Roland®

GENERAL MIDI2

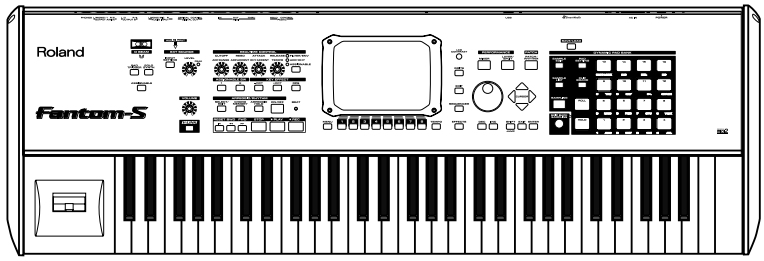
Fantom-S
Fantom-S88

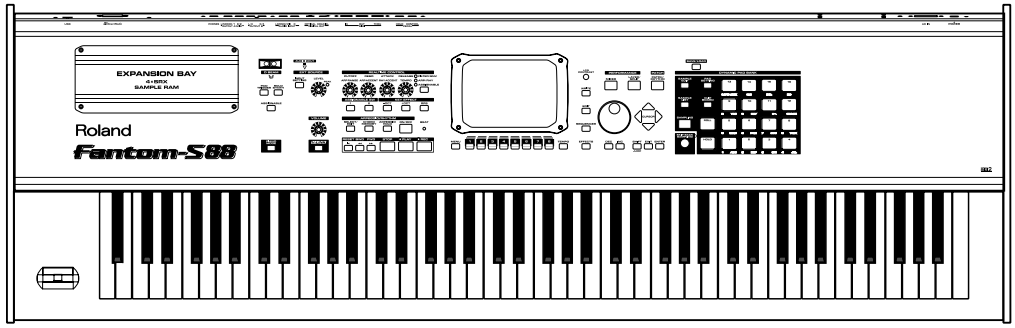
OWNER'S MANUAL

Thank you, and congratulations on your choice of the Roland **Fantom-S** / **Fantom-S88**.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (Owner's manual p. 2), "USING THE UNIT SAFELY" (Owner's manual p. 3), and "IMPORTANT NOTES" (Owner's manual p. 4). 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, Sound/Parameter List should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

This Owner's Manual applies to both the Fantom-S and the Fantom-S88. The manual uses the term "Fantom-S" to indicate both models. If you have the Fantom-S88, please read "Fantom-S" as "Fantom-S88."





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CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

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

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings. Install in accordance with the manufacturers instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Never use with a cart, stand, tripod, bracket, or table except as specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

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 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.

- Do not open or perform any internal modifications on the unit. (The only exception would be where this manual provides specific instructions which should be followed in order to put in place user-installable options; see p. 203.)

- 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.

- This unit should be used only with a rack or stand that is recommended by Roland.

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

⚠WARNING

- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit.

- 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.

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

- 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!)

USING THE UNIT SAFELY

⚠ WARNING

- 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.

- Always turn the unit off and unplug the power cord before attempting installation of the circuit board (SRX Series; p. 203).

- 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 should be located so that its location or position does not interfere with its proper ventilation.

- This unit for use only with Roland stand KS-12 (Fantom-S)/KS-17(Fantom-S88). Use with other stands is capable of resulting in instability causing possible injury.

Before using the stand, be sure to read the owner's manual included with it.

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

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

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

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

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

⚠ CAUTION

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

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

- Install only the specified circuit board(s) (SRX Series). Remove only the specified screws (p. 203).

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

The display screens printed in this owner's manual are based on the factory settings. However, please be aware that in some cases they may differ from the actual factory settings.

IMPORTANT NOTES

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

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow objects to remain on top of the keyboard. This can be the cause of malfunction, such as keys ceasing to produce sound.

Maintenance

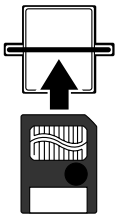
- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the memory card.
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Never strike or apply strong pressure to the display.
- 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.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use only the specified expression pedal (DP-8; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.
- Use a cable from Roland to make the connection. If using some other make of connection cable, please note the following precautions.
  - Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Before Using Cards

- Carefully insert the memory card all the way in—until it is firmly in place.



- Never touch the terminals of the memory card. Also, avoid getting the terminals dirty.

Handling CD-ROMs

- 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.

Copyright

- Unauthorized recording, distribution, sale, lending, public performance, broadcasting, or the like, in whole or in part, of a work (musical composition, video, broadcast, public performance, or the like) whose copyright is held by a third party is prohibited by law.
- Do not use this unit for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

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Main Features

Speedy music production

The "S" in Fantom-S stands for its advanced studio functionality and its powerful sampling capabilities. Careful attention has been paid to the quality and diversity of its internal sounds. Its rich array of internal sounds can be expanded by installing up to four wave expansion boards (SRX series). In addition, you can utilize the sampling functions to create your own sounds. A powerful sequencer and numerous performance functions that enhance your musical creativity are also built in, making music production fast and efficient.

The large panel LCD keeps you informed of the operating status from all angles. In particular, the Mixer screen displays the volume, pan, and effect send level of each part, just as if you were seated at a studio console.

Newly developed synthesizer sounds

The completely new wave ROM was developed with one idea: deliver maximum inspiration to the artist. The Fantom-S contains a top-quality synthesizer sound generator. Workhorse sounds like strings and piano have been further upgraded, and the wide range of built-in sounds include new sounds that foreshadow the music scene of the future.

Heavy-duty sampler

The Fantom-S features a high-performance 44.1 kHz sampler. Audio data that you sample can be used as wave data in the same way as the internal sounds or wave expansion boards (SRX series) to create original sounds. Multisamples are also supported. The full range of sample-manipulating functions, such as Chop and Normalize, rivals the capabilities of a dedicated sampler. Thirty-two megabytes of sampling memory is standard, and you can add expansion DIMM modules to expand the sampling memory to as much as 288 megabytes.

Skip-back sampling function

The Fantom-S is constantly recording what you play. You can cut a several-beat phrase of your prior playing and play it back from the pads. This unique function is a great way to capture your improvisations, and can be used in a wide range of situations.

Built-in 16-track sequencer

A high-resolution 16-track sequencer is built in. With functions like Loop recording that lets you record each part non-stop, it's designed not to interfere with your creative imagination. After you've input your data, you can take advantage of the large LCD to edit track data graphically.

Dynamic pad bank

The Fantom-S features a dynamic pad bank that is sensitive to velocity and aftertouch. They can be used as trigger pads to play favorite sounds like hits or bass sounds, to recall RPS sequence phrases, or assigned to play skip back-sampled phrases. In another idea, rhythm sounds that were "chopped" from a loop phrase can be assigned to the pads and played for realtime input into the sequencer.

Mastering functionality

78 (Fantom-S: 77) different multi-effects, chorus, and reverb are provided. Since the mastering effects that are indispensable as the final step of the music production process are also provided, you can create songs with a level of quality that approaches a commercially released CD.

USB connection to your computer, and SmartMedia support

The Fantom-S can be connected to your computer with just a single USB cable, allowing sophisticated linked functions such as importing and exporting audio data.

Fantom-S88 features a Piano mode

The Fantom-S88 has an 88-note progressive hammer action keyboard, and a Piano mode that lets you press a single button and use the instrument as a dedicated piano.

V-LINK functionality

V-LINK lets you synchronize music and images to create completely new forms of expression. Realtime controllers such as the D Beam controller and the dynamic pads can be used to control images while you perform music.

Fantom-S Editor/Librarian included

The included editor and librarian software lets you edit and manage Fantom-S sounds from your computer.

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.

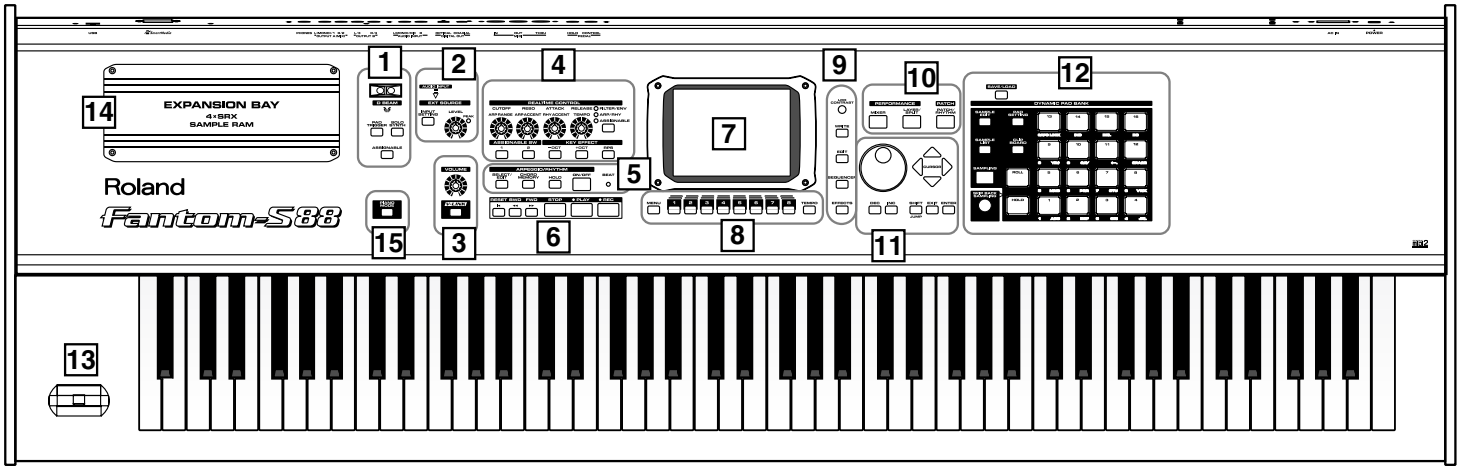
General MIDI 2

The upwardly compatible General MIDI 2 (GENERAL MIDI 2) 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



1

D BEAM

You can apply a variety of effects to sounds simply by moving your hand. → (p. 98)

ASSIGNABLE

Turn on the D Beam function for the Keyboard part or pad part. → (p. 98)

PAD TRIGGER

Instead of striking the pads themselves, you can also use the D Beam controller to control the sounding of the pads. → (p. 99)

SOLO SYNTH

Play the Fantom-S as a monophonic synthesizer. → (p. 100)

* *Hold down [SHIFT] and press one of the corresponding buttons to access the D Beam setting screen.*

2 EXT SOURCE

Make external input settings. → (p. 118)

3

[VOLUME]

Adjusts the overall volume that is output from the rear panel OUTPUT A (MIX) jacks and PHONES jack. → (Quick Start; p. 4)

[V-LINK]

Make V-Link settings. → (p. 201)

4

[ ]REALTIME CONTROL knob

You can assign a variety of parameters and functions to the four knobs and use them to modify the sound in realtime. → (p. 33)

The operation will depend on the parameter or function that is assigned.

[ ], [ ]ASSIGNABLE switch

You can assign a variety of parameters and functions to the tow buttons and use them to modify the sound in realtime. → (p. 33)

The operation will depend on the parameter or function that is assigned.

[-OCT], [+OCT]

Transposes the pitch of the keyboard in 1 octave units (-3- +3 octaves).

[RPS]

Switches RPS on/off.

5

Perform functions related to the arpeggio, rhythm pattern, chord memory function. → (p. 104, p. 110, p. 112)

[ON/OFF]

Switches the arpeggio and Rhythm on/off.

[ARPEGGIO HOLD]

Switches the Arpeggio Hold function on/off.

[CHORD MEMORY]

Switches the Chord Memory function on/off.

[SELECT/EDIT]

Make arpeggio, rhythm and chord memory settings.

[BEAT] (Beat Indicator)

This blinks in sync with the tempo and beat of the song.

6

Perform sequencer operations such as playback and record.

[RESET]

Moves the song position to the first measure. → (p. 138)

[BWD]

Moves the song position to the first beat of the previous measure. → (p. 138)

[FWD]

Moves the song position to the first beat of the next measure. → (p. 138)

[Play]

Controls sequencer play.

[STOP]

Controls sequencer stop.

While stopped, you can hold down [SHIFT] and Press [PLAY] to perform MIDI Update. → (p. 138)

[REC]
The display changes to the Recording Standby window. Æ (p. 142)
If you press this during recording, the Rehearsal function will be activated. → (p. 145)

7

Display
This displays information regarding the operation you are performing

8

[MENU]
Opens the MENU. The contents of the menu will depend on the current mode.

[1]–[8]
During editing, these buttons execute a variety of functions, and their function will differ depending on the screen.

[TEMPO]
Sets the tempo (BPM). → (p. 139)

9

LCD CONTRAST knob
Adjusts the display contrast. → (Quick Start; p. 5)

[WRITE]
Save edited settings into internal memory or a memory card. → (p. 42, p. 66, p. 96, p. 134, p. 168)

[EDIT]
Make various settings.

[SONG EDIT]
Make settings for song data and song edit. → (p. 138)

[EFFECTS]
Make effect-related settings. Here you can also make mastering settings. → (p. 175)

10

[MIXER]
View the Performance mode's Mixer screen. → (p. 76)

[LAYER/SPLIT]
View the Performance mode's Layer screen. → (p. 76)

[PATCH/RHYTHM]
Enter Patch/Rhythm mode. → (p. 27)

11

VALUE Dial
This is used to modify values. If you hold down [SHIFT] as you turn the VALUE dial, the value will change in greater increments.

[DEC], [INC]
This is used to modify values. If you keep on holding down one button while pressing the other, the value change accelerates. If you press one of these buttons while holding down [SHIFT], the value will change in bigger increments.

[CURSOR]
Moves the cursor location up/down/left/right.

[SHIFT]/[JUMP]
This button is used in conjunction with other buttons to execute various functions.

[ENTER]
Use this button to execute an operation.

[EXIT]
Return to the previous screen, or close the currently open window. In some screens, this causes the currently executing function to be aborted.

12

[SAMPLE EDIT]
Edit a sample. → (p. 124)

[SAMPLE LIST]
View the sample list. → (p. 122)

[SAMPLING]
View the Sampling Menu screen. → (p. 119)

[SKIP BACK SAMPLING]
Sample the performance for a specified duration prior to the moment you pressed the button. → (p. 121)

[PAD SETTING]
Make pad settings. → (p. 19)

[CLIP BOARD]
Stores pad velocity and note number. → (p. 136)

[SAVE/LOAD]
Saves/loads data in the internal memory (p. 19) or sample memory (p. 23) to/from internal memory or a memory card.

[PAD 1–16]
Use as a keyboard to play sound.

[ROLL]
Turn "roll" playback on/off. → (p. 135)

[HOLD]
Turn "hold" (sustaining the sound after you release the pad) on/off. →(p. 135)

13

Pitch Bend/Modulation Lever
This allows you to control pitch bend or apply vibrato.

