timing as the following downbeat.

Value: 0–100 (%)

Copying a pattern (PTN COPY)

This operation copies data to the current pattern.
You can copy data from the current pattern to the current pattern, or from a user pattern to the current pattern.

Src

Specifies the copy source pattern.
If you choose "CUR," the current pattern will be specified.

Value: CUR, 001–256

Part

Specifies the part that you wish to copy.
If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures you wish to copy.

VALUE

Meas: Specifies the measure at which copying is to begin. If you select "SETUP," the copy will start from the first measure, including the **pattern setup data**.

for: Specifies the number of measures to be copied. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be copied.

About pattern setup

If you select **SETUP** as the beginning of the copy region, the following settings will be copied together with the sequence data. This data is collectively known as **pattern setup data**.

- Pattern name
- Voice reserve settings
- Pattern level
- MFX Source
- MFX settings
- Chorus settings
- Reverb settings
- Part level*
- Part pan*
- Receive channel*
- Receive switch*
- Receive program change*
- Receive bank select*
- Scale tune*
- Patches*

* *The asterisk indicates parameters that are set independently for each part.*

Event

Specifies the type of music data you wish to copy.

VALUE

ALL: All music data

NOTE: Note (C-1–G 9)
Specify the range of notes. You can also press keys on the keyboard to specify the range.

P.AFT: Polyphonic Aftertouch

C.C.: Controller numbers (0–127)

PROG: Program numbers (1–128)

C.AFT: Channel Aftertouch

BEND: Pitch Bend

SYS-EX: System Exclusive

TUNE: Tune Request

To Meas

Specifies the copy-start measure of the copy-destination part.

Value: SETUP, 001–998

If you select "SETUP" for **Meas**, this value will be fixed at "SETUP."

Mode

Specifies the copy mode.

VALUE

REPLACE: Music data in the copy destination will be erased (i.e., overwritten) when the copy takes place.

MIX: Music data in the copy destination will be combined with the newly copied data.

Times

Sets the number of times that the data will be copied.

Value: 1–998

Inserting blank measures (PTN INSERT)

This operation inserts blank measures into the specified location of a pattern. If you wish to add more musical material in the middle of a pattern, use this operation to insert blank measures before recording the additional material. The inserted measures will have the same time signature as the pattern.

Meas (Measure)

Sets the range of blank measures that will be inserted.

VALUE

Meas: Specifies the measure at which the blank measures will be inserted.

for: Specifies the number of measures to be inserted.

Transposing the pitch (PTN TRANSPOSE)

This operation shifts the note numbers (pitch) of each part in a pattern.

Part

Specifies the part(s) that you wish to transpose.
If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures that will be transposed.

VALUE

Meas: Specifies the measure at which transposition is to begin.

for: Specifies the number of measures to be transposed. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be transposed.

Note

Specifies the range of notes that will be transposed.

Value: C-1–G 9

Bias

Specifies the amount of transposition, in semitone steps. If the setting's value is "0," no transposition will occur.

Value: -99–+99

Modifying the velocity of notes (PTN CHG VEL)

This operation modifies the velocity (playing strength) of the notes recorded in the pattern.

MEMO

If this operation would result in a velocity greater than 127 (or less than 1), the result will be limited to 127 (or 1).

Part

Specifies the part whose velocity you wish to change.

If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Specifies the range of measures in which the velocity is to be changed.

VALUE

Meas: Specifies the measure from where the velocity will be changed.

for: Specifies the number of measures for which the velocity is to be changed. If you select "ALL," all velocities from the measure you specified for **Meas** to the last measure of the pattern will be modified.

Note

Specifies the range of notes whose velocities will be modified. You can also press keys on the keyboard to specify the range.

Value: C-1–G 9

MODE

Specifies how the velocity is to be changed.

VALUE

SET TO: Rewrites all velocities in the specified region to a fixed value.

BIAS: Adds or subtracts a certain velocity value to/from the velocities in the specified region. For example, if you set **BIAS** to "20," a velocity value of 70 will be modified to 90.

MAGNIFY: Set this parameter if increases or decreases in velocity variations are desired. For less velocity variation, use settings of "99%" or less. For more velocity variation, set it to "101%" or greater. With a setting of "100%," velocity values do not change.

Select MODE and press [►] to display setting screens for each parameter. Use VALUE [-]/[+] to set the value.

- If you choose SET TO

Value: 1–127

- If you choose BIAS

Value: -99–+99

- If you choose MAGNIFY

VALUE

Magnify: 0–200 [%]

Modifying the note length (PTN CHG GT)

This operation modifies the gate time (duration) of the notes recorded in the pattern. This can be used to make the overall performance more staccato or tenuto.

Part

Specifies the part in which you wish to modify the gate time.

If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures in which you wish to adjust the gate time.

VALUE

Meas: Specifies the measure at which the gate time adjustment is to begin.

for: Specifies the number of measures to be adjusted. If you select "ALL," gate times in the region from the measure you specified for **Meas** to the last measure of the pattern will be modified.

Note

Specifies the range of notes whose gate time will be modified. You can also press keys on the keyboard to specify the range.

Value: C-1–G 9

MODE

Specifies how the gate time is to be changed.

VALUE

SET TO: Rewrites all gate times in the specified region to a fixed value.

BIAS: Adds or subtracts a certain gate time value to/from the gate times in the specified region. For example, if you set **BIAS** to "-30," a gate time that was originally 90 will be changed to 60.

MAGNIFY: Gate times in the specified region will be increased/decreased by the specified percentage. A setting of 100% will produce no change. Settings higher than 100% will increase the differences, and settings lower than 100% will decrease them. For example, if you want gate time values to differ half as much as originally, set this to 50%. If you want to double the variance in gate time values, set this to 200%.

Select MODE and press [▶] to display setting screens for each parameter. Use VALUE [-]/[+] to set the value.

- If you choose SET TO

Value: 1–384

- If you choose BIAS

Value: -99–+99

- If you choose MAGNIFY

VALUE

Magnify: 0–200 [%]

Shifting pattern data forward and back (PTN SHIFT CLK)

Using this operation, the timing of the music data in a pattern can be shifted forward or backward in units of a single clock. Use this when you wish to slightly shift the overall timing.

NOTE

When this function is executed, data that would be moved to a point before the beginning of the pattern will automatically shift to the beginning of the pattern.

Part

Specifies the part(s) whose timing you wish to shift.

If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Sets the range of measures in which the music data will be moved in units of one clock.

VALUE

Meas: Specifies the measure at which shifting is to begin.

for: Specifies the number of measures to be shifted. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be shifted.

Event

Specifies the type of music data to be shifted in time.

VALUE

ALL: All music data

NOTE: Note (C-1–G 9)

Specify the range of notes. You can also press keys on the keyboard to specify the range.

P.AFT: Polyphonic Aftertouch

C.C.: Controller numbers (0–127)

PROG: Program numbers (1–128)

C.After: Channel Aftertouch

BEND: Pitch Bend

SYS-EX: System Exclusive

TUNE: Tune Request

Bias

Specifies the amount (number of clocks) by which the music data will be moved.

Value: -99–+99

Thinning out unneeded data (PTN DATA THIN)

Since events such as pitch bend or control change use continuously changing values, they can occupy an unexpectedly large amount of memory. The Ptn Data Thin operation lets you thin out such data in a way that will not affect the audible result, yet will reduce the amount of data.

Part

Sets the part(s) whose data you wish to thin out.

If you choose "ALL," all parts will be specified.

Value: ALL, 1–16

MEMO

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

Meas (Measure)

Specifies the range of measures in which data will be thinned.

VALUE

Meas: Specifies the measure at which data thin is to begin.

for: Specifies the number of measures to be thinned. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be thinned.

Event

Select the type of music data that you wish to thin.

VALUE

ALL: All music data

P.AFT: Polyphonic Aftertouch

C.C.: Controller numbers (0–127)

C.AFT: Channel Aftertouch
BEND: Pitch Bend

Value

Specifies how much the data will be thinned. If you are thinning data in which rapid changes occur, use higher settings for this parameter.
Value: 0–99

Time

Specifies the time interval at which the data will be thinned. If you are thinning data that changes gradually, use higher settings for this parameter.
Value: 0–99

Initializing the parameters of a pattern (PTN INIT)

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

NOTE
The Initialize operation applies only to the currently selected pattern; it will not change the content of other patterns stored in user memory. If you want to restore all settings to the factory-set condition, execute the Factory Reset operation (p. 20).

Creating your own user arpeggio style (PTN→ARP CONV)

To create a user arpeggio style, you specify a portion of a pattern and convert that into a style. This means that in order to create your own user arpeggio style, you must first create a user pattern. For details on creating a user pattern, refer to **"Using the sequencer to create a pattern"** (p. 40).

Of the pattern data, only the differences in note pitch (the pitch difference relative to the first-pressed key), timing, and bender information are used. All remaining data is ignored by the conversion.

1. **Press [PATTERN] so it is lit and you are in Pattern mode.**
2. **Choose the pattern you wish to convert to the arpeggio style.**
3. **Press [UTILITY].**
4. **Use PAGE/CURSOR [◄]/[►] to select "12: PTN→ARP CONV."**
5. **Press [ENTER].**

A screen will appear in which you can convert the data into a user arpeggio style.

6. **Use PAGE/CURSOR [◄]/[►] to move the cursor, and use VALUE [-]/[+] to specify the value.**
You can set the following parameters.

Part

Select the part whose data you wish to convert.
Value: 1–16

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

Meas (Measure)

Specify the range of measures that you want to convert to a user arpeggio style.
VALUE
Meas: Specify the starting number of the measures to be converted.
for: Specifies the number of measures to be converted. You cannot set this to a length that is longer than the current pattern. If you select "ALL," data from the measure you specified for **Meas** to the last measure of the pattern will be converted to a user arpeggio style.

To

Specify the user arpeggio style number in which the selected pattern is to be registered. You can register up to eight user arpeggio styles.
Value: UserStyle 1–UserStyle 8

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

7. **When you have finished setting the parameters, press [ENTER] to confirm your settings.**
The pattern will be converted to a user arpeggio style.

When all the data has been converted to the user arpeggio style, the display will indicate "COMPLETED."

Copying parameters from a pattern (PTN PRM COPY)

This operation copies the settings of a specified pattern to the current pattern. 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.

What

Selects the data to be copied.

VALUE

PART: Copy settings made for each part of a pattern (p. 80).

MFX: Copy multi-effect settings.

CHORUS: Copy chorus effect settings.

REVERB: Copy reverb effect settings.

Press [▶] to access the setting screen for each parameter.

Copying settings made for each part of a pattern

1. Select "PART."

2. Press PAGE/CURSOR [▶].

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

3. Press PAGE/CURSOR [▶].

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

MEMO

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

4. Press PAGE/CURSOR [▶].

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

MEMO

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

5. Press [ENTER].

Settings made for each part of the pattern will be copied to the current pattern.

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

Copying effect settings

1. Select "MFX," "CHORUS," or "REVERB."

2. Press PAGE/CURSOR [▶].

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

3. Press PAGE/CURSOR [▶].

When copying "PATCH" effect settings

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

When copying "PTN (Pattern)" effect settings

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

4. Press [ENTER].

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

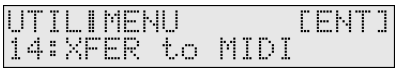
When the display indicates "COMPLETED," the copy operation has been completed.

MEMO

If you copy multi-effect settings, those settings will be pasted into the effect parameters of the pattern, regardless of the **MFX Source** setting (p. 79). 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 pattern is set to "PART," change it to "PTN/PERF." Additionally, if MFX Source of the copy source is set to "PART," you will need to select "PATCH" in the above step 2, and select the patch assigned to that part in step 3 to copy the effect settings of the patch.

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

You can transmit the settings of the current pattern or user pattern from the MIDI OUT connector. This function lets you save pattern settings on an external sequencer.



What

Selects the data to be output.

MEMO

The data transmitted to the external device is only the portion other than the music data of the pattern. If you want to save all of the pattern data including the music data, use the RS-70's disk drive to save the data on a floppy disk.

Transmitting the settings of currently selected pattern

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

1. **Choose "CUR PTN/PERF."**

2. **Press [ENTER].**

   The selected pattern 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 pattern

1. **Choose "USER PTN/PERF."**

2. **Press PAGE/CURSOR [►].**

   Specify the range of patterns whose settings you want to transmit.

   Use VALUE [-]/[+] to specify the first pattern of the range of patterns you want to transmit.

3. **Press PAGE/CURSOR [►].**

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

4. **Press [ENTER].**

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

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

Restoring the factory settings (FACTORY RESET)

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

For more about FACTORY RESET, refer to **"Reset to default factory settings (Factory Reset)"** (p. 20).

Adding effects

The RS-70 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 pattern.
- In Patch mode, effects will be applied according to the settings of each patch. For details, refer to **MFX Switch** (p. 57), **Chorus Send Lvl** (p. 57), and **Reverb Send Lvl** (p. 57) 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 Pattern 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. 82), **Chorus Send Lvl** (p. 82), and **Reverb Send Lvl** (p. 82) in the section entitled **Part Effect Parameters**. Each effect is shared by all parts (patches).
- When using the multi-effect in Pattern mode, you will normally apply the multi-effect using "the effect settings stored by the pattern." However, if desired, you can set the pattern parameter **MFX Source** (p. 79) 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-70 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.

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.

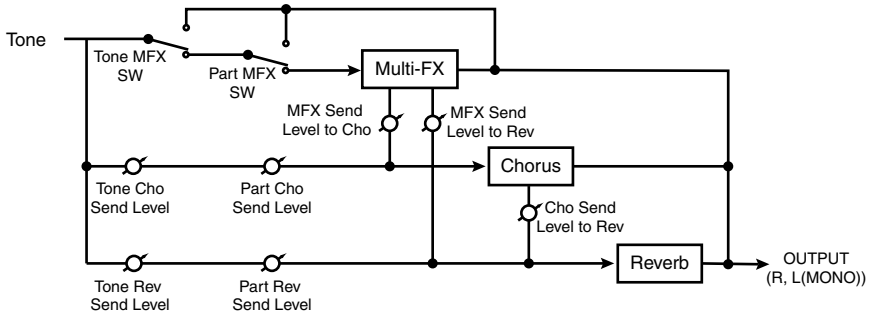
When the cursor is located at "Rev" and you want to edit the effect settings, press PAGE/CURSOR [►], and the effect parameters selected previously will be displayed.

For further information, refer to **"Making effects settings"** (p. 93).

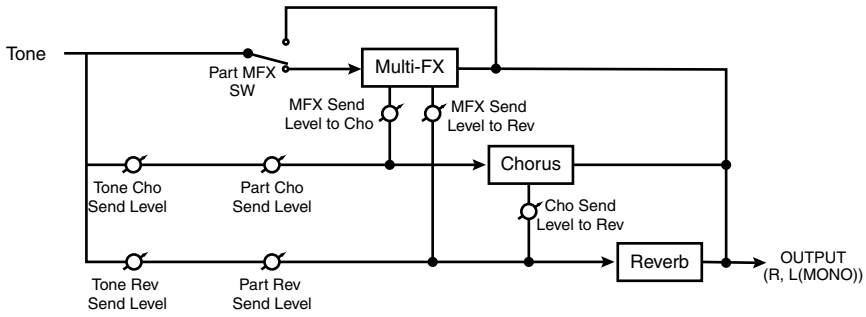
The effect signal path

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

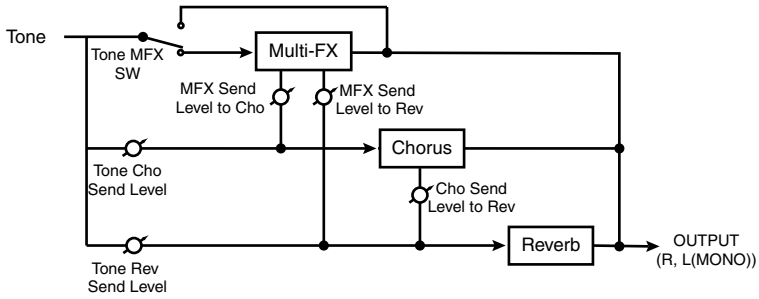
Pattern Mode (Patch)



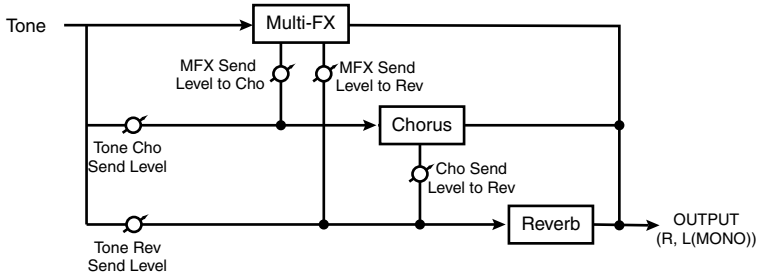
Pattern Mode (Rhythm)



Patch Mode (Patch)



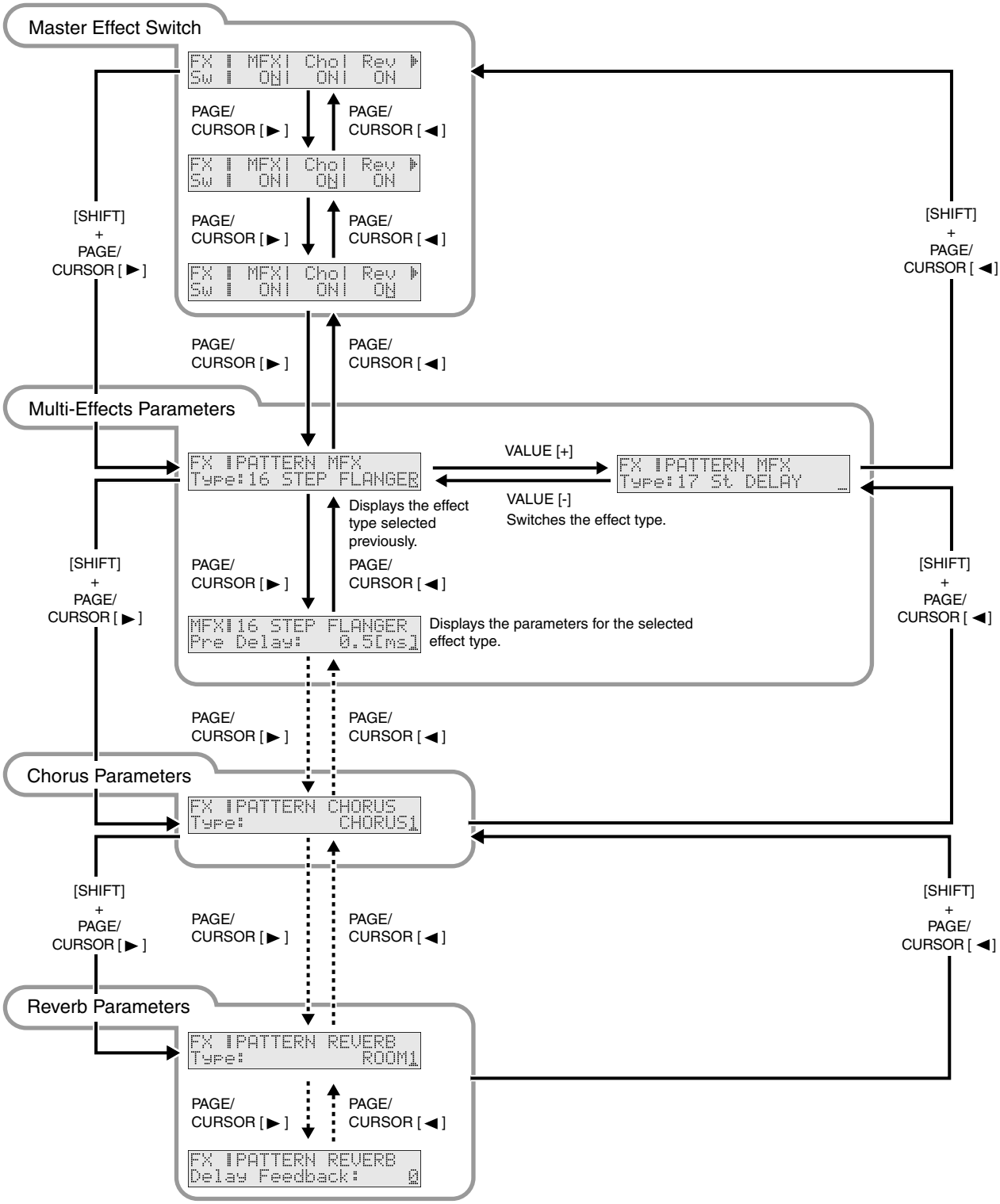
Patch Mode (Rhythm)



Making effects settings

Selecting effect parameters

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



1. Press [EFFECTS] so it is lit.

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

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

Example: for a rhythm patch

Example: for a pattern

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:

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-70, 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. 37, p. 126.

Value

OFF: Multi-effect control will not be used.

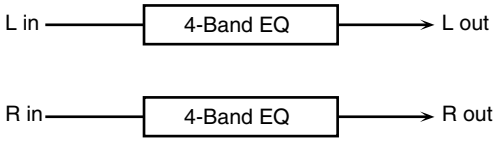
Items with a "#" symbol: The parameters that can be assigned to Ctrl1 or Ctrl2. These differ depending on the multi-effect type.

00: THROUGH

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

01: STEREO EQ (Stereo Equalizer)

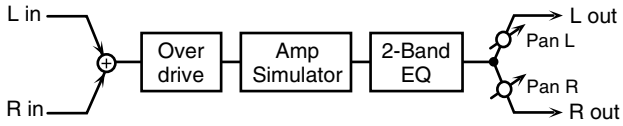
This is a four-band stereo equalizer (low, mid x 2, high).



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.
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

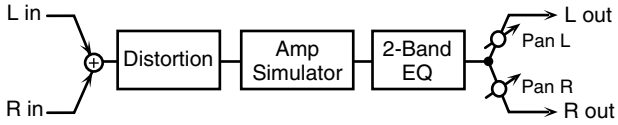
This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.



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.

03: DISTORTION

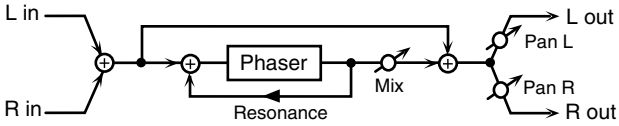
This effect produces a more intense distortion than Overdrive.



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.

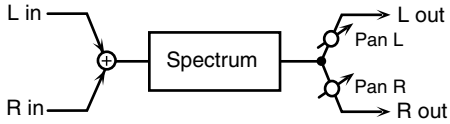


Parameter	Value	Description
Manual #	100–8000 [Hz]	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 [Hz]	Adjusts the frequency (period) of modulation.
Depth	0–127	Adjusts the depth of modulation.
Resonance	0–127	Adjusts the amount of feedback for the phaser.
Mix	0–127	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.

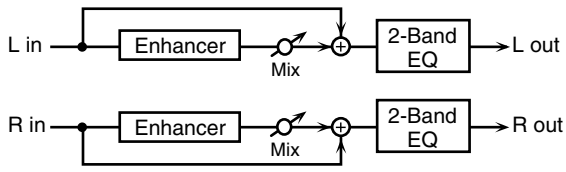
It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.



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

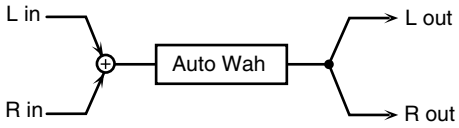
The enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



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.

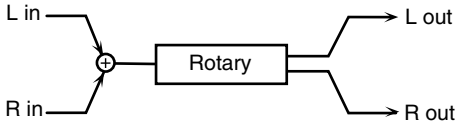


Parameter	Value	Description
Filter Type	LPF, BPF	Selects the type of filter. LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Rate #	0.05–10.00 [Hz]	Adjusts the frequency of the modulation.
Depth	0–127	Adjusts the depth 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.

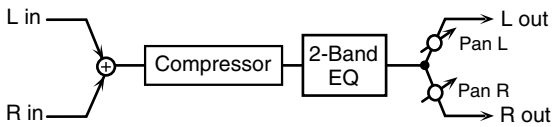
Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.



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.
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. 126).
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

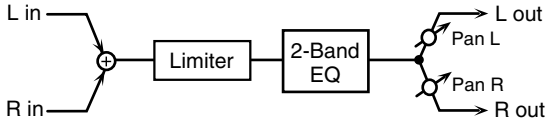
The compressor flattens out high levels and boosts low levels, smoothing out unevenness in volume.



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.

10: LIMITER

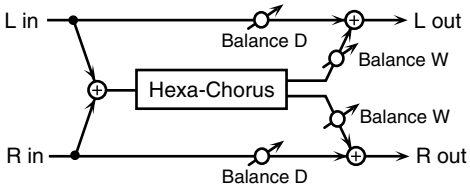
The limiter compresses signals that exceed a specified volume level, preventing distortion from occurring.



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

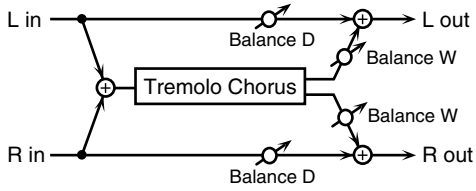
Hexa-chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



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.
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)

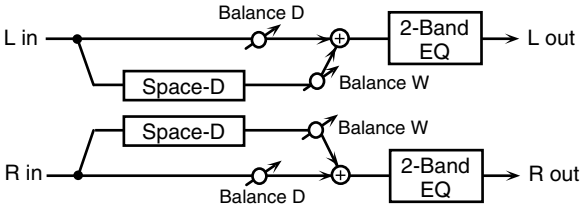
Tremolo chorus is a chorus effect with added tremolo (cyclic modulation of volume).



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

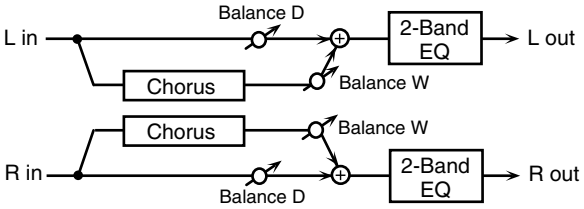
Space-D is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



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)

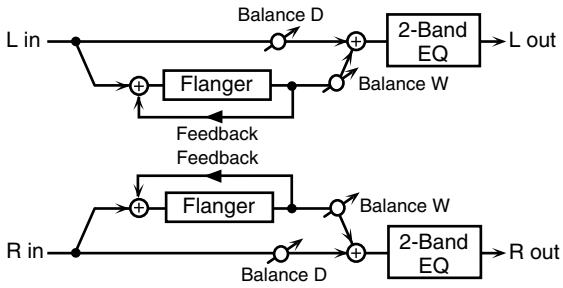
This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



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.
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.

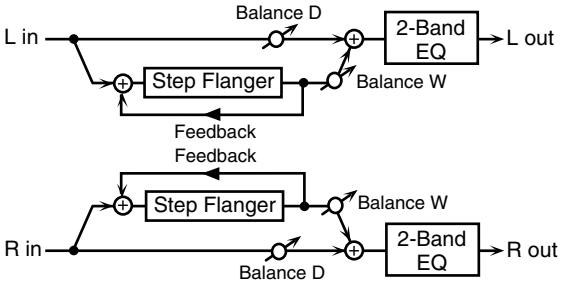


Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Selects the type of filter. OFF: A filter will not be used. LPF: Cuts the frequency range above the cutoff frequency. HPF: Cuts the frequency range below the cutoff frequency.
Cutoff Freq	200–8000 [Hz]	Adjusts the basic frequency of the filter.
Pre 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.

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.

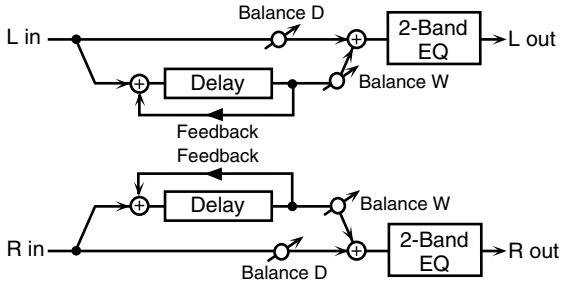


Parameter	Value	Description
Pre Delay	0.0–100 [ms]	Adjusts the time delay from when the direct sound begins until the flanger sound is heard.
Rate	0.05–10.00 [Hz]	Adjusts the rate of modulation.
Depth	0–127	Adjusts the depth of modulation.
Feedback #	-98– +98 [%]	Adjusts the amount (%) of the flanger 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 sequencer is playing, the period for the pattern is not reset even if you set this ON.
Level	0–127	Adjusts the output level.

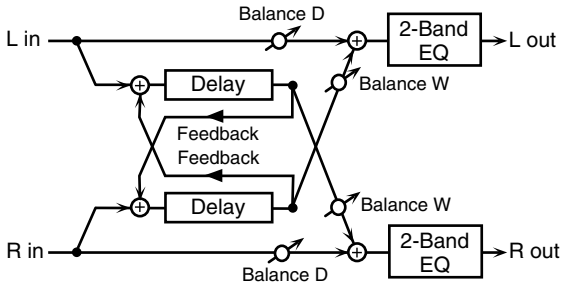
17: St DELAY (Stereo Delay)

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

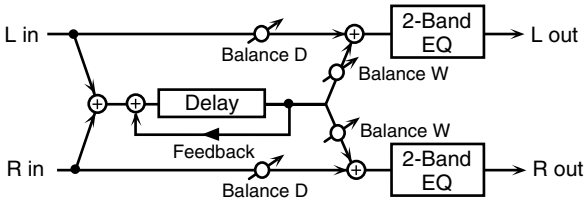


Parameter	Value	Description
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay. CROSS: The left delay sound will be fed back into the right delay, 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.

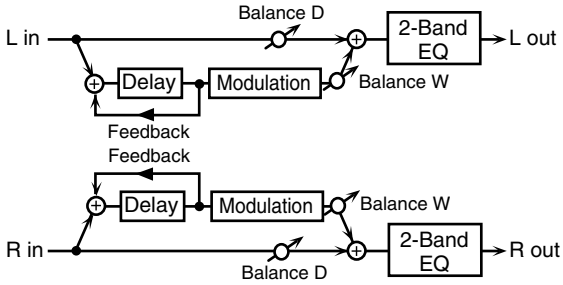


Parameter	Value	Description
Delay	0–840 [ms], note *1	Adjusts the time from the direct sound until the delay sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 [Hz], BYPASS	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.

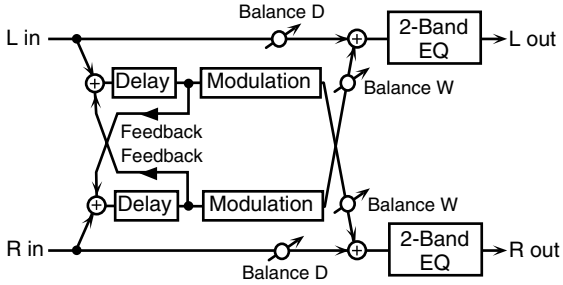
19: MOD DELAY (Modulation Delay)

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:

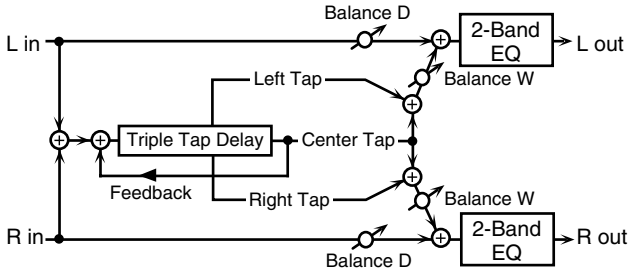


Parameter	Value	Description
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay. CROSS: The left delay sound will be fed back into the right delay, 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.

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)

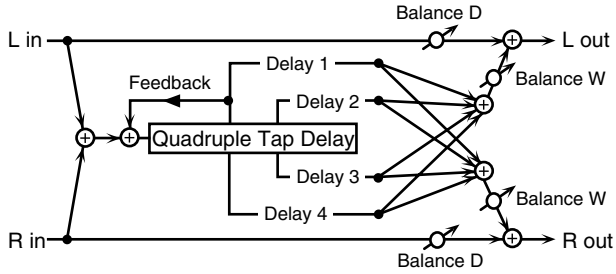
The Triple Tap Delay produces three delay sounds; center, left and right.



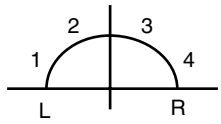
Parameter	Value	Description
Delay Left	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when the left delay sound is heard.
Delay Right	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when the right delay sound is heard.
Delay Center	0–840 [ms], note *1	Adjusts 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.
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.

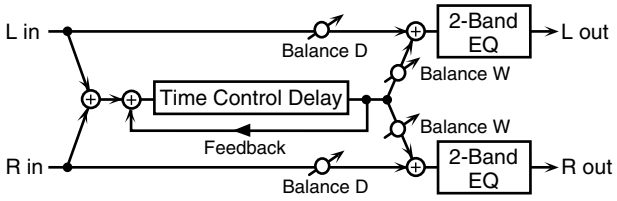


Parameter	Value	Description
Delay 1	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 1 sound is heard.
Delay 2	0–840 [ms], note *1	Adjusts the time delay from the direct sound until when delay 2 sound is heard.
Delay 3	0–840 [ms], note *1	Adjusts the time delay from the 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.

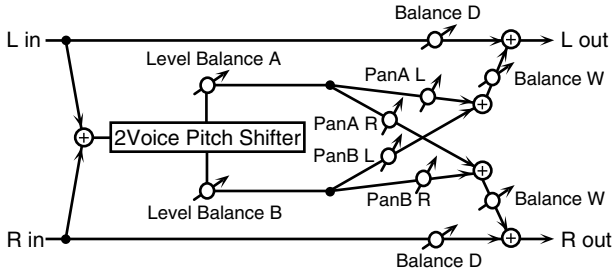


Parameter	Value	Description
Delay #	0–840 [ms]	Adjusts the time delay from the direct sound until when each delay sound is heard.
Feedback #	-98– +98 [%]	Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Acceleration	0–15	This 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.

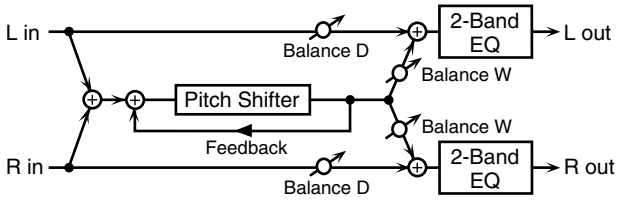


Parameter	Value	Description
Mode	1, 2, 3, 4, 5	Higher settings of this parameter will result in slower response, but steadier pitch.
Coarse A #1	-24– +12 [semi]	Adjusts the pitch of Pitch Shift A in semitone steps (-2- +1 octaves).
Coarse B #2	-24– +12 [semi]	Adjusts the pitch of Pitch Shift B in semitone 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.

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)

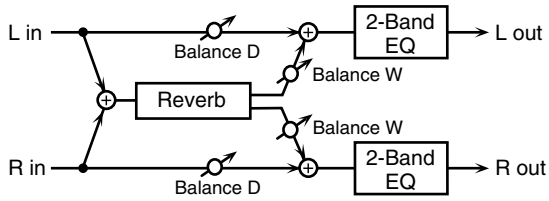
This pitch shifter allows the pitch shifted sound to be fed back into the effect.



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 (-2- +1 octaves).
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

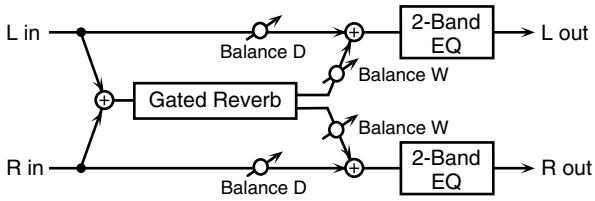
The Reverb effect adds reverberation to the sound, simulating an acoustic space.



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

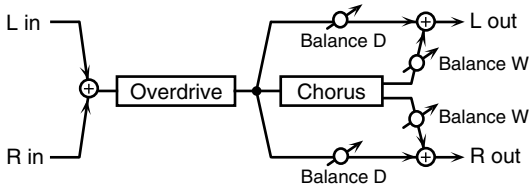
Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.



Parameter	Value	Description
Type	NORMAL, REVERSE, 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)

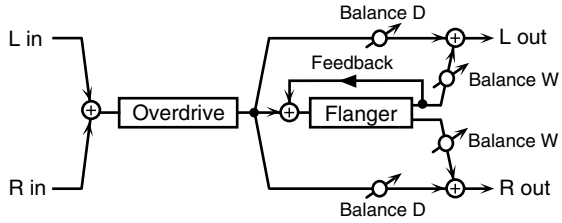
This effect connects an overdrive and a chorus in series.



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.
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.

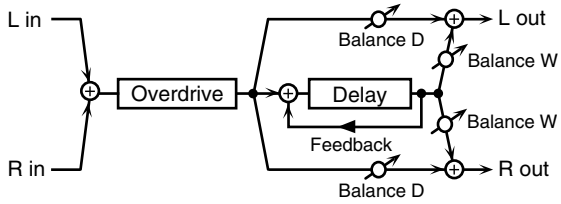


Parameter	Value	Description
OD Drive	0–127	Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.
OD Pan #	L64–63R	Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.
Flg Delay	0.0–100 [ms]	Adjusts 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.

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.



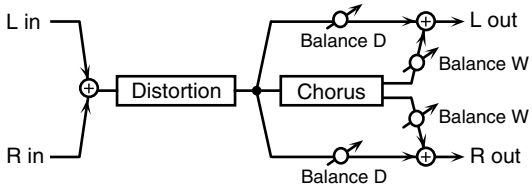
Parameter	Value	Description
OD Drive	0–127	Adjusts the degree of overdrive distortion. The volume will change together with the degree of distortion.
OD Pan #	L64–63R	Adjusts the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.
Delay Time	0–500 [ms]	Adjusts 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.)

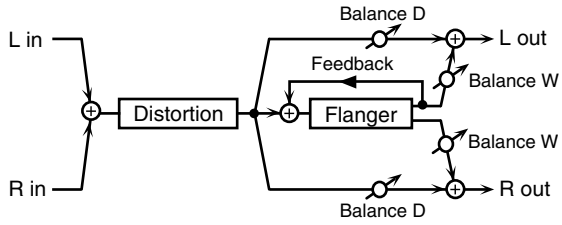


31: DIST>FLANGER (Distortion→Flanger)

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.)

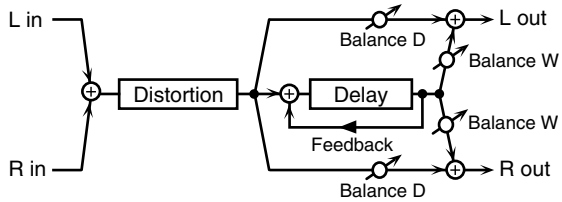


32: DIST>DELAY (Distortion→Delay)

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.

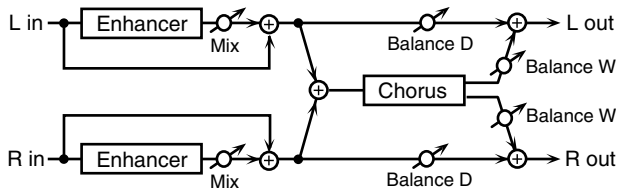
OD Drive→Dist Drive (Specifies the amount of distortion.)

OD Pan→Dist Pan (Specifies the stereo location of the distortion sound.)



33: ENH>CHORUS (Enhancer→Chorus)

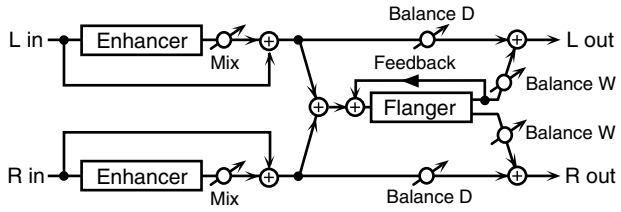
This effect connects an enhancer and a chorus in series.



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)

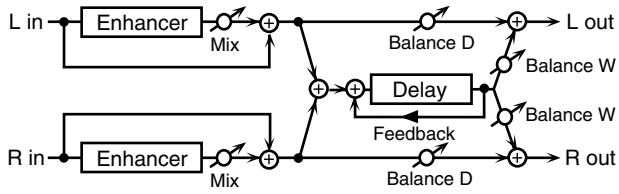
This effect connects an enhancer and a flanger in series.



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.
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)

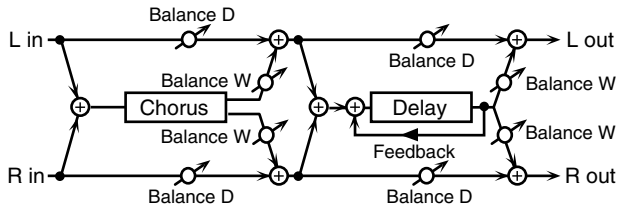
This effect connects an enhancer and a delay in series.



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.

36: CHORUS>DELAY

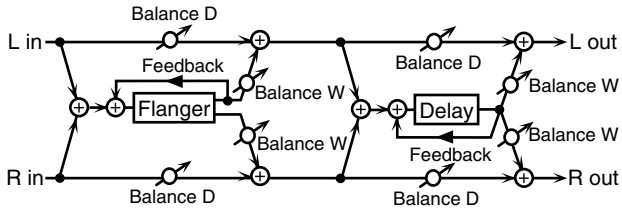
This effect connects a chorus and a delay unit in series.



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)

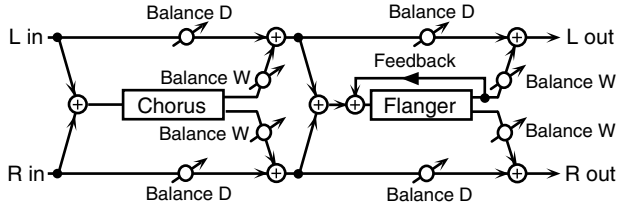
This effect connects a flanger and a delay in series.



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)

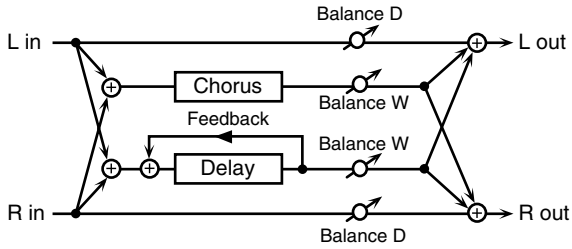
This effect connects a chorus and a flanger in series.



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.

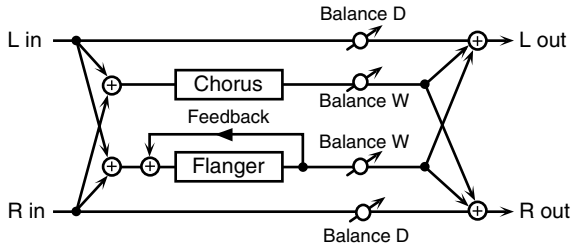


40: FLG/DELAY (Flanger/Delay)

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.

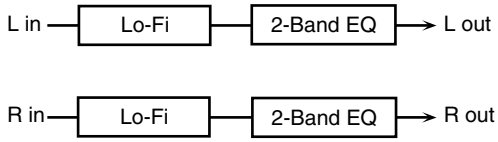
41: CHO/FLANGER (Chorus/Flanger)

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.

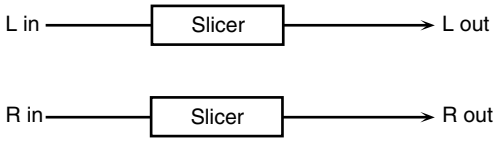


Parameter	Value	Description
Bit Down	0–11	This setting lowers the audio quality. The audio quality will worsen as this setting is increased.
S-RateDown	0–7	This coarsens the output signal. The sound will become coarser as this setting is increased.
Post Gain	0, +6, +12, +18 [dB]	Adjusts the output signal.

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.
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.

43: SLICER

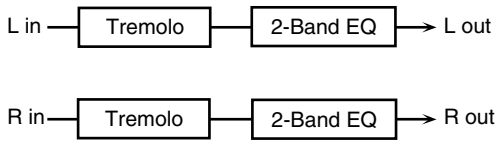
By applying successive cuts to the sound, this effect produces what are heard as backing phrases, even though you've played something much simpler. This is especially effective when applied to sustain-type sounds.

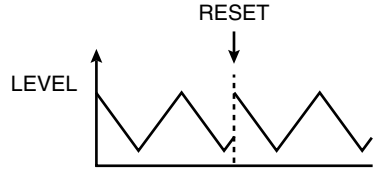


Parameter	Value	Description
Timing Pattern	1–34	Selects a pattern to specify the timing at which the sound will be cut.
Accent Pattern	1–16	Specifies the location of the accents.
Accent Level #	0–127	Adjusts the volume of the accents. As this setting is increased, the accent will be more pronounced.
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 sequencer 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

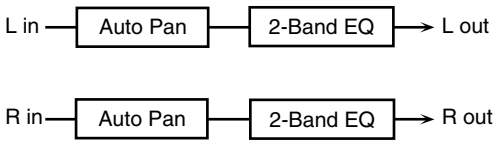
Tremolo cyclically modulates the volume to add tremolo effect to the sound.

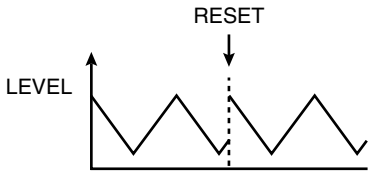


Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1/ 2	TRI: The sound will be modulated like a triangle wave. SQR: The sound will be modulated like a square wave. SIN: The sound will be modulated like a sine wave. SAW1/2: The sound will be modulated like a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.
		
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 sequencer 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.

45: AUTO PAN

The Auto Pan effect cyclically modulates the stereo location of the sound.

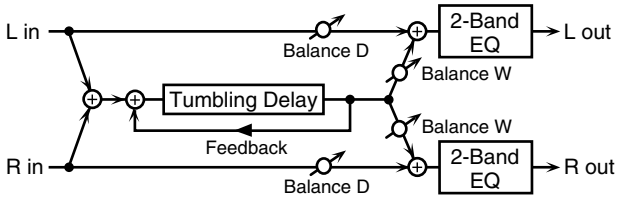


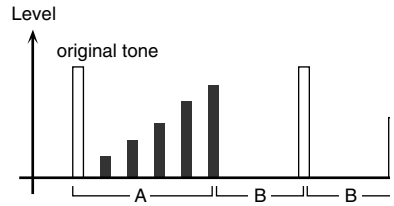
Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1/ 2	TRI: The sound will be modulated like a triangle wave. SQR: The sound will be modulated like a square wave. SIN: The sound will be modulated like a sine wave. SAW1/2: The sound will be modulated like a sawtooth wave. The teeth in SAW1 and SAW2 point at opposite directions.
		
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 sequencer 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.

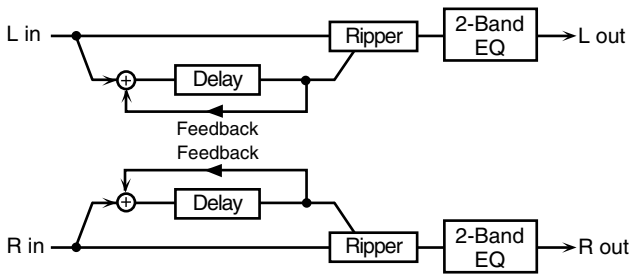
It is most effective when applied to single notes of a "one-shot" sound.



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.
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.
	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.
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 sequencer is playing, the period for the pattern is not reset even if you set this ON.
Level	0–127	Adjusts the output level.

note *1

(Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note), (Eighth note), (Quarter-note triplet), (Dotted eighth note), (Quarter note), (Half-note triplet), (Dotted quarter note), (Half note),

note *2

(Sixty-fourth-note triplet), (Sixty-fourth note), (Thirty-second-note triplet), (Thirty-second note), (Sixteenth-note triplet), (Dotted thirty-second note), (Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note), (Eighth note), (Quarter-note triplet), (Dotted eighth note), (Quarter note), (Half-note triplet), (Dotted quarter note), (Half note), (Whole-note triplet), (Dotted half note), (Whole note), (Double-note triplet), (Dotted whole note), (Double note)

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

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

How effects will switch while a pattern is playing

Effects are applied according to the settings of the pattern (or the patch that is used). This means that if you switch to a different pattern, the effect settings will also be switched.

If you switch patterns during pattern playback, slight noise may be heard if there are major changes in reverb or chorus settings. In the case of the multi-effects, major changes in effect settings that occur between patterns may cause the effect sound to be muted briefly to avoid noise.

MEMO

By turning on the SYSTEM **"MFX Remain Switch"** (p. 125), you can prevent effects from being switched. In this case, the multi-effect settings of the pattern that was played first will be maintained during the playback.

Connecting patterns to create a song (Song mode)

You can specify the order in which patterns will be played back, and connect them to create a **song**.

In other words, you can create an entire song just by connecting patterns (each containing several measures) in the desired order and playing them back.

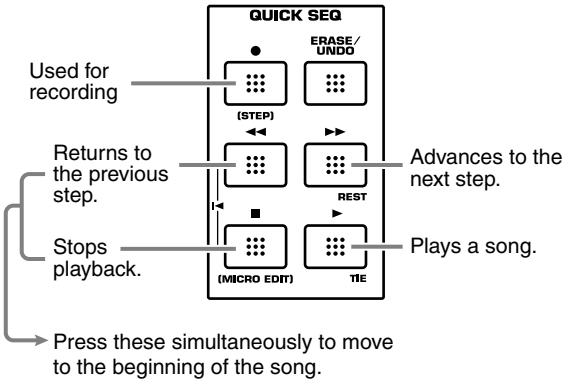
In one song, you can specify a playback order for up to 50 patterns.

Each position (number) in the specified order of playback is called a **step**.

Playing back a song

Basic playback operation

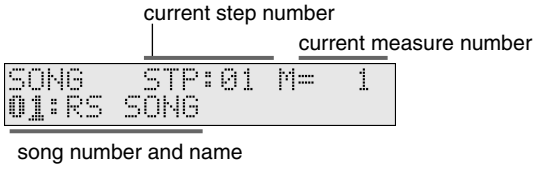
Use the following buttons to control the playback.



Selecting a song to play back

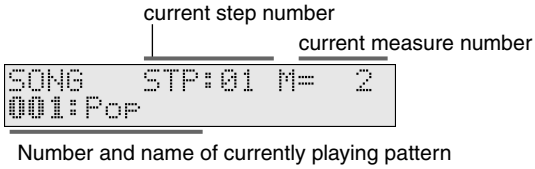
1. Press [SONG] so it is lit and you are in Song mode.

The display will show the name of the currently selected song.



2. Select the song number (01–99) that you want to play.

3. Press [►] to play back a song.



MEMO

The **Song Parameter** setting determines what will happen after the song plays to the end; whether it will automatically stop playing, or will continue looping (p. 116).

Selecting song numbers

Using VALUE [-]/[+]

You can use VALUE [-]/[+] to select the previous or next song from the currently selected song.

You don't need to press [ENTER] after making your selection; the song is selected immediately.

Using the direct access buttons

When not using the NUMERIC function

Only the lowest digit will change when you press [0]–[9].

1. Use [0]–[9] to input a number.

The upper digit will be fixed; only the lower digit will change.

When using the NUMERIC function

1. Press [NUMERIC] so it is lit.

2. Use [0]–[9] to input a two-digit number.

3. If you want to finalize the value, press [ENTER].

[NUMERIC] will go out.

If you decide to cancel, press [EXIT].

Muting a part (Track Mute)

While the song is playing, you can switch the play/mute status of each part to dynamically vary the performance without actually modifying the patterns themselves.

1. Press [TRACK MUTE] so it is lit.

2. Press the lit or blinking buttons for each part to switch the corresponding part between play or muted status.

Lit:	The playback data is not muted
Blinking:	The playback data is muted.
Unlit:	There is no playback data.

The RS-70 has a total of sixteen parts.

To switch the play/mute status of parts 11–16, hold down [SHIFT] and press [1]–[6].

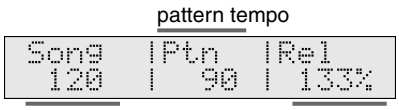
☞ **"Selecting a part"** (p. 54)

Set the song tempo

You can change the song tempo in the same way as changing the pattern tempo (p. 67).
In Song mode, the tempo specified for each pattern is combined with the relative tempo specified in Song mode to determine the actual playback tempo. When you save a song, this relative tempo will be saved together with the song.

1. **Press [TAP TEMPO] so it is lit.**
   The current tempo of the song will be displayed.

2. **Press PAGE/CURSOR [►].**
   The relative tempo is displayed.



   Here you can use VALUE [-]/[+] to change only the song tempo.

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

MEMO
If you press [TAP TEMPO], the tempo display will always be updated according to the tempo changes within the song.

Creating a song

On the RS-70, you create a song by inputting the playback order of patterns one at a time.

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Press [●].**

3. **Use VALUE [-]/[+] to select a pattern for the step.**

☞ **"Selecting a pattern to play back"** (p. 66)

4. **Press [ENTER] or [►►].**
   The pattern input number will advance by one.

MEMO
If you input a pattern by mistake, press [ERASE/UNDO] to delete the currently selected step.

5. **Repeat steps 3–4 to complete the song.**
6. **When you have finalized the last pattern, press [■] to end recording.**

☞ If you want to save the song you created, refer to **"Saving a song"** (p. 115).

Auditioning a pattern

After selecting a pattern during recording, you can press [►] to audition that pattern. You can also select different patterns while you audition them. When you are finished auditioning, press [■].

Replace the pattern in the middle of the song

If you want to replace a pattern from the middle, or when you wish to add a new pattern to the end of a song, use [◄◄]/[►►] to move to the location (pattern input number) where you wish to begin recording. Then you can enter recording mode to re-record.

Notes concerning song playback

Songs do not actually contain the musical data of the patterns; they contain only the order in which the patterns are to be played back. This means that if you modify a pattern that has been registered in a song, the playback of the song will also be affected. If you delete all of the musical data of the pattern, playback will stop at the moment that pattern is selected.

Saving a song

When you have recorded/edited a song, use the following procedure to save it.

1. **Press [WRITE].**
   Use VALUE [-]/[+] to specify the song number (01–99) at which to save the song.

NOTE
Be aware that if you choose a number in which a user song has already been saved, the previously saved settings will be overwritten and lost. To avoid accidentally overwriting important data, we recommend that you always assign a name to a newly created song.

2. **Press [ENTER].**

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

MEMO
If you decide not to save the user song, press [EXIT].
If you want to change the user song name, refer to **"Editing the song name"** (p. 116).

Editing song settings

You can assign a name to a song you create, and specify whether the song will loop when it is played.

Editing the song name

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Select a song.**
3. **Press [PARAM] so it is lit.**
   Now you can edit the song parameters.

   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. 54)

4. **Press [WRITE] to save the song.**

☞ **"Saving a song"** (p. 115)

Looping the song

You can specify whether the song will automatically stop or continue looping when playback reaches the end of the song.

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Select a song.**
3. **Press [PARAM] so it is lit.**
   Now you can edit the song parameters.
4. **Press PAGE/CURSOR [►].**

   Use VALUE [-]/[+] to select "ON" if you want the song to continue looping, or "OFF" if you want the song to stop when it reaches the end.

5. **Press [WRITE] to save the song.**

☞ **"Saving a song"** (p. 115)

Convenient functions for song editing (Song Utility)

Song Utility provides various functions that you will find convenient when editing songs, such as copying or initializing a song.

MEMO

After editing the song, save it as described in **"Saving a song"** (p. 115).

Deleting an unwanted step (SONG STEP DELETE)

Here's how to delete an unwanted step from a song.

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Press [UTILITY].**
3. **Use PAGE/CURSOR [◄]/[►] to select "1:SONG STEP DELETE."**

4. **Press [ENTER].**

5. **Select steps to delete.**
   Use PAGE/CURSOR [◄]/[►] to move the cursor, and use VALUE [-]/[+] to specify the value.

   VALUE

   Step: Specify the step at which deletion is to begin.

   for: Specify the number of steps to be deleted. If you select "ALL," all steps from what you specified for **Step** to the end of the song will be deleted.

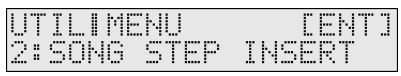
6. **When you are finished editing each parameter, press [ENTER] to finalize the values.**

Inserting a step (SONG STEP INSERT)

This operation insert a pattern into the specified location of a song. Use this when you want to add additional patterns to the song.

* *A maximum of 50 patterns can be recorded in a song. If the song already contains 50 patterns, no more patterns can be inserted.*

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Press [UTILITY].**
3. **Use PAGE/CURSOR [◄]/[►] to select "2:SONG STEP INSERT."**



4. **Press [ENTER].**

5. Specifies the location where the step is to be inserted.

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

Value

Step: Specifies the location from which the step is to be inserted.

for: Specify the number of steps to be inserted.

6. Press PAGE/CURSOR [►] to move the page and use VALUE [-]/[+] to select the pattern to be inserted.

7. When you are finished editing each parameter, press [ENTER] to finalize the values.

Copying a song (SONG COPY)

This operation copies a song to a specified location in the current song. This can be used to combine two songs into a single song, or to combine parts of various songs to create a different song.

* *If there is already data in the current song, the song data of the current song will be rewritten. The number of patterns in the current song may increase, such as when the copy-source song contains more patterns than the current song.*

1. Press [SONG] so it is lit and you are in Song mode.

2. Press [UTILITY].

3. Use PAGE/CURSOR [◄]/[►] to select "3:SONG COPY."

4. Press [ENTER].

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

Value: 01–99

6. Press PAGE/CURSOR [►].

Use VALUE [-]/[+] to specify the range of steps that you want to copy.

Value

Step: Specifies the step at which copying is to begin.

for: Specifies the number of steps to be copied. If you select "ALL," all steps from what you specified for **Step** to the last measure of the song will be copied.

7. Press PAGE/CURSOR [►].

Use VALUE [-]/[+] to specify the copy-destination step of the current song.

Value: 01– max. 50

8. Press PAGE/CURSOR [►].

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

Value

INSERT: The data will be inserted into the current song.

REPLACE: Data in the current song will be erased (i.e., overwritten) when the copy takes place.

9. Press PAGE/CURSOR [►].

Use VALUE [-]/[+] to set the number of times that the song is to be copied.

Value: 1– max. 50

10. When you are finished editing each parameter, press [ENTER] to finalize the values.

Initializing the parameters of a song (SONG INIT)

This operation initializes the current song.

1. Press [SONG] so it is lit and you are in Song mode.

2. Press [UTILITY].

3. Use PAGE/CURSOR [◄]/[►] to select "4:SONG INIT."

4. Press [ENTER].

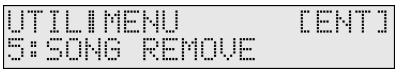
5. Press [ENTER] again to execute.

After the initialization has been carried out, the display will indicate "COMPLETED."

Erasing a user song you saved (SONG REMOVE)

This operation erases the specified user song. Although you can select a song that has been erased, nothing will play back.

1. **Press [SONG] so it is lit and you are in Song mode.**
2. **Press [UTILITY].**
3. **Use PAGE/CURSOR [◄]/[►] to select "5:SONG REMOVE."**



4. **Press [ENTER].**
5. **Use VALUE [-]/[+] to specify the song to be removed.**

Value: 01–99

6. **Press [ENTER] again to execute.**

Restoring the factory settings (FACTORY RESET)

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

For more about FACTORY RESET, refer to **"Reset to default factory settings (Factory Reset)"** (p. 20).

Using the floppy disk drive

NOTE

Never attempt to shut off the power, or remove a floppy disk from the drive while the drive is operating (the indicator is lit); damage could result to both the disk and the drive.

Playing back an SMF file

You can directly play back an SMF file stored on a floppy disk without having to load it into the RS-70.

This provides a simple way for you to enjoy **minus-one performance**—listening to an accompaniment provided by music data, muting one of the recorded parts, and playing the muted part yourself. For details on playback methods, refer to **"Playing along with SMF data (SMF Player mode)"** (p. 47).

Disk-related functions (Disk Utility)

Disk mode is where you can perform disk-related functions, such as loading data from disk into the RS-70's memory (Load), and loading SMF data into the current pattern. You can also format a disk or create a backup disk.

Before you perform Disk Utility operations

In order to perform disk utility operations, you will need a 3.5 inch 2DD or 2HD type disk.

Before using a new disk or one that has been used on another device, please initialize (format) it on the RS-70. A 3.5" 2DD disk should be formatted to 720 KB (kilobytes) and a 3.5" 2HD disk to 1,440 KB. These are standard formats used with most song data software and computers/instruments. If you save a pattern created on the RS-70 as a Standard MIDI File, you can use many devices to play your song.

"Preparing a disk for use by the RS-70 (FORMAT)" (p. 121)

Loading a file from disk into the RS-70 (LOAD)

This function loads a song on disk into the internal memory. As well as loading Standard MIDI File data as a pattern, you can also load previously saved user memory data to quickly restore the previously saved state of the RS-70.

NOTE

When you load data for the user memory, the RS-70's user memory will be rewritten. If user memory contains important data, you must save it to disk before you load other data.

Rewriting the entire user memory

Here's how data that you saved using "Type:ALL" (p. 120) can be loaded into user memory.

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "1:LOAD."**

4. **Press [ENTER].**
5. **Use VALUE [-]/[+] to select "Type:ALL."**

6. **Press PAGE/CURSOR [►] to go to the next page.**
7. **Use VALUE [-]/[+] to select the file (.RSU file) that you wish to load into the user area.**

MEMO

The file name will depend on the file you are loading.

8. **Press [ENTER].**

   If you decide to cancel, press [EXIT].

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

Loading user patches/user rhythm sets

From data that was saved using "Type:ALL" (p. 120), here's how you can load just the specified patch(es) or rhythm set(s) into the RS-70's user area.

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "1:LOAD."**

4. **Press [ENTER].**
5. **When loading user patches:**

   Use VALUE [-]/[+] to select "Type:PATCH."

When loading user rhythm sets:

Use VALUE [-]/[+] to select "Type:RHYTHM."

6. Press PAGE/CURSOR [▶] to go to the next page.

Use VALUE [-]/[+] to select the file that contains the patch(es) or rhythm set(s) you want to load.

MEMO

The file name will depend on the file you are loading.

7. Press PAGE/CURSOR [▶] to go to the next page.

When loading user patches:

Use VALUE [-]/[+] to specify the first (001–128) of the patch numbers you want to load.

When loading user rhythm sets:

Use VALUE [-]/[+] to specify the first (01–16) of the rhythm set numbers you want to load.

8. Use PAGE/CURSOR [▶] to move the cursor.

When loading user patches:

Use VALUE [-]/[+] to specify the last (001–128) of the patch numbers you want to load.

When loading user rhythm sets:

Use VALUE [-]/[+] to specify the last (01–16) of the rhythm set numbers you want to load.

9. Press PAGE/CURSOR [▶] to go to the next page.

When loading user patches:

Use VALUE [-]/[+]to specify the first number (001–128) of the destination for the load.

When loading user rhythm sets:

Use VALUE [-]/[+]to specify the first number (01–16) of the destination for the load.

10. Press [ENTER].

The range of patches you specified in step 7 will be loaded, starting at the number you specified as the load destination.

If you decide to cancel, press [EXIT].

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

Loading SMF data

Here's how SMF data saved on disk can be loaded into the current pattern. You can edit and save the loaded data just like an ordinary pattern.

MEMO

You can load either format 0 or 1.

1. Insert a disk into the floppy disk drive.

2. Press [WRITE] while holding down [SHIFT].

3. Use PAGE/CURSOR [◀]/[▶] to select "1:LOAD."

4. Press [ENTER].

5. Use VALUE [-]/[+] to select "Type:SMF."

6. Press PAGE/CURSOR [▶] to go to the next page.

Use VALUE [-]/[+] to select the SMF that you want to load into the current pattern.

MEMO

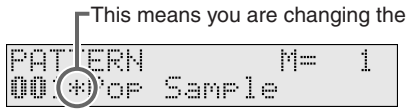
The file name will depend on the file you are loading.

7. Press [ENTER].

If you decide to cancel, press [EXIT].

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

Now, when you press [PATTERN], you will enter Pattern mode, where you can edit or save the loaded SMF in the same way as a conventional pattern.



Saving data on disk (SAVE)

Saving the entire user memory

Here's how an image of all data in the user area can be saved to disk as one file.

NOTE

Data cannot be saved to the master disks of Standard MIDI File releases, etc. from Roland.

1. Insert a disk into the floppy disk drive.

2. Press [WRITE] while holding down [SHIFT].

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

4. **Press [ENTER].**

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

6. **Press PAGE/CURSOR [►] to go to the next page.**

7. **Assign a file name.**
   The file will be saved with an extension of ".RSU".

MEMO
For further information, refer to **"Assigning a name"** (p. 54).

8. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

When the user memory has been saved, the display will indicate "COMPLETED." This ends the procedure.

Saving the current pattern as an SMF

NOTE
SMF data that includes a copyright notice cannot be re-saved as a user pattern or SMF.

NOTE
When you save as SMF data, data for muted parts will not be saved.

1. **Insert a disk into the floppy disk drive.**

2. **Press [WRITE] while holding down [SHIFT].**

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

4. **Press [ENTER].**

5. **Use VALUE [-]/[+] to select "Type:SMF."**

6. **Press PAGE/CURSOR [►] to go to the next page.**

7. **Assign a file name.**
   The file will be saved with an extension of ".SMF".

MEMO
For further information, refer to **"Assigning a name"** (p. 54). It is not possible to use lowercase characters or some symbols (space, " * + , . / : ; < = > ? [¥]) in filenames.

8. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

When the current pattern has been saved, the display will indicate "COMPLETED." This ends the procedure.

Preparing a disk for use by the RS-70 (FORMAT)

This function initializes (**formats**) a disk so that RS-70 data can be saved to it. Before a new disk or a disk used on another device can be used on the RS-70, it must be formatted on the RS-70.

NOTE
Be aware that if you format a disk, all of the data in the disk will be lost.

NOTE
Master disk releases of Standard MIDI Files from Roland, etc. cannot be formatted.

1. **Insert a disk into the floppy disk drive.**

2. **Press [WRITE] while holding down [SHIFT].**

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

4. **Press [ENTER].**

5. **Assign a volume label.**

MEMO
For further information, refer to **"Assigning a name"** (p. 54). It is not possible to use lowercase characters or some symbols (" * + , . / : ; < = > ? [¥]) in volume labels.

6. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

When the disk has been formatted, the display will indicate "COMPLETED." This ends the procedure.

Creating a duplicate disk (BACKUP)

This function creates a complete copy of all data recorded on a disk and puts it on another disk (Backup). It is a good idea to make backup copies of disks containing important data to prevent data loss in case one of the disks should get damaged.

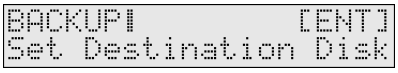
* *The backup operation deletes data for the pattern currently being edited. Save the data before executing the backup operation.*
* *It is not possible to make a backup copy of the master disk of Standard MIDI Files releases, etc. from Roland.*
* *It is not possible to create a backup copy of a 2DD disk on a 2HD disk, and vice versa.*

1. **Press [WRITE] while holding down [SHIFT].**
2. **Use PAGE/CURSOR [◄]/[►] to select "4:BACKUP."**

3. **Press [ENTER].**

4. **Press [ENTER] again.**
   The display will indicate "Set Source Disk." Insert the copy-source disk into the floppy disk drive.

5. **Press [ENTER] to execute.**
   The contents of the copy-source disk will be temporarily copied into the RS-70.
6. **When the data has been read, the display will indicate "Set Destination Disk." Insert the copy-destination disk into the floppy disk drive.**



7. **Press [ENTER].**
   The contents of the copy-source disk will be copied onto the copy-destination disk.
8. **When the data has been copied, the display will indicate "Set Source Disk." Set the copy-source disk into the floppy disk drive again.**
   In this way, repeat steps 4–7 until all data on the floppy disk has been copied.

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

Modifying the name of the disk (VOLUME LABEL)

This function changes the volume label that was assigned when the disk was formatted.

* *It is not possible to modify the volume label of the master disks of the Standard MIDI Files releases, etc. from Roland.*

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "5:VOLUME LABEL."**

4. **Press [ENTER].**
5. **Assign a volume label.**

MEMO

For further information, refer to **"Assigning a name"** (p. 54). It is not possible to use lowercase characters or some symbols (" * + , . / : ; < = > ? [¥]) in volume labels.

6. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

When the volume label has been modified, the display will indicate "COMPLETED." This ends the procedure.

Deleting unwanted files (DELETE)

Use this function to delete unwanted files from disk.

NOTE

Master disks of Standard MIDI Files releases, etc. from Roland cannot be deleted.

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "6:DELETE."**

4. **Press [ENTER].**
5. **Use VALUE [-]/[+] to select the song that you wish to delete.**
6. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

When the file has been deleted, the display will indicate "COMPLETED." This ends the procedure.

Renaming a file (RENAME)

This function changes the name of a file.

NOTE
File name extensions cannot be changed.

NOTE
Files on the master disks of the Standard MIDI File releases, etc. from Roland cannot be renamed.

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "7:RENAME."**

4. **Press [ENTER].**
5. **Use VALUE [-]/[+] to select the song whose name you wish to change.**
6. **Press [ENTER].**
7. **Assign a file name.**

MEMO
For further information, refer to **"Assigning a name"** (p. 54). It is not possible to use lowercase characters or some symbols (space, " * + , . / : ; < = > ? [¥]) in filenames.

8. **Press [ENTER].**
   If you decide to cancel, press [EXIT].

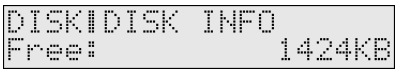
When the name has been changed, the display will indicate "COMPLETED." This ends the procedure.

Checking the remaining space of the disk (DISK INFO)

This function displays the remaining space available on the disk.

1. **Insert a disk into the floppy disk drive.**
2. **Press [WRITE] while holding down [SHIFT].**
3. **Use PAGE/CURSOR [◄]/[►] to select "8:DISK INFO."**

4. **Press [ENTER].**
   The display will indicate the space available on the disk.



Settings common to all modes (System Function)

Settings that affect the entire operating environment of the RS-70, 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. 125).
- **METRONOME:**
  Make metronome-related settings (p. 125).
- **CONTROLLER:**
  Make controller-related settings (p. 126).
- **MIDI&USB:** Make MIDI and USB-related settings (p. 127).
- **MEMORY INFO:** Check memory usage status (p. 128).
- **PATCH SCALE (Patch Scale Tune):**
  Make scale tune settings for a patch (p. 128).

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. 124)

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].**

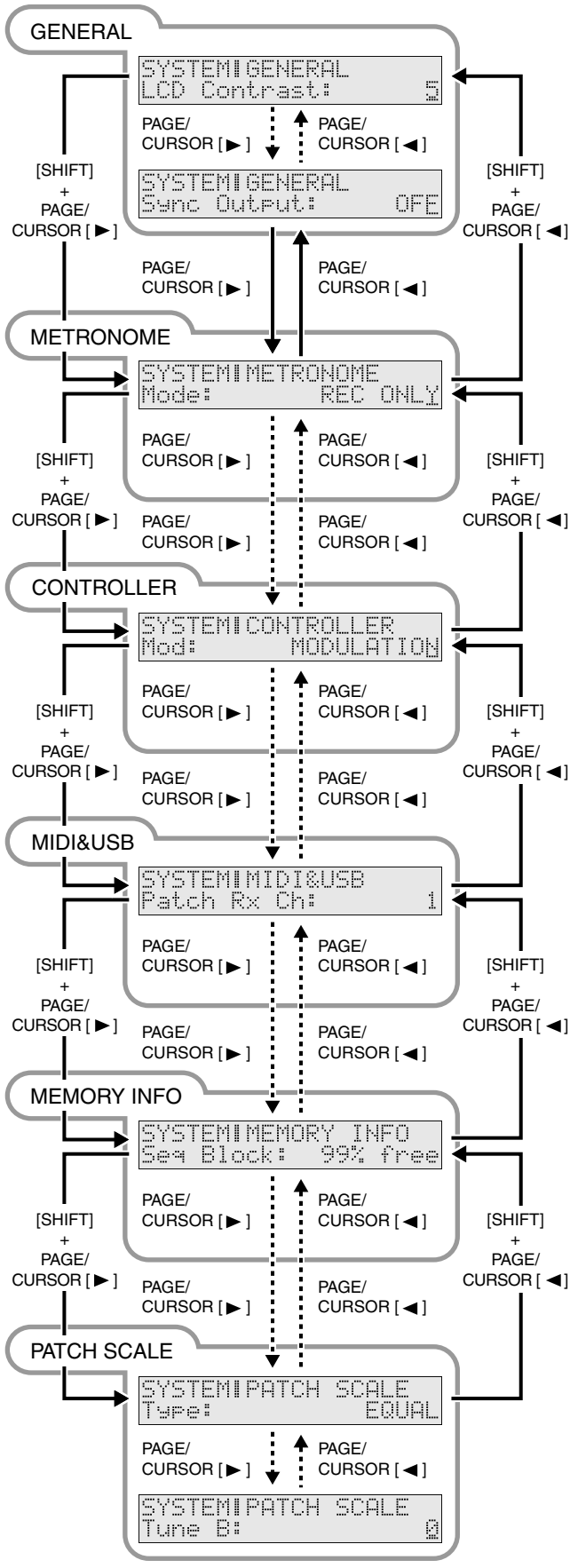
6. **Press [ENTER] to execute.**

NOTE

When you save system settings, the previously saved settings will be overwritten and lost. If you want to return all settings to the factory-set state, execute Factory Reset (p. 20).

If you decide not to save the system function, press [EXIT].

Selecting system setting parameters



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-70. 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-70 in semitone steps.

VALUE: -24–+24

Master Level

Adjusts the volume of the entire RS-70.

VALUE: 0–127

MFX Remain (MFX Remain Switch)

Specifies whether the MFX settings will also change (OFF) when you switch patterns, or whether the settings of the previous pattern will continue to be used (ON).

This setting applies to both Pattern mode and Song mode.

VALUE: OFF, ON

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-70'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 (MIDI Clock, Start, Continue, Stop, Song Position Pointer, Song Select) to be received from an external sequencer. Select "INT" if you want to synchronize to the RS-70's internal tempo. The multi-effect changes will also synchronize to this setting.

VALUE: INT, MIDI

Sync Output (Sync Output Switch)

Set this parameter to ON when you want synchronization-related MIDI messages (MIDI Clock, Start, Continue, Stop, Song Position Pointer and Song Select) to be transmitted to an external MIDI device. If not, set it to OFF.

VALUE: OFF, ON

Settings related to the metronome (METRONOME)

Mode (Metronome Mode)

Specifies when you want the metronome to sound.

VALUE

OFF: Will not sound.

REC ONLY: Metronome will sound only for recording.

REC&PLAY: Metronome will sound for recording and playback.

ALWAYS: Metronome will always sound.

Level (Metronome Level)

You can adjust the volume of the metronome.

VALUE: 0–10

Sound (Metronome Sound)

Selects the metronome sound.

VALUE

TYPE1: A conventional metronome sound will be heard. A bell will sound on the first beat.

TYPE2: Clicks will sound.

TYPE3: Beeps will sound.

TYPE4: Cowbell will sound for the first beat, and woodblock on other beats.

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. 58)
VOLUME	CC07	Level
BALANCE	CC08	The volume balance of LOWER and UPPER tones (p. 56).
PAN	CC10	Pan (p. 57)
EXPRESSION	CC11	Level
PORTAMENTO	CC65	Portamento Switch (p. 58)
SOSTENUTO	CC66	Holds the sound of the key being pressed
SOFT	CC67	Softens the tone
RESONANCE	CC71	Tone Filter Resonance (p. 59)
RELEASE TIME	CC72	Tone Envelope Release Time (p. 59)
ATTACK TIME	CC73	Tone Envelope Attack Time (p. 59)
CUTOFF	CC74	Tone Filter Cutoff (p. 58)
DECAY TIME	CC75	Tone Envelope Decay Time (p. 59)
LFO RATE	CC76	Tone LFO Rate (p. 58)
LFO DEPTH	CC77	Tone LFO Depth (p. 58)
LFO DELAY	CC78	Tone LFO Delay (p. 58)
CHO SEND LEVEL	CC93	Chorus Send Level (p. 57)
REV SEND LEVEL	CC91	Reverb Send Level (p. 57)
MFX PARAMETER1	CC12	The parameter specified by Multi-effect Control 1 (p. 95)
MFX PARAMETER2	CC13	The parameter specified by Multi-effect Control 2 (p. 95)
AFTERTOUCH	----	

In Patch mode, the modulation lever will affect the patch. In Pattern 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. 30).

"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. 95) or 42: LOFI (p. 109), 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).*

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.

PUNCH IN/OUT: Use the pedal to start or stop manual punch-in/out recording (p. 69).

TAP TEMPO: Use the pedal to make tap tempo settings (p. 67).

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. 30).

* *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 Pattern mode to control MFX PARAMETER settings, the* ***"MFX Source"*** *(p. 79) 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 "PTN/PERF," the System ***"Ptn/Perf Ctrl Ch (Pattern Control Channel)"*** *(p. 127) setting will determine the part whose effect will be controlled. If this setting is "OFF," no effect will be controlled.*

Settings related to MIDI and USB (MIDI&USB)

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

Ptn/Perf Ctrl Ch (Pattern Control Channel)

Pattern Ctrl Ch selects the MIDI receive channel used during switching of patterns when MIDI messages (Program Change/Bank Select) are sent from an external MIDI device. Set this to "OFF" if patterns are not to be switched from an external MIDI device. Pattern control data will not be received while the Quick Sequencer is playing.

VALUE: 1–16, OFF

NOTE

If only a program change is received, and if the Ptn/Perf Ctrl Ch parameter setting coincides with the MIDI receive channel of a part, priority will be given to switching the pattern.

MEMO

If this is set to 1–16, the RS-70 will transmit MIDI messages (program change/bank select) on that channel when the pattern 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 pattern 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

MIDI-USB Thru

If you leave this "OFF," MIDI messages arriving at the MIDI IN and the USB connectors are all sent to the sound generator. If you set this "ON," MIDI messages arriving at the MIDI IN connector are output as is from the USB connector, while the MIDI messages that arrive at the USB connector are output through the MIDI OUT connector.

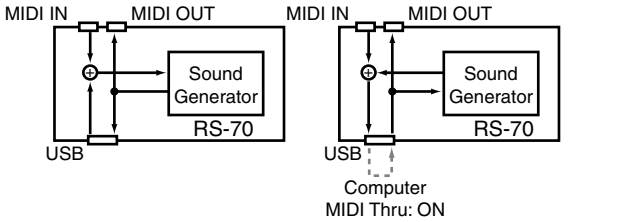
VALUE: OFF, ON

MEMO

The modified settings will become effective after you save the SYSTEM function (p. 124) and switch the power to the RS-70 off, then on again.