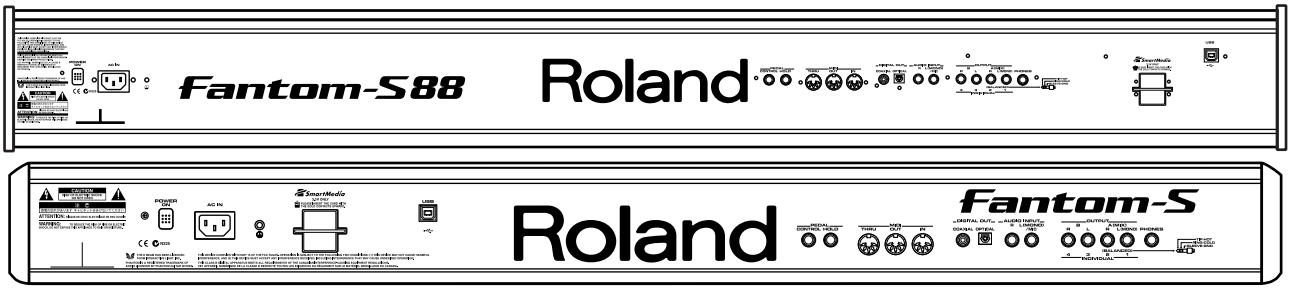
14

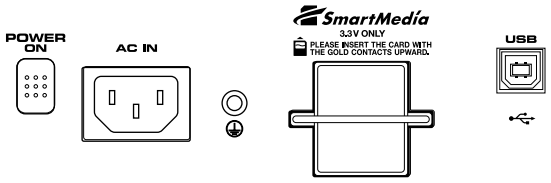
Here you can install a wave expansion board (SRX series) or install separately sold memory. On the Fantom-S this is located on the bottom panel. → (p. 203)

15

[PIANO MODE]
Switches to a special mode optimal for playing piano sounds. This button is found only on the Fantom-S88. → (p. 197)

Rear Panel





POWER ON Switch

Press to turn the power on/off. → (Quick Start; p. 4)

AC Inlet

Connect the included power cord to this inlet. → (Quick Start; p. 3)

SmartMedia card slot

Insert a SmartMedia card (3.3V, maximum 128 MB) here.

USB Connector

This connector lets you use a USB cable to connect your computer to the Fantom-S. → (p. 184)

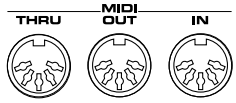
CTL (CONTROL) PEDAL Jack

You can connect optional expression pedals (DP-8, etc.) to these jacks. By assigning a desired function to a pedal, you can use it to select or modify sound or perform various other control. You can also connect optional pedal switches (DP series etc.) to sustain sound. → (Quick Start; p. 26)

HOLD PEDAL Jack

An optional pedal switch (DP series etc.) can be connected to this jack for use as a hold pedal. → (Quick Start; p. 26)

This can also be set so it supports the use of half-pedaling techniques. So, after connecting an optional expression pedal (DP-8, etc.), you can employ pedal work to achieve even finer control in performances in which piano tones are used. → (p. 33)



MIDI Connectors (IN, OUT, THRU)

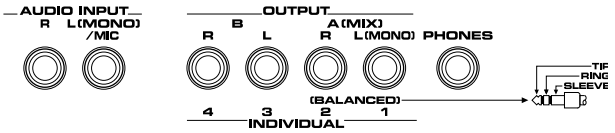
These connectors can be connected to other MIDI devices to receive and transmit MIDI messages.

DIGITAL OUT Connectors (S/P DIF OPTICAL, S/P DIF COAXIAL)

The Fantom-S features both optical and coaxial digital out connectors (conforming to S/P DIF).

These connectors output a digital audio signal (stereo). The output signal is identical to the signal that is output from the OUTPUT A (MIX) jacks.

* *S/P DIF is a digital interface format used for consumer digital audio devices.*



OUTPUT A (MIX) Jacks (L (MONO), R)

These jacks output the audio signal to the connected mixer/amplifier system in stereo. For mono output, use the L jack. → (Quick Start; p. 3)

OUTPUT B Jacks (L, R)

These jacks output the audio signal to the connected mixer/amplifier system in stereo.

INDIVIDUAL 1–4 Jacks

These jacks output audio signals in mono to an amp or mixer.

The setting determining whether these jacks are used as stereo OUTPUT jacks or monaural INDIVIDUAL jacks is made with the Output Assign setting (p. 176, p. 176).

AUDIO INPUT Jack (L, R)

Accept input of audio signals in stereo (L/R) from external devices. If you want to use mono input, connect to the L jack.

When recording from a mic, connect it to the L jack, and set Input Select (p. 118) to "MICROPHONE."

PHONES Jack

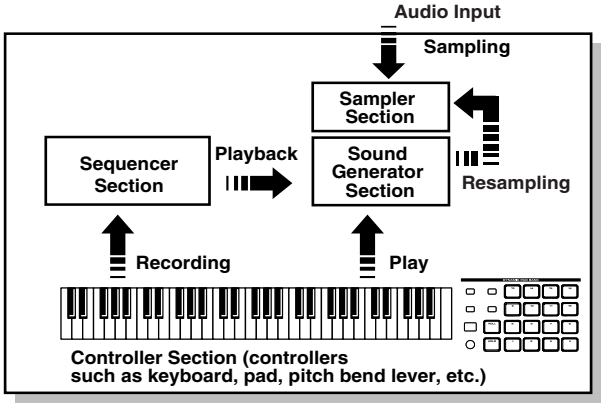
This is the jack for connecting headphones (sold separately). → (Quick Start; p. 3)

Overview of the Fantom-S

How the Fantom-S Is Organized

Basic Structure

Broadly speaking, the Fantom-S consists of a controller section, a sound generator section, and a sequencer section. These sections are internally connected via MIDI.



Controller Section

This section consists of the keyboard, pad, 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 pad, or depress the hold pedal is converted into MIDI messages and sent to the sound generator section, sequencer section, and/or an external MIDI device.

Sound Generator Section

The sound generator section produces the sound. It receives MIDI messages from the keyboard controller section and sequencer section and/or from an external MIDI device, generates musical sound according to the MIDI messages that were received, and outputs the sound from the output jacks or headphone jack.

Sequencer Section

This section records operations of the keyboard controller section as MIDI messages, and transmits the recorded MIDI messages to the sound generator section. MIDI messages recorded on the sequencer can also be transmitted from the MIDI OUT connector to allow the Fantom-S to also control external MIDI devices.

The Sampler section

A sampler is a device that captures sounds from a CD player or mic connected to the audio input (or sounds from a wave file) as "samples."

Samples you record can be used in the same way as the waveforms that are built into the internal sound generator. (p. 119)

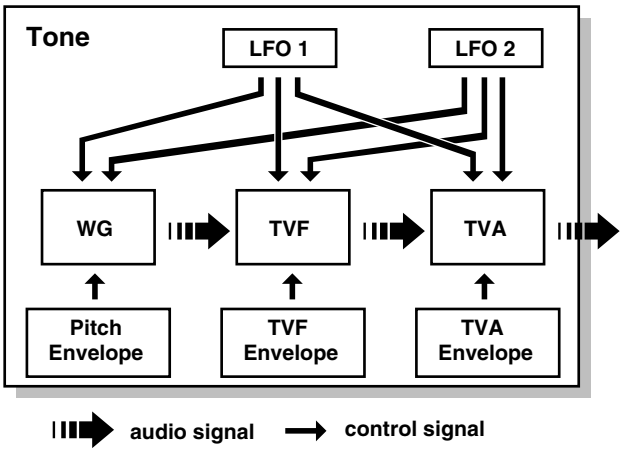
The Fantom-S can load WAV or AIFF format wave files as samples via a USB connection. Loaded sample can be used in patches or rhythm sets.

Classification of Fantom-S Sound Types

When using the Fantom-S, 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 Fantom-S, 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 which can be played, and the tones are the basic building blocks which make up the patch.



Tones consist of the following five components.

WG (Wave Generator)

Specifies the PCM waveform (wave) that is the basis of the sound, and determines how the pitch of the sound will change.

The Fantom-S has 1,228 different waveforms. All patches built into the Fantom-S consist of combinations of tones which are created based on these waveforms.

NOTE

There are four wave generators for each rhythm tone (percussion instrument sounds).

TVF (Time Variant Filter)

Specifies how the frequency components of the sound will change.

TVA (Time Variant Amplifier)

Specifies the volume changes and the sound's position in a stereo soundfield.

Envelope

You use Envelope to initiate changes to occur to a sound over time. There are separate envelopes for Pitch, TVF (filter), and TVA (volume). For example if you wish to modify the way in which the sound attacks or decays over time, you would adjust the TVA envelope.

LFO (Low Frequency Oscillator)

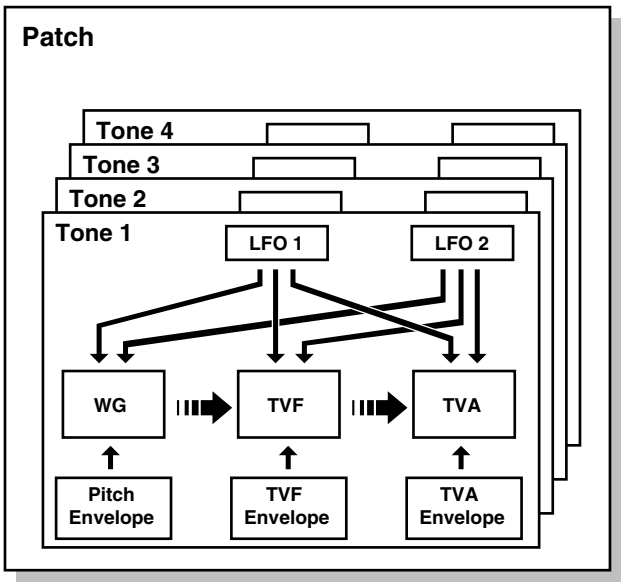
Use the LFO to create cyclic changes (modulation) in a sound. The Fantom-S has two LFOs. Either one or both can be applied to effect the WG (pitch), TVF (filter) and/or TVA (volume). When an LFO is applied to the WG pitch, a vibrato effect is produced. When an LFO is applied to the TVF cutoff frequency, a wah effect is produced. When an LFO is applied to the TVA volume, a tremolo effect is produced.

NOTE

LFO is not included in the rhythm tones (percussion instrument sounds).

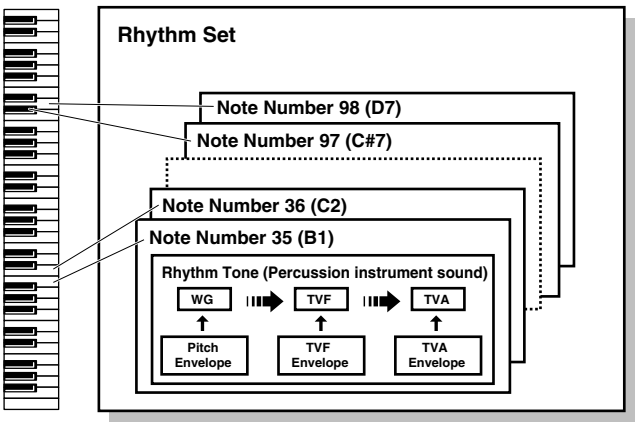
Patches

Patches are the basic sound configurations that you play during a performance. Each patch can be configured by combining up to four tones. How the four tones are combined is determined by the Structure Type parameter (p. 46).



Rhythm Sets

Rhythm sets are groups of a number of different percussion instrument sounds. Since percussion instruments generally do not play melodies, there is no need for a percussion instrument sound to be able to play a scale on the keyboard. It is, however, more important that as many percussion instruments as possible be available to you at the same time. Therefore, each key (note number) of a rhythm set will produce a different percussion instrument.



Each percussion instrument consists of the following four elements. (For details, refer to the explanations for "Tones.")

WG (Wave Generator)

TVF (Time Variant Filter)

TVA (Time Variant Amplifier)

Envelope

Performances

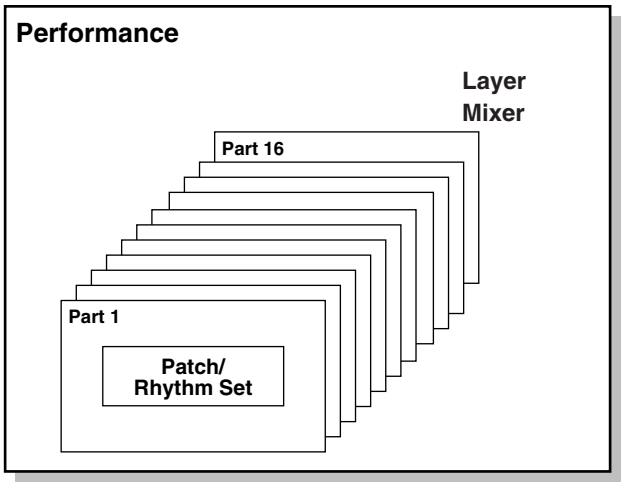
A performance has a patch or rhythm set assigned to each of the 16 parts, and can simultaneously handle 16 sounds.

The Fantom-S has two screens: a Layer screen and a Mixer screen (p. 76).

Use the Layer screen if you want to play two or more patches together (Layer) or play different patches in separate areas of the keyboard (Split).

Use the Mixer screen if you want to "mix" by individually adjusting the pan and level settings for each of the sixteen parts.

Because the Fantom sound generator can control multiple sounds (instruments) it is called a Multi-timbral sound generator.



Part

On the Fantom-S, a "part" is something to which you assign a patch or rhythm set. Patch mode has two parts, the Pad part and the Keyboard part, and you can assign a patch or rhythm set to each of these parts. In Performance mode, each performance has sixteen parts, and you can assign a patch or rhythm set to each part.

About Simultaneous Polyphony

The Fantom-S can play a maximum of 64 sounds simultaneously. The following paragraphs discuss what this means, and what will happen when more than 64 simultaneous voices are requested from the Fantom-S.

Calculating the Number of Voices Being Used

The Fantom-S is able to play up to 64 notes simultaneously. The polyphony, or the number of voices (sounds) does not refer only to the number of sounds actually being played, but changes according to the number of tones used in the patches, and the number of Waves used in the tones. The following method is used to calculate the number of sounds used for one patch being played.

(Number of Sounds Being Played) x (Number of tones Used by Patches Being Played) x (Number of Waves Used in the tones)

For example, with a patch combining four tones, each of which uses two Waves, the actual number of sounds being played comes to 8. Also, when playing in Performance mode, the number of sounds for each part is counted to obtain the total number of sounds for all parts.

How a Patch Sounds

When the Fantom-S is requested to play more than 64 voices simultaneously, currently sounding notes will be turned off to make room for newly requested notes. The note with the lowest priority will be turned off first. The order of priority is determined by the Voice Priority setting (p. 43).

Voice Priority can be set either to "LAST" or "LOUDEST." When "LAST" is selected, a newly requested note that exceeds the 64 voice limit will cause the first-played of the currently sounding notes to be turned off. When "LOUDEST" is selected, the quietest of the currently sounding notes will be turned off. Usually, "LAST" is selected.

Note Priority in Performance Mode

Since Performance mode is usually used to play an ensemble consisting of several patches, it is important to decide which parts take priority. Priority is specified by the Voice Reserve settings (p. 88). When a note within a patch needs to be turned off to make room for a new note, the Voice Priority setting of the patch will apply (p. 43).