* *When this parameter is set to "ON," the sound generator receives MIDI messages only from the USB connector. For the sound generator to receive MIDI messages from the MIDI IN connector, the MIDI Thru function on your computer must be set to "ON."*

MIDI-USB Thru = OFF **MIDI-USB Thru = ON**



* MIDI messages received at MIDI IN are routed through the computer to the sound generator.

Descriptor (USB Descriptor)

Selects a driver for a USB connection. If you use the supplied driver, choose "VENDER." If you use a generic USB driver included with the OS, choose "GENERIC."

VALUE: VENDER, GENERIC

MEMO

The modified settings will become effective after you save the SYSTEM function (p. 124) and switch the power to the RS-70 off, then on again.

Checking memory usage status (MEMORY INFO)

Indicates how much data is stored in the memory. You cannot change this value here.

Seq Block (Sequencer Data Block)

Indicates the amount of free space in the temporary memory area for storing the pattern data (excluding SysEx data) you are currently editing.

SysEx Blk (System Exclusive Data Block)

Indicates the amount of free space in the temporary memory area for storing the SysEx data in the pattern you are currently editing.

User Block (User Data Block)

Indicates the amount of free space in the memory area for storing user data (p. 52).

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 Pattern mode, refer to **"Editing the scale tune settings (SCALE TUNE)"** (p. 81).

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. 81).

Tune C–Tune B (Patch Scale Tune C–B)

Make scale tune settings for Patch mode.

VALUE: -64–+63

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-70 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-70 using an external MIDI device, or master other advanced techniques.

MIDI connectors

The RS-70 has the following two types of MIDI connectors.

- MIDI IN Connector

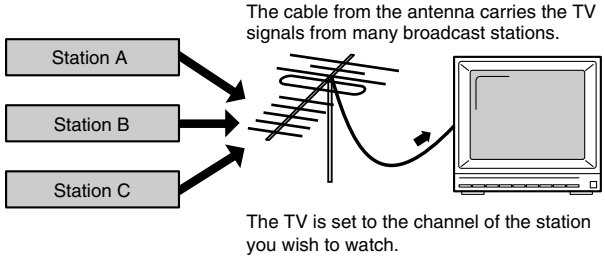
Performance messages from an external MIDI device are received here. When the RS-70 receives MIDI messages, it will produce sound, change the sound it's using, or perform other operations.

- MIDI OUT Connector

This connector transmits MIDI messages to external MIDI devices. The RS-70'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

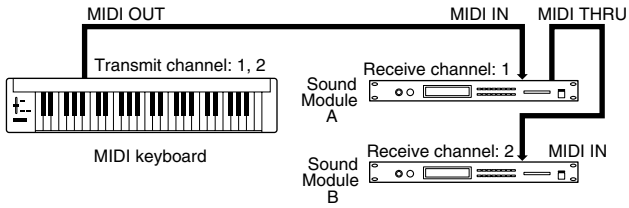
MIDI transmits many types of data over a single MIDI cable. This is made possible by MIDI channels. MIDI channels allow messages intended for a given instrument to be distinguished from messages intended for another instrument. In some ways, MIDI channels are similar to television channels. By changing 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-70 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-70 can receive on up to sixteen MIDI channels. Sound modules like the RS-70, 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-70

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-70 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

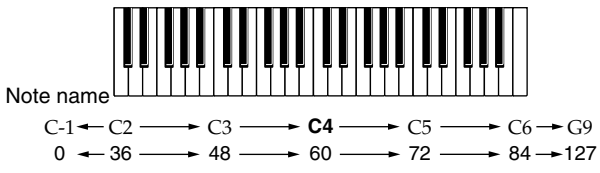
This message is sent when a key is pressed. A Note-on message contains the following three types of information:

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 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-70 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 Tones and Rhythm Sets on the RS-70 using program numbers 1–128 (p. 132).

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. 126).

Bank Select (CC#0, CC#32) messages are used in combination with Program Change messages to switch Patches and Rhythm Sets (p. 132).

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-70, you can use Exclusive messages to store Patch settings and other data to sequencers (p. 76).

About MIDI Implementation Charts

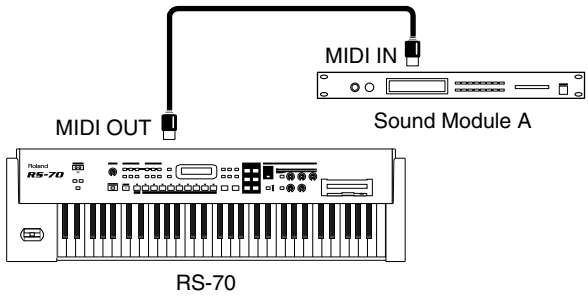
Although a variety of messages for performances can be handled using MIDI, depending on the functions of the connected device, the messages that can be sent and received may differ. To see which types of MIDI message a device can transmit and receive, refer to the MIDI Implementation Chart that is included 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-70 to play an external MIDI sound module

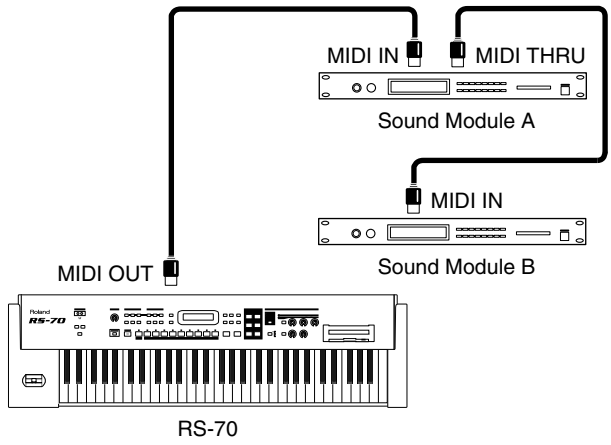
By connecting the RS-70 to an external MIDI sound module with a MIDI cable and setting the channels, the external MIDI module can be used to produce sound when you play the RS-70's keyboard.

Connecting to external MIDI sound modules

Example 1: Connecting to one external MIDI sound module

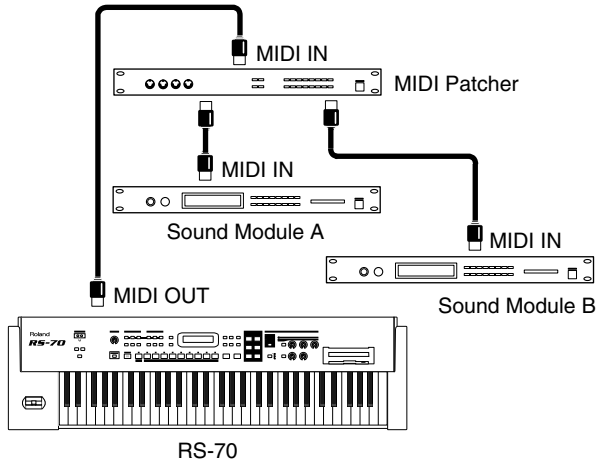


Example 2: Connecting to two external MIDI sound modules



* *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-70 to external equipment" (p. 17), 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. 18), 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-70 in Patch mode.

* *If you are using the RS-70 in Pattern 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."**

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/[►] you can quickly select the "SYSTEM | MIDI&USB" group (p. 124).

3. **Use VALUE [-]/[+] to modify the value.**

Value

1–16: Performance data from the RS-70 will be transmitted on the selected channel.

RxCH: Performance data will be transmitted on the same channel as the Receive Channel (p. 80) 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. 124).

Press [EXIT] to cancel the operation and return to the previous page.

With the above settings, when the RS-70's keyboard is played, sounds are simultaneously played by the RS-70 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. 133).*

NOTE

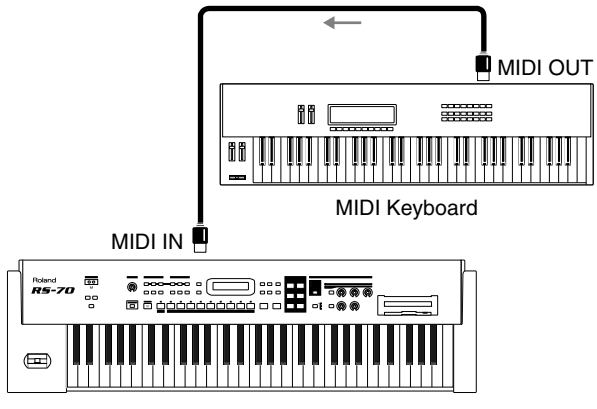
When you select a patch or rhythm set on the RS-70, a bank number and program number will be transmitted to the external MIDI sound module as described in the **"Bank number/ program number correspondence table"** (p. 132). This will switch sounds on the external MIDI sound module, but if the external 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. 127) off.

Playing the RS-70's sound generator from an external MIDI device

Next, try playing the RS-70 from an external MIDI device.

Connecting an external MIDI device



RS-70

1. **Before starting the connection procedure, make sure that the power to all devices has been turned off.**
2. **After reading "Connecting the RS-70 to external equipment" (p. 17), 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. 18), turn on the power of each device.**

Setting the patch receive channel

When you have finished connecting the external MIDI device, match RS-70's Receive channel with the external MIDI device's Transmit channel. Here we will explain the settings for using the RS-70 in Patch mode.

* *If you are using the RS-70 in Pattern 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).**

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/[►] you can quickly select the "SYSTEM | MIDI&USB" group (p. 127).

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. 124).

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 Pattern 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. 80).*

Selecting RS-70 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-70 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-70.**
2. **Transmit a value for the Bank Select LSB (controller number 32) (BnH 20H llH) message to the RS-70.**
3. **Transmit a Program Change (CnH ppH) to the RS-70.**

n: MIDI channel number

mm, ll: Bank number

pp: Program number

MEMO

The "Ptn/Perf Ctrl Ch" (Pattern Control Channel) setting lets you switch patterns in Pattern mode. With the factory settings, this is set to "OFF"; patterns 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-70 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-70 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-70, refer to ***"Patch List"*** (p. 172).

Pattern

Group	Number	Bank Number		Program Number
		MSB	LSB	
User	001–128	085	000	001–128
	129–256	085	001	001–128

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
	641–768	087	069	001–128
GM Patch	001–256	121	000–	001–128

Rhythm Set

Group	Number	Bank Number		Program Number
		MSB	LSB	
User	001–016	086	000	001–016
Preset	001–030	086	064	001–030
GM Rhythm	001–009	120	000	001–057

Using an external MIDI controller to change the RS-70's tones

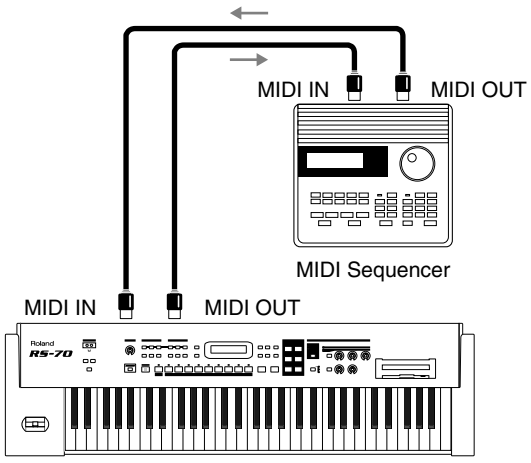
Use of the Modulation lever, pedals, and control knobs to make changes to the RS-70's tones in real time is explained in **"Settings related to controllers (CONTROLLER)"** (p. 126).

Transmitting Controller numbers set with Modulation Assign (p. 126), Pedal Control Assign (p. 126), and Knob Assign (p. 126) to the RS-70 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



RS-70

1. **Before starting the connection procedure, make sure that the power to all devices has been turned off.**
2. **After reading "Connecting the RS-70 to external equipment" (p. 17), 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. 18), turn on the power of each device.**

Making settings before recording

When recording to an external sequencer, the following steps must be carried out.

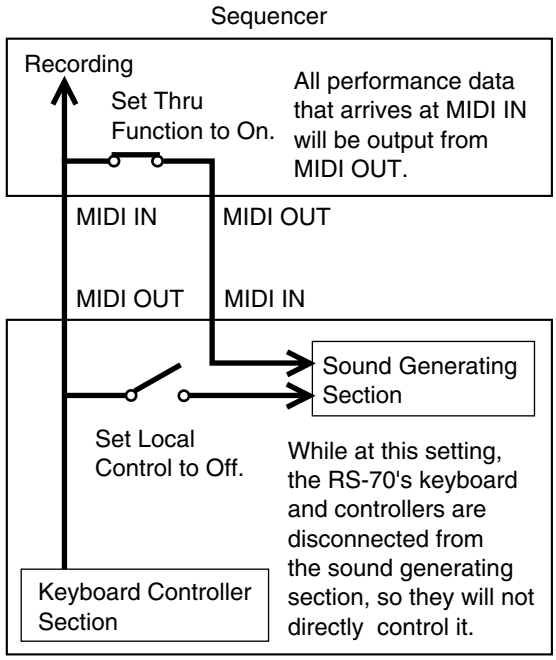
- Set the RS-70's Local Control to OFF (refer to the next section).
- Turn on the external sequencer's Thru function (p. 134).
- Set the pattern (p. 134).

Setting the RS-70's local control to OFF

The setting that determines whether the keyboard controller section (p. 50) 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-70 will produce sound only in response to messages received from an external MIDI device.



RS-70

The performance data from the RS-70'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-70 from the sequencer's MIDI OUT connector and played by the RS-70'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-70's Local Control to ON.*

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

2. Use PAGE/CURSOR [◄]/[►] to select "Local Control."

MEMO

By holding down [SHIFT] and using PAGE/CURSOR [◄]/[►] you can quickly select the "SYSTEM | GENERAL" group (p. 127).

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. 124).

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-70's Local Control to ON.*

Setting the pattern

Before beginning to record, first make the Pattern 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. 80)

Recording

Recording the pattern's settings at the beginning of the song

First, record the Pattern settings at the beginning of the song. If this is done, playing back the song from the beginning will automatically set the RS-70 to the Pattern settings that were used during recording (regardless of the Pattern 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-70 may not be able to correctly receive the settings for the recorded Pattern, which may prevent proper playback of the performance data.*

1. In Patch mode or Pattern 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 pattern settings from the MIDI OUT connector (XFER to MIDI)"** (p. 90).

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 Pattern 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 pattern settings at the beginning of the song (p. 76).*

Set the "Rx Sys Exc" (System Exclusive Receive Switch) to ON (p. 127)

When set to OFF, the pattern 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. 127)

If not set to the same Device ID number, the pattern 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 pattern 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-70'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."**

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. 124).
   Press [EXIT] to cancel the operation and return to the previous page.

Using the RS-70 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-70 as a sound module.

☞ For instructions on connecting the external sequencer, refer to p. 133.

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. 127).

When set to OFF, GM System On and GM2 System On MIDI messages cannot be received. With the factory settings, this will be "ON."

Make sure to play back from the beginning of the song

When playback of a song is started at any point other than the beginning, the sound generator settings won't be reset to the default settings for General MIDI and General MIDI 2, so the song won't be played back correctly.

Synchronizing images to an RS-70 performance (V-LINK)

What is V-LINK?

V-LINK (V-LINK) is a function that provides for the play of music and visual material. By using V-LINK-compatible video equipment, visual effects can be easily linked to, and made part of the expressive elements of a performance.

(Examples)

By using the RS-70 and Edirol DV-7PR together, you can:

- Use the RS-70's sequencer to enjoy synchronized music and video.
- Use the RS-70's keyboard or buttons to switch the Edirol DV-7PR's images (clips/palettes).
- Use the RS-70's knobs to adjust the brightness or color of the image.
- Use the RS-70's modulation lever to control the video playback speed along with the music playback speed.

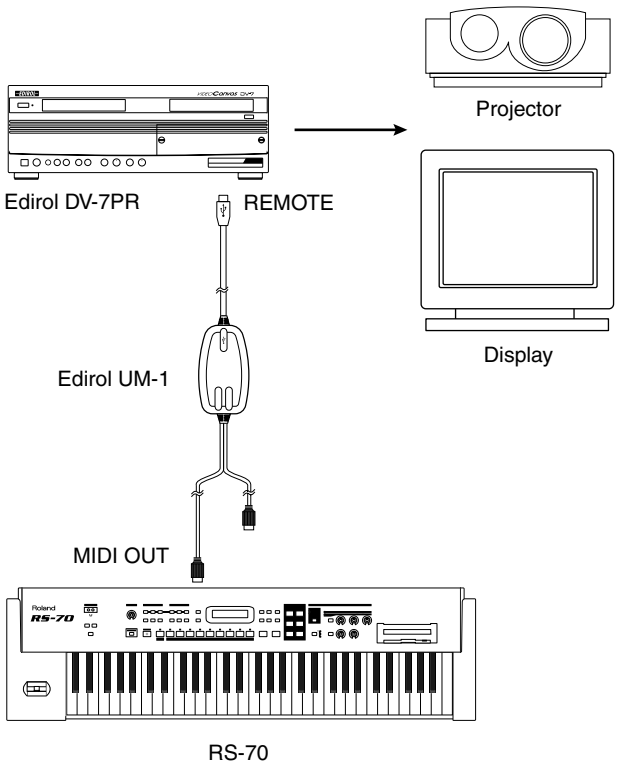
* *In order to use V-LINK with the RS-70 and Edirol DV-7PR, you will need to make connections using an Edirol UM1/UM-1S (sold separately).*

Connection examples

Use a UM-1 to connect the RS-70's MIDI OUT connector to the DV-7PR's remote jack.

NOTE

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.



Using V-LINK

1. **Press [V-LINK] so it is lit.**

   The **V-LINK screen** will appear, and the V-LINK function will be turned on.

   In this state, you can operate the bender and knobs to manipulate images in sync with the playback of the RS-70.

2. **Press [EXIT].**

   The [V-LINK] indicator will remain lit, and you're returned to the previous mode (Patch/Pattern/Song mode).

3. **To turn the V-LINK function off, press [V-LINK] so it is unlit.**

   If the screen is in normal mode (Patch/Pattern/Song modes), press [V-LINK] to return to the V-LINK screen, and then press [V-LINK] once again to make it go dark.

MEMO

The V-LINK function will always be OFF when you turn on the power.

V-LINK functions that the RS-70 can control and MIDI messages

With the factory settings, the RS-70 assigns the following functions to each controller, allowing you to control V-LINK compatible video equipment. For some controllers, you can change the function assignments.

Controllers	V-LINK function	Transmitted MIDI message	Explanation	
Keyboard	Clip 1–32	Program Change: 00H–1FH	Press keys to switch clips.	
[1]–[0]	Palette 1–10	CC 0 (Bank Select): 00H–09H	While the **V-LINK screen** is displayed, press buttons [1]–[0] to switch palettes 1–10. Even if the V-LINK function is on, the [1]–[0] buttons will operate according to the mode of the RS-70 when the **V-LINK screen** is not displayed.	
Pitch Bend Lever	Playback Speed	Pitch Bend	Operate the pitch bend lever to control the speed of image playback. Moving the lever toward the right will speed up the playback, and moving it toward the left will slow down the playback. At the center position, playback speed will be normal. You can adjust the width over which the speed will change (p. 138).	
[C1] [C2] [C3] [CUTOFF] [RESONANCE] Modulation Lever	Dissolve Time	CC 73 (Attack)	Use [C1] (with the initial setting) to control Dissolve Time (the speed of the transition between images).	You can change this function assignment (p. 138).
	Color Cb	CC 11 (Expression)	Use [C2] (with the initial setting) to control Color Cb (the color-difference signal).	
	Color Cr	CC 72 (Release)	Use [C3] (with the initial setting) to control Color Cr (the color-difference signal).	
	Brightness	CC 74 (Cutoff)	Use [CUTOFF] (with the initial setting) to control brightness.	
	VFX1	CC 71 (Resonance)	Use [RESONANCE] (with the initial setting) to control the Visual Effects 1.	
	VFX2	CC 1 (Modulation)	Use Modulation Lever to control (with the initial setting) the Visual Effects 2.	
	VFX3	CC 91 (Reverb)	Controls the Visual Effects 3.	
	VFX4	CC 93 (Chorus)	Controls the Visual Effects 4.	
	Output Fade	CC 10 (Pan)	Controls the Output Fade.	

* *VFX2, 3, and 4 are not supported on the DV-7.*

Making V-LINK settings (V-LINK Setup)

1. **With the V-LINK screen displayed, press [PARAM].**

2. **Use PAGE/CURSOR [◄]/[►] to select the V-LINK parameter.**

   For details on each parameter and its values, refer to the section that follows.

3. **Use VALUE [-]/[+] to modify the value.**

4. **Press [WRITE] to save the settings.**

   Press [EXIT] to cancel the settings.

5. **Press [ENTER].**

When the settings have been saved, the display will indicate "COMPLETED." This completes the procedure.

V-LINK setup parameters

Local Sw (V-LINK Local Switch)

Specifies whether messages will be transmitted to the RS-70's sound generator or sequencer when you operate the keyboard or knobs (ON), or not (OFF). If this is turned "OFF," there will be no sound when you play the RS-70.

Value: OFF, ON

Clip Tx Ch (V-LINK Clip Transmit Channel)

When you play notes on the keyboard to switch clips, this setting specifies the channel whose notes you can play to switch clips. If you select "CURRENT," the channel setting will change according to the Current Part setting.

Value: CURRENT, 1–16

Clip1 Note

You can play notes on the RS-70's keyboard to switch between 32 clips. This parameter specifies the region of notes that will be used. The region will be the 32 notes toward the right starting at the note you specify for Clip 1.

Value: 21 (A 0)– 108 (C 8)

Filter

You can specify for each clip whether it will be switched. If you set this to "OFF" for a certain clip, that clip will not be selected even if you press the corresponding key.

Value

Clip01–Clip32
OFF, ON

Speed Range

Specifies the amount by which the image playback speed can change when you operate the pitch bend lever. A value of "1" is normal speed playback. At "0," playback will stop.

Value

0–1–2	0–1–32
0.5–1–2	0.5–1–32
0–1–4	0–2–4
0.5–1–4	0–4–8
0–1–8	0–8–16
0.5–1–8	0–16–32
0–1–16	(-2)–1–4
0.5–1–16	(-6)–1–8

Ctrl Tx Ch (V-LINK Controller Transmit Channel)

When you operate a controller (knob/modulation lever) to switch images, this setting specifies the channel whose controllers you can operate to switch images. If you select "CURRENT," the channel setting will change according to the Current Part setting.

Value: CURRENT, 1–16

MEMO

Exceptionally, Dissolve Time will change according to the Clip Tx Ch (V-LINK Clip Transmit Channel).

C1–C3
CUTOFF
RESO (Resonance)
MOD (Modulation)

These settings specify what will be controlled by each of the above controllers.

Value

OFF:	No function assigned.
DISSOLVE TIME:	Controls the Dissolve time (time over which the image switches).
COLOR CB:	Controls the color-difference signal.
COLOR CR:	Controls the color-difference signal.
BRIGHTNESS:	Controls the brightness.
VFX 1:	Controls Visual effects 1.
VFX 2:	Controls Visual effects 2.
VFX 3:	Controls Visual effects 3.
VFX 4:	Controls Visual effects 4.
OUTPUT FADE:	Controls Output Fade.

* *VFX2, 3, and 4 are not supported on the DV-7.*

Resetting the image (All Reset)

The effect applied to the image will be reset, and brightness, color difference, etc., will all return to the default value.

1. Press [V-LINK] while holding down [SHIFT].

NOTE

The RS-70 does not support the Edirol DV-7PR's dual stream mode.

Performing with a computer

If you are using music software running on a computer, you can use the computer to operate the RS-70'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.

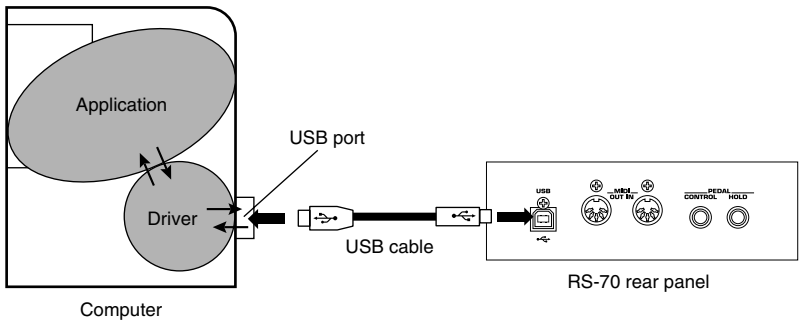
Which type of connection?

You can either use the USB cable, or use the MIDI cable to make a MIDI connection. Depending on the type of connection you are using, install the appropriate driver and make the appropriate settings.

- USB connection (**Windows**) → p. 139
- USB connection (**Macintosh**) → p. 151
- Connecting with MIDI cables → p. 155

Installing & setup the driver (Windows)

What is a driver?



A **"driver"** is software that transfers data between the RS-70 and application software running on your computer, when your computer and the RS-70 are connected by a USB cable. The driver sends data from your application to the RS-70, and from the RS-70 to your application.

The following items are required for connections and installation. Please have the following items ready.

- RS-70
- AC adaptor
- USB cable (Sold separately)
- RS Editor CD-ROM

The installation procedure will differ depending on your system.

Please proceed to one of the following sections, depending on the system you use.

- Windows XP users p. 140
- Windows 2000 users p. 144
- Windows Me/98 users p. 147

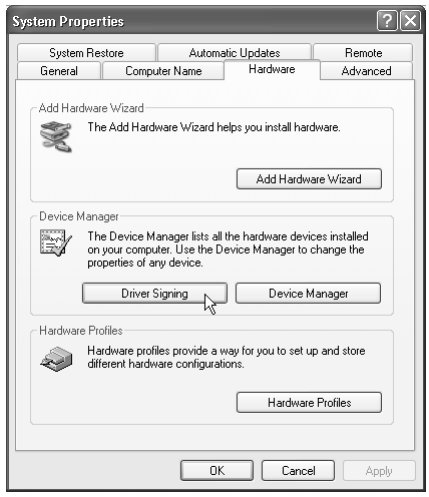
Windows XP users

1. With the RS-70 disconnected, start up Windows.
Disconnect all USB cables except for a USB keyboard and USB mouse (if used).

2. Open the **System Properties** dialog box.

1. Click the Windows **start** menu, and from the menu, select **Control Panel**.
2. In **"Pick a category,"** click **"Performance and Maintenance."**
3. In **"or pick a Control Panel icon,"** click the **System** icon.

3. Click the **Hardware** tab, and then click **[Driver Signing]**.
The **Driver Signing Options** dialog box will appear.



4. Make sure that **"What action do you want Windows to take?"** is set to **"Ignore."**
If it is set to **"Ignore,"** simply click **[OK]**.
If it is not set to **"Ignore,"** make a note of the current setting (**"Warn"** or **"Block"**). Then change the setting to **"Ignore"** and click **[OK]**.

5. Click **[OK]** to close the **System Properties** dialog box.

6. Exit all currently running software (applications).
Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

7. Prepare the CD-ROM.
Insert the CD-ROM into the CD-ROM drive of your computer.

8. Click the Windows **start** button. From the menu that appears, select **"Run..."**
The **"Run..."** dialog box will appear.

NOTE
If you are using Windows XP Professional, you must log on using a user name with an administrative account type (e.g., Administrator). For details on user accounts, please consult the system administrator of your computer.

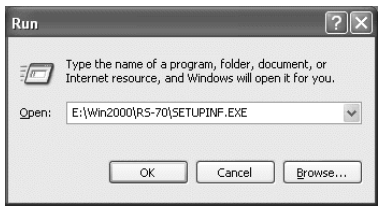
MEMO
Depending on how your system is set up, the **System** icon may be displayed directly in the **Control Panel** (the Classic display). In this case, double-click the **System** icon.

MEMO
If you changed **"What action do you want Windows to take?"** in **step 4**, you must restore the previous setting after you have installed the driver (p. 143).

9. In the dialog box that appears, input the following into the **"Open"** field, and click **[OK]**.

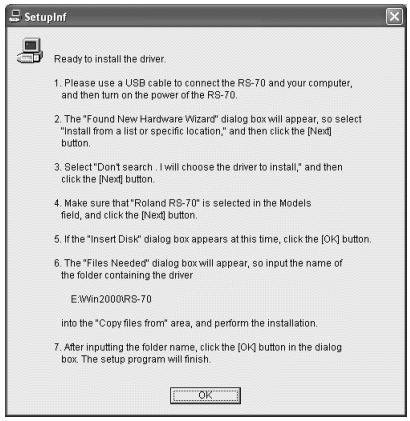
E:\Win2000\RS-70\SETUPINF.EXE

* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*



10. The **SetupInf** dialog box will appear.

You are now ready to install the driver.



11. Connect the RS-70.

1. With the RS-70's power switch turned off, connect it to the AC adaptor.
2. Plug the AC adaptor into an AC power outlet.
3. Use the USB cable to connect the RS-70 to your computer.

12. Set the RS-70's power switch to the **ON** position.

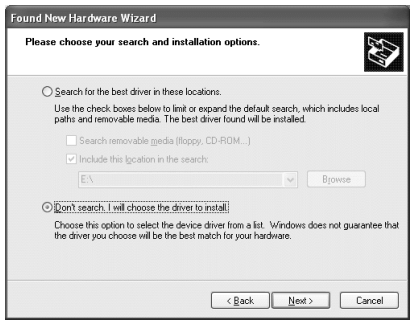
Near the task bar, your computer will indicate **"Found New Hardware."** Please wait.

13. The **Found New Hardware wizard** will appear.

Make sure that the screen indicates **"Roland RS-70,"** select **"Install from a list or specific location (Advanced),"** and click **[Next]**.

14. The screen will indicate **"Please choose your search and installation options."**

Select **"Don't search. I will choose the driver to install,"** and click **[Next]**.



MEMO

In this manual, the location of folders and files is given in terms of the file path, using \ as the delimiter. For example, **RS-70\SETUPINF.EXE** indicates the **SETUPINF.EXE** file found in the **RS-70** folder.

MEMO

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

15. Make sure that the **"Model"** field indicates **"Roland RS-70,"** and click **[Next]**. Driver installation will begin.

If in **step 4** the **"What action do you want Windows to take?"** setting was not set to **"Ignore**," a **"Hardware Installation"** dialog box will appear.

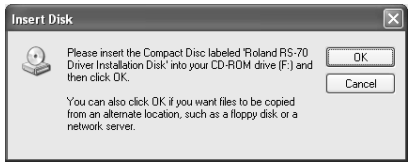
If "What action do you want Windows to take?" is set to "Warn;"

1. Click **[Continue Anyway]**.
2. Continue the installation.

If "What action do you want Windows to take?" is set to "Block;"

1. Click **[OK]**.
2. When the **"Found New Hardware Wizard"** appears, click **[Finish]**.
3. Re-install the driver from **step 1** (p. 140).

16. The **Insert Disk** dialog box will appear. Click **[OK]**.



17. The **Files Needed** dialog box will appear. In the **"Copy files from"** area, type **"E:\Win2000\RS-70"** and click **[OK]**.

* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

MEMO

The **Insert Disk** dialog box may not appear. In that case, proceed to **step 17**.

18. The **Found New Hardware wizard** will appear.

Make sure that the display indicates **"Roland RS-70,"** and click **[Finish]**.

Wait until **"Found New Hardware"** appears near the taskbar.

19. When driver installation has been completed, the **System Setting Change** dialog box will appear. Click **[Yes]**.

Windows will restart automatically.

If you changed "What action do you want Windows to take?"

If you changed the **"What action do you want Windows to take?"** setting in **step 4**, restore the original setting after Windows restarts.

1. If you are using Windows XP Professional, log on to Windows using the user name of an **administrative account** (e.g., Administrator).
2. Click the Windows **start** menu, and from the menu, select **Control Panel**.
3. In **"Pick a category,"** click **"Performance and Maintenance."**
4. In **"or pick a Control Panel icon,"** click the **System** icon. The **System Properties** dialog box will appear.
5. Click the **Hardware** tab, and then click **[Driver Signing]**. The **Driver Signing Options** dialog box will appear.
6. Return the **"What action do you want Windows to take?"** setting to the original setting (either **"Warn"** or **"Block"**), and click **[OK]**.
7. Click **[OK]**. The **System properties** dialog box will close.

Next, you need to make the driver settings. → **Settings and checking** (p. 148)

MEMO

Depending on how your system is set up, the **System** icon may be displayed directly in the **Control Panel** (the Classic display). In this case, double-click the **System** icon.

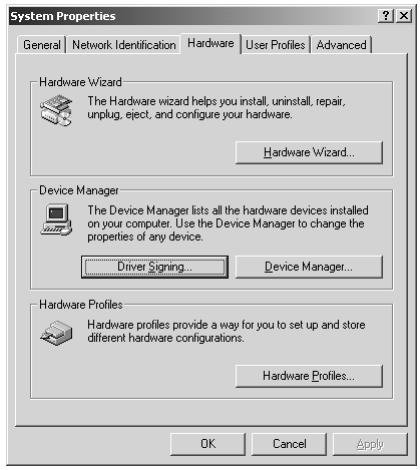
Windows 2000 users

1. With the RS-70 disconnected, start up Windows.
   Disconnect all USB cables except for a USB keyboard and USB mouse (if used).

2. Log on to Windows as **a user with administrative privileges** (such as Administrator).

3. Click the Windows **Start** button, and from the menu that appears, select **Settings | Control Panel**. In **Control Panel**, double-click the **System** icon.
   The **System Properties** dialog box will appear.

4. Click the **Hardware** tab, and then click **[Driver Signing]**.
   The **Driver Signing Options** dialog box will appear.



5. Make sure that **"File signature verification"** is set to **"Ignore."**
   If it is set to **"Ignore,"** simply click **[OK]**.
   If it is not set to **"Ignore,"** make a note of the current setting (**"Warn"** or **"Block"**). Then change the setting to **"Ignore"** and click **[OK]**.

6. Click **[OK]** to close the **System Properties** dialog box.

7. Exit all currently running software (applications).
   Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

8. Prepare the CD-ROM.
   Insert the CD-ROM into the CD-ROM drive of your computer.

9. Click the Windows **Start** button. From the menu that appears, select **"Run..."**
   The **"Run..."** dialog box will appear.

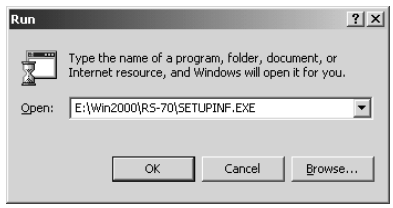
MEMO

If you changed the **"File signature verification"** setting in **step 5**, restore the original setting after Windows restarts (p. 146).

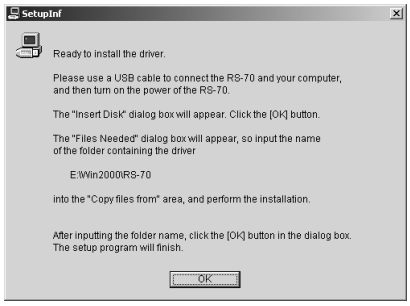
10. In the dialog box that appears, input the following into the **"Open"** field, and click **[OK]**.

E:\Win2000\RS-70\SETUPINF.EXE

* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*



11. The **SetupInf** dialog box will appear.
You are now ready to install the driver.



12. Connect the RS-70.

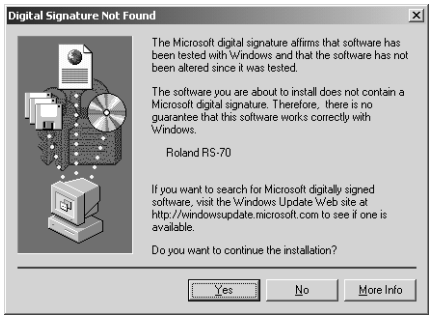
1. With the RS-70's power switch turned off, connect it to the AC adaptor.
2. Plug the AC adaptor into an AC power outlet.
3. Use the USB cable to connect the RS-70 to your computer.

13. Set the RS-70's power switch to the **ON** position.

If in **step 5** the **"File signature verification"** setting was not set to **"Ignore,"** a **"Digital signature not found"** dialog box will appear.

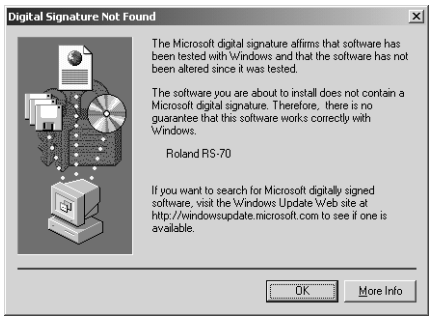
If "File signature verification" is set to "Warn;"

1. Click **[Yes]**.
2. Continue the installation.



If "File signature verification" is set to "Block;"

1. Click **[OK]**.
2. When the **"Found New hardware wizard"** appears, click **[Finish]**.
3. Re-install the driver from **step 1** (p. 144).



MEMO

In this manual, the location of folders and files is given in terms of the file path, using \ as the delimiter. For example, **RS-70\SETUPINF.EXE** indicates the **SETUPINF.EXE** file found in the **RS-70** folder.

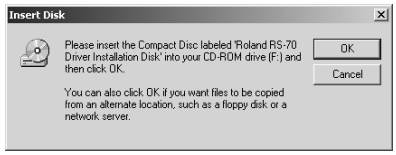
MEMO

If a message of **"The driver is already installed"** appears, you can connect the RS-70 to your computer and use it.

MEMO

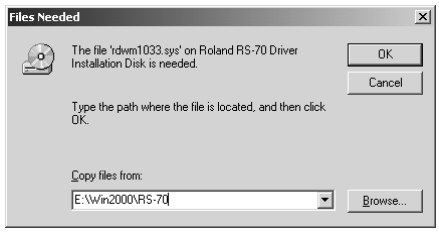
This unit is equipped with protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

14. The **Insert Disk** dialog box will appear.
Click **[OK]**.



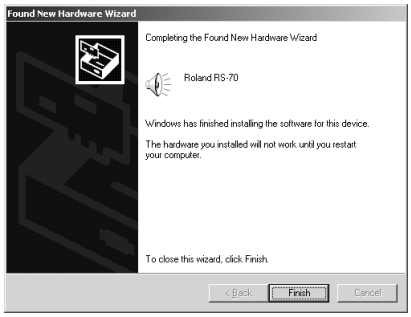
15. The **Files Needed** dialog box will appear.
In the **"Copy files from"** area, type **"E:\Win2000\RS-70"** and click **[OK]**.

* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*



16. The **"Found New Hardware Wizard"** may be displayed.
Verify that **"Roland RS-70"** is displayed, and click **[Finish]**.

17. The **System Settings Change** dialog box may appear. Click **[Yes]**.
Windows will restart automatically.



If you changed "File signature verification"

If you changed the **"File signature verification"** setting in **step 5**, restore the original setting after Windows restarts.

1. After Windows restarts, log on to Windows as a user with **administrative privileges**, (such as Administrator).
2. Click the Windows **Start** button, and from the menu that appears, select **Settings | Control Panel**.
3. In **Control Panel**, double-click the **System** icon to open the **System Properties** dialog box.
4. Click the **Hardware** tab, and then click **[Driver signature]**. The **Driver Signing Options** dialog box will appear.
5. Return the **"File signature verification"** setting to the original setting (either **"Warn"** or **"Block"**), and click **[OK]**.
6. Click **[OK]**. The **System properties** dialog box will close.

Next, you need to make the driver settings. → **Settings and checking** (p. 148)

MEMO

The **Insert Disk** dialog may not appear. In that case, proceed to **step 15**.

Windows Me/98 users

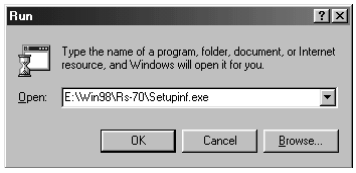
1. With the RS-70 disconnected, start up Windows.
Disconnect all USB cables except for a USB keyboard and USB mouse (if used).

2. Exit all currently running software (applications).
Also close any open windows. If you are using virus checking or similar software, be sure to exit it as well.

3. Prepare the CD-ROM.
Insert the CD-ROM into the CD-ROM drive of your computer.

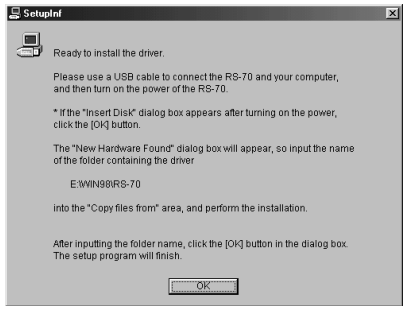
4. Open the **"Run..."** dialog box.
Click the Windows **Start** button.
From the menu that appears, select **"Run..."**

5. In the dialog box that appears, input the following into the **"Open"** field, and click **[OK]**.
E:\Win98\RS-70\SETUPINF.EXE



* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

6. The **SetupInf** dialog box will appear.
You are now ready to install the driver.



7. Connect the RS-70.

1. With the RS-70's power switch turned off, connect it to the AC adaptor.
2. Plug the AC adaptor into an AC power outlet.
3. Use the USB cable to connect the RS-70 to your computer.

8. Set the RS-70's power switch to the **ON** position.

9. If you are using Windows 98, an **Insert Disk** dialog box will appear.
Click **[OK]**.

MEMO

In this manual, the location of folders and files is given in terms of the file path, using \ as the delimiter. For example, **Win98\SETUPINF.EXE** indicates the **SETUPINF.EXE** file found in the **Win98** folder.

MEMO

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

If you are using Windows 98 and the **Insert Disk** dialog box dose not appear, please read **The "Insert Disk" dialog box does not appear** (p. 161).

10. The **New Hardware Found** dialog box will appear.

In the **"Copy files from"** area, type **"E:\Win98\RS-70"** and click **[OK]**.

* *The drive name **"E:"** may be different for your system. Specify the drive name of your CD-ROM drive.*

11. Once the driver has been installed, **New Hardware Found** dialog box will close.

In the **SetupInf** dialog box, click **[OK]**. The **SetupInf** dialog box will close.

Next, you need to make the driver settings. → **Settings and checking** (p. 148)

NOTE

If the **New Hardware Found** dialog box does not appear, re-install the driver using the same procedure as described in **The "Insert Disk" dialog box does not appear** (p. 161).

Settings and checking

Specifying the output destination for MIDI data

Windows XP/2000/Me users

1. Open **Control Panel**.

Click the Windows **Start** button, and from the menu that appears, select **Settings | Control Panel**.

- **Windows XP**

  Click the Windows **start** button, and from the menu that appears, select **Control Panel**.

2. Open the **Sounds and Multimedia Properties** dialog box (or in Windows XP, **Sounds and Audio Devices Properties**).

- **Windows XP**

  In **"Pick a category,"** click **"Sound, Speech, and Audio Devices."** Next, in **"or pick a Control Panel icon,"** click the **Sounds and Audio Devices** icon.

- **Windows 2000/Me**

  In **Control Panel**, double-click the **Sounds and Multimedia** icon to open the **"Sounds and Multimedia Properties"** dialog box.

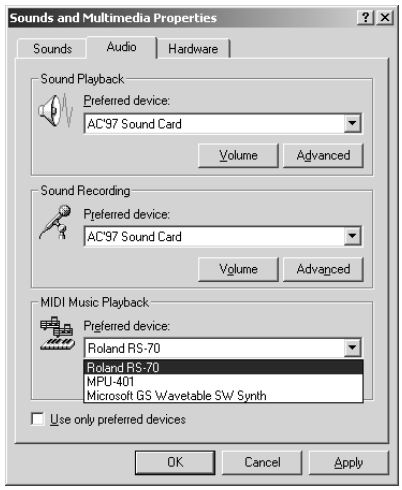
3. Click the **Audio** tab.

MEMO

Depending on how your system is set up, the **Sounds and Audio Devices** icon may be displayed directly in the **Control Panel** (the Classic display). In this case, double-click the **Sounds and Audio Devices** icon.

4. For **MIDI music playback**, click the ▼ located at the right of **[Preferred device]** (or in Windows XP, **[Default device]**), and select the **Roland RS-70**.

5. Click **[OK]** to complete the settings.



The settings are completed.

Windows 98 users

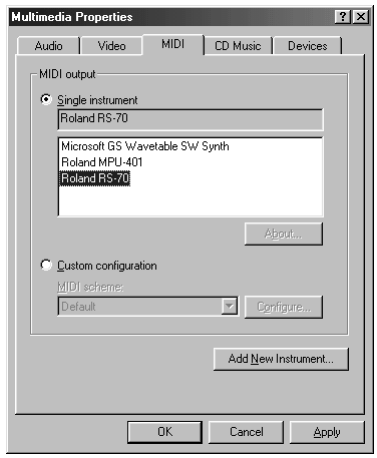
1. Open **Control Panel**.
   Click the Windows **Start** button, and from the menu that appears, select **Settings | Control Panel**.

2. Open the **Multimedia Properties** dialog box.
   In **Control Panel**, double-click the **Multimedia** icon to open the **"Multimedia Properties"** dialog box.

3. Click the **MIDI** tab.

4. Set **"MIDI output."**
   Select **[Single instrument]**, and choose the **Roland RS-70**.

5. Click **[OK]** to complete the settings.



The settings are completed.

Deleting the USB MIDI driver

If you were not able to install the RS-70 driver according to the procedure, or if you are unable to use the RS-70 even after installing the driver, you must delete the driver.

After deleting the driver, use the procedure described in "**Installing & setup the driver (Windows)** (p. 139)" to re-install the driver.

For details on how to delete the driver, refer to the explanation provided in the on-line manual within the RS Editor CD-ROM.

- **Windows XP/2000 users**

  From the Win2000 folder of the RS Editor CD-ROM, open the README_E.HTM file and read "To uninstall."

- **Windows 98 / Me users**

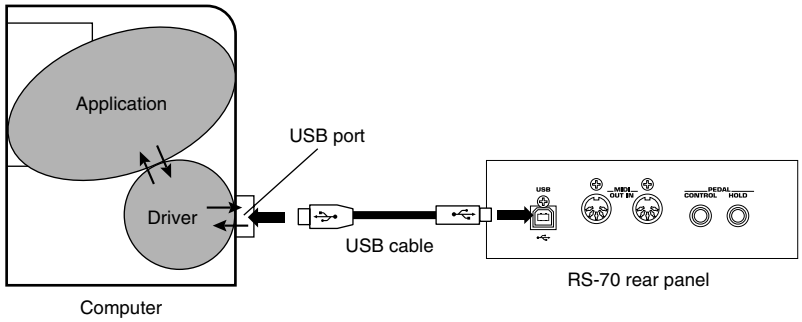
  From the Win98 folder of the RS Editor CD-ROM, open the README_E.HTM file and read "To uninstall."

Installing & setup the driver (Macintosh)

Use **OMS** as the MIDI driver.

* ***OMS*** *must be installed in your Macintosh.*

What is a driver?



A **"driver"** is software that transfers data between the RS-70 and application software running on your computer, when your computer and the RS-70 are connected by a USB cable. The driver sends data from your application to the RS-70, and from the RS-70 to your application.

The following items are required for connections and installation. Please have the following items ready.

- RS-70
- AC adaptor
- USB cable (sold separately)
- RS Editor CD-ROM

Installing the RS-70 driver

Use the following procedure to install the RS-70 driver.

The included **RS-70 OMS driver** is an add-on module for using the RS-70 with OMS. In order for you to use it, **OMS must already be installed on the hard disk from which you started up**.

If you would like to learn more about OMS, refer to **OMS_2.3_Mac.pdf** (online manual) in the **OMS2.3.8** folder within the **OMS** folder of the CD-ROM.

Disconnect the RS-70 from the Macintosh before you perform the installation.

If the power of the RS-70 is turned on, a message like the following will appear when the Macintosh is started up. Perform the steps described below as appropriate for the message that is displayed.

If the screen indicates:

"Driver required for USB device "unknown device" is not available. Search for driver on the Internet?"

→ click **[Cancel]**.

If the screen indicates:

"Software required for using device "unknown device" cannot be found. Please refer to the manual included with the device, and install the necessary software."

→ click **[OK]**.

1. Exit all currently running software (applications).

If you are using a virus checker or similar software, be sure to exit this as well.

2. Prepare the CD-ROM.

Insert the CD-ROM into the CD-ROM drive.

3. Double-click the **RS-70 Driver-E Installer** icon (found in the **RS Driver E** folder of the CD-ROM) to start up the installer.

4. Confirm the OMS driver is properly installed on the **installation location**, and click **[Install]**.

5. If a message like the following is displayed, click **[Continue]**.

The other currently running applications will exit, and installation will continue.

6. A dialog box will indicate **Installation was successful**.

Click **[Restart]** to restart your Macintosh.

MEMO

OMS can be found in the **OMS2.3.8** folder within the **OMS** folder of the CD-ROM.

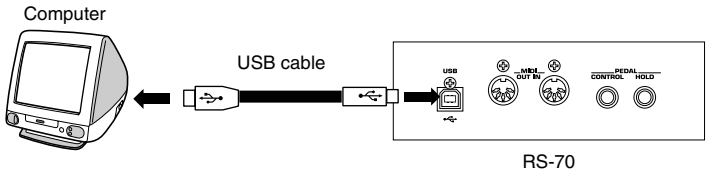
MEMO

You will need the Adobe Acrobat Reader in order to view **OMS_2.3_Mac.pdf**. The latest version of Adobe Acrobat Reader can be downloaded from the Adobe website.
http://www.adobe.com
(This URL may change without notice.)

OMS settings

1. Connect the RS-70.

1. With the RS-70's power switch turned off, connect it to the AC adaptor.
2. Plug the AC adaptor into an AC power outlet.
3. Use the USB cable to connect the RS-70 to your computer.



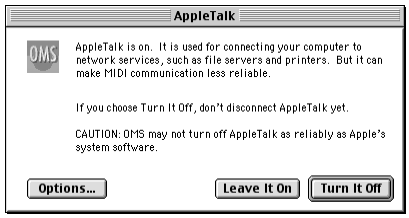
* *If using a computer that is not equipped with a USB connector, refer to p. 155.*

2. Set the RS-70's power switch to the **ON** position.

3. Double-click the **"OMS Setup"** icon.

4. If the **"Apple Talk"** dialog box appears, click **[Turn It Off]**.

Then, in the dialog box that appears next, click **[OK]**.

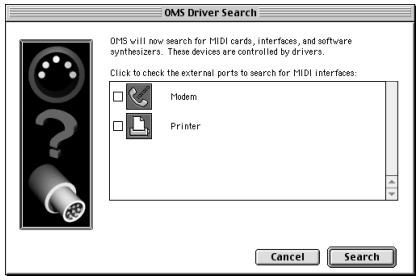


5. The **"Create a New Studio Setup"** dialog box appears.

Click **[OK]**.

6. The **"OMS Driver Search"** dialog box appears.

Click **[Search]**.



NOTE

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

MEMO

If you are using the RS-70 with a sequencer, do not disconnect the USB cable connected to the RS-70 while a song is playing back.

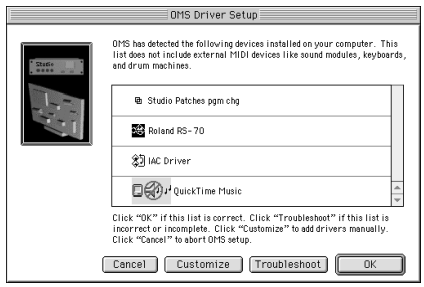
MEMO

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.

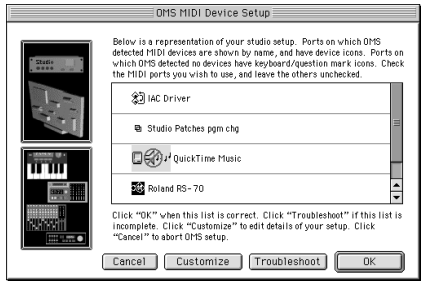
MEMO

If the **"Create a New Studio Setup"** dialog box does not appear, click **[New Studio Setup]** in the **[File]** menu.

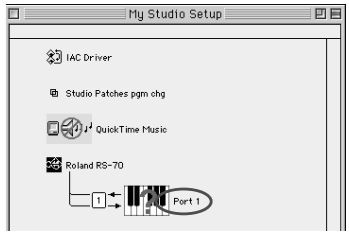
7. After the search has been completed, make sure that **"Roland RS-70"** is listed in the **"OMS Driver Setup"** dialog box, and click **[OK]**.



8. After making sure that the RS-70 is listed in the **"OMS MIDI Device Setup"** dialog box, click the check box for RS-70, and click **[OK]**.

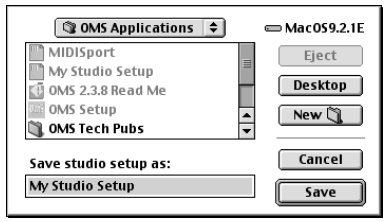


9. Change the name of the keyboard icon to **"Port 1"** or any other names except **"Roland RS-70."**



10. The **"Save"** dialog box appears.

Input the desired file name, and click **[Save]**.



11. Select **[Test Studio]** in the **[Studio]** menu and check it in order to verify whether sound is produced.

12. In the **"My Studio Setup"** window, click the keyboard icon.

When you move the mouse pointer near the keyboard icon, the pointer will change to the shape of an eighth note. Verify that you can hear sound from your RS-70.

13. After you have finished the above check, quit OMS Setup.

This completes driver settings.

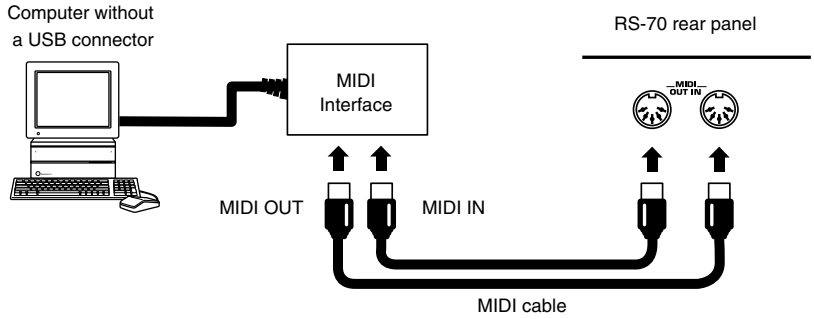
This completes connections for the RS-70 and Macintosh, and installation of the MIDI driver. Now, MIDI data can be input and output (recorded and played).

NOTE

The following step will cause a relatively loud sound to be produced by the RS-70, so turn down the volume of your RS-70 before continuing.

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-70's MIDI connectors.



Installing the included editor software

To help you get more out of your RS-70, 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. 164).*

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. 18)

Is the volume turned down?

Check the volume settings for the RS-70 and any connected amp or mixer (p. 18).

Are the components properly connected? (p. 17)

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 Pattern mode, has the Part been muted? (p. 67)

If you are in Pattern mode, have the Part Level settings been lowered? (p. 80)

Have you switched the RS-70 mode to that for listening to demo songs?

Press [EXIT] to return to regular performance mode (p. 21).

Is [SOLO SYNTH] set to ON?

The RS-70 does not sound if you just switch [SOLO SYNTH] on. Hold down keys, then move your hand over the D Beam (p. 36).

Are the effects settings correct?

Check effects ON/OFF (p. 91), multi-effects levels (p. 57, p. 80), 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. 34).

If no sound is produced when you press keys on the keyboard, is Local control set to OFF?

Set Local Control to ON (p. 125).

Do the transmission and reception channels match?

- If using the RS-70 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. 130).
- If using an external MIDI device to sound the RS-70, 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. 131).

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-70 with an external MIDI device, turn it "ON" (p. 132).

Could the Bank Select and Program Change messages transmitted by an external device have the wrong values?

If using the RS-70 with an external MIDI device, make sure that the correct Bank Select and Program Change messages (p. 132) 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 quick sequencer or the tempo will not work. Set the clock source to "INT" except when you want to synchronize the RS-70 with an external MIDI device (p. 125).

The pitch is off

Could Transpose be on? (p. 35)

Are the Octave Shift settings correct? (p. 34)

Are the Scale Tune settings correct? (p. 128, p. 81)

Are the Master Key Shift settings correct? (p. 125)

Are the Master Tune settings correct? (p. 125)

Sounds are missing

Could a Solo switch be set to ON?

When a Solo switch (p. 57) 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.
- Reduce the number of notes in the pattern being played.
- Set Voice Reserve higher for an important Part, to help assure that it will always be sounded (p. 79).

Effects not being applied correctly

Are the master effects switches set to OFF? (p. 91)

Are the Chorus settings correct?

Check the Chorus Level (p. 112), Chorus Depth (p. 113), and Chorus Send Level (p. 57, p. 82) settings.

Are the Reverb settings correct?

Check the Reverb Level (p. 113) and Reverb Send Level (p. 57, p. 82) settings.

Are the Chorus or Reverb settings for the rhythm set correct?

Check the Chorus Send Level (p. 64) and Reverb Send Level (p. 64) 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. 57, p. 82).

Are the Multi-Effects Source setting correct? (p. 79)

Is the Clock Source set to "MIDI?"

If you set the clock source (p. 125) to "MIDI," some of the effects that are synchronized with the quick sequencer or the tempo will not work. Set the clock source to "INT" except when you want to synchronize the RS-70 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 Pattern mode to control MFX PARAMETER settings, the **"MFX Source"** (p. 79) 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 "PTN/PERF," the System **"Ptn/Perf Ctrl Ch (Pattern Control Channel)"** (p. 127) setting will determine the part whose effect will be controlled. If this setting is "OFF," no effect will be controlled.

You hear noise when patterns are switched

If patterns are switched while the sequencer is playing, switching noise may be heard if the pattern uses a different MFX type.

If this noise is a problem, you can turn on "MFX Remain" (p. 125) so that they use the same MFX type for the entire song.

Notes are delayed or unsteady during playback

If you create a pattern that contains an extremely large amount of data, or if you input an excessive amount of knob 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. Use "Data Thin" to thin out the unneeded data (p. 87).
- Use "Move Event" to move notes that were input at the same location as chords, so that they are staggered by 1 clock (p. 78).
- Use "Shift Clock" to move data of parts other than the rhythm part backward by 1 clock (p. 87).

The RS-70 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 a sequencer, playback may be smoother if you avoid using such sounds, and instead choose sounds that use fewer voices.

- Refer to **"Patch List"** (p. 172), 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.

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-70 conforms to General MIDI 2 system. It is not compatible with song data that uses formats other than General MIDI 2 or General MIDI.

Cannot play arpeggios

Is the MIDI clock not being received when Clock Source (p. 125) 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-70 except during recording or playback.

Sound does not stop when key is pressed

Is the Hold Pedal Polarity reversed? (p. 125)

MIDI messages not received correctly

Are the Patch Receive channel settings correct? (p. 127).

Is each Receive switch set correctly?

Check the Pattern Control Channel (p. 127), Receive Program Change switch (p. 127), Receive Bank Select switch (p. 127), Receive System Exclusive switch (p. 127) settings.

Are Device ID number settings correct?

Set the Device ID number (p. 127) used when the Exclusive message was recorded to the sequencer.

Is the sequencer playback tempo correct?

Play back the data on the sequencer at the tempo used when the Exclusive message was recorded to the sequencer (p. 67).

MIDI messages not transmitted correctly

Are the Patch transmission channel settings correct? (p. 132)

Is each Transmission switch set correctly?

Check the Transmit Program Change switch (p. 127), Transmit Bank Select switch (p. 127), Transmit Edit Data switch (p. 127), Transmit Active Sensing switch (p. 127) 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. 125).

Problems related to the USB driver (Windows)

Cannot install the driver correctly

- **Is the CD-ROM correctly inserted into your CD-ROM drive?**
  Installation is not possible unless the CD-ROM included with the RS-70 is inserted in your CD-ROM drive. Make sure that the CD-ROM is correctly inserted into your CD-ROM drive.
- **Is the CD-ROM or the lens of the CD-ROM dirty?**
  If the CD-ROM or the lens of the CD-ROM drive is dirty, the installer may not work correctly. Clean the disc and/or lens using a commercially-available CD cleaner or lens cleaner.
- **Are you installing the software from a networked CD-ROM drive?**
  The software cannot be installed from a networked CD-ROM drive.
- **Is there sufficient free space on your hard disk?**
  Delete unneeded files to increase the amount of free space. After deleting the unneeded files, empty the recycling bin.
- **Is the RS-70 connected correctly?**
  Make sure that the USB connector of your computer is connected to the RS-70 by a USB cable. Check this, and close the **Sound and Multimedia Properties** dialog box (**Multimedia Properties** in Windows 98, and **Sounds and Audio Devices Properties** in Windows XP), re-open the same dialog box once again, and specify the audio and MIDI input/output destinations.
  Refer to **"Specifying the output destination for MIDI data"** (p. 148).
- **Is the power of the RS-70 turned on?**
  Make sure that the RS-70's POWER switch has been pressed inward. Check this, and close the **Sound and Multimedia Properties** dialog box (**Multimedia Properties** in Windows 98, and **Sounds and Audio Devices Properties** in Windows XP), re-open the same dialog box once again, and specify the MIDI input/output destinations.
- Using the procedure for **"Deleting the USB MIDI driver"** (p. 150), delete the USB audio device driver installed in your computer, and then re-install the RS-70 driver as described in **"Installing & setup the driver (Windows)"** (p. 139). Also check whether there is any "**Unknown device**" in "**Other devices**" or "**Universal Serial Bus Controllers**." If you find any, delete them.

"Find new hardware wizard" does not execute automatically

"Find new hardware wizard" ends before the process is completed

The "Insert Disk" dialog box does not appear

It may take about 15 seconds (or more) after the USB cable is connected for the RS-70 to be detected.

- **Is the USB cable connected correctly?**
  Make sure that the RS-70 and your computer are correctly connected via a USB cable.
- **Is USB enabled on your computer?**
  Refer to the operation manual for your computer, and make sure that USB is enabled.
- **Does your computer meet the USB specifications?**
  If you are using a computer that does not fulfill the electrical requirements of the USB specifications, operation may be unstable. In this case, you may be able to solve the problem by connecting a USB hub.
  If the above actions do not solve the problem, it is possible that the RS-70 has been incorrectly detected by the computer.
  As described in **"Installing & setup the driver (Windows)"** (p. 139), re-install the driver.

"Found unknown device" appears even though you installed the driver

- If your computer or USB hub has two or more USB connectors, and you connect the RS-70 to a USB connector to which the RS-70 has never been connected before, the "Unknown device" dialog box may appear even on a computer onto which you have already installed the driver.
  Refer to **"Installing & setup the driver (Windows)"** (p. 139), and install the driver once again. This is not a malfunction.
- If the "Found unknown device" dialog box appears even though the RS-70 is connected to the same USB connector as before, it is possible that the computer has detected the RS-70 incorrectly.
  As described in **"Installing & setup the driver (Windows)"** (p. 139), re-install the driver.

An "Unknown driver found" dialog box appears, and you are unable to install the driver

Driver is not installed correctly

Device Manager shows "?", "!", or "USB Composite Device"

It is possible that the computer has detected the RS-70 incorrectly.
As described in **"Installing & setup the driver (Windows)"** (p. 139), re-install the driver.

Cannot install/delete/use the driver in Windows XP/2000

- **Did you log on to Windows as a user with administrative privileges?**
  In order to install/delete/re-install the driver in Windows XP/2000, you must be logged into Windows as a user with administrative privileges, such as Administrator.
- **Did you make "Driver Signing Options"?**
  In order to install/re-install the driver, you must make "Driver Signing Options."
  (Windows XP; p. 140, Windows 2000; p. 144)

Windows XP/2000 displays a "Hardware Installation" or "Digital Signature Not Found" dialog box

- **Did you make "Driver Signing Options"?**
  In order to install/re-install the driver, you must make the settings described in "Driver Signing Options." (Windows XP; p. 140, Windows 2000; p. 144)

No sound

- **Have you specified the MIDI data output destination in your operating system?**
  On your computer, you will need to specify the RS-70 as the output destination for MIDI data. For details on how to make this setting, refer to **"Settings and checking"** (p. 148).
- **Have you specified the audio data output destination for your playback software?**
  Depending on your software, you may need to once again specify the RS-70 as the MIDI data output destination. For details on this setting, refer to the operation manual for your application.
- **Are you running multiple applications?**
  If multiple applications are running simultaneously, an error message may be displayed. If this occurs, click [OK] and exit the other applications.
  Even if an application window is closed, it is still running if it appears in the taskbar. Be sure to exit unneeded applications displayed in the taskbar.
- **Was the driver installed correctly?**
  In order for you to play back MIDI data via the RS-70, the driver must be installed. For installation and settings, refer to **"Installing & setup the driver (Windows)"** (p. 139).
- **Is your audio playback equipment (e.g., stereo system) connected correctly?**
  Make sure that the USB connector of your computer is connected to the RS-70 by a USB cable. Make sure that the RS-70's OUTPUT jacks are connected by audio cables to the input jacks of your audio playback equipment. For details on connections, refer to p. 17.
- **Is the power of your audio equipment turned on?**
  Make sure that the power is turned on for your audio equipment (e.g., stereo) and the RS-70.
- **Are the various volume settings of the RS-70 set appropriately?**
  Use the [VOLUME] knob of the RS-70 to adjust the volume.
- **Is your computer in Suspend or Sleep mode?**
  If so, get your computer to resume normal operation, then exit all applications that are using the RS-70. Next, turn the RS-70's power off, then switch it on again.
- **Did you reconnect the USB cable or turn the power of the RS-70 off and on?**
  Exit all applications that are using the RS-70, and turn the power of the RS-70 off and then on once again.
- **Has your computer been set to enter Sleep mode?**
  If your computer enters Sleep mode, exit the software you are using, and then restart your computer. We recommend that you set your computer to not use Sleep mode.

Problems related to the USB driver (Macintosh)

Cannot install the driver correctly

- **Is the CD-ROM correctly inserted into your CD-ROM drive?**
  Installation is not possible unless the CD-ROM included with the RS-70 is inserted in your CD-ROM drive. Make sure that the CD-ROM is correctly inserted into your CD-ROM drive.
- **Is the CD-ROM or the lens of the CD-ROM dirty?**
  If the CD-ROM or the lens of the CD-ROM drive is dirty, the installer may not work correctly. Clean the disc and/or lens using a commercially-available CD cleaner or lens cleaner.
- **Are you installing the software from a networked CD-ROM drive?**
  The software cannot be installed from a networked CD-ROM drive.
- **Is there sufficient free space on your hard disk?**
  Delete unneeded files to increase the amount of free space. After deleting the unneeded files, empty the recycling bin.
- **Is the RS-70 connected correctly?**
  Make sure that the USB connector of your computer is connected to the RS-70 by a USB cable.
- **Is the power of the RS-70 turned on?**
  Make sure that the RS-70's [POWER] switch has been pressed inward.
- **Is OMS installed?**
  The RS-70 driver cannot be installed unless OMS is installed. Please install OMS (p. 152).

RS-70 is not detected when making OMS settings

- **Is the RS-70 detected?**
  Turn the power of the RS-70 off, then on again.
  Reconnect the USB cable.
  If other USB devices are connected, connect only the RS-70.
  It is possible that the Macintosh did not correctly detect and initialize the RS-70. Leave the RS-70's USB cable connected, and restart your Macintosh. If it is still not detected, shut down your Macintosh, and then restart it.
  The RS-70 will not be detected if it is connected to the USB connector on the Macintosh keyboard. Please connect the RS-70 to a USB connector on the Macintosh itself.

No sound

- **Have you specified the MIDI data output destination in your operating system?**
  On your computer, you will need to specify the RS-70 as the output destination for MIDI data. For details on how to make this setting, refer to **"OMS settings"** (p. 153).
- **Have you specified the audio data output destination for your playback software?**
  Depending on your software, you may need to once again specify the RS-70 as the MIDI data output destination. For details on this setting, refer to the operation manual for your application.

- **Are you running multiple applications?**
  If multiple applications are running simultaneously, an error message may be displayed. If this occurs, click **[OK]** and exit the other applications.
- **Was the driver installed correctly?**
  In order for you to play back MIDI data via the RS-70, the driver must be installed. For installation and settings, refer to **"Installing & setup the driver (Macintosh)"** (p. 151).
- **Is your audio playback equipment (e.g., stereo system) connected correctly?**
  Make sure that the USB connector of your computer is connected to the RS-70 by a USB cable. Make sure that the RS-70's OUTPUT jacks are connected by audio cables to the input jacks of your audio playback equipment. For details on connections, refer to p. 17.
- **Is the power of your audio equipment turned on?**
  Make sure that the power is turned on for your audio equipment (e.g., stereo) and the RS-70.
- **Are the various volume settings of the RS-70 set appropriately?**
  Use the [VOLUME] knob of the RS-70 to adjust the volume.
- **Is your computer in Suspend or Sleep mode?**
  If so, get your computer to resume normal operation, then exit all applications that are using the RS-70. Next, turn the RS-70's power off, then switch it on again.
- **Is OMS set correctly?**
  As described in **"OMS settings"** (p. 153), check the OMS settings.
  Also make sure that the device for MIDI IN/OUT is correctly selected in the MIDI settings of your MIDI sequencer software.
- **Is the OMS setup enabled?**
  If a diamond-shaped symbol is not displayed at the left edge of the title area in the OMS setup window, the setup is not enabled. From the OMS File menu, choose "Make Current."
- **Has your computer been set to enter Sleep mode?**
  If your computer enters Sleep mode, exit the software you are using, and then restart your computer. We recommend that you set your computer to not use Sleep mode.

Can't play back MIDI

- **Has the MIDI device you are using been selected correctly?**
  Make the settings for the MIDI output device again (p. 153).
- **Are the track outputs set correctly?**
  MIDI tracks to which no MIDI playback device is assigned will not be heard. If you want to play back a MIDI track, you must make sure that the MIDI device you want to use is displayed in your software as the MIDI output port. For details, refer to the owner's manual for your software.

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-70 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-70.
User Memory Damaged	The data in user memory has been lost.	Use the Factory Reset function to initialize the memory to the factory settings.
USB Off Line	It is possible that the power has been turned off for the computer connected to the RS-70's USB connector.	Check the power of the connected computer.
	It is possible that a USB cable has been pulled out or has a short.	Check that USB cable is not broken or pulled out.
No File	There is no file that the RS-70 can use. (Note: This will be displayed if there is no file with an extension of RSU or MID.)	—
Disk Not Ready	A disk is not inserted in the disk drive.	Insert a disk.
Unformatted Disk	This disk cannot be used by the RS-70.	Format the disk on the RS-70.
Write Protected	Since the write protect tab of the disk is in the Protect position, data cannot be written to the disk.	Set the write protect tab to the Write position, and retry the operation.
Master Disk	This disk is a master disk. Master disks cannot be used to save data or be formatted.	—
Disk Read/Write Error	A file is corrupted, the disk is scratched or damaged, or the disk drive is malfunctioning.	Insert another disk formatted on the RS-70 (not containing important data). If this solves the problem, the problem is probably a scratched or damaged disk, or a corrupted file. Do not use the disk. If the same error message appears repeatedly, a malfunctioning disk drive is suspected. If the disk drive is malfunctioning, it could damage the disk. Consult your dealer or closest Roland service station.
Too Many Files	The maximum number of files that can be created has been exceeded.	Delete unneeded files.
File Format Error	The RS-70 cannot handle this file.	—
Disk Incorrect	The operation you attempted to execute is not appropriate for this disk. (Note: This will be displayed if you insert a different disk during disk backup.)	Do not select this disk as the object of the operation.
Memory Full	Internal memory is full, preventing processing of the data.	Delete unneeded data, reducing the amount of data in the pattern.
File Name Duplicate	A file with the same name already exists on the disk.	Use a different file name.
Disk Full	Insufficient free space available on the disk to save the data.	Either insert a different disk (formatted on the RS-70) or delete unnecessary data and retry the operation.
Irregular Name	There is a space within the file name.	Change the file name.
Data Not Found	Since data was not found at the specified location, the operation could not be executed. (This will be displayed if there is no applicable data for the Microscope.)	Specify the correct location.
CANCELED	Processing is canceled. (This is not an error message.)	—

Parameter list

Patch parameters

Patches

Patch Common parameters (p. 56)

Parameters		Value
Name	Patch Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }
Category		* Refer to **"Selecting a patch by category"** (p. 24).
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. 57)

Parameters		Value
No.	Original Tone Number	0001–1024
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. 94).
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. 94).
Ctrl 2	Multi-effects Control 2	Refer to **"Setting multi-effects parameters"** (p. 94).
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
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. 63)

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

Rhythm Tone parameters (p. 63)

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

Pattern parameters

Pattern Common parameters (p. 79)

Parameters		Value
Name	Pattern Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [¥] ^ _ ` { | }
Voice Rsv 1–16	Voice Reserve 1–16	0–32
Level	Pattern Level	0–127
MFX Source		PTN/PERF, PART1–PART16

Pattern Sequencer parameters (p. 79)

Parameters		Value
Tempo	Pattern Tempo	5–300
Tempo Change	Pattern Tempo Change	OFF, ON
End Tempo	Pattern End Tempo	5–300
Tempo Chg Crv	Pattern Tempo Change Curve	LINEAR, CURVE1, CURVE2

Pattern 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. 94).
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. 94).
Ctrl 2	Multi-Effects Control 2	Refer to **"Setting multi-effects parameters"** (p. 94).
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
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

Pattern Part Setup parameters (p. 80)

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

Song parameters (p. 116)

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

System parameters (p. 125)

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
MFX Remain	MFX Remain Switch	OFF, ON * Takes effect for both the Pattern and Song modes.
Hold Pedal	Hold Pedal Polarity	STANDARD, REVERSE
Local Control	Local Controller	OFF, ON
Clock Source		INT, MIDI
Sync Output	Sync Output Switch	OFF, ON
METRONOME group		
Mode		OFF, REC ONLY, REC&PLAY, ALWAYS
Level		0–10
Sound		TYPE1, TYPE2, TYPE3, TYPE4
CONTROLLER group		
Mod	Modulation Assign	MODULATION, PORTA TIME, VOLUME, BALANCE, PAN, EXPRESSION, PORTAMENTO, SOSTENUTO, SOFT, RESONANCE, RELEASE TIME, ATTACK TIME, CUTOFF, DECAY TIME, LFO RATE, LFO DEPTH, LFO DELAY, CHO SEND LEVEL, REV SEND LEVEL, MFX PARAMETER1, MFX PARAMETER2, AFTERTOUCH
Pedal	Pedal Control Assign	Values for Modulation Assign, PUNCH I/O, TAP TEMPO
C1–C3	C1–C3 Knob Assign	Values for Modulation Assign, PATCH MODIFY
MIDI&USB group		
Patch Rx Ch	Patch Receive Channel	1–16
Patch Tx Ch	Patch Transmit Channel	1–16, RxCH, OFF
Ptn/Perf Ctrl Ch	Pattern 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
MIDI-USB Thru		OFF, ON
Descriptor	USB Descriptor	VENDER, GENERIC
MEMORY INFO group		
Seq Block	Sequencer Data Block	* Unchangeable
SysEx Blk	System Exclusive Data Block	* Unchangeable
User Block	User Data Block	* Unchangeable
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 Rhodes1	1
0028	Dyno Rhodes2	1
0029	MKS20Rhodes	2
0030	StageRhodes1	2
0031	StageRhodes2	1
0032	Sweet Stage	1
0033	Swurly	1
0034	Dyno Wurly	1
0035	BalladPanner	2
0036	Sine Rhodes	2
0037	Phase EP	2
0038	Phase Rhodes	2
0039	Tremolo Dyno	2
0040	FlaredTrouzr	2
0041	E.Piano 2	1
0042	Detuned EP 2	2
0043	St.FM EP	2
0044	EP Legend	2
0045	EP Phase	2
0046	FM Rhodes 1	1
0047	Pure EP	1
0048	SA E.Piano	2
0049	Stack EPiano	2
0050	FM Rhodes 2	2
0051	Hard FM	2
0052	Harpsichord1	1
0053	Coupled Hps.	2
0054	Harpsi.w	1
0055	Harpsi.o	2
0056	Harpsichord2	2
0057	Harpsichord3	2
0058	Synth Harpsi	2
0059	Clav.	1
0060	Pulse Clav	1
0061	RS Clavi 1	1
0062	RS Clavi 2	1
0063	RS Clavi 3	1
0064	RS Clavi 4	1
0065	RS Clavi 5	2
0066	RS Clavi 6	1
0067	RS Clavi 7	1
0068	AnalogClav 1	1
0069	AnalogClav 2	2
0070	Celesta	1

No.	Name	Voice
0071	Glockenspiel	1
0072	Music Box	1
0073	Vibraphone	1
0074	Vibraphone w	1
0075	RS Vibe	1
0076	Tr. Vibe	2
0077	SA Vibe	1
0078	Marimba	1
0079	Marimba w	1
0080	Bass Marimba	1
0081	Xylophone	1
0082	Tubular-bell	1
0083	Church Bell	1
0084	Carillon	1
0085	Singing Bell	2
0086	Analog Bell	2
0087	Hyper Bell	2
0088	Warm Bell	2
0089	RS Crystal	4
0090	Chime Bells	4
0091	Tiny Bell	1
0092	Pretty Bell	2
0093	RS Digi Bell	2
0094	SouthernWind	4
0095	Mysterious	4
0096	Troika Ride	2
0097	Santur	1
0098	Organ 1	3
0099	Trem. Organ	2
0100	60's Organ 1	2
0101	70's E.Organ	2
0102	RS Organ 1	1
0103	RS Organ 2	1
0104	RS Organ 3	3
0105	RS Organ 4	3
0106	Rock Organ	1
0107	Animal Organ	1
0108	BritOldOrgan	1
0109	D-50 Organ	1
0110	Surf Organ	1
0111	Organ 2	1
0112	Chorus Or.2	3
0113	Perc. Organ	3
0114	RS Jazz Org	2
0115	Garage Organ	1
0116	Org Perc	1
0117	Club Organ	2
0118	OldHouse Org	1
0119	R&B Organ	3
0120	FM PercOrg	1
0121	Organ 3	2
0122	Power B Slw	1
0123	Power B Fst	1
0124	Gospel B	3
0125	Purple B	2
0126	L-Organ	2
0127	RS Organ 5	2
0128	RS Mad Org	2
0129	RockOrg Slow	2
0130	Church Org.1	1
0131	Church Org.2	2
0132	Church Org.3	2
0133	Reed Organ	1
0134	Puff Organ	2
0135	Accordion Fr	2
0136	Accordion It	2
0137	Harmonica	1
0138	Bandoneon	2
0139	Vodkakordion	4
0140	Squeeze Me!	4