Voice Reserve

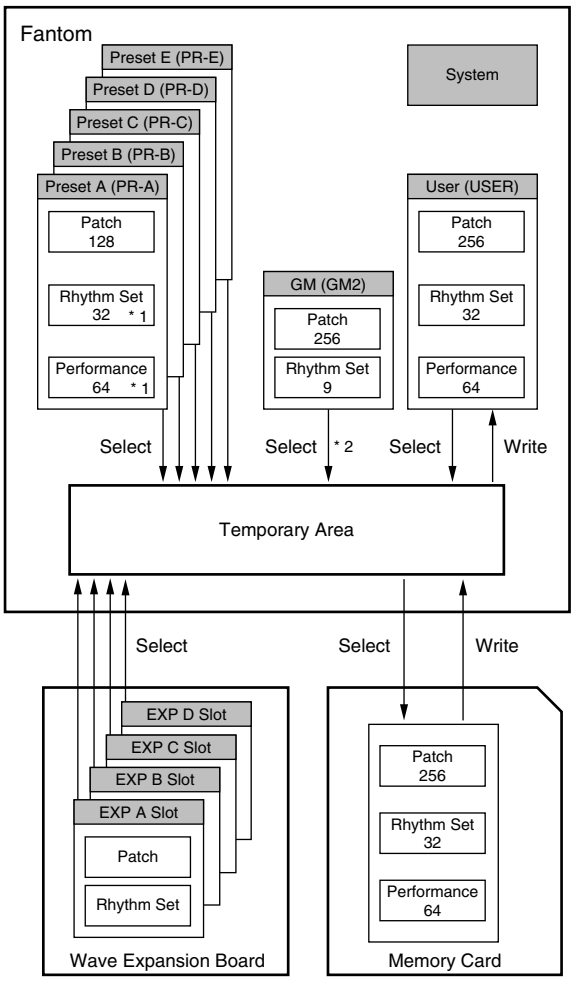
The Fantom-S has a Voice Reserve function that lets you reserve a minimum number of notes that will always be available for each part. For example if Voice Reserve is set to "10" for part 16, part 16 will always have 10 notes of sound-producing capacity available to it even if a total of more than 64 notes (total for all parts) are being requested. When you make Voice Reserve settings, you need to take into account the number of notes you want to play on each part as well as the number of tones used by the selected patch (p. 88).

MEMO

It is not possible to make Voice Reserve settings that would cause the total of all parts to be greater than 64 voices.

About Memory

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



* 1 Only in PR-A (PRST)

* 2 The selected Patches/Rhythm Sets cannot be changed.

Temporary Memory

Temporary Area

This is the area that holds the data for the patch or performance 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 or performance, 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 patch/performance. 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 Fantom-S functions.

User Memory

User memory is where you normally store the data you need. USER memory contains 128 patches, 16 rhythm sets and 64 performances.

Memory Card (Optional: power supply voltage 3.3 V, capacity: 8 MB–128 MB)

Patches, rhythm sets, and performances can be saved on a memory card just as they can in user memory.

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 (except GM2).

Wave Expansion Boards (optional: SRX Series)

The Fantom-S can be equipped with up to three Wave Expansion Boards (four SRX series). Wave Expansion Boards contain Wave data, as well as patches and rhythm sets that use this Wave data, which can be called directly into the temporary area and played.

About the Onboard Effects

Effect Types

The Fantom-S has built-in effect units, and you can independently edit each unit's settings.

Multi-Effects

The multi-effects are multi-purpose effects that completely change the sound type by changing the sound itself. Contained are 78 (Fantom-S; 77) different effects types; select and use the type that suits your aims. In addition to effects types composed of simple effects such as Distortion, Flanger, and other such effects, you can also set up a wide variety of other effects, even connecting effects in series or in parallel. Furthermore, while chorus and reverb can be found among the multi-effects types, the following chorus and reverb are handled with a different system. In Performance mode, three types of multi-effect can be used simultaneously; these are referred to as MFX1, MFX2, and MFX3. In Patch mode, the Keyboard part can use MFX1 and the Pad part can use MFX2.

Chorus

Chorus adds depth and spaciousness to the sound. You can select whether to use this as a chorus effect or a delay effect.

Reverb

Reverb adds the reverberation characteristics of halls or auditoriums. Five different types are offered, so you can select and use the type that suits your purpose.

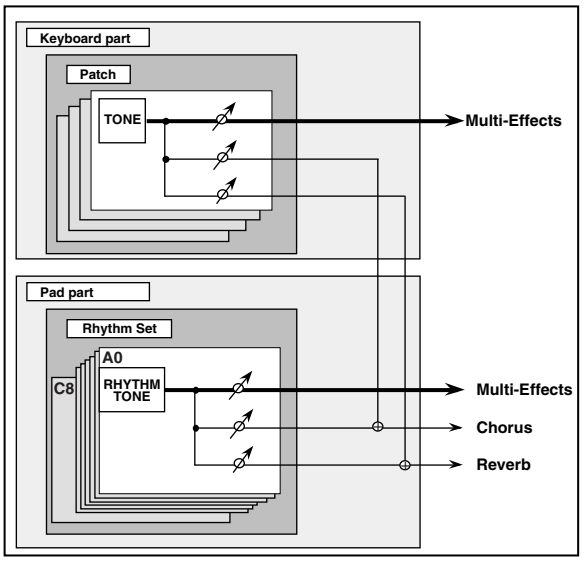
Mastering Effect

This is a stereo compressor (limiter) that is applied to the final output of the Fantom-S. It has independent high, mid, and low ranges. Independently for the high-frequency, mid-frequency, and low-frequency regions, this compresses any sounds that exceed the specified level, making the volume more consistent.

How Effects Units Work in Different Modes

In Patch Mode

The multi-effects, chorus and reverb effects can be set up individually for each patch/rhythm set. Adjusting the signal level to be sent to each effects unit (Send Level) provides control over the effect intensity that's applied to each tone.

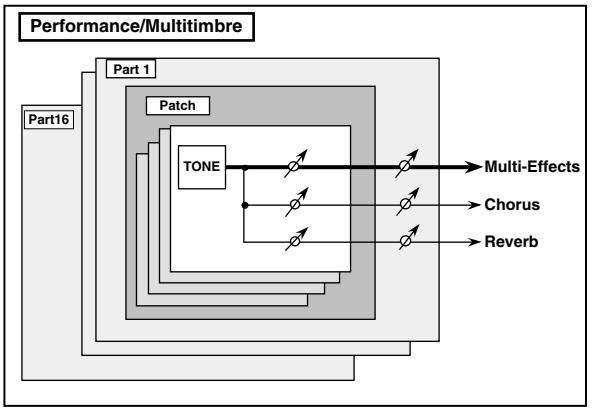


* *To each part you can assign either a Patch or a Rhythm Set.*

In the Performance Mode

The multi-effects, chorus and reverb effects can be set individually for each performance. The intensity of each effect will be set for each part.

When you apply effects in Performance mode, the effect settings of the patch or rhythm set assigned to each part will be ignored, and the effect settings of the performance will be used. Thus, the effects for the same patch or rhythm set may differ when played in Patch mode and in Performance mode. However, depending on the settings, you can have effect settings for a patch or rhythm set assigned to a part applied to the entire performance. In addition, when using the multi-effects settings of a performance, you can use three different multi-effects simultaneously, depending on the effect type (p. 175).



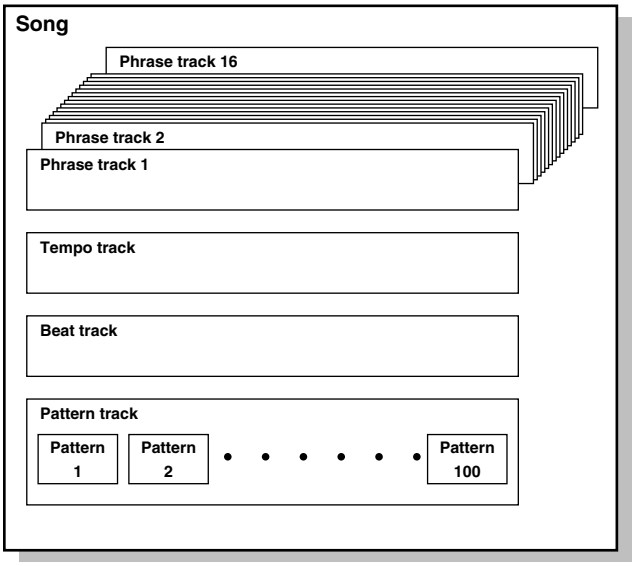
About the Sequencer

A sequencer records keyboard performance and controller movements as MIDI messages (sequencer data). As the data plays back, the recorded MIDI messages are sent to a sound generator which will produce the required sounds. The sequencer actually plays instruments instead of the musician, and since it can record a musical performance, it is a tape recorder as well.

But in reality a sequencer doesn't record sound, but actually the steps that cause the sound generator to produce sound, so it offers several advantages. Sound quality is always excellent, the equivalent of first-generation tape, no matter how many times the data plays back; tempo changes have no effect on pitch; detailed editing is possible, etc.

What Is a Song?

For the Fantom-S, musical performance data for one song or composition is referred to as a song. A song combines sequencer data recorded on Phrase tracks 1–16, a Tempo track, a Beat track and a Pattern track, as discussed below.



What Is a Track?

Each section of a song which stores musical performance data is called a track.

Phrase Tracks 1–16

Phrase tracks record the musical performance. Each Phrase track records musical performance data for 16 MIDI channels. Totally, up to 16 tracks x 16 MIDI channels of data can be recorded. It's helpful if you've made decision prior to recording such as recording melody on Phrase track 1, bass on Phrase track 2, drums on Phrase track 10, and accompaniment on the remaining Phrase tracks.

Tempo Track

The Tempo track records tempo changes of a song over time. It can be used for tempo changes during a song. If a song has the same tempo from beginning to end, the Tempo track can be ignored.

When a song is first recorded on the Fantom-S, a tempo setting at the time of recording will be stored at the beginning of the Tempo track. Therefore when song playback starts from the beginning, the song will always play back at this initial tempo.

Thus playback tempo is determined by the Tempo track setting. If you modify the tempo during playback, the overall tempo of the song will be controlled by the setting you make.

Beat Track

The Beat track records the time signature of each measure of a song. Set the Beat track when recording a new song, or when you want to change time signature during a song.

Pattern Track

You can also use the Pattern track to record musical passages, separately from the Phrase tracks. Musical data in the Pattern track is regarded as separate Patterns. Up to 100 Patterns can be created, and each Pattern can contain data for 16 MIDI channels, as with Phrase tracks.

Patterns can be assigned to a Phrase track, so if you are using repetitive phrases such as drums and bass, it is convenient to record each musical phrase in a pattern, and then use the MICROSCOPE screen to assign the pattern to the track (p. 148). In this case, the Phrase track contains only the Pattern Call numbers that refer to the desired Pattern, and not the actual Pattern data. Therefore the same Pattern can be used any number of times with a negligible increase in memory used.

The RPS function (p. 172) for immediate playback also applies to Patterns. Patterns are therefore convenient for live performance, if you've recorded necessary sequencer data as Patterns and take them to the gig.

Patterns also make fine scratch-pads for musical ideas.

Songs and the Sound Generator Mode

The Fantom-S's sequencer can be used at any time, regardless of the mode of the sound generator (Patch/Performance).

In Performance mode you can use up to sixteen sounds, with each part playing a different sound. This means that Performance mode is ideal for recording or playing an ensemble that uses multiple instruments, such as drums, bass, and piano.

In Patch mode you can play using the sounds that are assigned to the Keyboard part and the Pad part.

Positions for Storing a Song

Internal Memory

The sequencer has an area called internal memory that can temporarily store one song. So we call this temporary song Internal Song.

To play back a song saved to a disk with the Fantom-S, it doesn't have to be loaded into internal memory. Only when you're going to record a song or edit a song saved to disk, do you have to load it into internal memory. Since only one song can be worked on during recording or editing, all the internal memory has to do is store one song (about 120,000 notes).

The song in internal memory is volatile and will be lost when the power is turned off. To keep a song, you must save it to user memory or memory card.

Memory Card/User Memory

When keeping a recorded or edited song in internal memory, save it to user memory or memory card as a song file. Up to 256 songs can be saved to a card and user memory.

If you want to keep the song in internal memory that you recorded or edited, you must save it as a song file onto a memory card or into user memory. Either method lets you save up to 256 songs.

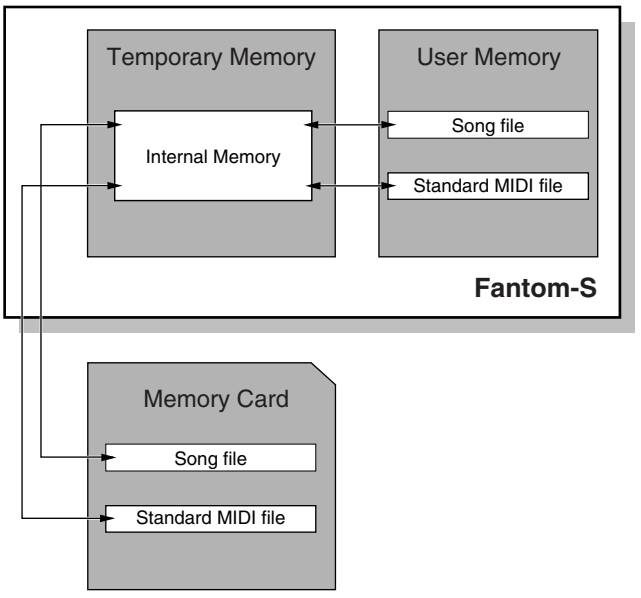
A card and user memory can contain two file types. The three-letter symbol shown in parentheses ( ) is a file name extension that distinguishes the different file types.

Song File (.SVQ)

This file is a song created on the Fantom-S. It is called an MRC Pro song.

Standard MIDI File (.MID)

Standard MIDI File is a standard file format that allows sequencer data to be exchanged between most musical applications. Fantom-S files can be saved as Standard MIDI Files. This also allows you to play back commercially available music data (GM scores) that is compatible with the GM/GM2 system.

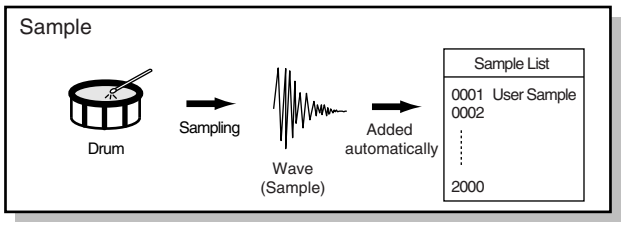


About the Sampling Section

The Sampling section samples (records) external sounds from an audio device or mic as digital data. Sampled sounds can be played as a patch or rhythm set. You can also import WAV/AIFF format files and use them in the same way.

Samples

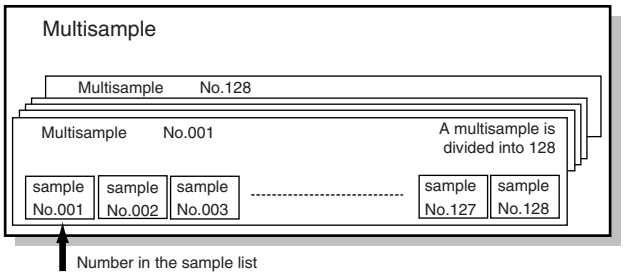
A **sample** contains the waveform data sampled by the Fantom-S. In addition to the actual waveform data itself, a sample also contains parameters such as start point, loop start, and loop end. The Fantom-S can hold 9,000 samples.



Multisamples

Two or more samples assigned to the keyboard are collectively called a **multisample**. A multisample is divided into 128 "splits." Each split contains the number of a sample in the sample list—it does not contain the actual sample data itself.