No.	Name	Voice
0141	Guinguette	4
0142	Nylon-str.Gt	2
0143	Ukulele	1
0144	Nylon Gt.o	2
0145	Nylon Gt.2	1
0146	Spanish Gtr	1
0147	Requint Gtr	1
0148	Steel-str.Gt	1
0149	12str Gtr 1	2
0150	Mandolin	2
0151	Steel + Body	2
0152	6str Gtr	1
0153	St.SteelGtr.	2
0154	RS Ac.Gtr 1	1
0155	RS Ac.Gtr 2	1
0156	Nylon+Steel	2
0157	12str Gtr 2	2
0158	12str Gtr 3	2
0159	Jazz Gt. 1	1
0160	Pedal Steel	1
0161	Jazz Gt. 2	2
0162	Clean Gt.	1
0163	Chorus Gt.	2
0164	Mid Tone GTR	1
0165	Clean TC	1
0166	St.Strat Gtr	2
0167	E.Guitar	1
0168	Nashville	1
0169	Wah Gt.	1
0170	RS Strat	1
0171	12str EGtr	2
0172	Muted Gt.	1
0173	Funk Pop	1
0174	Funk Gt.2	1
0175	Jazz Man	2
0176	D.Mute Gtr	1
0177	Funk MuteGtr	1
0178	Overdrive Gt	2
0179	Guitar Pinch	1
0180	5th OverDrv.	2
0181	DistortionGt	2
0182	Feedback Gtr	2
0183	Dist Rhy Gtr	1
0184	Heavy Gtr.	1
0185	Dazed Guitar	2
0186	5th Dist.	2
0187	Gt.Harmonics	1
0188	Gt. Feedback	1
0189	WahWah Gtr	1
0190	Guitar Cut	1
0191	Gtr Slide	1
0192	Acoustic Bs.	2
0193	RS Ac.Bass 1	2
0194	Upright Bs	2
0195	Baby Bass	1
0196	RS Ac.Bass 2	2
0197	RS Ac.Bass 3	1
0198	Fingered Bs.	1
0199	Finger Slap	2
0200	RS FngBs 1	2
0201	RS FngBs 2	2
0202	Picked Bass1	1
0203	RS Jazz Bs	2
0204	Picked Bass2	1
0205	RS Rock Bs	2
0206	Fretless Bs.	1
0207	RS FrtlessBs	2
0208	Syn Fretless	2
0209	Wood+FlessBs	2
0210	Mr.Smooth	2

No.	Name	Voice
0211	Slap Bass 1	1
0212	Unison Slap	2
0213	Slap Bass 2	2
0214	Slap Bass 3	3
0215	Synth Bass 1	1
0216	SynthBass101	1
0217	Acid Bass	1
0218	Clavi Bass	2
0219	Hammer	2
0220	101Bass 1	1
0221	101Bass 2	1
0222	MC202 Bs 1	1
0223	MC202 Bs 2	1
0224	House Bs 1	1
0225	House Bs 2	1
0226	House Bs 3	1
0227	Mini Bs	1
0228	Juno Bass	1
0229	Low Bass	2
0230	SH Dullbass	2
0231	Deep Bass	3
0232	Dark Bass	2
0233	No Rez 4 You	2
0234	Square Bass	2
0235	Jungle Bass	1
0236	Organ Bass	1
0237	Garage Bass	1
0238	101Bass 3	3
0239	SH-2 Bass	2
0240	106Bass	1
0241	Solid Bass	1
0242	RS SynBass 1	3
0243	MG Bass 1	3
0244	MG Bass 2	2
0245	MG Bass 3	1
0246	MG PunchBass	2
0247	MG LiteBass	2
0248	MG Saw Bass	2
0249	Synth Bass 2	2
0250	Beef FM Bass	2
0251	RubberBass 2	2
0252	Attack Pulse	1
0253	TB Bass	1
0254	RS SynBass 2	3
0255	Acid TB Bs	1
0256	TB Dist Saw	1
0257	FM Bass	1
0258	Massive Bass	4
0259	Voco Bass	1
0260	101Bass 4	2
0261	PopSynthBass	2
0262	LightSynBass	2
0263	FatTB Bass	2
0264	101Bass 5	1
0265	Smooth Bass	2
0266	Mild Bass	2
0267	Unison Bass	2
0268	OilDrum Bass	4
0269	Detune Bass	3
0270	Violin	2
0271	Slow Violin	1
0272	VlnSolo Marc	1
0273	Er Hu VSw	1
0274	Er Hu Solo	1
0275	Viola	1
0276	Cello	2
0277	VlcSolo Spic	1
0278	Contrabass	1
0279	Tremolo Str	2
0280	PizzicatoStr	1

No.	Name	Voice
0281	Vls Pizz	1
0282	Vls Pizz St.	3
0283	Pizz	1
0284	Captain Pizz	4
0285	Pizzy Techno	1
0286	Harp	1
0287	Yang Qin	2
0288	Brite Harp	2
0289	Timpani	1
0290	Strings	2
0291	Orchestra	3
0292	60's Strings	2
0293	Orchestra 1	2
0294	Orchestra 2	2
0295	Orchestra 3	2
0296	Orchestra 4	1
0297	Dry Strings	2
0298	Ambient Str.	2
0299	St.JV Str	2
0300	JV Strings	1
0301	DanceStrings	1
0302	Cello Sect.	1
0303	Str Spiccato	1
0304	RS St.Str	2
0305	Brite Str 1	2
0306	Brite Str 2	2
0307	Velo Strings	4
0308	Oct Strings1	2
0309	Oct Strings2	2
0310	TronStrings1	1
0311	TronStrings2	2
0312	Slow Strings	2
0313	SlowStrings2	2
0314	Warm Strings	2
0315	St.Slow Str.	2
0316	Syn.Strings1	2
0317	Syn.Strings3	2
0318	StraightStr.	2
0319	LoFi Strings	4
0320	RS Syn Str 1	2
0321	JP Saw Str.	2
0322	Hybrid Str	2
0323	JUNOFullStr.	2
0324	Atk Syn Str.	2
0325	Syn.Strings2	2
0326	Warm JP STR	2
0327	Saw Strings	2
0328	RS Syn Str 2	3
0329	OB Str 1	1
0330	OB Str 2	2
0331	Soft JP Str.	3
0332	JP Strings	4
0333	JUNO Strings	2
0334	Choir Aahs 1	2
0335	Chorus Aahs	2
0336	Large Choir	2
0337	RS Choir	3
0338	Choir VSw	2
0339	Choir Aahs 2	2
0340	Choir Aahs 3	2
0341	St.ChoirAahs	4
0342	Melted Choir	2
0343	Church Choir	2
0344	Boys Choir	2
0345	Voice Oohs	1
0346	Humming	2
0347	Jazz Scat	1
0348	Gospel Choir	1
0349	Gospel Oohs	2
0350	Fem&Male Chr	1

Original Tone List

No.	Name	Voice
0351	Female Oohs1	2
0352	Female Oohs2	2
0353	SynVox	2
0354	Analog Voice	1
0355	SH-2000 Vox	1
0356	VP-330Choir1	2
0357	VP-330Choir2	1
0358	RS SynVox 1	2
0359	SynVox Key	2
0360	RS SynVox 2	1
0361	FM Vox	1
0362	RS SynVox 3	1
0363	VoxSwitcher1	1
0364	VoxSwitcher2	1
0365	VP-330 Arpeg	4
0366	ChaosChoir 1	4
0367	ChaosChoir 2	4
0368	ChaosChoir 3	2
0369	Soprano Vox	1
0370	Tape Choir	2
0371	Lo-Tek Choir	2
0372	OrchestraHit	2
0373	Bass Hit	2
0374	6th Hit	2
0375	Euro Hit	2
0376	Club Hit	4
0377	Back Hit	1
0378	Techno Hit	1
0379	Philly Hit	1
0380	Dist Hit	1
0381	Techno Chord	1
0382	Thin Beef	1
0383	Tao Hit	1
0384	ClassicHseHt	1
0385	Smear Hit 1	1
0386	Smear Hit 2	1
0387	LoFi MinorHt	1
0388	OrchPrc Hit	1
0389	Noise&SawHit	2
0390	MG NoiseHit	1
0391	Trumpet	2
0392	Dark Trumpet	1
0393	RS Trumpet 1	1
0394	RS Trumpet 2	1
0395	RS Solo Tp	1
0396	Penny Tpt	1
0397	Atk Trumpet	2
0398	Flugel Horn	1
0399	Bright Tp	2
0400	Dual Horns	2
0401	Trombone 1	1
0402	Trombone 2	1
0403	Bright Tb	1
0404	RS Trombone1	1
0405	RS Trombone2	1
0406	Twin Bones	2
0407	Tuba	1
0408	RS Tuba	1
0409	MuteTrumpet1	1
0410	MuteTrumpet2	1
0411	French Horns	1
0412	Fr.Horn 2	2
0413	RS F.Horns 1	1
0414	RS F.Horns 2	1
0415	RS F.Horn	1
0416	Wide Fr.Hrns	2
0417	Strings+Horn	2
0418	Orch Brass 1	1
0419	Orch Brass 2	2
0420	St.Orch Brs1	2

No.	Name	Voice
0421	St.Orch Brs2	4
0422	St.Orch Brs3	4
0423	Henry IV	4
0424	Brass 1	2
0425	Brass 2	2
0426	Octave Brass	2
0427	2Tps+Tb	1
0428	Brite Brass	2
0429	BigBand	2
0430	RS Brass 1	4
0431	RS Brass 2	4
0432	RS Brass 3	2
0433	RS Brass 4	1
0434	Lo Brass	2
0435	TP&TB Sect	2
0436	Tp Sect	1
0437	Tb Sect	1
0438	TSax Sect	1
0439	St.Sax Sect	2
0440	R&R Horn Vsw	1
0441	FatPop Brass	2
0442	Brass Fall	1
0443	Brass sfz	2
0444	Synth Brass1	2
0445	JP Brass	2
0446	Oct SynBrs 1	2
0447	Jump Brass	1
0448	Hybrid Brass	2
0449	BPF Brass	2
0450	Oct SynBrs 2	2
0451	Oct SynBrs 3	4
0452	Synth Brass2	2
0453	SynBrass sfz	2
0454	Velo Brass 1	2
0455	SoaringHorns	4
0456	Spit Brass	2
0457	Saw Brass 1	4
0458	Saw Brass 2	2
0459	WarmSynBrass	2
0460	DeepSynBrass	2
0461	Reso Brass	2
0462	DistSqrBrass	2
0463	JP8000SawBrs	2
0464	Velo Brass 2	2
0465	Transbrass	2
0466	LA Brass	4
0467	Soprano Sax	1
0468	RS Sop Sax	1
0469	Alto Sax	1
0470	AltoSax Soft	1
0471	RS Alto Sax	1
0472	Alto Sax Vel	1
0473	Tenor Sax	1
0474	Tenor Sax F	2
0475	Blown Tenor	1
0476	Honky Tenor	1
0477	BaritoneSax1	1
0478	BaritoneSax2	1
0479	Oboe 1	1
0480	Oboe 2	1
0481	EnglishHorn1	1
0482	EnglishHorn2	1
0483	Bassoon 1	1
0484	Bassoon 2	1
0485	Clarinet 1	1
0486	Clarinet 2	1
0487	Piccolo 1	1
0488	Piccolo 2	1
0489	Flute	1
0490	RS Flute 1	1

No.	Name	Voice
0491	RS Flute 2	1
0492	RS Flute 3	2
0493	Tron Flute 1	2
0494	Tron Flute 2	1
0495	RS Flute 4	1
0496	Fl Overtone	1
0497	Recorder	1
0498	Pan Flute 1	1
0499	Pan Flute 2	3
0500	Bottle Blow1	2
0501	RS Sicu Pipe	1
0502	RS Calliope	3
0503	Bottle Blow2	3
0504	Shakuhachi 1	1
0505	Shakuhachi 2	1
0506	Nay	2
0507	Tin Whistle1	1
0508	Tin Whistle2	2
0509	ShakuBamboo	4
0510	Whistle	2
0511	Ocarina	2
0512	Square Wave1	2
0513	MG Square	1
0514	2600 Sine	1
0515	Sine	1
0516	Twin Sine	2
0517	Shmoog	2
0518	Square Wave2	1
0519	106 SubOsc	1
0520	Dual Sqr&Saw	4
0521	JP6 SqrLead	1
0522	Hollo Lead	2
0523	OB Lead 1	2
0524	OB Lead 2	1
0525	JD Triangle	1
0526	800 Lead	1
0527	RS Lead	1
0528	JP8Pls 10	1
0529	JP8Pls 20	1
0530	JP8Pls 25	1
0531	JP8Pls 35	1
0532	JP8Pls 40	1
0533	JP8Pls 45	1
0534	260 Sub Osc	1
0535	Spectrum	1
0536	Spark Vox	1
0537	Frog Wave	1
0538	DigitalWave	1
0539	Saw Wave	2
0540	OB2 Saw	1
0541	Doctor Solo	2
0542	Natural Lead	2
0543	SequencedSaw	2
0544	SequencedPls	2
0545	Pattern It	2
0546	LA Saw	1
0547	Fat Saw	2
0548	D-50 Fat Saw	2
0549	Waspy Synth	2
0550	Naked Cheese	1
0551	MG Saw 1	1
0552	OB Saw	1
0553	MG Saw 2	1
0554	P5 Saw	2
0555	RS SawLead 1	2
0556	MG Lead 1	1
0557	MG Lead 2	1
0558	GR500 Lead	1
0559	PM Lead	1
0560	Homey Lead	1

No.	Name	Voice
0561	WindSyn Lead	2
0562	RS SawLead 2	2
0563	MG Lead 3	1
0564	RS SawLead 3	2
0565	PureFlatLead	2
0566	Air Wave	1
0567	Theramax	1
0568	Unison Saws	2
0569	Super Saws	2
0570	Power Stack	2
0571	JP SuperSaw	1
0572	MKS80 Detune	1
0573	JP8000Detune	1
0574	Blaster	1
0575	Skreech Lead	1
0576	Voice Lead	1
0577	EuroSteroidz	4
0578	Lead Dirt	2
0579	Velo Cheese	3
0580	Dance Saws	1
0581	DanceStack 1	3
0582	DanceStack 2	3
0583	TranceSaws 1	3
0584	Trance Keys	3
0585	TranceSaws 2	2
0586	TranceSaws 3	2
0587	Alpha Rave	1
0588	Retro Rave	4
0589	Chrd Maj7	4
0590	7th Atmos.	2
0591	RndmFltrChrd	4
0592	Cool Beam	4
0593	T8 Sync	3
0594	Uni Sync	1
0595	MKS80 Sync	1
0596	Wave Sync	2
0597	DualSyncLead	4
0598	Sleigh Bell	1
0599	Syn.Calliope	2
0600	Chiffer Lead	2
0601	Charang	2
0602	Wire Lead	2
0603	Solo Vox	2
0604	5th Saw Wave	2
0605	Bass & Lead	2
0606	Delayed Lead	2
0607	Fantasia	2
0608	Warm Pad	1
0609	Sine Pad	2
0610	Soft Pad	1
0611	OB2 Pad 1	1
0612	OB2 Pad 2	1
0613	FS Hollow 1	2
0614	FS Hollow 2	3
0615	JP8 Sqr Pad	2
0616	Stacked Pad	2
0617	Warm Sqr Pad	3
0618	Pipe Pad	3
0619	Square Pad	3
0620	JP8 Hollow	4
0621	JP8 Haunting	4
0622	Sugar Key	2
0623	BriteSaw Key	2
0624	SuperJupiter	4
0625	Polysynth	2
0626	Space Voice	2
0627	Itopia	2
0628	D50 Heaven	1
0629	Heaven Pad	2
0630	Machine Vox	2

No.	Name	Voice
0631	Vox Pad	2
0632	Bowed Glass	3
0633	Metal Pad	3
0634	Halo Pad	2
0635	Sweep Pad	1
0636	LFO Sweep	1
0637	Saws Sweep	3
0638	Soft Sweep	2
0639	ForwardSweep	2
0640	ReverseSweep	2
0641	Deep Sweep	2
0642	RS RandomPad	4
0643	RS Combing 1	4
0644	RS Combing 2	4
0645	Killer Pad	1
0646	LFO Pad	4
0647	Haunted Tron	4
0648	Ice Rain	2
0649	W.Chime Pad	4
0650	Shaku Pad	4
0651	Angklung	1
0652	BellAngklung	2
0653	BellsOfSarna	1
0654	Rotating Drm	1
0655	Saw Impulse	3
0656	Soundtrack	2
0657	Strobe	4
0658	Riff the 5th	2
0659	Harmo Chimer	2
0660	RS Wavetable	3
0661	Mantrawave	4
0662	RS S/H	3
0663	Star Dust	4
0664	Sweep Stack	4
0665	Crystal	2
0666	Syn Mallet	1
0667	FM Mallet	1
0668	TarzanBottom	2
0669	Atmosphere	2
0670	Brightness	2
0671	Bell Sugar	3
0672	FirstDigital	1
0673	RS Wire Keys	4
0674	VintagLayers	4
0675	D-50 Retour	4
0676	Goblin	2
0677	RSS FX	2
0678	RandomEnding	2
0679	Eating Fresh	2
0680	Acid Copter	2
0681	Galaxy Way	2
0682	Etherality	4
0683	Just Before	4
0684	Labo-Feedbak	4
0685	Atmosphere 2	1
0686	Faveoravo	4
0687	Time Warp	3
0688	Echo Drops	1
0689	Echo Bell	2
0690	Echo Pan	2
0691	Star Theme	2
0692	Sitar 1	1
0693	Sitar 2	2
0694	Sitar Drone1	1
0695	Sitar Drone2	2
0696	RS Sitar	1
0697	E.Sitar	1
0698	E.Sitar St	2
0699	Banjo	1
0700	Shamisen 1	1

No.	Name	Voice
0701	Shamisen 2	2
0702	Time Vault	4
0703	Koto	2
0704	Taisho Koto	2
0705	Kalimba 1	1
0706	Kalimba 2	1
0707	Saron	1
0708	Jublag	1
0709	Kemong	1
0710	Saron-Gameln	2
0711	Bagpipe	2
0712	Mizmar	1
0713	Fiddle	1
0714	Shanai	1
0715	Tinkle Bell	3
0716	Agogo	1
0717	Steel Drum 1	1
0718	Steel Drum 2	1
0719	Woodblock	1
0720	Castanets	1
0721	Taiko	1
0722	Concert BD	1
0723	Melo. Tom 1	1
0724	Melo. Tom 2	1
0725	Synth Drum	2
0726	TR808 Tom	2
0727	Elec Perc	1
0728	Reverse Cym.	1
0729	Gt.FretNoise	1
0730	Gt.Cut Noise	1
0731	String Slap	1
0732	NylonGtr Nz	1
0733	Breath Noise	1
0734	Fl.Key Click	1
0735	Seashore	1
0736	Rain	1
0737	Thunder	1
0738	Wind	1
0739	Stream	2
0740	Bubble	2
0741	Bird 1	2
0742	Dog	1
0743	Horse-Gallop	1
0744	Bird 2	1
0745	Telephone 1	1
0746	Telephone 2	1
0747	DoorCreaking	1
0748	Door	1
0749	Scratch 1	1
0750	Wind Chimes	1
0751	Helicopter	1
0752	Car-Engine	1
0753	Car-Stop	1
0754	Car-Pass	1
0755	Car-Crash	2
0756	Siren	1
0757	Train	1
0758	Jetplane	2
0759	Starship	2
0760	Burst Noise	2
0761	Applause	2
0762	Laughing	1
0763	Screaming	1
0764	Punch	1
0765	Heart Beat	1
0766	Footsteps	1
0767	Gun Shot	1
0768	Machine Gun	1
0769	Lasergun	1
0770	Explosion	2

No.	Name	Voice
0771	TablaBayaSet	1
0772	TablaBaya 1	1
0773	TablaBaya 2	1
0774	TablaBaya 3	1
0775	TablaBaya 4	1
0776	TablaBaya 5	1
0777	TablaBaya 6	1
0778	TablaBaya 7	1
0779	Dholak Set	1
0780	Dholak 1	1
0781	Dholak 2	1
0782	Dholak 3	1
0783	Dholak 4	1
0784	Udu Set	1
0785	Udu	1
0786	Udu Pot Hi	1
0787	Udu Pot Slap	1
0788	Scratch Set	1
0789	Scratch 2	1
0790	Scratch 3	1
0791	Scratch 4	1
0792	Scratch 5	1
0793	Scratch 6	1
0794	Scratch 7Psh	1
0795	Scratch 7Pul	1
0796	Scratch 8Psh	1
0797	Scratch 8Pul	1
0798	Vinyl Stop	1
0799	Record Noise	1
0800	Zap Set	1
0801	MG Zap 1	1
0802	MG Zap 2	1
0803	MG Zap 3	1
0804	MG Zap 4	1
0805	MG Zap 5	1
0806	MG Zap 6	1
0807	MG Zap 7	1
0808	MG Zap 8	1
0809	MG Zap 9	1
0810	Beam HiQ	1
0811	WindChimeDwn	1
0812	WindChimeUp	1
0813	MG Nz Cym	1
0814	US Nz Cym	1
0815	White Noise	1
0816	Pink Noise	1
0817	Metal Noise	1
0818	RS Kick 1	2
0819	RS Kick 2	2
0820	RS Kick 3	2
0821	Rock Kick	1
0822	RS Jazz Kick	1
0823	Jazz DryKick	1
0824	Hybrid Kick	2
0825	Round Kick	2
0826	Maple Kick 1	1
0827	Sharp Kick	2
0828	Old Kick	1
0829	Dry Kick	1
0830	Maple Kick 2	1
0831	WhipOld Kick	2
0832	70's Kick 1	1
0833	70's Kick 2	1
0834	R&BDryKick 1	1
0835	R&BDryKick 2	1
0836	R&BDryKick 3	2
0837	R&BDryKick 4	2
0838	R&BDryKick 5	1
0839	OldRoundKick	2
0840	HipHopKick 1	1

No.	Name	Voice
0841	HipHopKick 2	1
0842	Dance Kick	1
0843	AnalogKick 1	1
0844	AnalogKick 2	1
0845	AnalogKick 3	1
0846	AnalogKick 4	1
0847	AnalogKick 5	1
0848	TR909Kick 1	1
0849	TR909Kick 2	1
0850	TR909Kick 3	1
0851	TR909Kick 4	1
0852	TR909Kick 5	1
0853	TR909Kick 6	1
0854	TR909Kick 7	1
0855	TR707Kick	1
0856	106 Kick	1
0857	TR606 Kick	1
0858	PlasticKick1	1
0859	PlasticKick2	1
0860	DR110 Kick	1
0861	SH32 Kick	1
0862	Roll Kick	1
0863	RS Snr 1	2
0864	RS Snr 2	2
0865	RS Snr 3	2
0866	RS Snr 4	2
0867	RS Snr 5	2
0868	RS Snr 6	2
0869	Ambient Snr	1
0870	Wet Snr	1
0871	Rock Snr 1	1
0872	Rock Snr 2	2
0873	R&BDrySnr 1	1
0874	R&BDrySnr 2	1
0875	R&BDrySnr 3	1
0876	R&BDrySnr 4	1
0877	R&BDrySnr 5	1
0878	R&BDrySnr 6	1
0879	R&BDrySnr 7	1
0880	R&BDrySnr 8	1
0881	R&BDrySnr 9	1
0882	R&BDrySnr 10	1
0883	R&BDrySnr 11	1
0884	R&BDrySnr 12	1
0885	R&BDrySnr 13	1
0886	R&BDrySnr 14	1
0887	Phat Snr	1
0888	Lo-Hard Snr	1
0889	Reggae Snr	1
0890	Jngl TinySnr	1
0891	Tiny Snr	1
0892	DJ Snr	1
0893	TR909 Snr 1	1
0894	TR909 Snr 2	1
0895	TR909 Snr 3	1
0896	TR909 Snr 4	1
0897	TR909 Snr 5	1
0898	TR909 Snr 6	1
0899	TR808 Snr 1	1
0900	TR808 Snr 2	1
0901	TR808 Snr 3	1
0902	TR808 Snr 4	1
0903	TR808 Snr 5	1
0904	TR707 Snr	1
0905	DR110 Snr	1
0906	CR78 Snr	1
0907	PS Snr	1
0908	RS Stick	2
0909	Rock Stick	1
0910	TR909 Rim	1

No.	Name	Voice
0911	TR808 Rim	1
0912	RS Snap	2
0913	RS PHH	1
0914	Rock PHH	1
0915	Jazz PHH	1
0916	TR909 PHH	1
0917	HipHop PHH	1
0918	RS CHH 1	1
0919	RS CHH 2	1
0920	Rock CHH 1	1
0921	Rock CHH 2	1
0922	Jazz CHH 1	1
0923	Jazz CHH 2	1
0924	R&B CHH 1	1
0925	R&B CHH 2	1
0926	HipHop CHH 1	1
0927	TR909 CHH 1	1
0928	TR909 CHH 2	1
0929	TR909 CHH 3	1
0930	TR707 CHH	1
0931	TR606 CHH	1
0932	CR78 CHH	1
0933	DR110 CHH	1
0934	HipHop CHH 2	1
0935	Lite CHH	1
0936	RS OHH 1	1
0937	Rock OHH	2
0938	Jazz OHH	2
0939	RS OHH 2	1
0940	TR909 DryOHH	1
0941	TR909 OHH	1
0942	TR707 OHH	1
0943	TR606 OHH	1
0944	CR78 OHH	1
0945	R&B OHH 1	1
0946	HipHop OHH 1	1
0947	HipHop OHH 2	1
0948	PS OHH	1
0949	Crash 1	1
0950	Rock Crash	1
0951	Jazz Crash	1
0952	Splash Cym	1
0953	TR909 Crash	1
0954	TR808 Cym	1
0955	TR707 Cym	1
0956	TR606 Cym	1
0957	DR110 Cym	1
0958	Rock Ride 1	1
0959	Rock Ride 2	1
0960	Jazz Ride	1
0961	RS RideBell	1
0962	TR707 Ride	1
0963	Asian Gong	1
0964	Timbal Sw Hi	1
0965	Timbal Sw Lw	1
0966	CongaSw LwOp	1
0967	CongaSw HiOp	1
0968	CongaSw HiMt	1
0969	CongaSw Slap	1
0970	CongaSw LwMt	1
0971	BongoSw Lw	1
0972	BongoSw Hi	1
0973	Tambourine 1	1
0974	Tambourine 2	1
0975	Tambourine 3	1
0976	Tambourine 4	1
0977	Apito Whisle	1
0978	Caxixi	1
0979	Cajon Low	1
0980	Cajon Hi	1

No.	Name	Voice
0981	CajonRoll Hi	1
0982	CajonRoll Lo	1
0983	Perc.Flute 1	1
0984	Perc.Flute 2	1
0985	Perc.Flute 3	1
0986	Perc.Flute 4	1
0987	Perc.Flute 5	1
0988	Vox Kick 1	1
0989	Vox Kick 2	1
0990	Vox Kick 3	1
0991	Vox Snare 1	1
0992	Vox Snare 2	1
0993	Vox HiHat 1	1
0994	Vox HiHat 2	1
0995	Vox HiHat 3	1
0996	Vox Cymbal	1
0997	Pa!	1
0998	Chiki!	1
0999	Talk Box	1
1000	1.2.3.4. X4	1
1001	One M	1
1002	Two M	1
1003	Three M	1
1004	Four M	1
1005	Aah! M	1
1006	Hou! M	1
1007	Ha! M	1
1008	Hi! M	1
1009	Wow M	1
1010	Yeah M	1
1011	Ah Hah M	1
1012	Ah 1 M	1
1013	Ah 2 M	1
1014	Uuh Yeah!	1
1015	Ha F	1
1016	Dance F	1
1017	Uuha F	1
1018	Wow F	1
1019	Yoh Tribe	1
1020	How Tribe	1
1021	Hey Brazil	1
1022	ZAGHRT Loop	1
1023	ZAGHRT Stop	1
1024	Metal Vox	1

Patch List

[1] PIANO

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
001	Pf01	RS Grand	PNO	64	1	---	---	2	SPLIT
002	Pf02	Bright Grand	PNO	64	2	---	---	2	SINGLE
003	Pf03	LA Piano	PNO	64	3	---	---	4	SINGLE
004	Pf04	80's Piano	PNO	64	4	---	---	4	DUAL
005	Pf05	AEx PianoVox	PNO	64	5	---	---	4	DUAL
006	Pf06	RS Grand&Vox	PNO	64	6	---	---	4	DUAL
007	Pf07	RS Grand&Pad	PNO	64	7	---	---	4	DUAL
008	Pf08	RS Grand/Abs	PNO	64	8	---	---	2	SPLIT
009	Pf09	RS Grand 2	PNO	64	9	---	---	2	SINGLE
010	Pf10	Rock Piano 1	PNO	64	10	---	---	2	SINGLE
011	Pf11	Rock Piano 2	PNO	64	11	---	---	2	SINGLE
012	Pf12	Honky-tonk 3	PNO	64	12	---	---	2	SINGLE
013	Pf13	Mono Piano	PNO	64	13	---	---	1	SINGLE
014	Pf14	Dance Piano	PNO	64	14	---	---	2	SINGLE
015	Pf15	Brite Piano	PNO	64	15	---	---	1	SINGLE
016	Pf16	Stage Rhodes	EP	64	16	---	---	2	SINGLE
017	Pf17	StageRhodes2	EP	64	17	---	---	2	SINGLE
018	Pf18	Dyno Rhodes	EP	64	18	---	---	1	SINGLE
019	Pf19	Psycho Rhds	EP	64	19	---	---	2	SINGLE
020	Pf20	Touch Rhodes	EP	64	20	---	---	1	SINGLE
021	Pf21	Phase Rhodes	EP	64	21	---	---	1	SINGLE
022	Pf22	Phase Rhds 2	EP	64	22	---	---	2	SINGLE
023	Pf23	RS Rhodes 1	EP	64	23	---	---	1	SINGLE
024	Pf24	RS Rhodes 2	EP	64	24	---	---	1	SINGLE
025	Pf25	70's Ballad	EP	64	25	---	---	2	SINGLE
026	Pf26	DynoRhodes 2	EP	64	26	---	---	1	SINGLE
027	Pf27	Stage Rhds 3	EP	64	27	---	---	2	SINGLE
028	Pf28	Stage Rhds 4	EP	64	28	---	---	1	SINGLE
029	Pf29	Sweet Stage	EP	64	29	---	---	1	SINGLE
030	Pf30	StageRhds/Bs	EP	64	30	---	---	2	SPLIT
031	Pf31	Tremolo Dyno	EP	64	31	---	---	2	SINGLE
032	Pf32	MKS20 Rhds 1	EP	64	32	---	---	2	SINGLE
033	Pf33	MKS20 Rhds 2	EP	64	33	---	---	2	SINGLE
034	Pf34	RS Wurly	EP	64	34	---	---	1	SINGLE
035	Pf35	Dyno Wurly	EP	64	35	---	---	1	SINGLE
036	Pf36	EP Panner	EP	64	36	---	---	2	SINGLE
037	Pf37	Phase EP	EP	64	37	---	---	2	SINGLE
038	Pf38	Pure EP	EP	64	38	---	---	1	SINGLE
039	Pf39	Sine Rhodes	EP	64	39	---	---	2	SINGLE
040	Pf40	FM Rhodes 1	EP	64	40	---	---	1	SINGLE
041	Pf41	FM EP	EP	64	41	---	---	1	SINGLE
042	Pf42	RS St.FM EP	EP	64	42	---	---	2	SINGLE
043	Pf43	Stacked EP	EP	64	43	---	---	2	SINGLE
044	Pf44	RS EP & Vox	EP	64	44	---	---	4	DUAL
045	Pf45	FM Rhodes 2	EP	64	45	---	---	2	SINGLE
046	Pf46	Hard FM	EP	64	46	---	---	2	SINGLE
047	Pf47	Piano 1	PNO	68	1	0	1	2	SPLIT
048	Pf48	Piano 1w	PNO	68	2	1	1	1	SPLIT
049	Pf49	European Pf	PNO	68	3	2	1	2	SINGLE
050	Pf50	Piano 2	PNO	68	4	0	2	2	SINGLE
051	Pf51	Piano 2w	PNO	68	5	1	2	1	SINGLE
052	Pf52	Piano 3	PNO	68	6	0	3	2	SINGLE
053	Pf53	Piano 3w	PNO	68	7	1	3	1	SINGLE
054	Pf54	Honky-tonk	PNO	68	8	0	4	2	SINGLE
055	Pf55	Honky-tonk 2	PNO	68	9	1	4	2	SINGLE
056	Pf56	E.Piano 1	EP	68	10	0	5	1	SINGLE
057	Pf57	St.Soft EP	EP	68	11	1	5	2	SINGLE
058	Pf58	FM+SA EP	EP	68	12	2	5	2	SINGLE
059	Pf59	60's Rhodes	EP	68	13	3	5	1	SINGLE
060	Pf60	E.Piano 2	EP	68	14	0	6	1	SINGLE
061	Pf61	Detuned EP 2	EP	68	15	1	6	2	SINGLE
062	Pf62	St.FM EP	EP	68	16	2	6	2	SINGLE
063	Pf63	EP Legend	EP	68	17	3	6	2	SINGLE
064	Pf64	EP Phase	EP	68	18	4	6	2	SINGLE

[2] KBD & ORG

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
065	Ky01	Phaser Clav	KEY	64	47	---	---	1	SINGLE
066	Ky02	RS Clavi 1	KEY	64	48	---	---	1	SINGLE
067	Ky03	RS Clavi 2	KEY	64	49	---	---	1	SINGLE
068	Ky04	RS Clavi 3	KEY	64	50	---	---	2	SINGLE
069	Ky05	RS Clavi 4	KEY	64	51	---	---	1	SINGLE
070	Ky06	AnalogClav 1	KEY	64	52	---	---	1	SINGLE
071	Ky07	AnalogClav 2	KEY	64	53	---	---	2	SINGLE
072	Ky08	Harpsichord1	KEY	64	54	---	---	2	SINGLE
073	Ky09	Harpsichord2	KEY	64	55	---	---	2	SINGLE
074	Ky10	Synth Harpsi	KEY	64	56	---	---	2	SINGLE
075	Ky11	Warm Bell	BEL	64	57	---	---	2	SINGLE
076	Ky12	Pretty Bell	BEL	64	58	---	---	2	SINGLE
077	Ky13	MOD Bell	BEL	64	59	---	---	2	SINGLE
078	Ky14	MOD 5th Bell	BEL	64	60	---	---	4	DUAL
079	Ky15	Hyper Bell	BEL	64	61	---	---	2	SINGLE
080	Ky16	RS Crystal	BEL	64	62	---	---	4	SINGLE
081	Ky17	Chime Bells	BEL	64	63	---	---	4	SINGLE
082	Ky18	RS Digi Bell	BEL	64	64	---	---	2	SINGLE
083	Ky19	SouthernWind	BEL	64	65	---	---	4	SINGLE
084	Ky20	Mysterious	BEL	64	66	---	---	4	SINGLE
085	Ky21	AEx SynBells	BEL	64	67	---	---	8	DUAL
086	Ky22	RS Bell Str	BEL	64	68	---	---	5	DUAL
087	Ky23	RS Marimba	MLT	64	69	---	---	1	SINGLE
088	Ky24	FM Mallet	MLT	64	70	---	---	1	SINGLE
089	Ky25	RS Vibe	MLT	64	71	---	---	1	SINGLE
090	Ky26	RS Vibe/AcBs	MLT	64	72	---	---	2	SPLIT
091	Ky27	SA Vibe	MLT	64	73	---	---	1	SINGLE
092	Ky28	TarzanBottom	MLT	64	74	---	---	2	SINGLE
093	Ky29	RS Organ 1	ORG	64	75	---	---	3	SINGLE
094	Ky30	RS Organ 2	ORG	64	76	---	---	3	SINGLE
095	Ky31	Jazz Organ 1	ORG	64	77	---	---	2	SINGLE
096	Ky32	Jazz Organ 2	ORG	64	78	---	---	2	SINGLE
097	Ky33	Purple B	ORG	64	79	---	---	2	SINGLE
098	Ky34	Gospel B	ORG	64	80	---	---	3	SINGLE
099	Ky35	Dist Mad Org	ORG	64	81	---	---	2	SINGLE
100	Ky36	L-Organ 1	ORG	64	82	---	---	2	SINGLE
101	Ky37	House Organ	ORG	64	83	---	---	1	SINGLE
102	Ky38	RS Organ 3	ORG	64	84	---	---	1	SINGLE
103	Ky39	RS Organ 4	ORG	64	85	---	---	1	SINGLE
104	Ky40	RS Organ 5	ORG	64	86	---	---	3	SINGLE
105	Ky41	Rock Organ	ORG	64	87	---	---	1	SINGLE
106	Ky42	Animal Organ	ORG	64	88	---	---	1	SINGLE
107	Ky43	BritOldOrgan	ORG	64	89	---	---	1	SINGLE
108	Ky44	D-50 Organ	ORG	64	90	---	---	1	SINGLE
109	Ky45	Surf Organ	ORG	64	91	---	---	1	SINGLE
110	Ky46	Garage Organ	ORG	64	92	---	---	1	SINGLE
111	Ky47	L-Organ 2	ORG	64	93	---	---	2	SINGLE
112	Ky48	Club Organ	ORG	64	94	---	---	2	SINGLE
113	Ky49	Old HouseOrg	ORG	64	95	---	---	1	SINGLE
114	Ky50	R&B Organ	ORG	64	96	---	---	3	SINGLE
115	Ky51	FM Prc Organ	ORG	64	97	---	---	1	SINGLE
116	Ky52	Power B Slw	ORG	64	98	---	---	1	SINGLE
117	Ky53	Power B Fst	ORG	64	99	---	---	1	SINGLE
118	Ky54	RockOrg Slw	ORG	64	100	---	---	2	SINGLE
119	Ky55	PipeOrgan/Bs	ORG	64	101	---	---	1	SPLIT
120	Ky56	Vodkakordion	ACD	64	102	---	---	4	SINGLE
121	Ky57	Squeeze Me!	ACD	64	103	---	---	4	SINGLE
122	Ky58	Guinguette	ACD	64	104	---	---	4	SINGLE
123	Ky59	Harpsichord	KEY	68	19	0	7	1	SINGLE
124	Ky60	Coupled Hps.	KEY	68	20	1	7	2	SINGLE
125	Ky61	Harpsi.w	KEY	68	21	2	7	1	SINGLE
126	Ky62	Harpsi.o	KEY	68	22	3	7	2	SINGLE
127	Ky63	Clav.	KEY	68	23	0	8	1	SINGLE
128	Ky64	Pulse Clav	KEY	68	24	1	8	1	SINGLE
129	Ky65	Celesta	KEY	68	25	0	9	1	SINGLE
130	Ky66	Glockenspiel	BEL	68	26	0	10	1	SINGLE
131	Ky67	Music Box	BEL	68	27	0	11	1	SINGLE
132	Ky68	Vibraphone	MLT	68	28	0	12	1	SINGLE
133	Ky69	Vibraphone w	MLT	68	29	1	12	1	SINGLE
134	Ky70	Marimba	MLT	68	30	0	13	1	SINGLE
135	Ky71	Marimba w	MLT	68	31	1	13	1	SINGLE
136	Ky72	Xylophone	MLT	68	32	0	14	1	SINGLE