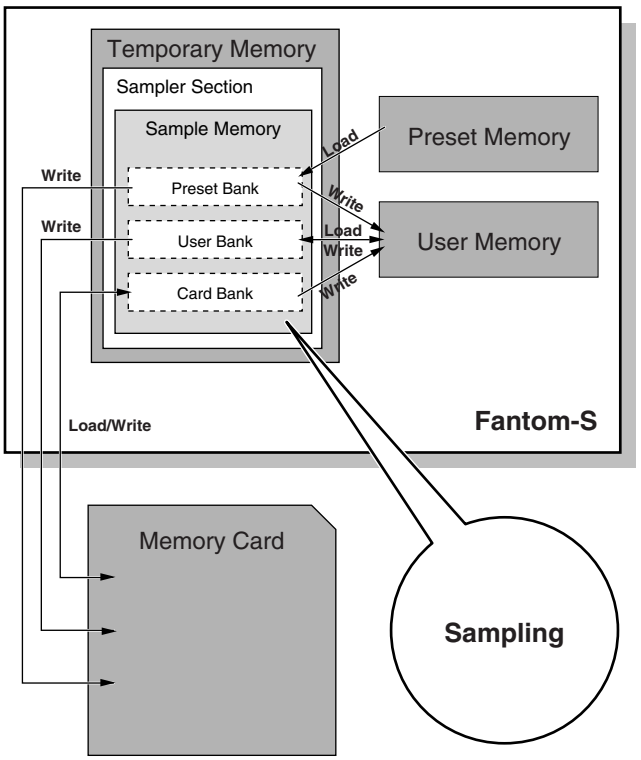
The Fantom-S has 128 internal samples (preset samples), and in addition can store up to 128 user samples in a separately sold memory card.



Where Samples are Stored

Samples that you record or import are stored in sample memory. This sample memory is temporary, and its data will be lost when you turn off the power. If you want to keep these samples, you must save them to user memory or a memory card.

* *You cannot save data to the preset memory.*



Basic Operation of the Fantom-S

Switching the Sound Generator Mode

The Fantom-S has two sound generating modes: Patch mode, Performance mode. You can select the sound generating mode (state) that is most appropriate for how you are playing the Fantom-S.
Use the following procedure to switch between these modes.

Patch mode

In this mode you can use the keyboard and pads to play individual sounds (patches/rhythm sets).
The keyboard and pads each have their own sound generator and part, and are connected on a single MIDI channel.

To select Patch mode

1. **Press [PATCH/RHYTHM].**

Performance Mode

This mode allows you to combine multiple sounds (patches or rhythm sets).

LAYER/SPLIT display

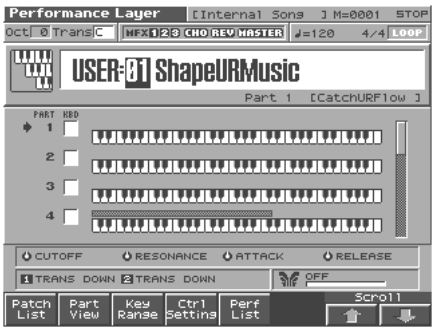
Use this screen when you want to play two or more sounds (patches/rhythm sets) together.
You can play patches together (Layer) or divide the keyboard into two regions and play different patches in each region (Split).

MIXER display

Use this screen when you want to mix the sounds by adjusting the level and pan for each of the 16 parts.

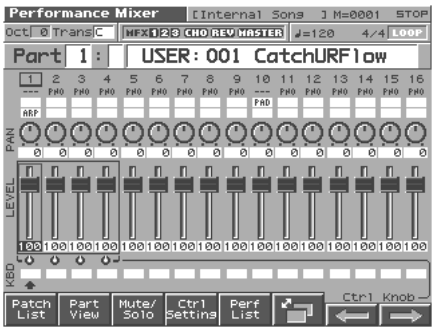
To select the Layer screen

1. **Press [LAYER/SPLIT].**



To select the Mixer screen

1. **Press [MIXER].**



About the [1]–[8] Buttons

In the PLAY screen, the eight [1]–[8] buttons located below the display, these buttons execute various functions, and their operation will differ depending on the screen. Functions will be listed in the bottom of the screen.

Window

The somewhat smaller screens that appear temporarily on top of the normal screens are called windows. Various types of windows appears according to the situation. Some display lists, others allow you to make settings, and still others ask you to confirm an operation.

Press [EXIT] to close the window. Some windows will close automatically when an operation is performed.

Moving the Cursor

A single screen or window displays multiple parameters or items for selection. To edit the setting of a parameter, move the cursor to the value of that parameter. To select an item, move the cursor to that item. When selected with the cursor, a parameter value or other selection is highlighted.

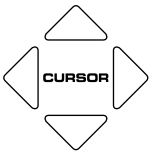
Move the cursor with the ▲, ▼, ◀ and ▶ (cursor buttons).

▲ : moves the cursor up.

▼ : moves the cursor down.

◀ : moves the cursor to the left.

▶ : moves the cursor to the right.

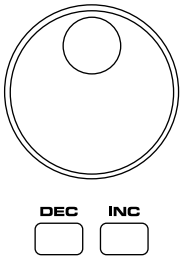


HINT

- By holding down [SHIFT] and pressing a cursor button, you can make the cursor location jump to the edge of the same block.
- If you hold down one cursor button while you also press the cursor button for the opposite direction, the cursor will move more rapidly in the direction of the first-pressed cursor button.

Modifying a Value

To modify the value, use the VALUE dial or the [INC]/[DEC] buttons.



HINT

In each screen of the Fantom-S, you can use the cursor to move the area displayed as black characters on white background, and modify its value.

NOTE

Each parameter has its own range of possible values, so you cannot set any value smaller than the minimum value or greater than the maximum value.

VALUE Dial

Rotating the VALUE dial clockwise increases the value, counterclockwise decreases the value. Holding down [SHIFT] as you move the VALUE dial increases value increments so you can make large value changes faster.

When the cursor is located at a parameter value, press [ENTER] to display a window where you can set the value. Use ▲ ▼ to select a value, and then press [ENTER] to finalize the setting.

[INC] and [DEC]

Pressing [INC] increases the value, and [DEC] decreases it. Keep the button pressed for continuous adjustment. For faster value increases, keep [INC] pressed down and press [DEC]. For decreasing value faster, keep [DEC] pressed down and press [INC].
If you press [INC] or [DEC] while holding down [SHIFT], the value increments will get bigger.

Assigning a Name

On the Fantom-S, you can assign names to each patch, rhythm set, performance, Song, Sample, and Pattern. The procedure is the same for any type of data.

1. **Press [CURSOR] to move the cursor to the location where you wish to input a character.**
2. **Turn the VALUE dial, or press [INC]/[DEC] to specify the character.**

Available characters/symbols are:
space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ]

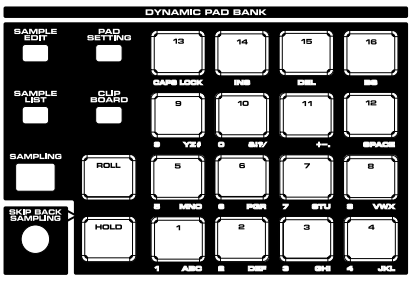
NOTE

Song file names may not contain lowercase characters or certain symbols (" * + , . / : ; < = > ? [\ ] |).

* *From a naming screen you can press [MENU] and select "Undo" to return the name to what it was before you changed it. From [MENU] you can select "To Upper" or press ▲ to change the character at the cursor to uppercase. From [MENU] you can select "To Lower" or press ▼ to change the character at the cursor to lowercase. From [MENU] you can select "Delete All" to clear all the characters you were inputting.*

You can use the pads to specify characters.
By pressing a pad one or more times, you can successively select the letters, numerals, and symbols that appear on the pad. For example, if you repeatedly press pad 1, you will cycle through the available choices like this: 1 → A → B → C → 1 → A...

- You can switch between uppercase and lowercase letters for the character to be entered by pressing CAPS LOCK.
- Press SPACE to replace the character at the cursor location with a space.
- Press INS to insert a space at the cursor location.
- Press DEL to delete the character at the cursor location.
- Press BS to delete the character to the left of the cursor location.



Playing in Patch Mode

In Patch mode, the keyboard and the pads are each used to play a single sound (patch/rhythm set).

The keyboard controller section and the pad controller section each have their own sound generator part, and each are connected by their own MIDI channel. This means you can play separate sounds on the keyboard and the pads.

About the Patch Play Screen

Displaying Patch Play Screen

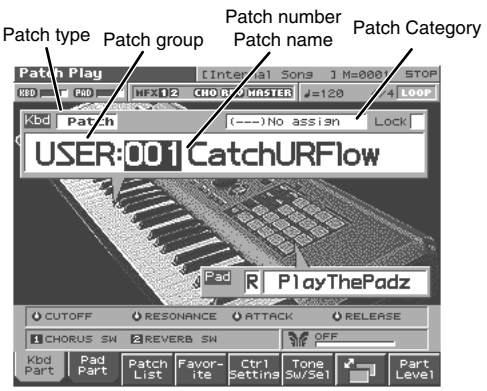
To access the Patch Play screen, use the following procedure.

1. Press [PATCH/RHYTHM].

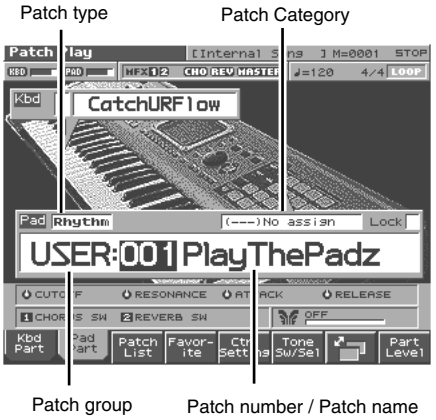
You will enter Patch mode, and the Patch Play screen appears.

The Fantom-S has two parts; a Keyboard part and a Pad part.

2. Press [1 (Kbd Part)] to select the Keyboard part.

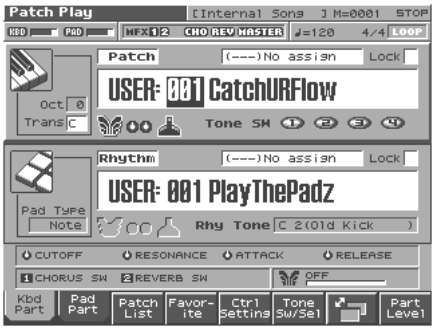


3. Press [2 (Pad Part)] to select the Pad part.



4. Press [7] to switch the Patch Play screen.

This screen simultaneously displays the settings of the Keyboard part and the Pad part.



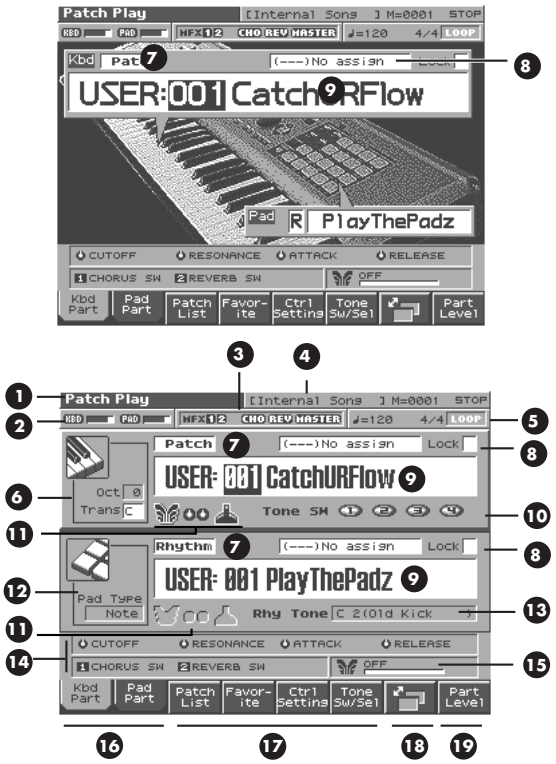
Press [8 (Part Level)] to adjust the volume of the keyboard part and pad part.

Pressing [8 (Part Level)] will open a window where you can adjust the volume of the keyboard part and pad part.

Press [6] (keyboard part) or [7] (pad part) to select the part, and turn the VALUE dial or use [INC][DEC] to adjust the volume.

Press [8 (Close)] to close the window.

Functions in the Patch Play screen



1. Indicates the current sound generating mode.
2. Indicates the volume of the Keyboard part and Pad part.
3. Indicates multi-effects (MFX1, 2), chorus (CHO), reverb (REV), and masterring (MASTER) on and off.
4. Indicates the name of the currently selected song, the measure location
5. Indicates the time signature, and the tempo. Indicates the Loop Play on/off (LOOP).
6. Sets the Transpose (Trans). And indicates the Octave Shift (Oct).
7. Patch/rhythm set select switch
   Determines whether you will be selecting patches or rhythm sets.
8. Indicates/selects the patch category.
   Selects whether the patch category will be locked.
9. Indicates/selects the group, number, and name of the selected patch.
10. Indicates the tone On/Off status.
11. Indicates whether the controller settings will apply to the keyboard or the pads.
12. Indicates the state of the pad settings.
13. Indicates the rhythm tone.
14. Indicates the functions that are assigned to each realtime controller knob (●) and assignable switch (■).
15. This indicates the function that is assigned to the D Beam controller, and the response status of the D Beam controller.
16. Switches the cursor location to either the Keyboard section or the Pad section.
17. Indicates the names of the parameters that can be selected by [3]–[6].
18. Switches the display between the view of only one part and the view of two parts.
19. Sets the volume of the Keyboard part and Pad part.

Selecting a Patch

The Fantom-S has eight patch groups, including the User group and Preset groups A–E and GM, with each group storing 128 patches (256 in GM, USER). What's more, you can further expand your options by installing up to four optional Wave Expansion Boards (four SRX series), enabling you to select from a huge assortment of available patches.

USER

This is the group inside the Fantom-S which can be rewritten. patches you yourself create can be stored in this group. The Fantom-S includes 256 preset patches.

PR-A–E (Preset A–E)

This is the group inside the Fantom-S which cannot be rewritten. However you may modify the settings of the currently selected patch, and then store the modified patch in User memory. Banks A–E already contain 128 prepared patches each, for a total of 640 patches.

* *The Fantom-S88 provides preset F, which contains eight patches.*

CARD (Memory Card)

This group lets you use patches stored on a memory card inserted in the rear panel card slot. Since the data in this group can be rewritten, you can use this group to store patches that you create.

GM (GM2)

This is an internal group of patches compatible with General MIDI 2, a system of MIDI function specifications designed to transcend differences between makers and types of devices; these patches cannot be overwritten. Furthermore, settings of currently selected patches from this group cannot be changed. The Fantom-S includes 256 preset patches.

XP-A–D (Wave Expansion Boards installed in EXP-A–D Slots)

These are groups used when using patches from Wave Expansion Boards installed in the EXP A–D slots, and cannot be rewritten. However you may modify the settings of the currently selected patch, and then store the modified patch in User memory and Memory card. The number of onboard patches depends on the specific Wave Expansion Boards installed.

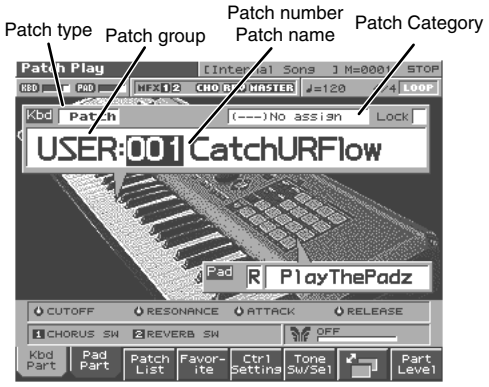
NOTE

XP-A–D patches can be selected only if a Wave Expansion Board SRX series (sold separately) is installed in the corresponding slot.

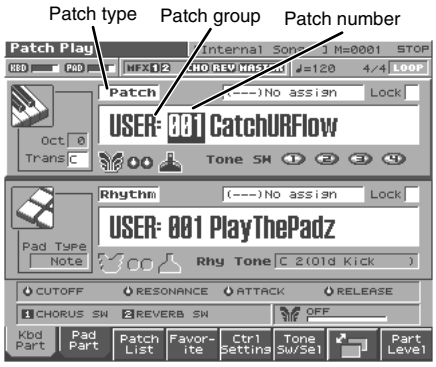
NOTE

If SRX/RAM Mode (p. 195) is set to "2 SRX," only EXP slots A and B can be used.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**



2. **Press [1 (Kbd Part)] or [2 (Pad Part)] to move the cursor to the pad part or the keyboard part.**



3. **If you selected a patch group, turn the VALUE dial or use [INC][DEC] to choose the patch group.**

   USER: User

   PR-A–E: Preset A–E

   CARD: Memory Card

   GM: GM (GM2)

   XP-A–D: Wave Expansion Boards installed in EXP-A–D Slots

* *Make sure that the patch type select switch is set to "Patch." If this is set to "Rhythm," use [CURSOR] to move the cursor to the switch, and turn the VALUE dial or press [DEC] to select "Patch."*
With the cursor located at "Rhythm," press [ENTER] to open the Patch Type window. You can also use CURSOR to select "Patch" and then press [8 (Select)] to make the selection.

4. **Press [CURSOR] to move the cursor to the patch group.**

5. **Turn the VALUE dial, or press [INC]/[DEC] to select a patch group.**

6. **If you selected a patch for the pad part, play the pads to hear the sound. If you selected a patch for the keyboard part, play the keyboard to hear the sound.**

Selecting Favorite Patches (Favorite Sound)

You can bring together your favorite and most frequently used patches in one place by registering them in the Favorite sound. By using this function, you can rapidly select favorite patches from internal memory or a Wave Expansion Board.

NOTE

If a patch stored in a Wave Expansion Board has been registered as a Favorite Sound, it cannot be selected unless the corresponding wave expansion board is installed.

For instructions on how to register to the Favorite Sounds, refer to **"Registering a Favorite Patch (Favorite Sound)"** (p. 30).

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**

2. **Press [4 (Favorite)].**

   The Favorite List window appears.

3. **Press ▲ or ▼ to choose the patch.**

4. **To change the bank, turn the VALUE dial or use [INC][DEC].**

5. **After you have changed the bank, press [1]–[8] to select a patch.**

6. **Press [EXIT] to close the Favorite window**

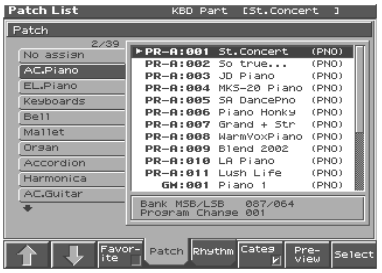
Selecting Patches from the List

You can display a list of patches and select a patch from that list.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**

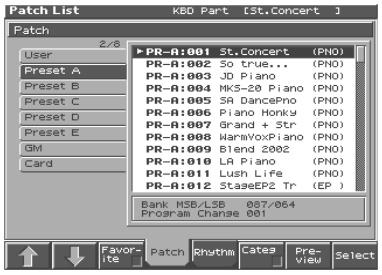
2. **Press [3 (Patch List)].**

   The Patch List screen appears.



3. **Use ▲ or ▼ to select a patch.**

   If [6 (Categ)] has a check mark (✔), the list will show the categories. If you press [6 (Categ)] to remove the check mark, the list will show the patch groups.



To switch groups, press [1 (⇑)] [2 (⇓)].

By Pressing [7 (Preview)] you can audition the sound of the patch, by means of a phrase preselected as being suitable for that particular type (category) of patch (Phrase Preview).

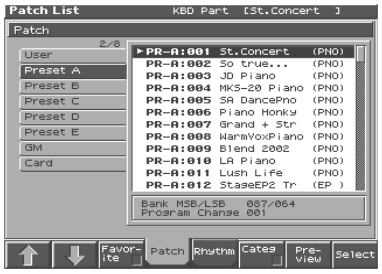
4. Press [8 (Select)] to select the patch.

Auditioning Patches (Phrase Preview)

The Fantom-S allows you to preview patches by hearing a phrase appropriate for each type of patch.

1. Press [PATCH/RHYTHM] to access the Patch Play screen.

2. Press [3 (Patch List)] to access the Patch List screen.



3. Press and hold [7 (Preview)].

The patch selected in the Patch List screen will be sounded.

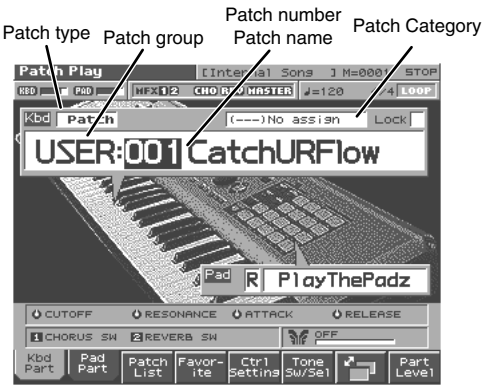
4. Release your finger from [7 (Preview)], and the phrase will stop playing.

☞ If you wish to change how the phrase is played by Phrase Preview, you can edit the Preview Mode parameter (p. 194).

Selecting Patches by Category (Patch Finder)

The Fantom-S provides a "Patch Search function" (Patch Finder) which allows you to specify a type (category) of patch so that you can quickly find the desired patch. There are a total of 38 categories.

1. Press [PATCH/RHYTHM] to access the Patch Play screen.



2. Make sure that the patch type is set to "PATCH."

If this is set to "Rhythm," use [CURSOR] to move the cursor to the switch, and turn the VALUE dial or press [DEC] to select "Patch."

3. Use [CURSOR] to move the cursor to the "Patch Category," and turn the VALUE dial, or press [INC]/[DEC] to select the desired category.

4. Press ▶ to move the cursor to "Lock," and turn the VALUE dial or press [INC] to add a check mark (✔).

5. Use [CURSOR] to move the cursor to the patch group or patch number, and turn the VALUE dial or use [INC]/[DEC] to select the patch.

When the cursor is located at the Patch group, you can select the group. When the cursor is located at the Patch number, you can specify the number.

The following categories can be selected.

Category		Contents
- - -	No Assign	No assign
PNO	AC.Piano	Acoustic Piano
EP	EL.Piano	Electric Piano
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
AGT	AC.Guitar	Acoustic Guitar
EGT	EL.Guitar	Electric Guitar
DGT	DIST.Guitar	Distortion Guitar
BS	Bass	Acoustic & Electric Bass
SBS	Synth Bass	Synth Bass
STR	Strings	Strings
ORC	Orchestra	Orchestra Ensemble
HIT	Hit&Stab	Orchestra Hit, Hit
WND	Wind	Winds (Oboe, Clarinet etc.)
FLT	Flute	Flute, Piccolo
BRS	AC.Brass	Acoustic Brass
SBR	Synth Brass	Synth Brass
SAX	Sax	Sax
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
BPD	Bright Pad	Bright Pad Synth
SPD	Soft Pad	Soft Pad Synth
VOX	Vox	Vox, Choir
PLK	Plucked	Plucked (Harp etc.)
ETH	Ethnic	Other Ethnic
FRT	Fretted	Fretted Inst (Mandolin etc.)
PRC	Percussion	Percussion
SFX	Sound FX	Sound FX
BTS	Beat&Groove	Beat and Groove
DRM	Drums	Drum Set
CMB	Combination	Other patches which use Split and Layer

Registering a Favorite Patch (Favorite Sound)

You can bring together your favorite and most frequently used patches in one place by registering them in the Favorite sound. By using this function you can rapidly select favorite patches from internal memory or a Wave Expansion Board. You can register a total of 64 sounds (8 sounds x 8 banks) as favorite sounds.

For details on selecting a favorite sound, refer to **"Selecting Favorite Patches (Favorite Sound)"** (p. 28).

Using [1]–[8] to Register

1. **Press [PATCH/RHYTHM] to access the Patch Play screen to select the patch that you wish to register (p. 27).**
2. **Press [4 (Favorite)].**

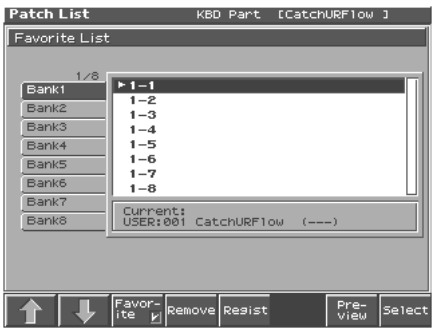
3. **Turn the VALUE dial or press [INC]/[DEC] to select the Bank.**
4. **Hold down [SHIFT] and press [1]–[8] to execute the registration.**

   The patch will be registered to the button you pressed.
5. **When you have finished registering, press [EXIT].**

Using the Favorite List Screen to Register

1. **Press [PATCH/RHYTHM] to access the Patch Play screen to select the patch that you wish to register (p. 27).**
2. **Press [3 (Patch List)].**
3. **Press [3 (Favorite)].**

   The Favorite List screen appears.



4. **Press [1 (⇑)] or [2 (⇓)] to select the Bank.**
5. **Press ▲ or ▼ to select a favorite number.**
6. **Press [5 (Regist)] to execute the registration.**

   The patch will be registered to the button you pressed.
7. **When you have finished registering favorite sounds, press [EXIT] to close the Favorite List screen.**

HINT

By pressing [7 (Preview)] you can audition the sound of the registered patch (Phrase Preview).

Canceling a patch registration

By pressing [4 (Remove)] you can cancel the patch registration that is selected in the Favorite List screen.

Registering Favorite Rhythm Sets (Favorite Sound)

You can bring together your favorite and most frequently used rhythm sets in one place by registering them in the Favorite sound. By using this function you can rapidly select favorite rhythm sets from internal memory or a Wave Expansion Board. You can register a total of 64 sounds (8 sounds x 8 banks) as favorite sounds.

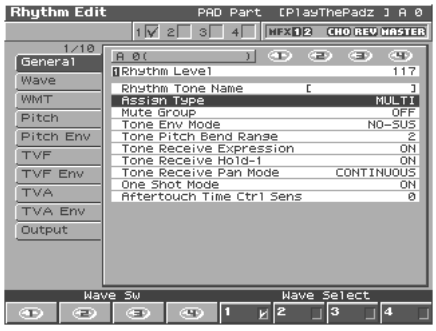
For details on selecting a favorite sound, refer to ""**Selecting Favorite Patches (Favorite Sound)**" (p. 28).

Using [1]–[8] to Register

1. **Press [PATCH/RHYTHM] to access the Patch Play screen, and select the rhythm set that you wish to register (p. 37).**
2. **Press [4 (Favorite)].**
3. **Turn the VALUE dial or press [INC]/[DEC] to select the Bank.**
4. **Hold down [SHIFT] and press [1]–[8] to execute the registration.**
   The rhythm set will be registered to the button you pressed.
5. **When you have finished registering, press [EXIT].**

Using the Favorite List Screen to Register

1. **Press [PATCH/RHYTHM] to access the Patch Play screen, and select the rhythm set that you wish to register (p. 37).**
2. **Press [3 (Patch List)].**
3. **Press [3 (Favorite)].**
   The Favorite List screen appears.



4. **Press [1 (⇑)] or [2 (⇓)] to select the Bank.**
5. **Press ▲ or ▼ to select favorite number.**
6. **Press [5 (Regist)] to execute the registration.**
   The rhythm set will be registered to the button you pressed.
7. **When you have finished registering favorite sounds, press [EXIT] to close the Favorite List screen.**

HINT

By pressing [7 (Preview)] you can audition the sound of the registered rhythm set (Phrase Preview).

Canceling a patch registration

By pressing [4 (Remove)] you can cancel the patch registration that is selected in the Favorite List screen.

Transposing the Keyboard in Octave Units (Octave Shift)

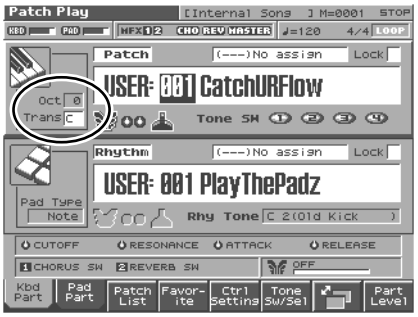
The **Octave Shift** function transposes the pitch of the keyboard in 1 octave units (-3– +3 octaves).

For playing a bass part more easily using your right hand, transpose the keyboard down by 1 or 2 octaves.

* *Octave Shift applies only to the keyboard part.*

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [7] to switch the Patch Play screen.**
3. **Press KEYSHIFT [-OCT] or [+OCT] to set the amount of transposition (-3–+3).**
   The button will light if this is set.

* *Each time you press [+OCT], the amount of transposition will change in the order of +1, +2, and +3. Each time you press [-OCT], the amount of transposition will change in the order of -1, -2, and -3. If you press both buttons simultaneously, the amount of movement will be zero.*



NOTE

There is a single Octave Shift setting (Setup parameter) for the entire Fantom-S. The changed setting will be remembered even if you switch patches or performances.

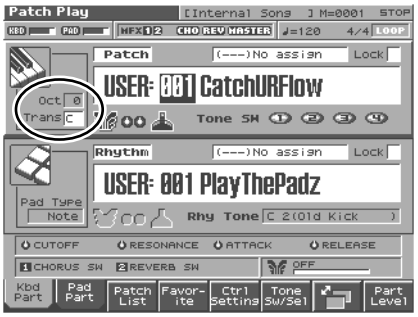
Transposing the Keyboard in Semitone Steps (Transpose)

Transpose changes keyboard pitch in units of semitones.

This function is useful when you play transposed instruments such as trumpet or clarinet following a printed score.

* *Transpose applies only to the keyboard part.*

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [1 (Kbd Part)] to move the cursor to the keyboard part.**
3. **Press [7] to switch the Patch Play screen.**
4. **Use [CURSOR] to move the cursor to "Trans."**



5. **Either turn the VALUE dial or use [INC]/[DEC] to adjust the Transpose setting (G–F#: -5–+6 semitones).**

NOTE

There is a single Transpose setting (Setup parameter) for the entire Fantom-S. The changed setting will be remembered even if you switch patches or performances.

HINT

If you assign "Transpose Up" "Transpose Down" as a function to be controlled by the realtime assignable switches ([ ]/[ ]), you can easily change the Transpose by pressing these buttons (p. 101).

Selecting the Tones That Will Sound (Tone On/Off)

Since a patch is a combination of up to four tones, you can switch unwanted (tones out of the four) off and get just the sound of a specific tone.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [1 (Kbd Part)] or [2 (Pad Part)] to move the cursor to the pad part or the keyboard part.**
3. **Press [6 (Tone Sw/Sel)].**

4. **Press [1 (Tone Sw)]/[4 (Tone Sw)] to turn each tone on/off. The setting will switch on/off each time you press the button.**
5. **Press [EXIT] to close the window.**

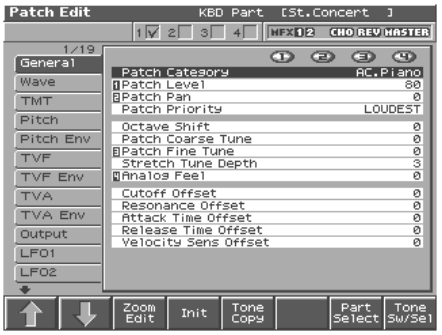
HINT

If you want just one or two tones to sound in a patch, turn the others off and store that setting on a patch. This cuts nonessential use of the Fantom-S's simultaneous voices.

Playing Single Notes (Mono)

When using a patch for a naturally monophonic instrument such as sax or flute, it is effective to play in mono.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [1 (Kbd Part)] to move the cursor to the keyboard part.**
3. **Press [EDIT] to access the Patch Edit screen.**
4. **Press [1 (⇑)] or [2 (⇓)] to select the "Solo/Porta" tab.**
   A screen like the one shown below appears.