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
137	Ky73	Tubular-bell	BEL	68	33	0	15	1	SINGLE
138	Ky74	Church Bell	BEL	68	34	1	15	1	SINGLE
139	Ky75	Carillon	BEL	68	35	2	15	1	SINGLE
140	Ky76	Organ 1	ORG	68	37	0	17	3	SINGLE
141	Ky77	Trem. Organ	ORG	68	38	1	17	2	SINGLE
142	Ky78	60's Organ 1	ORG	68	39	2	17	2	SINGLE
143	Ky79	70's E.Organ	ORG	68	40	3	17	2	SINGLE
144	Ky80	Organ 2	ORG	68	41	0	18	1	SINGLE
145	Ky81	Chorus Or.2	ORG	68	42	1	18	3	SINGLE
146	Ky82	Perc. Organ	ORG	68	43	2	18	3	SINGLE
147	Ky83	Organ 3	ORG	68	44	0	19	2	SINGLE
148	Ky84	Church Org.1	ORG	68	45	0	20	1	SINGLE
149	Ky85	Church Org.2	ORG	68	46	1	20	2	SINGLE
150	Ky86	Church Org.3	ORG	68	47	2	20	2	SINGLE
151	Ky87	Reed Organ	ORG	68	48	0	21	1	SINGLE
152	Ky88	Puff Organ	ORG	68	49	1	21	2	SINGLE
153	Ky89	Accordion Fr	ACD	68	50	0	22	2	SINGLE
154	Ky90	Accordion It	ACD	68	51	1	22	2	SINGLE
155	Ky91	Harmonica	HRM	68	52	0	23	1	SINGLE
156	Ky92	Bandoneon	ACD	68	53	0	24	2	SINGLE
157	Ky93	Crystal	BEL	69	56	0	99	2	SINGLE
158	Ky94	Syn Mallet	BEL	69	57	1	99	1	SINGLE
159	Ky95	Tinkle Bell	BEL	69	75	0	113	3	SINGLE
160	Ky96	Steel Drums	MLT	69	77	0	115	1	SINGLE

[3] GUITAR

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
161	Gt01	Nylon Guitar	AGT	64	105	---	---	1	SINGLE
162	Gt02	Spanish Gtr	AGT	64	106	---	---	1	SINGLE
163	Gt03	Requint Gtr	AGT	64	107	---	---	1	SINGLE
164	Gt04	AEx BeyondGt	AGT	64	108	---	---	5	DUAL
165	Gt05	6-str Gtr	AGT	64	109	---	---	1	SINGLE
166	Gt06	St.Steel Gtr	AGT	64	110	---	---	2	SINGLE
167	Gt07	RS Ac.Guitar	AGT	64	111	---	---	1	SINGLE
168	Gt08	Nylon+Steel	AGT	64	112	---	---	2	SINGLE
169	Gt09	12str Gtr 1	AGT	64	113	---	---	2	SINGLE
170	Gt10	12str Gtr 2	AGT	64	114	---	---	2	SINGLE
171	Gt11	Hybrid12stGt	AGT	64	115	---	---	4	DUAL
172	Gt12	Comp Steel	AGT	64	116	---	---	3	DUAL
173	Gt13	RS Strat 1	EGT	64	117	---	---	1	SINGLE
174	Gt14	RS Strat 2	EGT	64	118	---	---	1	SINGLE
175	Gt15	RS Jazz Gtr	EGT	64	119	---	---	2	SINGLE
176	Gt16	E.Guitar	EGT	64	120	---	---	1	SINGLE
177	Gt17	Funk Gtr	EGT	64	121	---	---	1	SINGLE
178	Gt18	Clean TC 1	EGT	64	122	---	---	1	SINGLE
179	Gt19	Clean TC 2	EGT	64	123	---	---	1	SINGLE
180	Gt20	St.Strat Gtr	EGT	64	124	---	---	2	SINGLE
181	Gt21	12str E-Gtr	EGT	64	125	---	---	2	SINGLE
182	Gt22	FunkMuteGtr	EGT	64	126	---	---	1	SINGLE
183	Gt23	Wah Guitar	EGT	64	127	---	---	1	SINGLE
184	Gt24	Wah-Wah Gtr	EGT	64	128	---	---	1	SINGLE
185	Gt25	Guitar Cut	EGT	65	1	---	---	1	SINGLE
186	Gt26	Gtr Slide	EGT	65	2	---	---	1	SINGLE
187	Gt27	Darmstrat	DGT	65	3	---	---	4	DUAL
188	Gt28	Dazed Guitar	DGT	65	4	---	---	2	SINGLE
189	Gt29	RS OD-Guitar	DGT	65	5	---	---	2	SINGLE
190	Gt30	Heavy Gtr	DGT	65	6	---	---	1	SINGLE
191	Gt31	5th OverDrv.	DGT	65	7	---	---	2	SINGLE
192	Gt32	Power Chord1	DGT	65	8	---	---	2	SINGLE
193	Gt33	Power Chord2	DGT	65	9	---	---	2	SINGLE
194	Gt34	Dist Mute	DGT	65	10	---	---	1	SINGLE
195	Gt35	D.Mute Gtr	DGT	65	11	---	---	1	SINGLE
196	Gt36	Nylon-str.Gt	AGT	68	54	0	25	2	SINGLE
197	Gt37	Ukulele	AGT	68	55	1	25	1	SINGLE
198	Gt38	Nylon Gt.o	AGT	68	56	2	25	2	SINGLE
199	Gt39	Nylon Gt.2	AGT	68	57	3	25	1	SINGLE
200	Gt40	Steel-str.Gt	AGT	68	58	0	26	1	SINGLE
201	Gt41	12-str.Gt	AGT	68	59	1	26	2	SINGLE
202	Gt42	Mandolin	AGT	68	60	2	26	2	SINGLE
203	Gt43	Steel + Body	AGT	68	61	3	26	2	SINGLE
204	Gt44	Jazz Gt.	EGT	68	62	0	27	1	SINGLE
205	Gt45	Pedal Steel	EGT	68	63	1	27	1	SINGLE
206	Gt46	Clean Gt.	EGT	68	64	0	28	1	SINGLE
207	Gt47	Chorus Gt.	EGT	68	65	1	28	2	SINGLE
208	Gt48	Mid Tone GTR	EGT	68	66	2	28	1	SINGLE
209	Gt49	Muted Gt.	EGT	68	67	0	29	1	SINGLE
210	Gt50	Funk Pop	EGT	68	68	1	29	1	SINGLE
211	Gt51	Funk Gt.2	EGT	68	69	2	29	1	SINGLE
212	Gt52	Jazz Man	EGT	68	70	3	29	2	SINGLE
213	Gt53	Overdrive Gt	DGT	68	71	0	30	2	SINGLE
214	Gt54	Guitar Pinch	DGT	68	72	1	30	1	SINGLE
215	Gt55	DistortionGt	DGT	68	73	0	31	2	SINGLE
216	Gt56	Feedback Gt.	DGT	68	74	1	31	2	SINGLE
217	Gt57	Dist Rtm GTR	DGT	68	75	2	31	1	SINGLE
218	Gt58	Gt.Harmonics	EGT	68	76	0	32	1	SINGLE
219	Gt59	Gt. Feedback	EGT	68	77	1	32	1	SINGLE
220	Gt60	Atmosphere	AGT	69	58	0	100	2	SINGLE
221	Gt61	Gt.FretNoise	AGT	69	88	0	121	1	SINGLE
222	Gt62	Gt.Cut Noise	AGT	69	89	1	121	1	SINGLE
223	Gt63	String Slap	AGT	69	90	2	121	1	SINGLE

[4] ORCH

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
224	Or01	AEx Orchstra	STR	65	12	---	---	6	DUAL
225	Or02	RS Violin 1	STR	65	13	---	---	2	DUAL
226	Or03	RS Violin 2	STR	65	14	---	---	2	SINGLE
227	Or04	Violin Marc	STR	65	15	---	---	1	SINGLE
228	Or05	RS Viola	STR	65	16	---	---	1	SINGLE
229	Or06	Er Hu VSw	STR	65	17	---	---	1	SINGLE
230	Or07	RS Cello 1	STR	65	18	---	---	3	DUAL
231	Or08	RS Cello 2	STR	65	19	---	---	2	SINGLE
232	Or09	Cello Spic	STR	65	20	---	---	1	SINGLE
233	Or10	RS Contrabas	STR	65	21	---	---	1	SINGLE
234	Or11	Vls Pizz	STR	65	22	---	---	1	SINGLE
235	Or12	Vls Pizz St	STR	65	23	---	---	3	SINGLE
236	Or13	Trad Pizz	STR	65	24	---	---	1	SINGLE
237	Or14	RS Pizz	STR	65	25	---	---	5	DUAL
238	Or15	RS Strings 1	STR	65	26	---	---	4	DUAL
239	Or16	RS Strings 2	STR	65	27	---	---	4	DUAL
240	Or17	VeloStrings	STR	65	28	---	---	4	SINGLE
241	Or18	Str Spic 1	STR	65	29	---	---	1	SINGLE
242	Or19	Str Spic 2	STR	65	30	---	---	2	DUAL
243	Or20	Dry Strings	STR	65	31	---	---	2	SINGLE
244	Or21	Ambient Str	STR	65	32	---	---	2	SINGLE
245	Or22	St.JV Str	STR	65	33	---	---	2	SINGLE
246	Or23	JV Strings	STR	65	34	---	---	1	SINGLE
247	Or24	RS St.Str	STR	65	35	---	---	2	SINGLE
248	Or25	Bright Str	STR	65	36	---	---	2	SINGLE
249	Or26	Oct Strings	STR	65	37	---	---	2	SINGLE
250	Or27	Tron Strings	STR	65	38	---	---	1	SINGLE
251	Or28	Dance Str	STR	65	39	---	---	1	SINGLE
252	Or29	Warm Strings	STR	65	40	---	---	2	SINGLE
253	Or30	Slow Str 1	STR	65	41	---	---	2	SINGLE
254	Or31	Slow Str 2	STR	65	42	---	---	2	SINGLE
255	Or32	St.Slow Str	STR	65	43	---	---	2	SINGLE
256	Or33	Straight Str	STR	65	44	---	---	2	SINGLE
257	Or34	LoFi Strings	STR	65	45	---	---	4	SINGLE
258	Or35	JP Saw Str	STR	65	46	---	---	2	SINGLE
259	Or36	Atk Syn Str	STR	65	47	---	---	2	SINGLE
260	Or37	Warm JP STR	STR	65	48	---	---	2	SINGLE
261	Or38	Saw Strings	STR	65	49	---	---	2	SINGLE
262	Or39	OB Str 1	STR	65	50	---	---	1	SINGLE
263	Or40	OB Str 2	STR	65	51	---	---	2	SINGLE
264	Or41	Soft JP Str	STR	65	52	---	---	3	SINGLE
265	Or42	JP Strings	STR	65	53	---	---	4	SINGLE
266	Or43	RS Harp	OCH	65	54	---	---	2	SINGLE
267	Or44	Club Hit	HIT	65	55	---	---	4	SINGLE
268	Or45	Back Hit	HIT	65	56	---	---	1	SINGLE
269	Or46	Techno Hit	HIT	65	57	---	---	1	SINGLE
270	Or47	Philly Hit	HIT	65	58	---	---	1	SINGLE

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
271	Or48	Dist Hit	HIT	65	59	---	---	1	SINGLE
272	Or49	Thin Beef	HIT	65	60	---	---	1	SINGLE
273	Or50	Tao Hit	HIT	65	61	---	---	1	SINGLE
274	Or51	ClasicHseHt	HIT	65	62	---	---	1	SINGLE
275	Or52	Smear Hit 1	HIT	65	63	---	---	1	SINGLE
276	Or53	Smear Hit 2	HIT	65	64	---	---	1	SINGLE
277	Or54	LoFiMinorHt	HIT	65	65	---	---	1	SINGLE
278	Or55	OrchPrc Hit	HIT	65	66	---	---	1	SINGLE
279	Or56	RS Oboe	WND	65	67	---	---	1	SINGLE
280	Or57	RS EnglshHrn	WND	65	68	---	---	1	SINGLE
281	Or58	RS Bassoon	WND	65	69	---	---	1	SINGLE
282	Or59	RS Clarinet	WND	65	70	---	---	1	SINGLE
283	Or60	RS Flute 1	FLT	65	71	---	---	1	SINGLE
284	Or61	RS Flute 2	FLT	65	72	---	---	1	SINGLE
285	Or62	RS Flute 3	FLT	65	73	---	---	2	SINGLE
286	Or63	Tron Flute	FLT	65	74	---	---	1	SINGLE
287	Or64	RS Flute 4	FLT	65	75	---	---	1	SINGLE
288	Or65	Fl Overtone	FLT	65	76	---	---	1	SINGLE
289	Or66	RS Piccolo	FLT	65	77	---	---	1	SINGLE
290	Or67	RS Pan Flute	FLT	65	78	---	---	3	SINGLE
291	Or68	RS Calliope	FLT	65	79	---	---	3	SINGLE
292	Or69	RS Sicu Pipe	FLT	65	80	---	---	1	SINGLE
293	Or70	RS Blow	FLT	65	81	---	---	3	SINGLE
294	Or71	Violin	STR	68	94	0	41	2	SINGLE
295	Or72	Slow Violin	STR	68	95	1	41	1	SINGLE
296	Or73	Viola	STR	68	96	0	42	1	SINGLE
297	Or74	Cello	STR	68	97	0	43	2	SINGLE
298	Or75	Contrabass	STR	68	98	0	44	1	SINGLE
299	Or76	Tremolo Str	STR	68	99	0	45	2	SINGLE
300	Or77	PizzicatoStr	STR	68	100	0	46	1	SINGLE
301	Or78	Strings	STR	68	104	0	49	2	SINGLE
302	Or79	Orchestra	OCH	68	105	1	49	3	SINGLE
303	Or80	60s Strings	STR	68	106	2	49	2	SINGLE
304	Or81	Slow Strings	STR	68	107	0	50	2	SINGLE
305	Or82	Syn.Strings1	STR	68	108	0	51	2	SINGLE
306	Or83	Syn.Strings3	STR	68	109	1	51	2	SINGLE
307	Or84	OrchestraHit	HIT	68	117	0	56	2	SINGLE
308	Or85	Bass Hit	HIT	68	118	1	56	2	SINGLE
309	Or86	6th Hit	HIT	68	119	2	56	2	SINGLE
310	Or87	Euro Hit	HIT	68	120	3	56	2	SINGLE
311	Or88	Oboe	WND	69	16	0	69	1	SINGLE
312	Or89	English Horn	WND	69	17	0	70	1	SINGLE
313	Or90	Bassoon	WND	69	18	0	71	1	SINGLE
314	Or91	Clarinet	WND	69	19	0	72	1	SINGLE
315	Or92	Piccolo	FLT	69	20	0	73	1	SINGLE
316	Or93	Flute	FLT	69	21	0	74	1	SINGLE
317	Or94	Recorder	FLT	69	22	0	75	1	SINGLE
318	Or95	Pan Flute	FLT	69	23	0	76	1	SINGLE
319	Or96	Bottle Blow	FLT	69	24	0	77	2	SINGLE
320	Or97	Whistle	FLT	69	26	0	79	2	SINGLE
321	Or98	Ocarina	FLT	69	27	0	80	2	SINGLE
322	Or99	Fiddle	STR	69	73	0	111	1	SINGLE

[5] WORLD

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
323	Wr01	Pat is away	PLK	65	82	---	---	6	DUAL
324	Wr02	RS Sitar 1	PLK	65	83	---	---	1	SINGLE
325	Wr03	RS Sitar 2	PLK	65	84	---	---	2	SINGLE
326	Wr04	Sitar Drone	PLK	65	85	---	---	1	SINGLE
327	Wr05	Sitar&Drone	PLK	65	86	---	---	2	SPLIT
328	Wr06	E.Sitar	PLK	65	87	---	---	1	SINGLE
329	Wr07	E.Sitar St	PLK	65	88	---	---	2	SINGLE
330	Wr08	HeavenESitar	PLK	65	89	---	---	2	DUAL
331	Wr09	E.Sitar&Mlt	PLK	65	90	---	---	3	DUAL
332	Wr10	RS Shamisen	ETH	65	91	---	---	2	SINGLE
333	Wr11	RS Kalimba	ETH	65	92	---	---	1	SINGLE
334	Wr12	Saron-Gamln	ETH	65	93	---	---	2	SINGLE
335	Wr13	Saron	ETH	65	94	---	---	1	SINGLE
336	Wr14	Jublag	ETH	65	95	---	---	1	SINGLE
337	Wr15	Kemong	ETH	65	96	---	---	1	SINGLE
338	Wr16	Singing Bell	ETH	65	97	---	---	2	SINGLE
339	Wr17	Mizmar	ETH	65	98	---	---	1	SINGLE
340	Wr18	TablaBya Set	ETH	65	99	---	---	1	SINGLE
341	Wr19	Dholak Set	ETH	65	100	---	---	1	SINGLE
342	Wr20	Udu Set	ETH	65	101	---	---	1	SINGLE
343	Wr21	Tin Whistle	ETH	65	102	---	---	1	SINGLE
344	Wr22	AEx CelticFl	ETH	65	103	---	---	2	DUAL
345	Wr23	RS Shaku	ETH	65	104	---	---	1	SINGLE
346	Wr24	ShakuBamboo	ETH	65	105	---	---	4	SINGLE
347	Wr25	Nay	ETH	65	106	---	---	2	SINGLE
348	Wr26	Santur	PLK	68	36	0	16	1	SINGLE
349	Wr27	Harp	PLK	68	101	0	47	1	SINGLE
350	Wr28	Yang Qin	PLK	68	102	1	47	2	SINGLE
351	Wr29	Shakuhachi	ETH	69	25	0	78	1	SINGLE
352	Wr30	Sitar	PLK	69	65	0	105	1	SINGLE
353	Wr31	Sitar 2	PLK	69	66	1	105	2	SINGLE
354	Wr32	Banjo	FRT	69	67	0	106	1	SINGLE
355	Wr33	Shamisen	PLK	69	68	0	107	1	SINGLE
356	Wr34	Koto	PLK	69	69	0	108	2	SINGLE
357	Wr35	Taisho Koto	PLK	69	70	1	108	2	SINGLE
358	Wr36	Kalimba	PLK	69	71	0	109	1	SINGLE
359	Wr37	Bagpipe	ETH	69	72	0	110	2	SINGLE
360	Wr38	Shanai	ETH	69	74	0	112	1	SINGLE

[6] BRASS

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
361	Br01	AEx UniTp+Tb	BRS	65	107	---	---	2	DUAL
362	Br02	RS Trumpet 1	BRS	65	108	---	---	1	SINGLE
363	Br03	RS Trumpet 2	BRS	65	109	---	---	1	SINGLE
364	Br04	Bright Tp	BRS	65	110	---	---	2	SINGLE
365	Br05	Flugel Horn	BRS	65	111	---	---	1	SINGLE
366	Br06	Dual Tp	BRS	65	112	---	---	2	SINGLE
367	Br07	MuteTrumpt 1	BRS	65	113	---	---	1	SINGLE
368	Br08	MuteTrumpt 2	BRS	65	114	---	---	1	SINGLE
369	Br09	RS Tb 1	BRS	65	115	---	---	1	SINGLE
370	Br10	RS Tb 2	BRS	65	116	---	---	1	SINGLE
371	Br11	RS Tuba	BRS	65	117	---	---	1	SINGLE
372	Br12	RS F.Horn	BRS	65	118	---	---	1	SINGLE
373	Br13	F.HornSect 1	BRS	65	119	---	---	1	SINGLE
374	Br14	F.HornSect 2	BRS	65	120	---	---	2	DUAL
375	Br15	Wide FreHrns	BRS	65	121	---	---	2	SINGLE
376	Br16	Str + Horns	BRS	65	122	---	---	2	SINGLE
377	Br17	Orch Brass 1	BRS	65	123	---	---	1	SINGLE
378	Br18	Orch Brass 2	BRS	65	124	---	---	2	SINGLE
379	Br19	St.OrchBrs 1	BRS	65	125	---	---	2	SINGLE
380	Br20	St.OrchBrs 2	BRS	65	126	---	---	4	SINGLE
381	Br21	St.OrchBrs 3	BRS	65	127	---	---	4	SINGLE
382	Br22	Henry IV	BRS	65	128	---	---	4	SINGLE
383	Br23	R&R Horns	BRS	66	1	---	---	1	SINGLE
384	Br24	Brass Fall	BRS	66	2	---	---	1	SINGLE
385	Br25	RS Brass 1	BRS	66	3	---	---	8	DUAL
386	Br26	Oct Brass	BRS	66	4	---	---	2	SINGLE
387	Br27	Brite Brass	BRS	66	5	---	---	2	SINGLE
388	Br28	RS Brass 2	BRS	66	6	---	---	4	SINGLE
389	Br29	RS Brass 3	BRS	66	7	---	---	2	SINGLE
390	Br30	FatPop Brs	BRS	66	8	---	---	2	SINGLE
391	Br31	Tp&Tb Sect 1	BRS	66	9	---	---	2	SINGLE
392	Br32	Tp&Tb Sect 2	BRS	66	10	---	---	2	SINGLE
393	Br33	Tp Sect	BRS	66	11	---	---	1	SINGLE
394	Br34	Tb Sect	BRS	66	12	---	---	1	SINGLE
395	Br35	Brass sfz	BRS	66	13	---	---	2	SINGLE
396	Br36	St.Sax Sect	BRS	66	14	---	---	2	SINGLE
397	Br37	Power Saws	SBR	66	15	---	---	3	DUAL
398	Br38	Soft SynBrs	SBR	66	16	---	---	2	SINGLE
399	Br39	RS Synth Brs	SBR	66	17	---	---	4	SINGLE
400	Br40	RS Saw Brass	SBR	66	18	---	---	6	DUAL
401	Br41	BPF Brass	SBR	66	19	---	---	2	SINGLE
402	Br42	RS OctSynBrs	SBR	66	20	---	---	2	SINGLE
403	Br43	Soaring Horn	SBR	66	21	---	---	4	SINGLE
404	Br44	Deep SynBrs	SBR	66	22	---	---	2	SINGLE

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
405	Br45	Dist SqrBrs	SBR	66	23	---	---	2	SINGLE
406	Br46	JP Saw Brs	SBR	66	24	---	---	2	SINGLE
407	Br47	RS Velo Brs	SBR	66	25	---	---	2	SINGLE
408	Br48	Transbrass	SBR	66	26	---	---	2	SINGLE
409	Br49	LA Brass	SBR	66	27	---	---	4	SINGLE
410	Br50	RS Sop Sax	SAX	66	28	---	---	1	SINGLE
411	Br51	RS Alto Sax	SAX	66	29	---	---	1	SINGLE
412	Br52	AltoSax Sft	SAX	66	30	---	---	1	SINGLE
413	Br53	Honky Tenor	SAX	66	31	---	---	1	SINGLE
414	Br54	RS Tnr Sax	SAX	66	32	---	---	2	SINGLE
415	Br55	Blown Tenor	SAX	66	33	---	---	1	SINGLE
416	Br56	RS Bari Sax	SAX	66	34	---	---	1	SINGLE
417	Br57	Trumpet	BRS	68	121	0	57	2	SINGLE
418	Br58	Dark Trumpet	BRS	68	122	1	57	1	SINGLE
419	Br59	Trombone	BRS	68	123	0	58	1	SINGLE
420	Br60	Trombone 2	BRS	68	124	1	58	1	SINGLE
421	Br61	Bright Tb	BRS	68	125	2	58	1	SINGLE
422	Br62	Tuba	BRS	68	126	0	59	1	SINGLE
423	Br63	MutedTrumpet	BRS	68	127	0	60	1	SINGLE
424	Br64	MuteTrumpet2	BRS	68	128	1	60	1	SINGLE
425	Br65	French Horns	BRS	69	1	0	61	1	SINGLE
426	Br66	Fr.Horn 2	BRS	69	2	1	61	2	SINGLE
427	Br67	Brass 1	BRS	69	3	0	62	2	SINGLE
428	Br68	Brass 2	BRS	69	4	1	62	2	SINGLE
429	Br69	Synth Brass1	SBR	69	5	0	63	2	SINGLE
430	Br70	JP Brass	SBR	69	6	1	63	2	SINGLE
431	Br71	Oct SynBrass	SBR	69	7	2	63	2	SINGLE
432	Br72	Jump Brass	SBR	69	8	3	63	1	SINGLE
433	Br73	Synth Brass2	SBR	69	9	0	64	2	SINGLE
434	Br74	SynBrass sfz	SBR	69	10	1	64	2	SINGLE
435	Br75	Velo Brass 1	SBR	69	11	2	64	2	SINGLE
436	Br76	Soprano Sax	SAX	69	12	0	65	1	SINGLE
437	Br77	Alto Sax	SAX	69	13	0	66	1	SINGLE
438	Br78	Tenor Sax	SAX	69	14	0	67	1	SINGLE
439	Br79	Baritone Sax	SAX	69	15	0	68	1	SINGLE

[7] VOCAL &PAD

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
440	Vo01	AEx StackVox	VOX	66	35	---	---	4	DUAL
441	Vo02	RS Choir	VOX	66	36	---	---	2	SINGLE
442	Vo03	Large Choir	VOX	66	37	---	---	2	SINGLE
443	Vo04	St.ChoirAhs	VOX	66	38	---	---	4	SINGLE
444	Vo05	Voice Oohs	VOX	66	39	---	---	1	SINGLE
445	Vo06	Jazz Scat	VOX	66	40	---	---	1	SINGLE
446	Vo07	Gospel Oohs	VOX	66	41	---	---	2	SINGLE
447	Vo08	FemMm Choir	VOX	66	42	---	---	1	SINGLE
448	Vo09	Female Oohs	VOX	66	43	---	---	2	SINGLE
449	Vo10	SH-2000 Vox	VOX	66	44	---	---	1	SINGLE
450	Vo11	VP-330 Choir	VOX	66	45	---	---	2	SINGLE
451	Vo12	Wind VP-330	VOX	66	46	---	---	6	DUAL
452	Vo13	Machine Vox	VOX	66	47	---	---	2	SINGLE
453	Vo14	Lo-TekChoir	VOX	66	48	---	---	2	SINGLE
454	Vo15	RS SynChoir	VOX	66	49	---	---	3	DUAL
455	Vo16	RS SynVox 1	VOX	66	50	---	---	2	SINGLE
456	Vo17	FM Vox	VOX	66	51	---	---	1	SINGLE
457	Vo18	Vox Pad	VOX	66	52	---	---	2	SINGLE
458	Vo19	RS SynVox 2	VOX	66	53	---	---	1	SINGLE
459	Vo20	ChaosChoir 1	VOX	66	54	---	---	4	SINGLE
460	Vo21	ChaosChoir 2	VOX	66	55	---	---	4	SINGLE
461	Vo22	Soprano Vox	VOX	66	56	---	---	1	SINGLE
462	Vo23	Metal Voice	VOX	66	57	---	---	1	SINGLE
463	Vo24	VoxSwitcher1	VOX	66	58	---	---	1	SINGLE
464	Vo25	VoxSwitcher2	VOX	66	59	---	---	1	SINGLE
465	Vo26	VP-330 Arpeg	VOX	66	60	---	---	4	SINGLE
466	Vo27	Heaven Pad	SPD	66	61	---	---	2	SINGLE
467	Vo28	HauntedTron	SPD	66	62	---	---	4	SINGLE
468	Vo29	Vintage Pad	SPD	66	63	---	---	4	SINGLE
469	Vo30	D-50 Retour	SPD	66	64	---	---	4	SINGLE
470	Vo31	Warm Sqr Pad	SPD	66	65	---	---	3	SINGLE
471	Vo32	OB2 Pad 1	SPD	66	66	---	---	1	SINGLE
472	Vo33	OB2 Pad 2	SPD	66	67	---	---	1	SINGLE
473	Vo34	JP8 Hollow	SPD	66	68	---	---	4	SINGLE
474	Vo35	Hollow Pad	SPD	66	69	---	---	4	DUAL
475	Vo36	JP8Haunting	SPD	66	70	---	---	4	SINGLE
476	Vo37	RS Hollow	SPD	66	71	---	---	8	DUAL
477	Vo38	Saw Sweep 1	SPD	66	72	---	---	3	SINGLE
478	Vo39	Saw Sweep 2	SPD	66	73	---	---	2	SINGLE
479	Vo40	Saw Sweep 3	SPD	66	74	---	---	3	SINGLE
480	Vo41	Soft Pad 1	SPD	66	75	---	---	3	DUAL
481	Vo42	Soft Pad 2	SPD	66	76	---	---	1	SINGLE
482	Vo43	Oct SynStr	SPD	66	77	---	---	5	DUAL
483	Vo44	Stacked Pad	SPD	66	78	---	---	2	SINGLE
484	Vo45	RS Saw Pad	BPD	66	79	---	---	4	SINGLE
485	Vo46	AEx StackPad	BPD	66	80	---	---	6	DUAL
486	Vo47	RS Sweep1	BPD	66	81	---	---	8	DUAL
487	Vo48	RS Sweep2	BPD	66	82	---	---	4	SINGLE
488	Vo49	ReverseSweep	BPD	66	83	---	---	2	SINGLE
489	Vo50	RS Atmos	BPD	66	84	---	---	5	DUAL
490	Vo51	SuperJupiter	BPD	66	85	---	---	4	SINGLE
491	Vo52	RS Combing	BPD	66	86	---	---	4	SINGLE
492	Vo53	Comb Pad	BPD	66	87	---	---	4	SINGLE
493	Vo54	Saws Strobe	BPD	66	88	---	---	8	DUAL
494	Vo55	Digital Step	BPD	66	89	---	---	4	DUAL
495	Vo56	Star Dust	BPD	66	90	---	---	4	SINGLE
496	Vo57	Wave Table	BPD	66	91	---	---	3	SINGLE
497	Vo58	RS Wind Pad	BPD	66	92	---	---	7	DUAL
498	Vo59	Shakupad	BPD	66	93	---	---	4	SINGLE
499	Vo60	BellAngklung	BPD	66	94	---	---	5	DUAL
500	Vo61	Sweep Stack	BPD	66	95	---	---	4	SINGLE
501	Vo62	ForwardSweep	BPD	66	96	---	---	2	SINGLE
502	Vo63	Power Stack	BPD	66	97	---	---	2	SINGLE
503	Vo64	DanceStack 1	BPD	66	98	---	---	3	SINGLE
504	Vo65	Unison Saws	BPD	66	99	---	---	2	SINGLE
505	Vo66	Super Saws	BPD	66	100	---	---	2	SINGLE
506	Vo67	TranceKeys 2	BPD	66	101	---	---	2	SINGLE
507	Vo68	Wire Keys	BPD	66	102	---	---	4	SINGLE
508	Vo69	Alpha Rave	BPD	66	103	---	---	1	SINGLE
509	Vo70	7th Atmos.	BPD	66	104	---	---	2	SINGLE
510	Vo71	White Noise	BPD	66	105	---	---	1	SINGLE
511	Vo72	Pink Noise	BPD	66	106	---	---	1	SINGLE
512	Vo73	Metal Noise	BPD	66	107	---	---	1	SINGLE
513	Vo74	Syn.Strings2	SPD	68	110	0	52	2	SINGLE
514	Vo75	Choir Aahs	VOX	68	111	0	53	2	SINGLE
515	Vo76	Chorus Aahs	VOX	68	112	1	53	2	SINGLE
516	Vo77	Voice Oohs	VOX	68	113	0	54	1	SINGLE
517	Vo78	Humming	VOX	68	114	1	54	2	SINGLE
518	Vo79	SynVox	VOX	68	115	0	55	2	SINGLE
519	Vo80	Analog Voice	VOX	68	116	1	55	1	SINGLE
520	Vo81	Warm Pad	SPD	69	45	0	90	1	SINGLE
521	Vo82	Sine Pad	SPD	69	46	1	90	2	SINGLE
522	Vo83	Space Voice	VOX	69	48	0	92	2	SINGLE
523	Vo84	Itopia	VOX	69	49	1	92	2	SINGLE
524	Vo85	Bowed Glass	SPD	69	50	0	93	3	SINGLE
525	Vo86	Metal Pad	BPD	69	51	0	94	3	SINGLE
526	Vo87	Halo Pad	BPD	69	52	0	95	2	SINGLE
527	Vo88	Sweep Pad	SPD	69	53	0	96	1	SINGLE
528	Vo89	Soundtrack	SPD	69	55	0	98	2	SINGLE
529	Vo90	Echo Drops	BPD	69	61	0	103	1	SINGLE
530	Vo91	Echo Bell	BPD	69	62	1	103	2	SINGLE
531	Vo92	Echo Pan	BPD	69	63	2	103	2	SINGLE
532	Vo93	Star Theme	BPD	69	64	0	104	2	SINGLE

[8] SYNTH

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
533	Sy01	RS Sync	HLD	66	108	---	---	2	SINGLE
534	Sy02	Big Sync	HLD	66	109	---	---	4	DUAL
535	Sy03	Big Bottom	HLD	66	110	---	---	2	DUAL
536	Sy04	MKS80 Sync	HLD	66	111	---	---	1	SINGLE
537	Sy05	DualSync Ld	HLD	66	112	---	---	4	SINGLE
538	Sy06	Wind SynLead	HLD	66	113	---	---	2	SINGLE

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
539	Sy07	Porta Saw Ld	HLD	66	114	---	---	4	DUAL
540	Sy08	RS SawLead 1	HLD	66	115	---	---	2	SINGLE
541	Sy09	PM Lead	HLD	66	116	---	---	1	SINGLE
542	Sy10	Sqr&Saw Ld	HLD	66	117	---	---	4	SINGLE
543	Sy11	P5 Saw	HLD	66	118	---	---	2	SINGLE
544	Sy12	LA Saw	HLD	66	119	---	---	1	SINGLE
545	Sy13	MG Saw 1	HLD	66	120	---	---	1	SINGLE
546	Sy14	OB Saw	HLD	66	121	---	---	1	SINGLE
547	Sy15	D-50 FatSaw	HLD	66	122	---	---	2	SINGLE
548	Sy16	MG Saw 2	HLD	66	123	---	---	1	SINGLE
549	Sy17	MG Lead 1	HLD	66	124	---	---	1	SINGLE
550	Sy18	MG Lead 2	HLD	66	125	---	---	1	SINGLE
551	Sy19	Homey Lead	HLD	66	126	---	---	1	SINGLE
552	Sy20	260 Sub Osc	HLD	66	127	---	---	1	SINGLE
553	Sy21	Spectrum	HLD	66	128	---	---	1	SINGLE
554	Sy22	Spark Vox	HLD	67	1	---	---	1	SINGLE
555	Sy23	Frog Wave	HLD	67	2	---	---	1	SINGLE
556	Sy24	DigitalWave	HLD	67	3	---	---	1	SINGLE
557	Sy25	Naked Cheese	HLD	67	4	---	---	1	SINGLE
558	Sy26	Waspy Synth	HLD	67	5	---	---	2	SINGLE
559	Sy27	Velo Cheese	HLD	67	6	---	---	3	SINGLE
560	Sy28	Voice Lead	HLD	67	7	---	---	1	SINGLE
561	Sy29	RS Sqr Wave	HLD	67	8	---	---	1	SINGLE
562	Sy30	106 ResoSqr	HLD	67	9	---	---	1	SINGLE
563	Sy31	OB Lead 1	SLD	67	10	---	---	1	SINGLE
564	Sy32	OB Lead 2	SLD	67	11	---	---	2	SINGLE
565	Sy33	JP6 Sqr Lead	SLD	67	12	---	---	1	SINGLE
566	Sy34	Shmoog	SLD	67	13	---	---	2	SINGLE
567	Sy35	RS Theramax	SLD	67	14	---	---	1	SINGLE
568	Sy36	Reso Lead	SLD	67	15	---	---	1	SINGLE
569	Sy37	RS Lead	SLD	67	16	---	---	1	SINGLE
570	Sy38	JD Triangle	SLD	67	17	---	---	1	SINGLE
571	Sy39	800 Lead	SLD	67	18	---	---	1	SINGLE
572	Sy40	Sine	SLD	67	19	---	---	1	SINGLE
573	Sy41	Twin Sine	SLD	67	20	---	---	2	SINGLE
574	Sy42	AEx Sine+OB	SLD	67	21	---	---	3	DUAL
575	Sy43	Porta Sine	SLD	67	22	---	---	1	SINGLE
576	Sy44	Rndm Ending	PLS	67	23	---	---	2	SINGLE
577	Sy45	Eating Fresh	PLS	67	24	---	---	2	SINGLE
578	Sy46	Acid Copter	PLS	67	25	---	---	2	SINGLE
579	Sy47	Galaxy Way	PLS	67	26	---	---	2	SINGLE
580	Sy48	Etherality	PLS	67	27	---	---	4	SINGLE
581	Sy49	Mantrawave	PLS	67	28	---	---	4	SINGLE
582	Sy50	Saw Impulse	PLS	67	29	---	---	3	SINGLE
583	Sy51	LFO Pad	PLS	67	30	---	---	4	SINGLE
584	Sy52	RS Strobe	PLS	67	31	---	---	6	DUAL
585	Sy53	Step Pad	PLS	67	32	---	---	4	SINGLE
586	Sy54	RndmFltrChrd	PLS	67	33	---	---	4	SINGLE
587	Sy55	Slicer	PLS	67	34	---	---	5	DUAL
588	Sy56	Sugar Key	SYN	67	35	---	---	2	SINGLE
589	Sy57	Bell Sugar	SYN	67	36	---	---	3	SINGLE
590	Sy58	BriteSawKey	SYN	67	37	---	---	2	SINGLE
591	Sy59	RS WireKeys	SYN	67	38	---	---	4	SINGLE
592	Sy60	First Digi	SYN	67	39	---	---	1	SINGLE
593	Sy61	TranceKeys 1	SYN	67	40	---	---	3	SINGLE
594	Sy62	Time Warp	TEK	67	41	---	---	3	SINGLE
595	Sy63	Faveoravo	TEK	67	42	---	---	4	SINGLE
596	Sy64	Riff the 5th	TEK	67	43	---	---	2	SINGLE
597	Sy65	TechnoChord	TEK	67	44	---	---	1	SINGLE
598	Sy66	Seq Pulse	TEK	67	45	---	---	2	SINGLE
599	Sy67	Zap Set	TEK	67	46	---	---	1	SINGLE
600	Sy68	Chord Maj7	TEK	67	47	---	---	4	SINGLE
601	Sy69	Cool Beam	TEK	67	48	---	---	4	SINGLE
602	Sy70	Just Before	FX	67	49	---	---	4	SINGLE
603	Sy71	RSS FX	FX	67	50	---	---	2	SINGLE
604	Sy72	Square Wave	HLD	69	28	0	81	2	SINGLE
605	Sy73	MG Square	HLD	69	29	1	81	1	SINGLE
606	Sy74	2600 Sine	HLD	69	30	2	81	1	SINGLE
607	Sy75	Saw Wave	HLD	69	31	0	82	2	SINGLE
608	Sy76	OB2 Saw	HLD	69	32	1	82	1	SINGLE
609	Sy77	Doctor Solo	HLD	69	33	2	82	2	SINGLE
610	Sy78	Natural Lead	HLD	69	34	3	82	2	SINGLE
611	Sy79	SequencedSaw	HLD	69	35	4	82	2	SINGLE
612	Sy80	Syn.Calliope	SLD	69	36	0	83	2	SINGLE
613	Sy81	Chiffer Lead	SLD	69	37	0	84	2	SINGLE
614	Sy82	Charang	HLD	69	38	0	85	2	SINGLE
615	Sy83	Wire Lead	HLD	69	39	1	85	2	SINGLE
616	Sy84	Solo Vox	SLD	69	40	0	86	2	SINGLE
617	Sy85	5th Saw Wave	HLD	69	41	0	87	2	SINGLE
618	Sy86	Bass & Lead	HLD	69	42	0	88	2	SINGLE
619	Sy87	Delayed Lead	HLD	69	43	1	88	2	SINGLE
620	Sy88	Fantasia	SYN	69	44	0	89	2	SINGLE
621	Sy89	Polysynth	SYN	69	47	0	91	2	SINGLE
622	Sy90	Ice Rain	SYN	69	54	0	97	2	SINGLE
623	Sy91	Brightness	SYN	69	59	0	101	2	SINGLE
624	Sy92	Goblin	PLS	69	60	0	102	2	SINGLE
625	Sy93	Breath Noise	FX	69	91	0	122	1	SINGLE
626	Sy94	Fl.Key Click	FX	69	92	1	122	1	SINGLE