5. **Press ▲ or ▼ to move the cursor to "Mono/Poly."**
6. **Turn the VALUE dial or press [DEC] to select "MONO."**
   Now you can play in mono mode.

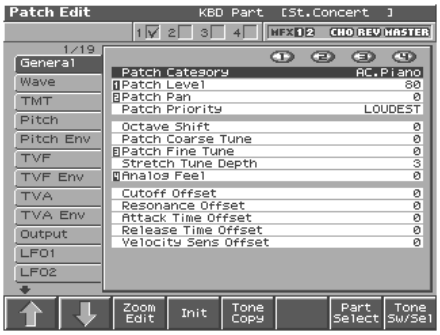
HINT

If you assign "Mono/Poly" as a function to be controlled by the assignable switch ([ ]/[ ]), you can easily switch between mono/poly by pressing a button (p. 101).

Creating Smooth Pitch Changes (Portamento)

Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. By applying portamento when Mono mode is selected (see the preceding item), you can simulate performance effects such as slurring on a violin.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [1 (Kbd Part)] to move the cursor to the keyboard part.**
3. **Press [EDIT] to access the Patch Edit screen.**
4. **Press [1 (⇑)] or [2 (⇓)] to select the "Solo/Porta" tab.**
   A screen like the one shown below appears.



When you press [7 (Zoom Edit)], the Solo Synth Zoom Edit screen will appear, which displays the above parameters in graphical fashion, simulating an analog synthesizer. To exit from this screen, press [8 (Exit)] or [EXIT].

5. **Press ▲ or ▼ to move the cursor to "Portamento Switch."**
6. **Turn the VALUE dial or press [INC] to select "ON."**
   You're ready to play portamento.
7. **When you want to change the portamento setting, edit the following parameters in the screen of step 6.**
   Portamento Mode, **Portamento Type**, **Portamento Start**, **Portamento Time**

See p. 59 for each parameter's functions.

8. **Press [EXIT] to return to the Patch Play screen and play.**

HINT

If you assign "Portamento" as a function to be controlled by the assignable switches ([1]/[2]), you can use a button to easily turn portamento on/off (p. 101).

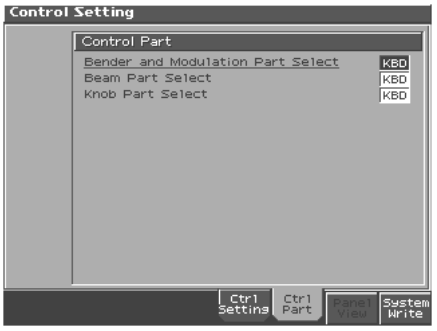
Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)

The Fantom-S lets you assign the parameters that will be affected when you operate the realtime control knobs, assignable switches, D Beam, pitch bend, or modulation lever. This lets you modify the sound in a variety of ways by operating the controllers.

Specifying the Part that Will be Affected by the Controller

You can specify whether operating the controller will affect the sound assigned to the keyboard part or the sound assigned to the pad part.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [5 (Ctrl Setting)].**
3. **Press [6 (Ctrl Part)].**



4. **Use [CURSOR] to select the parameter.**
5. **Either turn the VALUE dial or use [INC][DEC] to turn the setting.**
6. **If you want to keep the settings, press [8 (System Write)].**
7. **When you have finished making settings, press [EXIT] to return to the Patch Play screen.**

NOTE

When Patch mode is selected, controller settings cannot be saved for each individual patch. Controller settings are saved as system settings.

Bender and Modulation Part Select

Selects the part that will be controlled by pitch bend messages or modulation messages.

Value: KBD, PAD

Beam Part Select

Selects the part that will be controlled by the D Beam.

Value: KBD, PAD

Knob Part Select

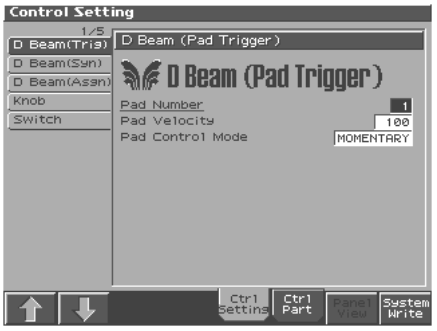
Selects the part that will be controlled by the realtime control knobs.

Value: KBD, PAD

Assigning a Parameter to a Controller

Here's how to specify the parameter that will be affected when you operate a controller.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [5 (Ctrl Setting)].**
3. **Press [5 (Ctrl Setting)].**



4. **Press [1 (⇑)] or [2 (⇓)] to select the parameter.**
5. **Use [CURSOR] to move the cursor to the parameter.**
6. **Either turn the VALUE dial or use [INC][DEC] to set the value.**
7. **If you want to keep the settings, press [8 (System Write)].**

NOTE

When Patch mode is selected, controller settings cannot be saved for each individual patch. Controller settings are saved as system settings.

8. **When you have finished making settings, press [EXIT] to return to the Patch Play screen.**

You can jump directly to various setting screens by holding down the [JUMP] and operating the following buttons or knobs.

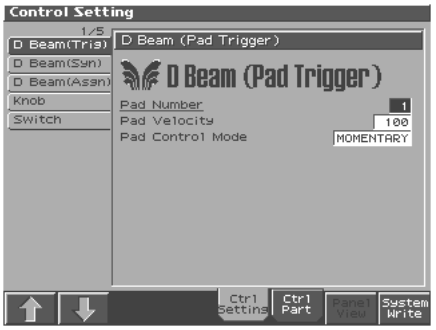
- Button at the right of the realtime control knobs
- Assignable switch
- D BEAM ASSGINABLE button

D Beam (Pad Trigger)

Instead of striking the pads themselves, you can also use the D Beam controller to control the sounding of the pads.

HINT

Settings for the PAD trigger are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.



For details on the setting, refer to **"Assigning a Parameter to a Controller"** (p. 34).

Pad Number

Specifies the pad number affected by the D Beam.

Value: 0–16

Pad Velocity

Specifies the strength of the pad sound played by the D Beam controller.

Value: 1–127

Pad Control Mode

This specifies how the D Beam will behave when it is obstructed. If this is set to MOMENTARY, the parameter will be on only while the D Beam is obstructed, and will turn off when you stop obstructing it. If this is set to LATCH, the parameter will alternately be switched on/off each time you obstruct the D Beam.

Value: MOMENTARY, LATCH

D Beam (Solo Synth)

You can use the D Beam controller to perform in a way similar to on a mono synth.

For details on the setting, refer to **"Assigning a Parameter to a Controller"** (p. 34).

HINT

When you press [7 (Panel View)], the Panel View screen will appear, which displays the above parameters in graphical fashion, simulating an analog synthesizer. From the Panel View screen, you can press [2 (Image View)] to open the Image View screen, where you can see a graphical indication of the D Beam output value. Press [EXIT] to leave this screen. To exit from this screen, press [EXIT].

OSC 1/2 Waveform

Select the waveform. **SAW** is a sawtooth wave, and **SQR** is a square wave.

Value: SAW, SQR

OSC 1/2 Pulse Width

Specifies the pulse width of the waveform. By cyclically modifying the pulse width you can create subtle changes in the tone.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: 0–127

OSC 1/2 Coarse Tune

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

Value: -48–+48

OSC 1/2 Fine Tune

Adjusts the pitch of the tone's sound up or down in 1-cent steps (+/-50 cents).

Value: -50–+50

OSC2 Level

Adjust the OSC2 level.

Value: 0–127

OSC Sync Switch

Turning this switch on produces a complex sound with many harmonics. This is effective when the OSC1 pitch is higher than the OSC2 pitch.

Value: OFF, ON

Filter Type

Selects the type of filter.

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency (Cutoff Frequency). in order to round off, or un-brighten, the sound. This is the most common filter used in synthesizers.

BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.

HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher ones.

PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

Cutoff

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

Value: 0–127

Resonance

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Value: 0–127

Level

Sets the volume.

Value: 0–127

Chorus Send Level

Sets the level of the signal sent to chorus.

Value: 0–127

Reverb Send Level

Sets the level of the signal sent to reverb.

Value: 0–127

LFO Rate

Adjusts the modulation rate, or speed, of the LFO.

Value: 0–127

LFO Osc 1 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC1 pitch.

Value: -63–+63

LFO Osc 2 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC2 pitch.

Value: -63–+63

LFO Osc 1 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC1 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

LFO Osc 2 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC2 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

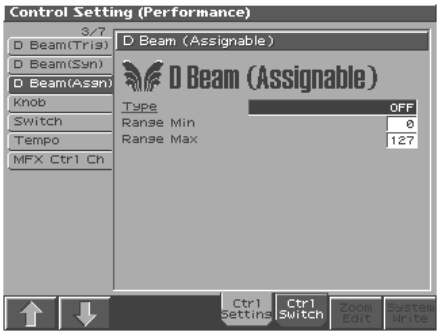
Range (Solo synth range)

Specifies the range in which the pitch of the solo synth will vary.

Value: 2 OCTAVES, 4 OCTAVES, 8 OCTAVES

D Beam (Assignable)

By assigning a variety of functions to the D Beam controller you can apply different effects to the sound in real time.



☞ For details on the setting, refer to **"Assigning a Parameter to a Controller"** (p. 34).

Assignable Type

Specifies the function controlled by the D Beam controller.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

Bend Up: Raises the pitch in semitone steps (up to 4 octaves higher).

Bend Down: Lowers the pitch in semitone steps (up to 4 octaves lower).

Start/stop: Starts/Stops the sequencer.

TAP Tempo: Tap tempo (a tempo specified by the interval at which you move your hand over the D Beam controller).

Arp Grid: Arpeggio Grid

Arp Duration: Arpeggio Duration

Arp Motif: Arpeggio Motif

Arp Oct Up: The range in which the arpeggio is sounded will rise in steps of an octave (maximum 3 octaves).

Arp Oct Down: The range in which the arpeggio is sounded will lower in steps of an octave (maximum 3 octaves).

Range Min (D Beam Range Lower)

Specify the lower limit of the range of the D Beam controller.

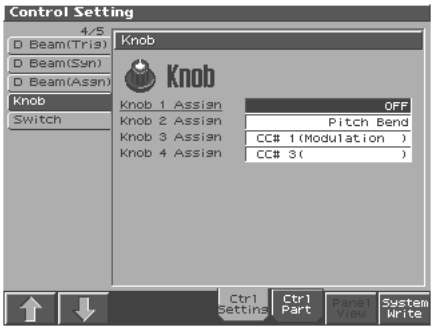
Value: 0–127

Range Max (D Beam Range Upper)

Specify the upper limit of the range of the D Beam controller.
By setting Range Max below Range Min you can invert the range of change.

Value: 0–127

Knob



☞ For details on the setting, refer to **"Assigning a Parameter to a Controller"** (p. 34).

MEMO Knob parameters are valid only when the REALTIME CONTROL button is set to "ASSIGNABLE."

Knob Assign 1–4 (Realtime Control Knob Assign 1–4)

Specify the functions that will be controlled by the [ ] knobs.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

Pitch Bend: Pitch Bend

Aftertouch: Aftertouch

Arp Style: Arpeggio Style

Arp Grid: Arpeggio Grid

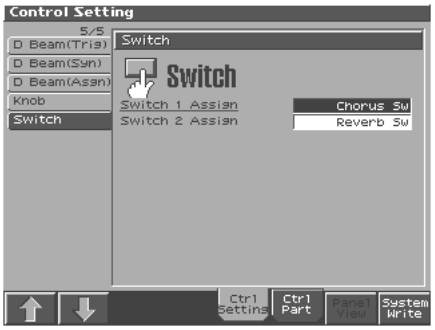
Arp Duration: Arpeggio Duration

Arp Motif: Arpeggio Motif

Chord Form: Chord Form

Master Level: The volume of the entire Fantom-S.

Switch



For details on the setting, refer to **"Assigning a Parameter to a Controller"** (p. 34).

NOTE

Assignable switches are valid only when the keyboard part is selected.

Switch 1/2 (Assignable Switch 1–2)

Specify the functions that will be controlled by the [1]/[2] buttons.

Value

Transpose Down: Lowers the key range in semitone steps (up to 5 semitones lower).

Transpose Up: Raises the key range in semitone steps (up to 6 semitones higher).

Tap Tempo: Tap tempo (a tempo specified by the interval at which you press the button).

Mono/Poly: Pressed to toggle between polyphonic (POLY) and monophonic (MONO) play of a patch.

Portamento: Portamento On/Off

Hold: Hold play On/Off

MFX1–3 Sw: Multi-effect 1–3 switch

Chorus Sw: Chorus switch

Reverb Sw: Reverb switch

Mastering Sw: Mastering switch

Loop: Loop play On/Off

Rhythm Start/Stop: Rhythm pattern playback On/Off

Playing Percussion Instruments

In Patch mode, you can play percussion instruments from the keyboard and pad by selecting a rhythm set. As the rhythm tone assigned to each key and pad varies by the rhythm set selected, you can play a wide range of percussion instruments.

Selecting a Rhythm Set

The Fantom-S has four rhythm set groups, including the User group, Preset group and GM group, with 32 rhythm sets in the User group, 32 rhythm sets in Preset group, and 9 rhythm sets in GM group. Rhythm sets can also be saved on a memory card. What's more, you can further expand your options by installing up to three optional Wave Expansion Boards (four SRX series), enabling you to select from a large selection of rhythm sets.

USER

This is the group inside the Fantom-S which can be rewritten. rhythm sets you yourself create can be stored in this group. The Fantom-S includes 32 preset rhythm sets.

PRST (Preset)

This is the group inside the Fantom-S which cannot be rewritten. However, you can modify the settings of the currently selected rhythm set, and then save the modified settings in User memory. The Fantom-S contains 32 preset rhythm sets.

CARD (Memory Card)

This group lets you use patches stored on a memory card inserted in the rear panel card slot. Since the data in this group can be rewritten, you can use this group to store patches that you create.

GM (GM2)

This is an internal group of rhythm sets compatible with General MIDI 2, a system of MIDI function specifications designed to transcend differences between makers and types of devices; these rhythm sets cannot be overwritten. Furthermore, settings of currently selected rhythm sets from this group cannot be changed. The Fantom-S includes nine preset rhythm sets.

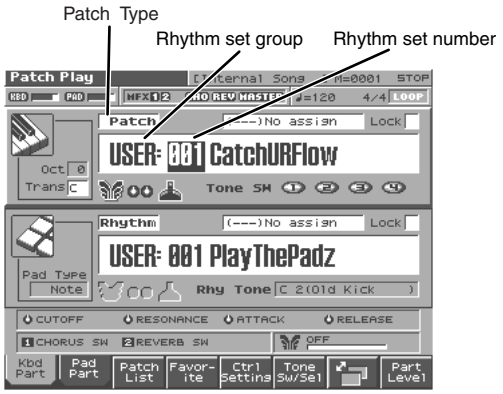
XP-A–D (Wave Expansion Boards installed in EXP-A–D Slots)

These groups are for when using rhythm sets from a Wave Expansion Board installed in slots EXP A–D, and cannot be rewritten. However, you can modify the settings of the currently selected rhythm set, and then save the modified settings in User memory and Memory card. The number of onboard rhythm sets depends on the specific Wave Expansion Boards installed.