[9] BASS

No.		NAME	Category	Patch Select MSB = 87 LSB	Patch Select MSB = 87 PC	GM2 Patch Select MSB = 121 LSB	GM2 Patch Select MSB = 121 PC	Voice	Key Mode
627	Bs01	RS Ac.Bass 1	BS	67	51	---	---	2	SINGLE
628	Bs02	RS Ac.Bass 2	BS	67	52	---	---	2	SINGLE
629	Bs03	RS Ac.Bass 3	BS	67	53	---	---	1	SINGLE
630	Bs04	Upright Bs	BS	67	54	---	---	2	SINGLE
631	Bs05	Baby Bass	BS	67	55	---	---	1	SINGLE
632	Bs06	AEx FingerBs	BS	67	56	---	---	3	DUAL
633	Bs07	RS Fng Bs 1	BS	67	57	---	---	4	DUAL
634	Bs08	RS Fng Bs 2	BS	67	58	---	---	2	SINGLE
635	Bs09	RS Fng Bs 3	BS	67	59	---	---	2	SINGLE
636	Bs10	Bright Bass	BS	67	60	---	---	1	SINGLE
637	Bs11	RS Jazz Bs	BS	67	61	---	---	2	SINGLE
638	Bs12	RS Rock Bs	BS	67	62	---	---	2	SINGLE
639	Bs13	RS FretlsBs1	BS	67	63	---	---	2	SINGLE
640	Bs14	RS FretlsBs2	BS	67	64	---	---	2	SINGLE
641	Bs15	Syn Fretless	BS	67	65	---	---	2	SINGLE
642	Bs16	Mr.Smooth	BS	67	66	---	---	2	SINGLE
643	Bs17	RS Slap Bs 1	BS	67	67	---	---	1	SINGLE
644	Bs18	RS Slap Bs 2	BS	67	68	---	---	2	SINGLE
645	Bs19	Unison Slap	BS	67	69	---	---	2	SINGLE
646	Bs20	AEx Synth Bs	SBS	67	70	---	---	3	DUAL
647	Bs21	House Bass 1	SBS	67	71	---	---	1	SINGLE
648	Bs22	Juno Bass 1	SBS	67	72	---	---	1	SINGLE
649	Bs23	SH101 Bass 1	SBS	67	73	---	---	1	SINGLE
650	Bs24	Attack Bass	SBS	67	74	---	---	5	DUAL
651	Bs25	Syn Bass	SBS	67	75	---	---	2	DUAL
652	Bs26	RS SynBass 1	SBS	67	76	---	---	2	SINGLE
653	Bs27	Deep Bass	SBS	67	77	---	---	3	SINGLE
654	Bs28	SH101 Bass 2	SBS	67	78	---	---	1	SINGLE
655	Bs29	MC202 Bass 1	SBS	67	79	---	---	1	SINGLE
656	Bs30	MC202 Bass 2	SBS	67	80	---	---	1	SINGLE
657	Bs31	House Bass 2	SBS	67	81	---	---	1	SINGLE
658	Bs32	Mini Bass	SBS	67	82	---	---	1	SINGLE
659	Bs33	Juno Bass 2	SBS	67	83	---	---	1	SINGLE
660	Bs34	Low Bass	SBS	67	84	---	---	2	SINGLE
661	Bs35	SH DullBass	SBS	67	85	---	---	2	SINGLE
662	Bs36	Dark Bass 1	SBS	67	86	---	---	2	SINGLE
663	Bs37	Dark Bass 2	SBS	67	87	---	---	2	SINGLE
664	Bs38	Square Bass	SBS	67	88	---	---	2	SINGLE
665	Bs39	Jungle Bass	SBS	67	89	---	---	1	SINGLE
666	Bs40	Organ Bass	SBS	67	90	---	---	1	SINGLE
667	Bs41	Garage Bass	SBS	67	91	---	---	1	SINGLE
668	Bs42	SH101 Bass 3	SBS	67	92	---	---	3	SINGLE
669	Bs43	SH-2 Bass	SBS	67	93	---	---	2	SINGLE
670	Bs44	Juno Bass 3	SBS	67	94	---	---	1	SINGLE
671	Bs45	Solid Bass	SBS	67	95	---	---	1	SINGLE
672	Bs46	RS SynBass 2	SBS	67	96	---	---	3	SINGLE
673	Bs47	MG Bass 1	SBS	67	97	---	---	3	SINGLE
674	Bs48	MG Bass 2	SBS	67	98	---	---	2	SINGLE
675	Bs49	MG Bass 3	SBS	67	99	---	---	1	SINGLE
676	Bs50	MG Punch Bs	SBS	67	100	---	---	2	SINGLE
677	Bs51	MG Lite Bs	SBS	67	101	---	---	2	SINGLE
678	Bs52	MG Saw Bass	SBS	67	102	---	---	2	SINGLE
679	Bs53	TB Bass	SBS	67	103	---	---	1	SINGLE

No.		NAME	Category	Patch Select		GM2 Patch Select		Voice	Key Mode
				MSB = 87		MSB = 121			
				LSB	PC	LSB	PC		
680	Bs54	RS SynBass 3	SBS	67	104	---	---	3	SINGLE
681	Bs55	Acid TB Bs	SBS	67	105	---	---	1	SINGLE
682	Bs56	TB Dist Saw	SBS	67	106	---	---	1	SINGLE
683	Bs57	FM Bass	SBS	67	107	---	---	1	SINGLE
684	Bs58	Massive Bs	SBS	67	108	---	---	4	SINGLE
685	Bs59	Voco Bass	SBS	67	109	---	---	1	SINGLE
686	Bs60	SH101 Bass 4	SBS	67	110	---	---	2	SINGLE
687	Bs61	PopSynthBass	SBS	67	111	---	---	2	SINGLE
688	Bs62	LightSynBass	SBS	67	112	---	---	2	SINGLE
689	Bs63	FatTB Bass	SBS	67	113	---	---	2	SINGLE
690	Bs64	SH101 Bass 5	SBS	67	114	---	---	1	SINGLE
691	Bs65	Smooth Bass	SBS	67	115	---	---	2	SINGLE
692	Bs66	Unison Bass	SBS	67	116	---	---	2	SINGLE
693	Bs67	OilDrum Bs	SBS	67	117	---	---	4	SINGLE
694	Bs68	Detune Bass	SBS	67	118	---	---	3	SINGLE
695	Bs69	Acoustic Bs.	BS	68	78	0	33	2	SINGLE
696	Bs70	Fingered Bs.	BS	68	79	0	34	1	SINGLE
697	Bs71	Finger Slap	BS	68	80	1	34	2	SINGLE
698	Bs72	Picked Bass	BS	68	81	0	35	1	SINGLE
699	Bs73	Fretless Bs.	BS	68	82	0	36	1	SINGLE
700	Bs74	Slap Bass 1	BS	68	83	0	37	1	SINGLE
701	Bs75	Slap Bass 2	BS	68	84	0	38	2	SINGLE
702	Bs76	Synth Bass 1	SBS	68	85	0	39	1	SINGLE
703	Bs77	SynthBass101	SBS	68	86	1	39	1	SINGLE
704	Bs78	Acid Bass	SBS	68	87	2	39	1	SINGLE
705	Bs79	Clavi Bass	SBS	68	88	3	39	2	SINGLE
706	Bs80	Hammer	SBS	68	89	4	39	2	SINGLE
707	Bs81	Synth Bass 2	SBS	68	90	0	40	2	SINGLE
708	Bs82	Beef FM Bass	SBS	68	91	1	40	2	SINGLE
709	Bs83	RubberBass 2	SBS	68	92	2	40	2	SINGLE
710	Bs84	Attack Pulse	SBS	68	93	3	40	1	SINGLE

[0] RHYTHM & SFX

No.		NAME	Category	Patch Select		GM2 Patch Select		Voice	Key Mode
				MSB = 87		MSB = 121			
				LSB	PC	LSB	PC		
	Rh01–Rh30: Rhythm Set List (p. 178)								
711	Rh31	RS SteelDrum	PRC	67	119	---	---	1	SINGLE
712	Rh32	W.Chime Down	PRC	67	120	---	---	1	SINGLE
713	Rh33	W.Chime Up	PRC	67	121	---	---	1	SINGLE
714	Rh34	MG Nz Cym	PRC	67	122	---	---	1	SINGLE
715	Rh35	US Nz Cym	PRC	67	123	---	---	1	SINGLE
716	Rh36	NylonGtr Nz	SFX	67	124	---	---	1	SINGLE
717	Rh37	Nz & SawHit	SFX	67	125	---	---	2	SINGLE
718	Rh38	MG NoiseHit	SFX	67	126	---	---	1	SINGLE
719	Rh39	Record Nz	SFX	67	127	---	---	1	SINGLE
720	Rh40	Scratch Set	SFX	67	128	---	---	1	SINGLE
721	Rh41	Timpani	PRC	68	103	0	48	1	SINGLE
722	Rh42	Agogo	PRC	69	76	0	114	1	SINGLE
723	Rh43	Woodblock	PRC	69	78	0	116	1	SINGLE
724	Rh44	Castanets	PRC	69	79	1	116	1	SINGLE
725	Rh45	Taiko	PRC	69	80	0	117	1	SINGLE
726	Rh46	Concert BD	PRC	69	81	1	117	1	SINGLE
727	Rh47	Melo. Tom 1	PRC	69	82	0	118	1	SINGLE
728	Rh48	Melo. Tom 2	PRC	69	83	1	118	1	SINGLE
729	Rh49	Synth Drum	PRC	69	84	0	119	2	SINGLE
730	Rh50	808 Tom	PRC	69	85	1	119	2	SINGLE
731	Rh51	Elec Perc	PRC	69	86	2	119	1	SINGLE
732	Rh52	Reverse Cym.	PRC	69	87	0	120	1	SINGLE
733	Rh53	Seashore	SFX	69	93	0	123	1	SINGLE
734	Rh54	Rain	SFX	69	94	1	123	1	SINGLE
735	Rh55	Thunder	SFX	69	95	2	123	1	SINGLE
736	Rh56	Wind	SFX	69	96	3	123	1	SINGLE
737	Rh57	Stream	SFX	69	97	4	123	2	SINGLE
738	Rh58	Bubble	SFX	69	98	5	123	2	SINGLE
739	Rh59	Bird	SFX	69	99	0	124	2	SINGLE
740	Rh60	Dog	SFX	69	100	1	124	1	SINGLE
741	Rh61	Horse-Gallop	SFX	69	101	2	124	1	SINGLE
742	Rh62	Bird 2	SFX	69	102	3	124	1	SINGLE
743	Rh63	Telephone 1	SFX	69	103	0	125	1	SINGLE
744	Rh64	Telephone 2	SFX	69	104	1	125	1	SINGLE
745	Rh65	DoorCreaking	SFX	69	105	2	125	1	SINGLE
746	Rh66	Door	SFX	69	106	3	125	1	SINGLE
747	Rh67	Scratch	SFX	69	107	4	125	1	SINGLE
748	Rh68	Wind Chimes	SFX	69	108	5	125	1	SINGLE
749	Rh69	Helicopter	SFX	69	109	0	126	1	SINGLE
750	Rh70	Car-Engine	SFX	69	110	1	126	1	SINGLE
751	Rh71	Car-Stop	SFX	69	111	2	126	1	SINGLE
752	Rh72	Car-Pass	SFX	69	112	3	126	1	SINGLE
753	Rh73	Car-Crash	SFX	69	113	4	126	2	SINGLE
754	Rh74	Siren	SFX	69	114	5	126	1	SINGLE
755	Rh75	Train	SFX	69	115	6	126	1	SINGLE
756	Rh76	Jetplane	SFX	69	116	7	126	2	SINGLE
757	Rh77	Starship	SFX	69	117	8	126	2	SINGLE
758	Rh78	Burst Noise	SFX	69	118	9	126	2	SINGLE
759	Rh79	Applause	SFX	69	119	0	127	2	SINGLE
760	Rh80	Laughing	SFX	69	120	1	127	1	SINGLE
761	Rh81	Screaming	SFX	69	121	2	127	1	SINGLE
762	Rh82	Punch	SFX	69	122	3	127	1	SINGLE
763	Rh83	Heart Beat	SFX	69	123	4	127	1	SINGLE
764	Rh84	Footsteps	SFX	69	124	5	127	1	SINGLE
765	Rh85	Gun Shot	SFX	69	125	0	128	1	SINGLE
766	Rh86	Machine Gun	SFX	69	126	1	128	1	SINGLE
767	Rh87	Lasergun	SFX	69	127	2	128	1	SINGLE
768	Rh88	Explosion	SFX	69	128	3	128	2	SINGLE

Rhythm Set List

		Rh01:StandardKit1 (PC:001)		Rh02:StandardKit2 (PC:002)		Rh03:StandardKit3 (PC:003)		Rh04:RS Rock Kit (PC:004)		Rh05:RS Funk Kit (PC:005)	
			Voice		Voice		Voice		Voice		Voice
	16	-----		-----		-----		-----		-----	
	17	-----		-----		-----		-----		-----	
	18	-----		-----		-----		-----		-----	
	19	-----		-----		-----		-----		-----	
	20	-----		-----		-----		-----		-----	
	21	-----		-----		-----		-----		-----	
	22	-----		-----		-----		-----		-----	
	23	-----		-----		-----		-----		-----	
C1	24	WhipOld Kick	2	Maple Kick 2	1	StandardKick	1	Hard Kick	1	HybridKick 3	2
	25	RS Snr 4	2	RS Snr 3	2	Wet Snr 2	2	Wet Snr	1	70's Snare 2	1
	26	Dry Kick	1	Dry Kick 2	2	JazzDryKick2	3	Power Kick	1	Dry Kick 2	2
	27	RS Snr 5	2	RS Snr 1	2	NaturalSnr 2	1	Dance Snare	1	OldFillSnare	1
	28	Sharp Kick	2	Hybrid Kick	2	HybridKick 4	2	OldRoundKick	2	Hybrid Kick	2
	29	Old Kick	1	Round Kick	2	Sharp Kick	2	Round Kick	2	Old Kick	1
	30	RS Snr 3	2	RS Snr 6	2	Sharp Snr	1	RS Snr 6	2	Sharp Snr	1
	31	RS Kick 4	2	HybridKick 4	2	Old Kick	1	RS Kick 4	2	RS Kick 4	2
	32	RS Snr 2	2	RS Snr 4	2	NaturalSnr 1	1	RS Snr 3	2	NaturalSnr 2	1
	33	RS Kick 6	2	RS Kick 4	2	RS Kick 6	2	RS Kick 6	2	Funk Kick 1	2
	34	RS PHH [EXC1]	1	RS PHH [EXC1]	1	RS PHH [EXC1]	1	Rock PHH [EXC1]	1	RS PHH [EXC1]	1
	35	OldRoundKick	2	RS Kick 6	2	Old Kick 2	2	Maple Kick 2	1	OldRundKick2	2
C2	36	RS Kick 5	2	RS Kick 5	2	RS Kick 4	2	Rock Kick	1	Sharp Kick	2
	37	RS Stick	2	RS Stick	2	RS Stick	2	RS Stick	2	Funk Stick	2
	38	RS Snr 1	2	RS Snr 2	2	RS Snr 3	2	Ambient Snr	1	Light Snare	1
	39	Ghost&Flm 2	2	SnareGhost 1	1	Ghost&Flm 1	1	Ghost&Flm 3	2	Ghost&Flm 1	1
	40	RS Snr 6	2	RS Snr 5	2	RS Snr 9	2	Rock Snr 2	2	Wet Snr 3	2
	41	RS Tom L 1	1	RS Tom L 1	1	Deep Tom	1	RS Tom L 1	1	Funk Tom L 1	1
	42	RS CHH 1 [EXC1]	1	RS CHH 5 [EXC1]	1	RS CHH 3 [EXC1]	1	RS CHH 1 [EXC1]	1	RS CHH 3 [EXC1]	1
	43	RS Tom L Flm	1	RS Tom L 2	1	RS Tom L 2	1	RS Tom L 1	1	Funk Tom L 2	1
	44	RS CHH 2 [EXC1]	1	RS CHH 6 [EXC1]	1	RS CHH 4 [EXC1]	1	RS CHH 2 [EXC1]	1	RS CHH 4 [EXC1]	1
	45	RS Tom M 1	1	RS Tom M 1	1	RS Tom M 1	1	RS Tom M 1	1	Funk Tom M 1	1
	46	RS OHH 1 [EXC1]	1	RS OHH 3 [EXC1]	1	RS OHH 2 [EXC1]	1	Rock OHH [EXC1]	2	RS OHH 2 [EXC1]	1
	47	RS Tom M Flm	1	RS Tom M 2	1	RS Tom M 2	1	RS Tom M 1	1	Funk Tom M 2	1
C3	48	RS Tom H 1	1	RS Tom H 1	1	RS Tom H 1	1	RS Tom H 1	1	Funk Tom H 1	1
	49	Crash 1	1	Rock Crash	1	Crash 3	2	Crash 1	1	Crash 5	1
	50	RS Tom H Flm	1	RS Tom H 2	1	RS Tom H 2	1	RS Tom H 1	1	Funk Tom H 2	1
	51	Rock Ride 1	1	Rock Ride 1	1	Rock Ride 1	1	Rock Ride 3	1	Rock Ride 1	1
	52	ChinaCymbal2	2	ChinaCymbal2	2	ChinaCymbal2	2	ChinaCymbal2	2	Splash Cym	1
	53	RS RideBell	1	RS RideBell	1	RS RideBell	1	Rock Ride 2	1	RS RideBell	1
	54	Tambourine 1	1	Tambourine 1	1	Tambourine 2	1	Tambourine 1	1	TambourineSw	1
	55	Splash Cym	1	Splash Cym	1	Splash Cym	1	ChinaCymbal2	2	Splash Cym	1
	56	Cowbell	1	Cowbell	1	Cowbell	1	Cowbell	1	Cowbell	1
	57	Rock Crash	1	Crash 2	1	Crash 4	2	Rock Crash	1	Funk Crash	1
	58	Vibraslap	1	Vibraslap	1	Vibraslap	1	Asian Gong	1	Vibraslap	1
	59	Rock Ride 2	1	Rock Ride 2	1	Rock Ride 2	1	Ride Cymbal	1	Rock Ride 2	1
C4	60	BongoSw Hi	1	BongoSw Hi	1	BongoSw Hi	1	BongoSw Hi	1	BongoSw Hi	1
	61	BongoSw Lw	1	BongoSw Lw	1	BongoSw Lw	1	BongoSw Lw	1	BongoSw Lw	1
	62	CongaSw HiMt [EXC2]	1	CongaSw HiMt [EXC2]	1	CongaSw HiMt [EXC2]	1	CongaSw HiMt [EXC2]	1	CongaSw HiMt [EXC2]	1
	63	CongaSw HiOp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1
	64	CongaSw LwOp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1
	65	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1
	66	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1
	67	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1
	68	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1
	69	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1
	70	Maracas	1	Maracas	1	Maracas	1	Maracas	1	Maracas	1
	71	Apito Low [EXC3]	1	Apito Whisle	1	Apito Whisle	1	Apito Whisle	1	Apito Whisle	1
C5	72	Apito Hi [EXC3]	1	Caxixi	1	Caxixi	1	Caxixi	1	Caxixi	1
	73	Guiro Short [EXC4]	1	Guiro Sw	1	Guiro Sw	1	Guiro Sw	1	Guiro Sw	1
	74	Guiro Long [EXC4]	1	Castanets 2	2	Castanets 2	2	Castanets 2	2	Castanets 2	2
	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	Cuica Sw	1
	79	Cuica Open [EXC5]	1	Shaker Sw	1	Shaker Sw	1	Shaker Sw	1	Shaker Sw	1
	80	Triangl Mt 1 [EXC6]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1
	81	Triangl Op 1 [EXC6]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1
	82	Shaker 1	1	RotatingDrm2	1	RotatingDrm2	1	Jingle Bell	1	RotatingDrm2	1
	83	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1	Bell Tree	1	Jingle Bell	1
C6	84	WindChimeDwn	1	WindChimeDwn	1	WindChimeDwn	1	WindChimeDwn	1	WindChimeDwn	1
	85	Castanets	1	WindChimeUp	1	WindChimeUp	1	WindChimeUp	1	WindChimeUp	1
	86	Surdo Mute [EXC7]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1
	87	Surdo Open [EXC7]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1
	88	Udu	1	CajonSw Hi	1	CajonSw Hi	1	CajonSw Hi	1	CajonSw Hi	1
	89	Udu Pot Hi	1	CajonSw Low	1	CajonSw Low	1	CajonSw Low	1	CajonSw Low	1
	90	Udu Pot Slap	1	FingerSnap 2	1	FingerSnap 2	1	FingerSnap 2	1	FingerSnap 2	1
	91	CajonSw Hi	1	Tambourine 2 [EXC7]	1	Tambourine 2 [EXC7]	1	Tambourine 2 [EXC7]	1	Tambourine 2 [EXC7]	1
	92	CajonSw Low	1	Tambourine 3 [EXC7]	1	Tambourine 3 [EXC7]	1	Tambourine 3 [EXC7]	1	Tambourine 3 [EXC7]	1
	93	Tambourine 2 [EXC8]	1	Tambourine 4 [EXC7]	1	Tambourine 4 [EXC7]	1	Tambourine 4 [EXC7]	1	Tambourine 4 [EXC7]	1
	94	Tambourine 3 [EXC8]	1	Funk Clap	1	Dry Clap	1	Tight Clap	1	Funk Clap	1
	95	Tambourine 4 [EXC8]	1	Hand Clap	1	Group Clap 1	1	Hand Clap	1	Hand Clap	1
C7	96	Angklung 2	1	Smear Hit 2	1	LoFi MinorHt	1	Tao Hit	1	Smear Hit 2	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

* *The range that can be edited on the RS-70 and by sound editing software is A0–C8.*

		Rh06:RS Jazz Kit (PC:006)		Rh07:RS Brush Kit (PC:007)		Rh08:RS Orch Kit (PC:008)		Rh09:R&B Kit 1 (PC:009)		Rh10:R&B Kit 2 (PC:010)	
			Voice		Voice		Voice		Voice		Voice
	16	-----		-----		-----		-----		-----	
	17	-----		-----		-----		-----		-----	
	18	-----		-----		-----		-----		-----	
	19	-----		-----		-----		-----		-----	
	20	-----		-----		-----		-----		-----	
	21	-----		-----		-----		-----		-----	
	22	-----		-----		-----		-----		-----	
	23	-----		-----		-----		-----		-----	
C1	24	RS JazzKick2	1	RS JazzKick2	1	Tubular-bell	1	R&B Kick 1	2	R&BDryKick 1	1
	25	Jazz Rim	1	R&BDrySnr 10	1	Tubular-bell	1	R&B Rim	2	R&BDrySnr 11	1
	26	Mix Kick	1	Mix Kick	1	Tubular-bell	1	R&B Kick 2	2	WhipOld Kick	2
	27	R&BDrySnr 3	1	R&BDrySnr 3	1	Tubular-bell	1	WoodyStick 2	2	R&BDrySnr 14	1
	28	Sharp Kick	2	Dry Kick	1	Tubular-bell	1	R&B Kick 3	2	Dry Kick 2	2
	29	Dry Kick	1	JazzDryKick3	2	Tubular-bell	1	R&B Kick 4	2	JazzDryKick2	3
	30	R&BDrySnr 11	1	R&BDrySnr 11	1	Tubular-bell	1	CR78 Snr	1	R&BDrySnr 3	1
	31	Jazz DryKick	1	Jazz DryKick	1	Tubular-bell	1	Old Kick	1	R&BDryKick 2	1
	32	Wet Snr 2	2	Wet Snr 2	2	Tubular-bell	1	R&B Snare 1	1	R&BDrySnr 8	1
	33	Jazz Kick 2	2	Jazz Kick 2	2	Tubular-bell	1	R&B Kick 5	2	R&BDryKick 3	2
	34	Jazz PHH [EXC1]	1	Brush PHH [EXC1]	1	Tubular-bell	1	HipHop PHH [EXC1]	1	RS PHH [EXC1]	1
	35	RS Jazz Kick	1	Jazz Kick 1	1	Tubular-bell	1	DR110 Kick2	2	R&BDryKick 4	2
C2	36	JazzDryKick3	2	RS Jazz Kick	1	Concert BD	1	R&B Kick 6	2	R&B Kick 5	2
	37	WoodyStick 1	1	Brush Slap 2	1	Side Stick	1	Side Stick	1	R&BDrySnr 7	1
	38	Jazz Snare	1	BrushSwirl 2	2	Concert Snr	1	R&B Snare 2	1	R&BDrySnr 5	1
	39	SnareGhost 1	1	Brush Slap 1	1	Group Clap 1	1	Old Clap 1	1	Old Clap 2	3
	40	RS Jazz Snr	1	BrushSwirl 1	1	Concert Snr	1	Tiny Snr	1	R&BDrySnr 6	1
	41	Jazz Tom L 1	1	Brush Tom L	3	Timpani	1	R&B Tom L 1	1	HipHop Tom L	1
	42	Jazz CHH 1 [EXC1]	1	Brush CHH [EXC1]	1	Timpani	1	R&B CHH 3 [EXC1]	1	RS CHH 5 [EXC1]	1
	43	Jazz Tom L 2	1	Brush Tom L	3	Timpani	1	R&B Tom L 2	1	HipHop Tom L	1
	44	Jazz CHH 2 [EXC1]	1	Brush PHH [EXC1]	1	Timpani	1	R&B CHH 4 [EXC1]	1	RS CHH 6 [EXC1]	1
	45	Jazz Tom M 1	1	Brush Tom M	3	Timpani	1	R&B Tom M 1	1	HipHop Tom M	1
	46	Jazz OHH [EXC1]	2	Brush OHH [EXC1]	1	Timpani	1	R&B OHH 2 [EXC1]	1	RS OHH 3 [EXC1]	1
	47	Jazz Tom M 2	1	Brush Tom M	3	Timpani	1	R&B Tom M 2	1	HipHop Tom M	1
C3	48	Jazz Tom H 1	1	Brush Tom H	3	Timpani	1	R&B Tom H 1	1	HipHop Tom H	1
	49	Jazz Crash	1	Brush Crash	1	Timpani	1	R&B Crash 2	1	Crash 1	1
	50	Jazz Tom H 2	1	Brush Tom H	3	Timpani	1	R&B Tom H 2	1	HipHop Tom H	1
	51	Jazz Ride	1	Jazz Ride	1	Timpani	1	R&B Ride	1	Rock Ride 1	1
	52	ChinaCymbal1	1	ChinaCymbal1	1	Timpani	1	R&B China	1	ChinaCymbal1	1
	53	RS RideBell2	1	RS RideBell	1	Timpani	1	TR909RideBl1	1	RS RideBell	1
	54	Tambourine 1	1	Tambourine 5	1	Tambourine 5	1	CR78 Tamb	1	Tambourine 1	1
	55	Splash Cym 2	1	Splash Cym 2	1	Splash Cym 2	1	R&B Splash	1	Splash Cym	1
	56	Cowbell	1	Cowbell	1	Asian Gong	1	TR808Cowbell	1	Cowbell	1
	57	Crash Cym.2	1	Crash Cym.2	1	ConcertCym 1	1	R&B Crash 1	1	Rock Crash	1
	58	Vibraslap	1	Vibraslap	1	Rev.Cymbl 2	1	Vibraslap	1	Vibraslap	1
	59	Jazz Ride 2	2	Jazz Ride 2	2	ConcertCym 2	2	TR909 Ride 2	1	Rock Ride 2	1
C4	60	BongoSw Hi	1	BongoSw Hi	1	SlowAtackCym	1	BongoSw Hi	1	BongoSw Hi	1
	61	BongoSw Lw	1	BongoSw Lw	1	SlowAtackCym	1	BongoSw Lw	1	BongoSw Lw	1
	62	CongaSw HiMt [EXC2]	1	CongaSw HiMt [EXC2]	1	Taiko	1	CongaSw LwMt [EXC2]	1	CongaSw HiMt [EXC2]	1
	63	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp [EXC2]	1	CongHiOp/Slp	1	CongHiOp/Slp	1	CongHiOp/Slp [EXC2]	1
	64	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp	1	CongLwOp/Slp [EXC2]	1	CongLwOp/Slp	1
	65	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1
	66	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1
	67	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1
	68	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1
	69	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1	Cabasa	1
	70	Maracas	1	Maracas	1	Maracas	1	Maracas	1	Maracas	1
	71	Apito Whisle	1	Apito Whisle	1	ShortWhistle [EXC2]	1	Group Clap 1	1	Caxixi	1
C5	72	Caxixi	1	Caxixi	1	Long Whistle [EXC2]	1	Group Clap 2	1	Apito Whisle	1
	73	Guiro Sw	1	Guiro Sw	1	Cowbell	1	Shaker 2	1	Guiro Sw	1
	74	Castanets 2	2	Castanets 2	2	Vibraslap	1	Caxixi	1	Tight Clap	1
	75	Claves	1	Claves	1	Claves	1	Castanets	1	Claves	1
	76	Woodblock	1	Woodblock	1	Woodblock	1	Triangl Mt 1 [EXC3]	1	Woodblock	1
	77	Woodblock	1	Woodblock	1	Woodblock	1	Triangl Op 1 [EXC3]	1	Tambourine 2 [EXC4]	1
	78	Cuica Sw	1	Cuica Sw	1	Castanets 2	2	Bell Tree	1	Tambourine 3 [EXC4]	1
	79	Shaker Sw	1	Shaker Sw	1	Cuica Sw	1	Jingle Bell	1	Tambourine 4 [EXC4]	1
	80	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	Triangl Mt 1 [EXC5]	1	TablaBaya 4 [EXC4]	1	Triangl Mt 1 [EXC5]	1
	81	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	Triangl Op 1 [EXC5]	1	TablaBaya 5 [EXC4]	1	Triangl Op 1 [EXC5]	1
	82	RotatingDrm2	1	RotatingDrm2	1	Shaker Sw	1	TablaBaya 7 [EXC4]	1	Shaker Sw	1
	83	Jingle Bell	1	Jingle Bell	1	Jingle Bell	1	Sarna Bell	1	Cuica Sw	1
C6	84	WindChimeDwn	1	WindChimeDwn	1	Bell Tree	1	Scratch 8Psh [EXC5]	1	WindChimeDwn	1
	85	WindChimeUp	1	WindChimeUp	1	WindChimeDwn	1	Scratch 8Pul [EXC5]	1	WindChimeUp	1
	86	Surdo Mute [EXC6]	1	Surdo Mute [EXC6]	1	WindChimeUp	1	Scratch 5	1	Bell Tree	1
	87	Surdo Open [EXC6]	1	Surdo Open [EXC6]	1	Church Bell	1	Vinyl Stop	1	Sarna Bell	1
	88	CajonSw Hi	1	CajonSw Hi	1	Church Bell	1	Vox Kick 3	1	Jingle Bell	1
	89	CajonSw Low	1	CajonSw Low	1	Mtrnm Click	1	Vox Snare 2	1	Ah 2 M	1
	90	Angklung 2	1	Angklung 2	1	Mtrnm Bell	1	Vox HiHat 2	1	Ah 1 M	1
	91	Sarna Bell	1	Sarna Bell	1	Bird 1	2	WindChimeUp	1	Ah Hah M	1
	92	Mtrnm Click	1	Mtrnm Click	1	FingerSnap 2	1	WindChimeDwn	1	Yeah M	1
	93	Mtrnm Bell	1	Mtrnm Bell	1	FingerSnap 1	1	MG Zap 3	1	Scratch 8Psh [EXC6]	1
	94	FingerSnap 2	1	FingerSnap 2	1	Applause	2	High-Q	1	Scratch 8Pul [EXC6]	1
	95	Old Clap 1	1	Old Clap 1	1	OrchestraHit	2	R&B Stick 2	1	Scratch 4	1
C7	96	Hand Clap	1	Hand Clap	1	OrchPrc Hit	1	Record Noise	1	Scratch 6	1
	97	-----		-----		-----		-----		-----	
	98	-----		-----		-----		-----		-----	
	99	-----		-----		-----		-----		-----	
	100	-----		-----		-----		-----		-----	
	101	-----		-----		-----		-----		-----	
	102	-----		-----		-----		-----		-----	
	103	-----		-----		-----		-----		-----	
	104	-----		-----		-----		-----		-----	
	105	-----		-----		-----		-----		-----	
	106	-----		-----		-----		-----		-----	
	107	-----		-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh06–Rh10: MSB=086, LSB=064

* *The range that can be edited on the RS-70 and by sound editing software is A0–C8.*

Rhythm Set List

		Rh11:HipHop Kit (PC:011)		Rh12:Techno Kit (PC:012)		Rh13:House Kit (PC:013)		Rh14:BreakBts Kit (PC:014)		Rh15:TR Kit (PC:015)	
			Voice		Voice		Voice		Voice		Voice
	16	-----		-----		-----		-----		-----	
	17	-----		-----		-----		-----		-----	
	18	-----		-----		-----		-----		-----	
	19	-----		-----		-----		-----		-----	
	20	-----		-----		-----		-----		-----	
	21	-----		-----		-----		-----		-----	
	22	-----		-----		-----		-----		-----	
	23	-----		-----		-----		-----		-----	
C1	24	HHpHybdKick	1	AnalogKick 4	1	AnalogKick 5	1	SharpKick 2	1	TR606 Kick	1
	25	HipHopSnr 1	2	Ambient Snr	1	TR909 Snr 8	1	Ballad Snr 2	1	TR808 Snr 1	1
	26	TR909Kick 5	1	Pillow Kick	2	AnalogKick 3	1	RS Kick 7	2	TR707Kick 2	1
	27	HipHopSnr 2	2	TR909 Snr 1	1	Ballad Snr 1	1	R&BDrySnr 15	1	TR707 Snr	1
	28	HybridKick 2	2	106 Kick	1	PlasticKick1	1	HouseKick 1	2	TR909Kick 2	1
	29	HipHopKick 3	2	TechnoKick 3	1	Elec Kick	2	Roll Kick	1	PlasticKick1	1
	30	R&BDrySnr 7	1	Elec Snare 1	1	TR808 Snr 3	1	Roll Snare	1	TR808 Snr 5	1
	31	WhipOld Kick	2	Hard Kick	1	AnalogKick 2	1	TR808 Kick	1	TR909Kick 7	1
	32	70's Snare 2	1	TR808 Snr 3	1	TR909 Snr 4	1	R&BDrySnr 5	1	TR808 Snr 3	1
	33	HipHopKick 4	2	TechnoKick 2	2	HouseKick 1	2	PlasticKick1	1	TR909Kick 4	1
	34	R&B CHH 2 [EXC1]	1	TR909 PHH [EXC1]	1	TR909 PHH [EXC1]	1	Jazz PHH [EXC1]	1	TR909 PHH [EXC1]	1
	35	HipHopKick 5	2	TR909Kick 2	1	TR707Kick	1	TR707Kick	1	TR909Kick 8	1
C2	36	R&BDryKick 5	1	TechnoKick 1	2	TR909Kick 5	1	RockCmpKick	2	TR909Kick 6	1
	37	HipHop Stick	2	TR909 Rim	1	WoodyStick 3	1	Side Stick	1	TR909 Rim	1
	38	OldFillSnare	1	TR909 Snr 7	1	TR909 Snr 3	1	HipHopSnr 1	2	TR909 Snr 1	1
	39	TR707 Clap	1	TR909 Clap 2	1	TR909 Clap 2	1	DR110 Clap	1	TR909 Clap 2	1
	40	HipHopSnr 3	2	TR909 Snr 5	1	TR707 Snr	1	HipHopSnr 3	2	TR909 Snr 2	1
	41	TR808 Kick	1	TR909 Tom	1	TR909 Tom	1	R&B Tom L 2	1	TR909 Tom	1
	42	R&B CHH 1 [EXC1]	1	TR909 CHH 1 [EXC1]	1	TR909 CHH 1 [EXC1]	1	R&B CHH 1 [EXC1]	1	TR909 CHH 1 [EXC1]	1
	43	TR808 Kick	1	TR909DstTom1	1	TR808 Tom 2	1	R&B Tom L 2	1	TR909DstTom2	1
	44	R&B CHH 2 [EXC1]	1	TR909 CHH 2 [EXC1]	1	TR909 CHH 3 [EXC1]	1	R&B CHH 2 [EXC1]	1	TR909 CHH 3 [EXC1]	1
	45	TR808 Kick	1	TR909 Tom	1	TR909 Tom	1	R&B Tom M 2	1	TR909 Tom	1
	46	R&B OHH 1 [EXC1]	1	TR909 OHH [EXC1]	1	TR909 DryOHH [EXC1]	1	R&B OHH 1 [EXC1]	1	TR909 OHH [EXC1]	1
	47	TR808 Kick	1	TR909DstTom1	1	TR808 Tom 2	1	R&B Tom M 2	1	TR909DstTom2	1
C3	48	TR808 Kick	1	TR909 Tom	1	TR909 Tom	1	R&B Tom H 2	1	TR909 Tom	1
	49	R&B Crash 1	1	TR909 Crash	1	TR909 Crash	1	Crash 2	1	TR909 Crash	1
	50	TR808 Kick	1	TR909DstTom1	1	TR808 Tom 2	1	R&B Tom H 2	1	TR909DstTom2	1
	51	R&B Ride	1	TR909 Ride 1	1	TR808 Cym	1	Rock Ride 1	1	TR909 Ride 1	1
	52	R&B China	1	MG Nz Cym	1	US Nz Cym 3	1	US Nz Cym 2	1	TR909 Crash	1
	53	TR909RideBl1	1	TR909RideBl2	1	TR909RideBl2	1	RS RideBell	1	TR909RideBl2	1
	54	Tambourine 1	1	TR707DryTamb	1	Tambourine 5	1	Tambourine 5	1	TR707DryTamb	1
	55	R&B Splash	1	TechnoSplash	1	TechnoSplash	1	R&B Splash	1	TR606 Cym	1
	56	TR808Cowbell	1	TR808Cowbell	1	Cowbell	1	CR78 Cowbell	1	TR808Cowbell	1
	57	Crash Cym.2	1	TR808 Cym	1	TR707 Cym	1	Crash Cym.2	1	TR707 Cym	1
	58	Asian Gong	1	Asian Gong	1	Vibraslap	1	RotatingDrm2	1	TR707 Ride	1
	59	TR909 Ride 2	1	TR606 Cym	1	TR909 Ride 1	1	TR909 Ride 1	1	TR707Kick	1
C4	60	BongoSw Hi	1	BongoSw Hi	1	BongoSw Hi	1	BongoSw Hi	1	TR808 Kick	1
	61	BongoSw Lw	1	BongoSw Lw	1	BongoSw Lw	1	BongoSw Lw	1	TR808 Rim	1
	62	CongaSw HiMt [EXC2]	1	TR808Conga 1	1	CongaSw LwMt [EXC2]	1	CongaSw LwMt [EXC2]	1	TR808 Snr 2	1
	63	CongaSw LwMt [EXC3]	1	CongHiOp/Slp	1	CongHiOp/Slp	1	CongHiOp/Slp	1	TR808 Clap	1
	64	CongaSw HiOp [EXC2]	1	CongLwOp/Slp	1	CongLwOp/Slp [EXC2]	1	CongLwOp/Slp [EXC2]	1	TR808 Snr 5	1
	65	CongaSw LwOp [EXC3]	1	Timbal Sw Hi	1	Timbal Sw Hi	1	Timbal Sw Hi	1	TR707 Tom	1
	66	CongaSw Slap	1	Timbal Sw Lw	1	Timbal Sw Lw	1	Timbal Sw Lw	1	TR808 CHH 2 [EXC1]	1
	67	CajonSw Hi	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	TR808 Tom 2	1
	68	CajonSw Low	1	AgogoBellLng	1	AgogoBellLng	1	AgogoBellLng	1	TR808 CHH 1 [EXC1]	1
	69	RotatingDrm2	1	Cabasa	1	Cabasa	1	Cabasa	1	TR707 Tom	1
	70	Udu Sw 1	1	TR808DryMarc	1	Maracas	1	Maracas	1	TR808 OHH [EXC1]	1
	71	Udu Sw 2	1	Udu	1	Apito Whisle	1	Group Clap 1	1	TR808 Tom 2	1
C5	72	Cabasa	1	Udu Sw 1	1	Caxixi	1	Group Clap 2	1	TR707 Tom	1
	73	Maracas	1	Apito Whisle	1	Guiro Short [EXC3]	1	Shaker Sw	1	TR808 Cym	1
	74	FingerSnap 1	1	Shaker 2	1	Guiro Long [EXC3]	1	Caxixi	1	TR808 Tom 2	1
	75	Dholak 1 [EXC5]	1	TR808 Clave	1	Shaker 2	1	Castanets	1	TR707 Ride	1
	76	Dholak 2 [EXC5]	1	Guiro Sw	1	Castanets	1	Triangl Mt 1 [EXC5]	1	TR606 Cym	1
	77	Dholak 3 [EXC5]	1	CajonSw Low	1	TR808 Clave	1	Triangl Op 1 [EXC5]	1	TR909RideBl2	1
	78	Dholak 4 [EXC5]	1	CajonSw Hi	1	Cuica Mute [EXC4]	1	Bell Tree	1	CR78 Tamb	1
	79	TablaBaya 1 [EXC6]	1	TablaBaya 4 [EXC5]	1	Cuica Open [EXC4]	1	Jingle Bell	1	DR110 Cym	1
	80	TablaBaya 2 [EXC6]	1	TablaBaya 5 [EXC5]	1	Angklung 2	1	Perc.Flute 1	1	CR78 Cowbell	1
	81	TablaBaya 4 [EXC6]	1	CR78 Snr	1	Tambourine 2 [EXC5]	1	Perc.Flute 3	1	TR808 Cym	1
	82	TablaBaya 5 [EXC6]	1	TR606DstClap	1	Tambourine 3 [EXC5]	1	Perc.Flute 5	1	TR808 Clave	1
	83	TablaBaya 7 [EXC6]	1	Clap Tail 1	1	Tambourine 4 [EXC5]	1	Sarna Bell	1	TR909 Ride 2	1
C6	84	Scratch 8Psh [EXC7]	1	Rev.SnrGhost	1	Uuha F	1	Scratch 8Psh [EXC6]	1	TR606DstClap	1
	85	Scratch 8Pul [EXC7]	1	Rev.909 OHH	1	Wow F	1	Scratch 8Pul [EXC6]	1	TR808Conga 1	1
	86	Scratch 7Psh [EXC8]	1	Perc.Flute 4	1	ZAGHRT Loop	1	Scratch 7Psh [EXC7]	1	TR707 Clap	1
	87	Scratch 7Pul [EXC8]	1	Perc.Flute 5	1	ZAGHRT Stop	1	Scratch 7Pul [EXC7]	1	TR808DryMarc	1
	88	Scratch 2	1	Metal Vox	1	Rev.909Kick2	1	Scratch 2	1	DR110 Clap	1
	89	Scratch 6	1	VP-330 Arpeg	4	Rev.909 OHH	1	Scratch 6	1	Triangl Mt 2 [EXC7]	1
	90	Flute FX	2	MG Zap 3	1	Rev.909Crash	1	Flute FX	2	Triangl Op 2 [EXC7]	1
	91	Vox Kick 1	1	MG Zap 8	1	Rev.909HClap	1	Vox Kick 1	1	TR808Conga 2	1
	92	Vox Kick 2	1	High-Q	1	ClassicHseHt	1	Vox Kick 2	1	MC500 Beep 2	1
	93	Vox Snare 1	1	Techno Hit	1	MG Zap 1	1	Vox Snare 1	1	MC500 Beep 1	1
	94	Vox HiHat 1	1	Thin Beef	1	MG Zap 2	1	Vox HiHat 1	1	MG Zap 9	1
	95	Philly Hit	1	P5Noise Hit	1	MG Zap 7	1	Philly Hit	1	MG Zap 7	1
C7	96	Record Noise	1	DaftWave Hit	1	MG Zap 8	1	Record Noise	1	MG Zap 8	1
	97	-----		-----		-----		-----		-----	
	98	-----		-----		-----		-----		-----	
	99	-----		-----		-----		-----		-----	
	100	-----		-----		-----		-----		-----	
	101	-----		-----		-----		-----		-----	
	102	-----		-----		-----		-----		-----	
	103	-----		-----		-----		-----		-----	
	104	-----		-----		-----		-----		-----	
	105	-----		-----		-----		-----		-----	
	106	-----		-----		-----		-----		-----	
	107	-----		-----		-----		-----		-----	