NOTE

A Rhythm Set XP-A–D cannot be accessed if the Wave Expansion Board (SRX series: sold separately) it belongs to has not been installed.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [1 (Kbd Part)] or [2 (Pad Part)] to select the pad part or the keyboard part.**



* *Make sure that the Patch Type is set to "Rhythm."* If this is set to "Patch," use [CURSOR] to move the cursor to the switch, and turn the VALUE dial or press [INC] to select "Patch." *With the cursor located at "Patch (Rhythm)," press [ENTER] to open the Patch Type window. You can also use CURSOR to select "Rhythm (Patch)" and then press [8 (Select)] to make the selection.*

3. **Press ◀ to move the cursor to the rhythm set group.**
4. **Turn the VALUE dial or press [INC]/[DEC] to select the rhythm set group.**

   USER: User
   PRST: Preset
   CARD: Memory card
   GM: Preset GM (GM2)
   XP-A–D: Wave Expansion Boards installed in EXP-A–D Slots
5. **Press ▶ to move the cursor to the rhythm set number.**
6. **Turn the VALUE dial or press [INC]/[DEC] to select the rhythm set number.**
7. **If you selected a rhythm set for the pad part, play the pads to hear the sound. If you selected a rhythm set for the keyboard part, play the keyboard to hear the sound.**

HINT

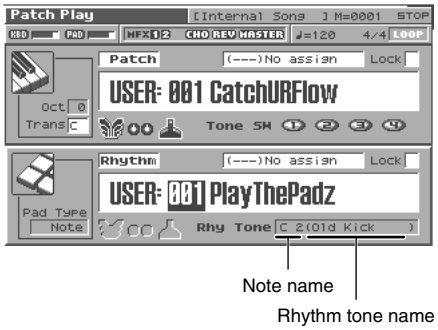
You can select favorite rhythm sets in the same way as when selecting patches. For details on the procedure, refer to **"Selecting Favorite Patches (Favorite Sound)"** (p. 28).

Playing a Rhythm Set

1. **Press [PATCH/RHYTHM] to access the Patch Play screen, and then press [7].**

   The Patch Play screen switches.
2. **Press [1 (Kbd Part)] or [2 (Pad Part)] to select the part. Select the rhythm set that you wish to play.**
3. **Press a key or a pad on the keyboard to play a percussion instrument.**

   Below the rhythm set name, the screen shows the note name of the key you pressed, and the name of the percussion instrument (rhythm tone name) assigned to that key.



Creating a Patch

With the Fantom-S, you have total control over a wide variety of settings. 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**. This chapter explains the procedures used in creating patches, and the functions of the patch parameters.

How to Make the Patch Settings

Start with an existing patch and edit it to create a new patch. Since a patch is a combination of up to any four tones, you should listen to how the individual tones sound before you edit.

Four Tips for Editing Patches

● Select a patch that is similar to the sound you wish to create (p. 27**).**

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.

● Decide which tones will sound (p. 32**).**

When creating a patch, it is important to decide which tones you are going to use. In the Patch Edit screen, set Tone Switch 1–4 to specify whether each tone will sound (on), or not (off). It is also important to turn off unused tones to avoid wasting voices, unnecessarily reducing the number of simultaneous notes you can play.

● Check the Structure setting (p. 46**).**

The important Structure parameter determines how the four tones combine. Before you select new tones, make sure you understand how the currently selected tones are affecting each other.

● Turn Effects off (p. 175**).**

Since the Fantom-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.

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and patch whose settings you want to edit (p. 27).

NOTE

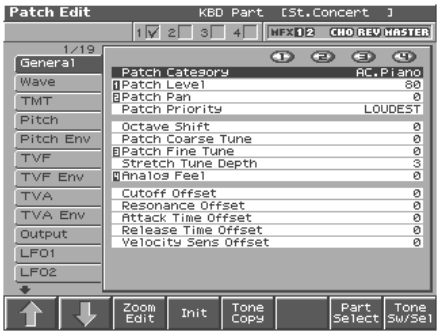
You cannot edit the patches in the GM2 group.

HINT

If you want to create all your patches from the ground up, rather than the patches that have already been prepared, carry out the **Initialize** operation (p. 40).

2. Press [EDIT].

The Patch Edit screen appears.



3. The parameters are organized into several editing groups. Press [1 (⇑)] or [2 (⇓)] to select the tab for the editing group that contains the parameter you wish to edit.

☞ For details on how the parameters are grouped, refer to **"Parameter list"** (Parameter List).

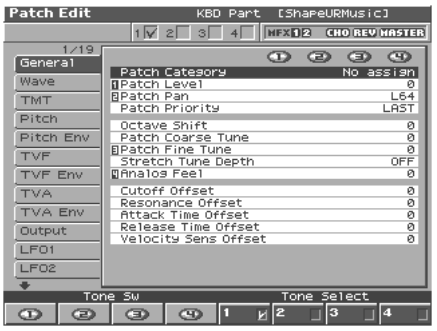
- **To change the part that you want to edit**

  Press [7 (Part Select)].

4. Press ▲ or ▼ to move the cursor to the parameter you wish to modify.

5. Press [8 (Tone Sw/Sel)] to select the tone that you want to edit.

The Tone Sw Select window appears.



Press any one of the [5 (Tone Select)]–[8 (Tone Select)] buttons to select the tone that you want to edit.

- **Simultaneously editing the same parameter of multiple tones**

  Simultaneously press two or more of the [5 (Tone Select)]–[8 (Tone Select)] buttons to select the tones that you want to edit at the same time. When a tone is on, a check mark (✔) will be displayed.

- **To switch a tone on/off**

  Press a [1 (Tone Sw)]–[4 (Tone Sw)] button to switch the corresponding tone on/off.

* *Press ◀ or ▶, you can select the tone.*

6. When you have made your selection, press [EXIT].

7. Turn the VALUE dial or press [INC]/[DEC] to get the value you want.

If you've selected two or more tones, your editing will modify the parameter values for all selected tones by the same amount.

8. Repeat steps 5–7 to complete a patch.

9. If you wish to save the changes you've made, press [WRITE] to perform the Save operation (p. 42). If you do not wish to save changes, press [EXIT] to return to the Patch Play screen.

If you return to the Patch Play screen without saving, an "*" will be displayed at the left of the patch number, indicating that the patch settings have been edited.

NOTE

If you turn off the power or select a different sound while the display indicates "*," your edited patch will be lost.

HINT

You can also select the edit group by holding down [SHIFT] and pressing ▲ or ▼. It is convenient to use this feature when the Tone SW/Select window is displayed.

Editing in a Graphic Display (Zoom Edit)

You can edit while viewing a graphic display of the most frequently used important parameters.

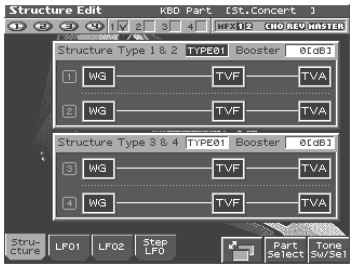
Zoom Edit lets you edit the following parameters.

Parameter	page	Parameter	page
Pitch Envelope	p. 50	TVA Envelope	p. 54
TVF	p. 50	Structure Type	p. 46
TVF Envelope	p. 52	LFO 1/2	p. 56
TVA Envelope	p. 54		

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and patch that you want to edit.

2. Press [EDIT], and then press [3 (Zoom Edit)].

The Zoom Edit screen will appear.



3. The parameters are organized into several edit groups. Press [1]–[4] to select the tab for the parameters that you want to edit.

- **To switch the parameter you want to edit**

  Press [6].

- **To switch to a different part for editing**

  Press [7 (Part Select)].

- **To select a tone for editing or switch a tone on/off**

  Press [8 (Tone Sw/Sel)].

4. Use [CURSOR] to move the cursor to the parameter that you want to edit.

You can use the realtime control knob to set the value.

5. Turn the VALUE dial or use [INC][DEC] to modify the value.

6. When you have finished editing, press [EXIT].

Initializing Patch Settings (Init)

"Initialize" means to return the settings of the currently selected sound to a standard set of values.

NOTE

The Initialize operation will affect only the currently selected sound; the sounds that are stored in user memory will not be affected. If you wish to restore all of the Fantom-S's settings to their factory values, perform a Factory Reset (p. 196).

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and patch that you want to initialize (p. 27).

2. Press [EDIT].

3. Press [4 (Init)].

A message will ask you for confirmation.

4. Press [8 (Exec)].

The initialization will be carried out, and you'll be returned to the Patch Edit screen.

To cancel, press [7 (Cancel)].

Copying Patch (Tone) Settings (Copy)

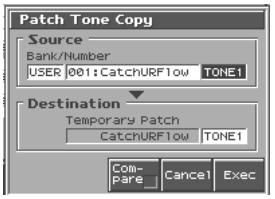
This operation copies the settings of any desired patch to the currently selected patch. You can use this feature to make the editing process faster and easier.

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) that you want to edit and the copy-destination patch (p. 27).

2. Press [EDIT].

3. Press [5 (Tone Copy)].

The Patch Copy window appears.



4. Press [CURSOR] to move the cursor, select the "Source (copy-source)" bank and number, and patch/tone.

5. Turn the VALUE dial or use [INC][DEC] to make settings.

6. Press [CURSOR] to move the cursor, select the "Destination (copy-destination)" patch/tone/number.

7. Turn the VALUE dial or use [INC][DEC] to make settings.

8. Press [8 (Exec)].

A message will ask you for confirmation.

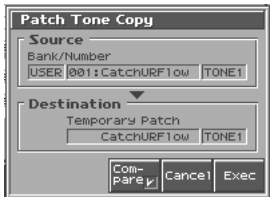
9. Press [8 (Exec)] to return to the Patch Edit screen.

To cancel, press [7 (Cancel)].

The Compare Function

For the Patch Effect Copy and Patch Tone Copy operations, you can use the Compare function.

If you want to play the copy-source patch, press [6 (Compare)] to add a check mark. Now you can play the copy-source patch from the keyboard or pad.



NOTE

The patch auditioned using the Compare function may sound slightly different than when it is played normally.

Cautions When Selecting a Waveform

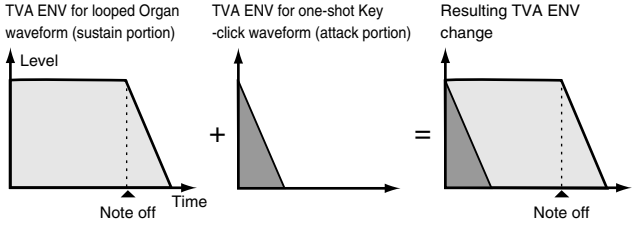
The sounds of the Fantom-S are based on complex PCM waveforms, and if you attempt to make settings that are contrary to the type of the original waveform, the results will not be as you expect.

The internal waveforms of the Fantom-S fall into the following two groups.

One-shot: These waveforms contain sounds that have short decays. A one-shot waveform records the initial rise and fall of the sound. Some of the Fantom-S's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The Fantom-S also contains many other one-shot waveforms that are elements of other sounds. These include attack components such as piano-hammer sounds and guitar fret noises.

Looped: These waveforms include sounds with long decays as well as sustained sounds. Loop waveforms repeatedly play back (loop) the portion of the waveform after the sound has reached a relatively steady state. The Fantom-S's looped waveforms also include components of other sounds, such as piano-string resonant vibrations and the hollow sounds of brass instruments.

The following diagram shows an example of sound (electric organ) that combines one-shot and looped waveforms.

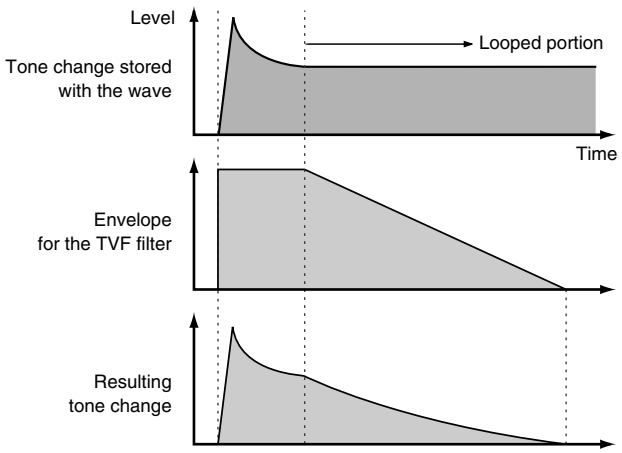


Cautions When Using a One-shot Waveform

It is not possible to use the envelope to modify a one-shot waveform to create a decay that is longer than the original waveform, or to turn it into a sustaining sound. If you were to program such an envelope, you would be attempting to shape a portion of the sound that simply doesn't exist, and the envelope would have no effect.

Cautions When Using a Loop Waveform

With many acoustic instruments such as piano and sax, extreme timbral changes occur during the first few moments of each note. This initial attack is what defines much of the instrument's character. For such waveforms, it is best to use the complex tonal changes of the attack portion of the waveform just as they are, and to use the envelope only to modify the decay portion. If you attempt to use the envelope to modify the attack portion as well, the characteristics of the original waveform may prevent you from getting the sound that you intend.



Saving Patches You've Created (Write)

Changes you make to sound settings are temporary, and will be lost if you turn off the power or select another sound. If you want to keep the modified sound, you must save it in the internal USER group (user memory)

When you edit the patch settings, an "*" will appear in the Patch Play screen.

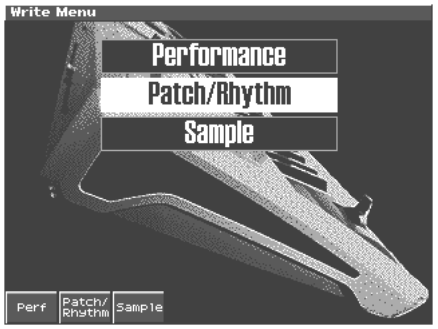
NOTE

When you perform the save procedure, the data that previously occupied the save destination will be lost.

1. Make sure that the patch you wish to save is selected.

2. Press [WRITE].

The Write Menu screen appears.



3. Press [2 (Patch/Rhythm)].

* *Alternatively, you can use ▲ or ▼ to select "Patch/Rhythm," and then press [ENTER].*

The Patch Write screen appears.

4. Assign a name to the patch.

- [1 (Change Type)]: Selects the type of character. Each time you press this, you will alternately select the first character of a character set: uppercase (A), lowercase (a), or numerals and symbols (0).
- [2 (Delete)]: Deletes the character at the cursor location, and moves the subsequent characters one space forward.
- [3 (Insert)]: Inserts a space at the cursor location.
- ▲ or ▼ :Move the cursor.
- [VALUE dial] [INC][DEC]:Selects a character.

* *If you decide to discard your input, press [7 (Cancel)].*

* *You can use the pads to specify characters (p. 25).*

5. When you have finished inputting the name, press [8 (Write)].

A screen will appear, allowing you to select the write-destination patch.

6. Turn the VALUE dial or use [INC][DEC] and [2 (⇑)][3 (⇓)] to select the write destination and patch number.

The write destination can be either the Fantom-S's internal user area (User), or a memory card (Card).

HINT

By pressing [6 (Compare)] you can check the save-destination patch (Compare function).

7. Press [8 (Write)].

A message will ask you for confirmation.

NOTE

Never switch off the Fantom-S while data is being saved.

8. Press [8 (Exec)] to execute the save operation.

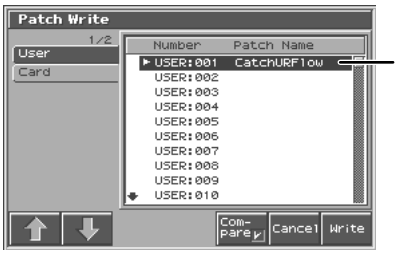
* *To cancel the operation, press [7 (Cancel)].*

Auditioning the Save-Destination Patch (Compare)

Before you save a patch, you can audition the patch which currently occupies the save destination to make sure that it is one you don't mind overwriting. This can help prevent important patches from being accidentally overwritten and lost.