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh11–Rh20: MSB=086, LSB=064

* *The range that can be edited on the RS-70 and by sound editing software is A0–C8.*

		Rh16:Perc Menu (PC:016)		Voice	Rh17:Vox&ClapMenu (PC:017)		Voice	Rh18:Fx Menu (PC:018)		Voice	Rh19:Menu 1 (PC:019)		Voice	Rh20:Menu 2 (PC:020)		Voice
	17	Taiko		1	-----			-----			-----			-----		
	18	Surdo Mute	[EXC1]	1	-----			-----			-----			-----		
	19	Surdo Open	[EXC1]	1	-----			-----			RS Kick 1		2	-----		
	20	Dholak 1	[EXC2]	1	-----			-----			RS Kick 2		2	RS Kick 7		2
	21	Dholak 2	[EXC2]	1	-----			-----			RS Kick 3		2	RockCmpKick		2
	22	Dholak 3	[EXC2]	1	-----			-----			RS Kick 4		2	SharpKick 2		1
	23	Dholak 4	[EXC2]	1	-----			-----			RS Kick 5		2	WhipOld Kick		2
C1	24	TablaBaya 1	[EXC3]	1	-----			-----			RS Kick 6		2	HybridKick 2		2
	25	TablaBaya 2	[EXC3]	1	-----			-----			Rock Kick		1	HybridKick 3		2
	26	TablaBaya 3	[EXC3]	1	-----			-----			Maple Kick 2		1	HybridKick 4		2
	27	TablaBaya 4	[EXC3]	1	-----			-----			Round Kick		2	HHpHybdKick		1
	28	TablaBaya 5	[EXC3]	1	-----			-----			OldRoundKick		2	HipHopKick 1		1
	29	TablaBaya 6	[EXC3]	1	-----			-----			Jazz Kick 1		1	HipHopKick 3		2
	30	TablaBaya 7	[EXC3]	1	-----			-----			Jazz Kick 2		2	HipHopKick 2		1
	31	Cajon Hi	[EXC13]	1	-----			-----			RS Jazz Kick		1	HipHopKick 4		2
	32	Cajon Low	[EXC14]	1	-----			-----			RS JazzKick2		1	HipHopKick 5		2
	33	CajonRoll Hi	[EXC13]	1	Vox Kick 1		1	-----			Maple Kick 1		1	HipHopKick 6		2
	34	CajonRoll Lo	[EXC14]	1	Ah 1 M		1	-----			Jazz DryKick		1	R&B Kick 1		2
	35	CongaSw HiOp	[EXC5]	1	Vox Kick 2		1	-----			JazzDryKick2		3	R&B Kick 2		2
C2	36	CongaSw LwOp	[EXC6]	1	Vox Kick 3		1	Perc.Flute 1		1	JazzDryKick3		2	R&B Kick 3		2
	37	CongaSw HiMt	[EXC5]	1	Ah 2 M		1	Perc.Flute 2		1	Dry Kick		1	R&B Kick 4		2
	38	CongaSw LwMt	[EXC6]	1	Vox Snare 1		1	Perc.Flute 3		1	Dry Kick 2		2	R&B Kick 5		2
	39	CongHiOp/Slp	[EXC5]	1	Ah Hah M		1	Perc.Flute 4		1	Sharp Kick		2	R&B Kick 6		2
	40	CongLwOp/Slp	[EXC6]	1	Vox Snare 2		1	Perc.Flute 5		1	Hybrid Kick		2	R&BDryKick 1		1
	41	TR808Conga 1		1	Aah! M		1	Flute FX		2	Old Kick		1	R&BDryKick 2		1
	42	TR808Conga 2		1	Vox HiHat 1	[EXC1]	1	Flute Click		1	Old Kick 2		2	R&BDryKick 3		2
	43	Bongo High		1	Hou! M		1	Scratch Push	[EXC1]	1	Old Kick 3		2	R&BDryKick 4		2
	44	Bongo Low		1	Vox HiHat 2	[EXC1]	1	Scratch Pull	[EXC1]	1	Funk Kick 1		2	R&BDryKick 5		1
	45	BongoSw Hi		1	Ha! M		1	Scratch 8Psh	[EXC2]	1	OldRundKick2		2	Dance Kick		1
	46	BongoSw Lw		1	Vox HiHat 3	[EXC1]	1	Scratch 8Pul	[EXC2]	1	Mix Kick		1	70's Kick 1		1
	47	Timbal Sw Hi		1	Hi! M		1	Scratch 7Psh	[EXC3]	1	Power Kick		1	70's Kick 2		1
C3	48	Timbal Sw Lw		1	Pa!		1	Scratch 7Pul	[EXC3]	1	RS Snr 1		2	R&BDrySnr 1		1
	49	Udu		1	Vox Cymbal		1	Scratch 2		1	RS Snr 2		2	R&BDrySnr 2		1
	50	Udu Pot Hi		1	Chiki!		1	Scratch 3		1	RS Snr 3		2	R&BDrySnr 3		1
	51	Udu Pot Slap		1	Yeah M		1	Scratch 4		1	RS Snr 7		1	R&BDrySnr 4		1
	52	Cuica Mute	[EXC7]	1	Wow M		1	Scratch 5		1	RS Snr 8		1	R&BDrySnr 5		1
	53	Cuica Open	[EXC7]	1	Wow F		1	Scratch 6		1	RS Snr 4		2	R&BDrySnr 6		1
	54	Castanets		1	Uuh Yeah!		1	MG Zap 1		1	RS Snr 5		2	R&BDrySnr 7		1
	55	Castanets 2		2	Uuh Yeah!		1	MG Zap 2		1	RS Snr 6		2	R&BDrySnr 8		1
	56	Tambourine 5		1	Dance F		1	MG Zap 3		1	RS Snr 9		2	R&BDrySnr 9		1
	57	Tambourine 1		1	Ha F		1	MG Zap 4		1	Ambient Snr		1	R&BDrySnr 10		1
	58	Tambourine 2	[EXC8]	1	ZAGHRT Loop		1	MG Zap 5		1	Wet Snr		1	R&BDrySnr 11		1
	59	Tambourine 3	[EXC8]	1	ZAGHRT Stop		1	MG Zap 6		1	Wet Snr 2		2	R&BDrySnr 12		1
C4	60	Tambourine 4	[EXC8]	1	Yoh Tribe		1	MG Zap 7		1	Wet Snr 3		2	R&BDrySnr 15		1
	61	CR78 Tamb		1	How Tribe		1	MG Zap 8		1	Rock Snr 2		2	R&BDrySnr 13		1
	62	TR707DryTamb		1	Hey Brazil		1	MG Zap 9		1	Standard Snr		1	R&BDrySnr 14		1
	63	Caxixi		1	One M 2		1	High-Q		1	RS Jazz Snr		1	R&B Snare 1		1
	64	Cabasa		1	Two M 2		1	Beam HiQ		1	Jazz Snare		1	R&B Snare 2		1
	65	Maracas		1	Tree M 2		1	Club Hit		4	R8 BrushSlap		1	Lo-Hard Snr		1
	66	TR808Maracas		1	Four M 2		1	Back Hit		1	Brush Slap 2		1	Reggae Snr		1
	67	TR808DryMarc		1	One M		1	Techno Hit		1	BrushSwirl 2		2	NaturalSnr 1		1
	68	Claves		1	Two M		1	Philly Hit		1	Brush Slap 1		1	NaturalSnr 2		1
	69	TR808 Clave		1	Three M		1	Dist Hit		1	BrushSwirl 1		1	Analog Snare		1
	70	Woodblock		1	Four M		1	Techno Chord		1	NaturalSnr 1		1	PiccoloSnare		1
	71	Woodblock		1	Aah Formant		1	Thin Beef		1	NaturalSnr 2		1	Hybrid Snr 1		2
C5	72	Cowbell		1	Eeh Formant		1	Tao Hit		1	70's Snare 1		1	Hybrid Snr 2		2
	73	TR808Cowbell		1	Iih Formant		1	ClassicHseHt		1	Sharp Snr		1	HipHopSnr 1		2
	74	CR78 Cowbell		1	Ooh Formant		1	Smear Hit 1		1	Analog Snare		1	HipHopSnr 2		2
	75	Vibraslap		1	Uuh Formant		1	Smear Hit 2		1	PiccoloSnare		1	HipHopSnr 3		2
	76	Shaker 1		1	VP-330 Arpeg		4	LoFi MinorHt		1	Hybrid Snr 1		2	70's Snare 2		1
	77	Shaker 2		1	MetalVoice1		1	OrchPrc Hit		1	Hybrid Snr 2		2	Phat Snr		1
	78	Guiro Short	[EXC9]	1	MetalVoice2		1	OrchestraHit		2	OldFillSnare		1	OldFillSnare		1
	79	Guiro Long	[EXC9]	1	MetalVoice3		1	P5Noise Hit		1	Ballad Snr 1		1	Ballad Snr 2		1
	80	Triangl Mt 1	[EXC11]	1	MetalVoice1L		1	DaftWave Hit		1	Light Snare		1	Jazz Rim		1
	81	Triangl Op 1	[EXC11]	1	MetalVoice2L		1	Vinyl Stop		1	Rock Snr 1		1	R&B Rim		2
	82	Triangl Mt 2	[EXC10]	1	MetalVoice3L		1	Record Noise		1	Jazz Rim		1	R&B Stick 1		1
	83	Triangl Op 2	[EXC10]	1	FingerSnap 1		1	Metal Noise		1	RS Stick		2	R&B Stick 2		1
C6	84	Agogo		1	FingerSnap 2		1	Rev.909Kick1		1	Rock Stick		1	HipHop Stick		2
	85	Agogo		1	RS Snap		2	Rev.909 OHH		1	Side Stick		1	WoodyStick 2		2
	86	Agogo Bell		1	Old Clap 1		1	Rev.909Crash		1	Funk Stick		2	RS CHH 5	[EXC1]	1
	87	Agogo Bell		1	Old Clap 2		3	Rev.909Kick2		1	WoodyStick 1		1	RS CHH 6	[EXC1]	1
	88	AgogoBellSht		1	Cheap Clap		1	Rev.909 Snr		1	WoodyStick 3		1	R&B CHH 3	[EXC1]	1
	89	AgogoBellSht		1	Funk Clap		1	Rev.SnrGhost		1	Sticks		1	R&B CHH 4	[EXC1]	1
	90	AgogoBellLng		1	Tight Clap		1	Rev.909HClap		1	CrossStick		1	R&B CHH 1	[EXC1]	1
	91	AgogoBellLng		1	Group Clap 1		1	Rev.Cymbl 1		1	SnareGhost 1		1	R&B CHH 2	[EXC1]	1
	92	ShortWhistle	[EXC12]	1	Group Clap 2		1	Rev.Cymbl 2		1	Ghost&Flm 1		1	HipHop CHH 2	[EXC1]	1
	93	Long Whistle	[EXC12]	1	Hand Clap		1	-----			Ghost&Flm 2		2	HipHop CHH 1	[EXC1]	1
	94	Apito Hi		1	Clap Tail 1		1	-----			Close HiHat	[EXC1]	1	DR110 CHH	[EXC1]	1
	95	Apito Low		1	Clap Tail 2		1	-----			RS CHH 1	[EXC1]	1	Lite CHH	[EXC1]	1
C7	96	Jingle Bell		1	TR606DstClap		1	-----			RS CHH 2	[EXC1]	1	RS OHH 3	[EXC1]	1
	97	Bell Tree		1	DR110 Clap		1	-----			RS CHH 3	[EXC1]	1	R&B OHH 1	[EXC1]	1
	98	Sarna Bell		1	TR909 Clap 1		1	-----			RS CHH 4	[EXC1]	1	R&B OHH 2	[EXC1]	1
	99	Angklung 2		1	TR909 Clap 2		1	-----			RS CHH 5	[EXC1]	1	HipHop OHH 2	[EXC1]	1
	100	RotatingDrm2		1	TR808 Clap		1	-----			RS CHH 6	[EXC1]	1	HipHop OHH 1	[EXC1]	1
	101	WindChimeDwn		1	TR707 Clap		1	-----			Rock CHH 1	[EXC1]	1	DR110 OHH	[EXC1]	1
	102	WindChimeUp		1	-----			-----			Rock CHH 2	[EXC1]	1	PS OHH	[EXC1]	1
	103	-----			-----			-----			Jazz CHH 1	[EXC1]	1	RS PHH	[EXC1]	1
	104	-----			-----			-----			Jazz CHH 2	[EXC1]	1	HipHop PHH	[EXC1]	1
	105	-----			-----			-----			Brush CHH	[EXC1]	1	-----		
	106	-----			-----			-----			Standard OHH	[EXC1]	1	-----		
	107	-----			-----			-----			RS OHH 1	[EXC1]	1	-----		
C8	108	-----			-----			-----			RS OHH 2	[EXC1]	1	-----		
	109	-----			-----			-----			RS OHH 3	[EXC1]	1	-----		
	110	-----			-----			-----			Rock OHH	[EXC1]	2	-----		
	111	-----			-----			-----			Jazz OHH	[EXC1]	2	-----		
	112	-----			-----			-----			Brush OHH	[EXC1]	1	-----		
	113	-----			-----			-----			Standard PHH	[EXC1]	1	-----		
	114	-----			-----			-----			RS PHH	[EXC1]	1	-----		
	115	-----			-----			-----			Rock PHH	[EXC1]	1	-----		
	116	-----			-----			-----			Jazz PHH	[EXC1]	1	-----		
	117	-----			-----			-----			Brush PHH	[EXC1]	1	-----		

Rhythm Set List

		Rh21:Menu 3 (PC:021)		Voice	Rh22:GM2 STANDARD (PC:001)		Voice	Rh23:GM2 ROOM (PC:009)		Voice	Rh24:GM2 POWER (PC:017)		Voice	Rh25:GM2 ELECTRIC (PC:025)		Voice
	16	AnalogKick 1		1	-----			-----			-----			-----		
	17	AnalogKick 2		1	-----			-----			-----			-----		
	18	AnalogKick 3		1	-----			-----			-----			-----		
	19	AnalogKick 6		1	-----			-----			-----			-----		
	20	AnalogKick 4		1	-----			-----			-----			-----		
	21	AnalogKick 5		1	-----			-----			-----			-----		
	22	Pillow Kick		2	-----			-----			-----			-----		
	23	Hard Kick		1	-----			-----			-----			-----		
C1	24	TechnoKick 1		2	-----			-----			-----			-----		
	25	TechnoKick 2		2	-----			-----			-----			-----		
	26	TechnoKick 3		1	-----			-----			-----			-----		
	27	HouseKick 1		2	High-Q		1	High-Q		1	High-Q		1	High-Q		1
	28	TR909Kick 1		1	Slap		1	Slap		1	Slap		1	Slap		1
	29	TR909Kick 2		1	Scratch Push	[EXC7]	1	Scratch Push	[EXC7]	1	Scratch Push	[EXC7]	1	Scratch Push	[EXC7]	1
	30	TR909Kick 3		1	Scratch Pull	[EXC7]	1	Scratch Pull	[EXC7]	1	Scratch Pull	[EXC7]	1	Scratch Pull	[EXC7]	1
	31	TR909Kick 8		1	Sticks		1	Sticks		1	Sticks		1	Sticks		1
	32	TR909Kick 4		1	Square Click		1	Square Click		1	Square Click		1	Square Click		1
	33	TR909Kick 5		1	Mtrnm Click		1	Mtrnm Click		1	Mtrnm Click		1	Mtrnm Click		1
	34	TR909Kick 6		1	Mtrnm Bell		1	Mtrnm Bell		1	Mtrnm Bell		1	Mtrnm Bell		1
	35	TR909Kick 7		1	Mix Kick		1	Mix Kick		1	Mix Kick		1	Mix Kick		1
C2	36	TR808 Kick		1	StandardKick		1	StandardKick		1	Power Kick		1	Elec Kick		2
	37	TR707Kick		1	Side Stick		1	Side Stick		1	Side Stick		1	Side Stick		1
	38	TR707Kick 2		1	Standard Snr		1	Standard Snr		1	Dance Snare		1	Elec Snare 1		1
	39	106 Kick		1	TR909 Clap 1		1	TR909 Clap 1		1	TR909 Clap 1		1	TR909 Clap 1		1
	40	TR606 Kick		1	Elec Snare 3		1	Elec Snare 3		1	Elec Snare 3		1	Elec Snare 2		2
	41	PlasticKick1		1	Real Tom 3		1	Room Tom 2		1	Rock Tom 2		1	Synth Drum2		2
	42	PlasticKick2		1	Close HiHat	[EXC1]	1	Close HiHat	[EXC1]	1	Close HiHat	[EXC1]	1	Close HiHat	[EXC1]	1
	43	DR110 Kick		1	Real Tom 3		1	Room Tom 2		1	Rock Tom 2		1	Synth Drum2		2
	44	DR110 Kick2		2	Standard PHH	[EXC1]	1	Standard PHH	[EXC1]	1	Standard PHH	[EXC1]	1	Standard PHH	[EXC1]	1
	45	SH32 Kick		1	Real Tom 2		1	Room Tom 1		1	Rock Tom 2		1	Synth Drum2		2
	46	Roll Kick		1	Standard OHH	[EXC1]	1	Standard OHH	[EXC1]	1	Standard OHH	[EXC1]	1	Standard OHH	[EXC1]	1
	47	Elec Kick		2	Real Tom 2		1	Room Tom 1		1	Rock Tom 2		1	Synth Drum2		2
C3	48	TR909 Snr 1		1	Real Tom 1		1	Room Tom 1		1	Rock Tom 1		1	Synth Drum2		2
	49	TR909 Snr 2		1	Crash Cym.1		1	Crash Cym.1		1	Crash Cym.1		1	Crash Cym.1		1
	50	TR909 Snr 3		1	Real Tom 1		1	Room Tom 1		1	Rock Tom 1		1	Synth Drum2		2
	51	TR909 Snr 4		1	Ride Cymbal		1	Ride Cymbal		1	Ride Cymbal		1	Ride Cymbal		1
	52	TR909 Snr 5		1	ChinaCymbal1		1	ChinaCymbal1		1	ChinaCymbal1		1	Rev.Cymbl 1		1
	53	TR909 Snr 6		1	RS RideBell2		1	RS RideBell2		1	RS RideBell2		1	RS RideBell2		1
	54	TR909 Snr 7		1	Tambourine 5		1	Tambourine 5		1	Tambourine 5		1	Tambourine 5		1
	55	TR909 Snr 8		1	Splash Cym 2		1	Splash Cym 2		1	Splash Cym 2		1	Splash Cym 2		1
	56	TR808 Snr 6		1	Cowbell		1	Cowbell		1	Cowbell		1	Cowbell		1
	57	TR808 Snr 1		1	Crash Cym.2		1	Crash Cym.2		1	Crash Cym.2		1	Crash Cym.2		1
	58	TR808 Snr 2		1	Vibraslap		1	Vibraslap		1	Vibraslap		1	Vibraslap		1
	59	TR808 Snr 3		1	Ride Cymbal		1	Ride Cymbal		1	Ride Cymbal		1	Ride Cymbal		1
C4	60	TR808 Snr 4		1	Bongo High		1	Bongo High		1	Bongo High		1	Bongo High		1
	61	TR808 Snr 5		1	Bongo Low		1	Bongo Low		1	Bongo Low		1	Bongo Low		1
	62	TR707 Snr		1	Conga Hi Mt		1	Conga Hi Mt		1	Conga Hi Mt		1	Conga Hi Mt		1
	63	DR110 Snr		1	CongaHi Open		1	CongaHi Open		1	CongaHi Open		1	CongaHi Open		1
	64	CR78 Snr		1	CongaLowOpen		1	CongaLowOpen		1	CongaLowOpen		1	CongaLowOpen		1
	65	PS Snr		1	Timbale Hi		1	Timbale Hi		1	Timbale Hi		1	Timbale Hi		1
	66	Jngl TinySnr		1	Timbale Low		1	Timbale Low		1	Timbale Low		1	Timbale Low		1
	67	Tiny Snr		1	Agogo		1	Agogo		1	Agogo		1	Agogo		1
	68	DJ Snr		1	Agogo		1	Agogo		1	Agogo		1	Agogo		1
	69	FlangerSnare		1	Cabasa		1	Cabasa		1	Cabasa		1	Cabasa		1
	70	Dance Snare		1	Maracas		1	Maracas		1	Maracas		1	Maracas		1
	71	Elec Snare 1		1	ShortWhistle	[EXC2]	1	ShortWhistle	[EXC2]	1	ShortWhistle	[EXC2]	1	ShortWhistle	[EXC2]	1
C5	72	Elec Snare 2		2	Long Whistle	[EXC2]	1	Long Whistle	[EXC2]	1	Long Whistle	[EXC2]	1	Long Whistle	[EXC2]	1
	73	Elec Snare 3		1	Guiro Short	[EXC3]	1	Guiro Short	[EXC3]	1	Guiro Short	[EXC3]	1	Guiro Short	[EXC3]	1
	74	Roll Snare		1	Guiro Long	[EXC3]	1	Guiro Long	[EXC3]	1	Guiro Long	[EXC3]	1	Guiro Long	[EXC3]	1
	75	TR909 Rim		1	Claves		1	Claves		1	Claves		1	Claves		1
	76	TR808 Rim		1	Woodblock		1	Woodblock		1	Woodblock		1	Woodblock		1
	77	TR909 CHH 1	[EXC1]	1	Woodblock		1	Woodblock		1	Woodblock		1	Woodblock		1
	78	TR909 CHH 2	[EXC1]	1	Cuica Mute	[EXC4]	1	Cuica Mute	[EXC4]	1	Cuica Mute	[EXC4]	1	Cuica Mute	[EXC4]	1
	79	TR909 CHH 3	[EXC1]	1	Cuica Open	[EXC4]	1	Cuica Open	[EXC4]	1	Cuica Open	[EXC4]	1	Cuica Open	[EXC4]	1
	80	TR808 CHH 1	[EXC1]	1	Triangl Mt 1	[EXC5]	1	Triangl Mt 1	[EXC5]	1	Triangl Mt 1	[EXC5]	1	Triangl Mt 1	[EXC5]	1
	81	TR808 CHH 2	[EXC1]	1	Triangl Op 1	[EXC5]	1	Triangl Op 1	[EXC5]	1	Triangl Op 1	[EXC5]	1	Triangl Op 1	[EXC5]	1
	82	TR707 CHH	[EXC1]	1	Shaker 1		1	Shaker 1		1	Shaker 1		1	Shaker 1		1
	83	TR606 CHH	[EXC1]	1	Jingle Bell		1	Jingle Bell		1	Jingle Bell		1	Jingle Bell		1
C6	84	CR78 CHH	[EXC1]	1	Bell Tree		1	Bell Tree		1	Bell Tree		1	Bell Tree		1
	85	DR110 CHH	[EXC1]	1	Castanets		1	Castanets		1	Castanets		1	Castanets		1
	86	Lite CHH	[EXC1]	1	Surdo Mute	[EXC6]	1	Surdo Mute	[EXC6]	1	Surdo Mute	[EXC6]	1	Surdo Mute	[EXC6]	1
	87	TR909 DryOHH	[EXC1]	1	Surdo Open	[EXC6]	1	Surdo Open	[EXC6]	1	Surdo Open	[EXC6]	1	Surdo Open	[EXC6]	1
	88	TR909 OHH	[EXC1]	1	-----			-----			-----			-----		
	89	TR808 OHH	[EXC1]	1	-----			-----			-----			-----		
	90	TR707 OHH	[EXC1]	1	-----			-----			-----			-----		
	91	TR606 OHH	[EXC1]	1	-----			-----			-----			-----		
	92	CR78 OHH	[EXC1]	1	-----			-----			-----			-----		
	93	PS OHH	[EXC1]	1	-----			-----			-----			-----		
	94	TR909 PHH	[EXC1]	1	-----			-----			-----			-----		
	95	-----			-----			-----			-----			-----		

[EXC]: Percussion sound of the same number will not be heard at the same time.

PC: Program Number

Rh16–Rh21: MSB=086, LSB=064

Rh22–Rh25: MSB=120, LSB=000

* *The range that can be edited on the RS-70 and by sound editing software is A0–C8.*

		Rh26:GM2 ANALOG (PC:026)		Voice	Rh27:GM2 JAZZ (PC:033)		Voice	Rh28:GM2 BRUSH (PC:041)		Voice	Rh29:GM2 ORCHSTRA (PC:049)		Voice	Rh30: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	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 6		1	Jazz Snare		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	RS RideBell2		1	RS RideBell2		1	RS RideBell2		1	Timpani		1	Screaming		1
	54	Tambourine 5		1	Tambourine 5		1	Tambourine 5		1	Tambourine 5		1	Punch		1
	55	Splash Cym 2		1	Splash Cym 2		1	Splash Cym 2		1	Splash Cym 2		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	Bongo High		1	Bongo High		1	Bongo High		1	Door		1
	61	Bongo Low		1	Bongo Low		1	Bongo Low		1	Bongo Low		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	Timbale Hi		1	Timbale Hi		1	Timbale Hi		1	Car-Pass		1
	66	Timbale Low		1	Timbale Low		1	Timbale Low		1	Timbale Low		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

Rh26–Rh30: MSB=120, LSB=000

* *The range that can be edited on the RS-70 and by sound editing software is A0–C8.*

Pattern List

No.	Pattern Name
001	Sample Patterns (Pop Sample, Rock Sample, Funk Sample, Jazz Sample, LoungeSample, HipHopSample, R&B Sample, TranceSample, House Sample)
002	
003	
004	
005	
006	
007	
008	
009	
010	Pop 1 (8Bt)
011	Pop 2 (8Bt)
012	Pop 3 (8Bt)
013	Pop 4 (8Bt)
014	Pop 5 (8Bt)
015	Pop 6 (8Bt)
016	Pop 7 (8Bt)
017	Pop 8 (8Bt)
018	Pop 9 (8Bt)
019	Pop 10(16Bt)
020	Pop 11(16Bt)
021	Pop 12(16Bt)
022	Pop 13(16Bt)
023	Pop 14 (Bld)
024	Pop 15 (Bld)
025	Pop 16 (Bld)
026	Pop 17 (Bld)
027	Pop 18(Shfl)
028	Pop 19(Shfl)
029	Pop 20(Shfl)
030	Pop 21(Shfl)
031	Pop 22(Vari)
032	Pop 23(Vari)

No.	Pattern Name
033	Pop 24(Vari)
034	Pop 25(Vari)
035	Rock 1
036	Rock 2
037	Rock 3
038	Rock 4
039	Rock 5
040	Fusion 1
041	Fusion 2
042	Fusion 3
043	Fusion 4
044	Fusion 5
045	Fusion 6
046	Funk 1
047	Funk 2
048	Funk 3
049	Funk 4
050	Funk 5
051	Jazz 1
052	Jazz 2
053	Jazz 3
054	Jazz 4
055	Jazz 5
056	Jazz 6
057	Bossa 1
058	Bossa 2
059	Bossa 3
060	Bossa 4
061	Bossa 5
062	Orch 1
063	Orch 2
064	Orch 3

No.	Pattern Name
065	Techno 1
066	Techno 2
067	Techno 3
068	Techno 4
069	Techno 5
070	Techno 6
071	Techno 7
072	Techno 8
073	Techno 9
074	Techno 10
075	Trance 1
076	Trance 2
077	Trance 3
078	Trance 4
079	Trance 5
080	House 1
081	House 2
082	House 3
083	House 4
084	House 5
085	House 6
086	House 7
087	House 8
088	House 9
089	House 10
090	Hip Hop 1
091	Hip Hop 2
092	Hip Hop 3
093	Hip Hop 4
094	Hip Hop 5
095	Hip Hop 6
096	Hip Hop 7

No.	Pattern Name
097	Hip Hop 8
098	Hip Hop 9
099	Hip Hop 10
100	R&B 1
101	R&B 2
102	R&B 3
103	R&B 4
104	R&B 5
105	Drum'n'Bass1
106	Drum'n'Bass2
107	Drum'n'Bass3
108	Drum'n'Bass4
109	Drum'n'Bass5
110	BreakBeats 1
111	BreakBeats 2
112	BreakBeats 3
113	BreakBeats 4
114	BreakBeats 5
115	Reggae 1
116	Reggae 2
117	Reggae 3
118	Reggae 4
119	Reggae 5
120	Pop 1-4
121	Pop 2-4
122	Pop 3-4
123	Pop 4-4
124	Trance 1-4
125	Trance 2-4
126	Trance 3-4
127	Trance 4-4
128	SEQ Template

* *8Bt: 8 Beat, 16Bt: 16 Beat, Bld : Ballard, 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

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, C4, F4
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, E4, 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(b13)	G2, F3, B3, D#4
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, F#4, 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.*

MIDI implementation chart

SYNTHESIZER — Date : April. 1, 2003

Model RS-70 — Sound Generator Section — Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1–16	1–16	
Channel	Changed	1–16	1–16	
Mode	Default	Mode 3	Mode 3	
	Messages	X	Mode 3, 4 (M = 1)	* 2
	Altered	**********		
Note Number :		0–127	0–127	
	True Voice	**********	0–127	
Velocity	Note On	O	O	
	Note Off	O	O	
After Touch	Key's	X	O *1	
	Channel's	O	O *1	
Pitch Bend		O	O *1	
Control Change	0, 32	O *1	O *1	Bank select
	1	O	O *1	Modulation
	5	O	O *1	Portamento time
	6, 38	O	O *1	Data entry
	7	O	O *1	Volume
	8	O	O *1	Balance
	10	O	O *1	Panpot
	11	O	O *1	Expression
	12	O	O *1	Effect control 1
	13	O	O *1	Effect control 2
	64	O	O *1	Hold 1
	65	O	O *1	Portamento
	66	O	O *1	Sostenuto
	67	O	O *1	Soft
	71	O	O *1	Resonance
	72	O	O *1	Release time
	73	O	O *1	Attack time
	74	O	O *1	Cutoff
	75	O	O *1	Decay time
	76	O	O *1	Vibrato rate
	77	O	O *1	Vibrato depth
	78	O	O *1	Vibrato delay
	84	X	O *1	Portamento control
	91	O	O (Reverb) *1	General purpose effects 1
	93	O	O (Chorus) *1	General purpose effects 3
	98, 99	X	O *1	NRPN LSB, MSB
	100, 101	X	O *1	RPN LSB, MSB
Program Change		O	O *1	
	: True Number	**********	0–127	Program No. 1–128
System Exclusive		O	O *1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	O *3	
	: Commands	X	O *3	
Aux Messages	: All Sound Off	X	O (120, 126, 127)	
	: Reset All Controllers	X	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123–127)	
	: Active Sensing	O *1	O	
	: System Reset	X	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

SYNTHESIZER Date : April. 21, 2003

Model RS-70 Sequencer Section Version : 1.01

Function...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1–16 X	1–16 1–16	There is no specific basic channel.
Default Mode Messages Altered	Mode 3 OMNI OFF, POLY *2 **********	X X	
Note Number : True Voice	0–127 **********	0–127 0–127	
Velocity Note On Note Off	O O	O O	
After Key's Touch Channel's	O O	O O *1	
Pitch Bend	O	O *1	
0–119 Control Change	O *1	O *1	
Program Change : True Number	O *1 **********	O *1 0–127	
System Exclusive	O	O *1	
System : Song Position Common : Song Select : Tune Request	O X O	O *3, *7 X O	
System : Clock Real Time : Commands	O O	O *3 O *3, *8	
: All Sound Off : Reset All Controllers Aux : Local On/Off Messages : All Notes Off : Active Sensing : System Reset	O O X *4 O *5 X *6 X	O O X O (123–127) *5 O *6 X	
Notes	* 1 O X is selectable. * 2 OMNI OFF and POLY ON are transmitted on all channels upon power-up. * 3 Recognized when the Clock Source parameter (SYSTEM) is set to "MIDI." * 4 Not stored/transmitted when received, but can be created and transmitted using Microscope. * 5 Mode Messages (123 –127) are recorded and transmitted, after all currently sounding notes are turned off. The All Note Off message itself is not recorded or transmitted. However, it can be created in Microscope and transmitted. * 6 Transmitted/received by sound generator section. Sequencer section uses them for error control if reception is interrupted. * 7 Not received in the Song mode. * 8 When the RS-70 receives start message, it starts playing from the beginning of the current step.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

* *A separate publication titled "MIDI Implementation" is also available. It provides complete details concerning the way MIDI has been implemented on this unit. If you should require this publication (such as when you intend to carry out byte-level programming), please contact the nearest Roland Service Center or authorized Roland distributor.*

Specifications

RS-70: 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

64 M bytes (16-bit linear equivalent)

Preset Memory

Original Tones: 1,024
Patches: 768 (RS-70 original: 512, General MIDI 2: 256)
Rhythm Sets: 30 (RS-70 Original: 21, General MIDI 2: 9)

User Memory

Patches: 128

* *Two Tones can be assigned to each Patch.*

Rhythm Sets: 16

* *Each Pattern is tied to a Performance.*

Effects

Multi-Effects: 47 types
Reverb: 8 types
Chorus: 8 types

[Quick Sequencer]

System

Instrument-based Pattern sequencer with realtime Pattern switching function

Recording Methods

Realtime loop recording, Step recording

Tracks

16 tracks/1 Pattern

Resolution

96 TPQN

Note Storage

Approx. 100,000 notes

Tempo

5–300 BPM (with tap tempo function)

Patterns

User Patterns: max. 256

* *The 128 Preset Patterns (including 110 Rhythm Patterns) are provided as part of the User Patterns, that can be rewritten and deleted.*

Pattern Length

1–998 measures

User Songs

max. 99

[Others]

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
User Styles: 8

External Storage Device

3.5 inch floppy disk: 1.44 MB (2HD), 720 KB (2DD)
(SMF music files for General MIDI or General MIDI 2 can be played.)

Display

20 characters, 2 lines (Backlit LCD)

Power Supply

DC 9 V (AC Adaptor)

Current draw

1,500 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

5.8 kg/12 lbs 13 oz (excluding AC adaptor)

Accessories

Owner's Manual
AC Adaptor (PSB-1U)
CD-ROM (Editor program for PC/Mac, USB-MIDI driver)

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.*

Index

For EU Countries

CE

This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

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