1. Follow the procedure in "Saving Patches You've Created (Write)" through step 6 to select the save destination.

2. Press [6 (Compare)] to add a check mark (✔)



3. Play the keyboard or pad to sound the save destination patch, then check whether you really want to overwrite it.

NOTE

The patch auditioned using the Compare function may sound slightly different than when it is played normally.

4. If you wish to change the save destination, re-specify the save-destination patch by using ▲ or ▼ .

5. Press [8 (Write)].

A message will ask you for confirmation.

6. Press [8 (Exec)] once again to execute the Save operation.

Functions of Patch Parameters

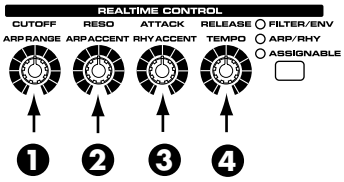
This section explains the functions the different patch parameters have, as well as the composition of these parameters.

MEMO

Parameters marked with a "★" can be controlled using specified MIDI messages (Matrix Control). Settings in the Control screen will determine how these parameters are controlled (p. 61).

If a number is displayed for the parameter name, (❶, ❷, ❸, ❹), you can use the realtime controller knob of the corresponding number (the left most knob is number 1, the right most knob is number 4) to set the value.

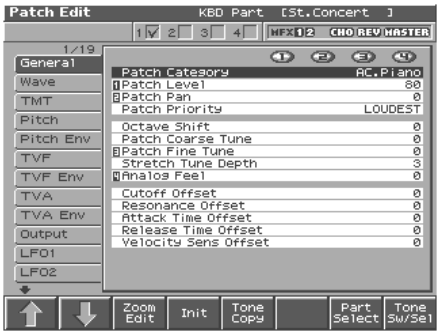
When you enter the Patch Edit screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the parameters of the patch or rhythm set. If you once again press the button located at the right of the Realtime Control knobs to make the indicator light, the knobs will control their original functions. When you exit the Patch Edit screen, the indicator will automatically return to its previous lit state.



MEMO

You can use the same knobs to edit the values in the Zoom Edit screen as well.

Settings Common to the Entire Patch (General)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

Patch Category

Specifies the type (category) of the patch.

It also determines the phrase that will be sounded when using the Phrase Preview function.

For details on the possible category names, refer to (p. 30).

Patch Level ❶

Specifies the volume of the patch.

Value: 0–127

Patch Pan ❷

Specifies the pan of the patch. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

Patch Priority

This determines how notes will be managed when the maximum polyphony is exceeded (64 voices).

Value

LAST: The last-played voices will be given priority, and currently sounding notes will be turned off in order, beginning with the first-played note.

LOUDEST: The voices with the loudest volume will be given priority, and currently sounding notes will be turned off, beginning with the lowest-volume voice.

Octave Shift

Adjusts the pitch of the patch's sound up or down in units of an octave (+/-3 octaves).

Value: -3– +3

Patch Coarse Tune ★

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

Value: -48– +48

Patch Fine Tune ❸

Adjusts the pitch of the patch's sound up or down in 1-cent steps (+/-50 cents).

Value: -50– +50

MEMO

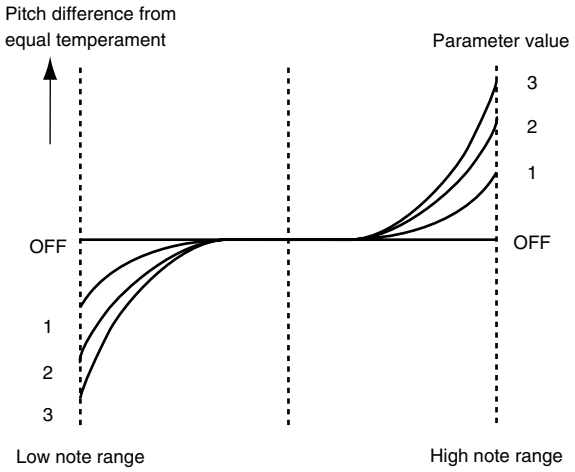
One cent is 1/100th of a semitone.

Stretch Tune Depth

This setting allows you to apply "stretched tuning" to the patch. (Stretched tuning is a system by which acoustic pianos are normally tuned, causing the lower range to be lower and the higher range to be higher than the mathematical tuning ratios would otherwise dictate.) With a setting of "OFF," the patch's tuning will be equal temperament. A setting of "3" will produce the greatest difference in the pitch of the low and high ranges.

Value: OFF, 1–3

The diagram shows the pitch change relative to equal temperament that will occur in the low and high ranges. This setting will have a subtle effect on the way in which chords resonate.



Analog Feel (Analog Feel Depth) ❹

Specifies the depth of 1/f modulation that is to be applied to the patch. (1/f modulation is a pleasant and naturally-occurring ratio of modulation that occurs in a babbling brook or rustling wind.)
By adding this "1/f modulation," you can simulate the natural instability characteristic of an analog synthesizer.

Value: 0–127

Cutoff Offset

Cutoff Frequency Offset alters the cutoff frequency of the overall patch, while preserving the relative differences between the cutoff frequency values set for each tone in the Cutoff Frequency parameters (p. 51).

Range: -63– +63

NOTE

This value is added to the cutoff frequency value of a tone, so if the cutoff frequency value of any tone is already set to "127" (maximum), positive "+" settings here will not produce any change.

Resonance Offset

Resonance Offset alters the resonance of the overall patch, while preserving the relative differences between the resonance values set for each tone in the Resonance parameter (p. 51).

Range: -63– +63

* ***Resonance:*** *emphasizes the overtones in the region of the cutoff frequency, adding character to the sound.*

NOTE

This value is added to the resonance value of a tone, so if the resonance value of any tone is already set to "127" (maximum), positive "+" settings here will not produce any change.

Attack Time Offset

Attack Time Offset alters the attack time of the overall patch, while preserving the relative differences between the attack time values set for each tone in the A-Env Time 1 parameters (p. 54), F-Env Time 1 parameters (p. 52).

Range: -63– +63

* ***Attack Time:*** *The time it takes for a sound to reach maximum volume after the key is pressed and sound begun.*

NOTE

This value is added to the attack time value of a tone, so if the attack time value of any tone is already set to "127" (maximum), positive "+" settings here will not produce any change.

Release Time Offset

Release Time Offset alters the release time of the overall patch, while preserving the relative differences between the release time values set for each tone in the A-Env Time 4 parameters (p. 54), F-Env Time 4 parameters (p. 52).

Range: -63– +63

* ***Release Time:*** *The time from when you take your finger off the key until the sound disappears.*

NOTE

This value is added to the release time value of a tone, so if the release time value of any tone is already set to "127" (maximum), positive "+" settings here will not produce any change.

Velocity Sens Offset (Velocity Sensitivity Offset)

Velocity Sensitivity Offset alters the Velocity Sensitivity of the overall patch while preserving the relative differences between the Velocity Sensitivity values set for each tone in the parameters below.

Cutoff V-Sens parameter (p. 51)

Level V-Sens parameter (p. 53)

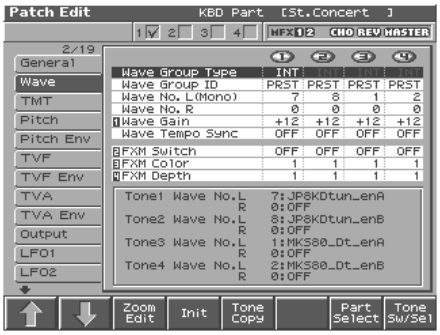
Range: -63– +63

* ***Velocity:*** *Pressure with which the key is pressed.*

NOTE

This value is added to the velocity sensitivity value of a tone, so if the velocity sensitivity value of any tone is already set to "+63" (maximum), positive "+" settings here will not produce any change.

Modifying Waveforms (Wave)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

Wave Group

Selects the group for the waveform that is to be the basis of the tone.

Value

INT: Waveforms stored in internal memory

EXP: Waveform stored in a Wave Expansion Board (SRX series) installed in EXP slots.

SAMP: Sample waveforms

MSAM: Multisample waveforms

NOTE

You cannot select a waveform group of a Wave Expansion Board that is not installed.

Wave Bank

Selects the wave bank.

Value

When the wave group is EXP: A–D

When the wave group is SAMP: PRST, USER, CARD

When the wave group is MSAM: USER, CARD

Wave No. L (Mono) (Wave Number L (Mono)) Wave No. R (Wave Number R)

Selects the basic waveform for a tone. Along with the Wave number, the Wave name appears at the lower part of the display.

When in monaural mode, only the left side (L) is specified. When in stereo, the right side (R) is also specified.

* *When using a multisample in stereo, you must specify the same number for L and R.*

Value: ----, 1–1228 (The upper limit will depend on the wave group.)

Wave Gain ❶

Sets the gain (amplification) of the waveform. The value changes in 6 dB (decibel) steps—an increase of 6 dB doubles the waveform's gain. If you intend to use the Booster to distort the waveform's sound, set this parameter to its maximum value (p. 47).

Value: -6, 0, +6, +12

Wave Tempo Sync

When you wish to synchronize a Phrase Loop to the clock (tempo), set this to "ON." This is valid only when a separately sold wave expansion board is installed, and a waveform that indicates a tempo (BPM) is selected as the sample for a tone.

Value: OFF, ON

NOTE

- If a waveform from a wave expansion board is selected for the tone, turning the Wave Tempo Sync parameter "ON" will cause pitch-related settings (p. 49) and FXM-related settings (p. 45) to be ignored.
- If a sample is selected for a tone, you must first set the BPM (tempo) parameter of the sample.
- If a sample is selected for a tone, Wave Tempo Sync will require twice the normal number of voices.
- When the Wave Tempo Sync parameter is set to "ON," set the Delay Time parameter (p. 60) to "0." With other settings, a delay effect will be applied, and you will be not be able to play as you expect.

Phrase Loop

Phrase loop refers to the repeated playback of a phrase that's been pulled out of a song (e.g., by using a sampler). One technique involving the use of Phrase Loops is the excerpting of a Phrase from a pre-existing song in a certain genre, for example dance music, and then creating a new song with that Phrase used as the basic motif. This is referred to as "Break Beats."

Realtime Time Stretch

If the wave group is "SAMP" or "MSAM," and the Wave Tempo Sync parameter is turned "ON," you can vary the playback speed of the waveform without affecting the pitch.

FXM Switch ❷

This sets whether FXM will be used (ON) or not (OFF).

Value: OFF, ON

FXM

FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.

FXM Color ❸

Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

Value: 1–4

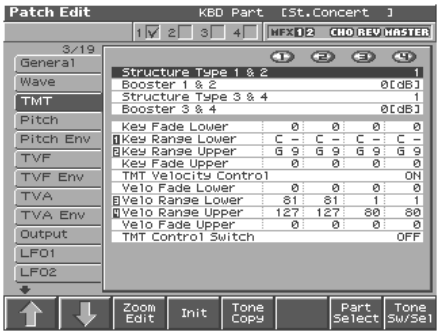
FXM Depth ★ ❹

Specifies the depth of the modulation produced by FXM.

Value: 0–16

Changing How a Tone Is Sounded (TMT)

You can use the force with which keys are played, or MIDI messages to control the way each Tone is played. This is referred to as the Tone Mix Table (TMT).



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

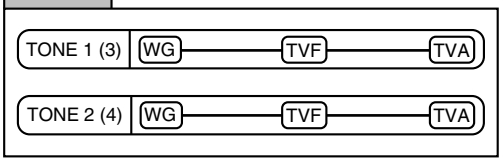
Structure Type 1 & 2, 3 & 4

Determines how tone 1 and 2, or tone 3 and 4 are connected.

Value: 1–10

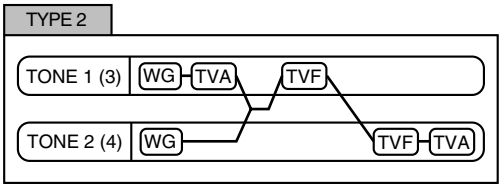
The following 10 different Types of combination are available.

TYPE 1



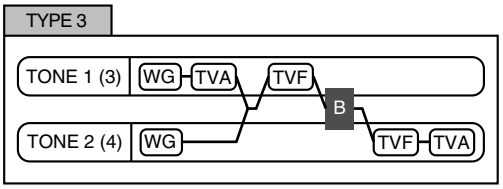
With this type, tones 1 and 2 (or 3 and 4) are independent. Use this type when you want to preserve PCM sounds or create and combine sounds for each tone.

TYPE 2



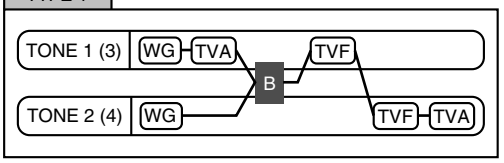
This type stacks the two filters together to intensify the characteristics of the filters. The TVA for tone 1 (or 3) controls the volume balance between the two tones.

TYPE 3



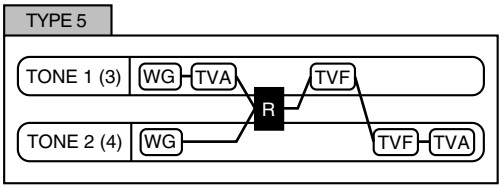
This type mixes the sound of tone 1 (3) and tone 2 (4), applies a filter, and then applies a booster to distort the waveform.

TYPE 4



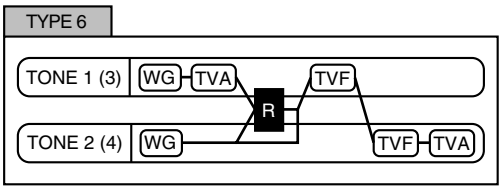
This type applies a booster to distort the waveform, and then combines the two filters. The TVA for tone 1 (or 3) controls the volume balance between the two tones and adjusts booster level.

TYPE 5



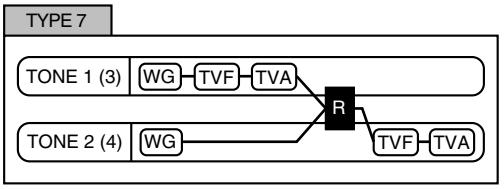
This type uses a ring modulator to create new overtones, and combines the two filters. The tone 1 (3) TVA will control the volume balance of the two tones, adjusting the depth of ring modulator.

TYPE 6



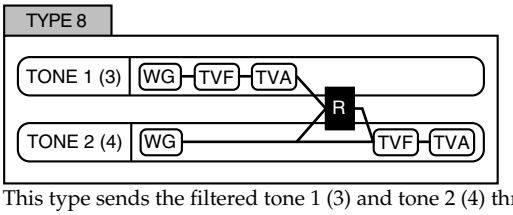
This type uses a ring modulator to create new overtones, and in addition mixes in the sound of tone 2 (4) and stacks the two filters. Since the ring-modulated sound can be mixed with tone 2 (4), tone 1 (3) TVA can adjust the amount of the ring-modulated sound.

TYPE 7



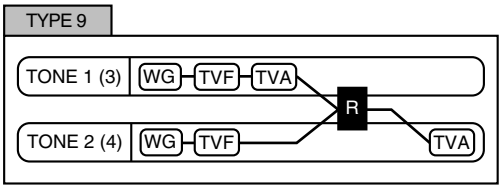
This type applies a filter to tone 1 (3) and ring-modulates it with tone 2 (4) to create new overtones.

TYPE 8

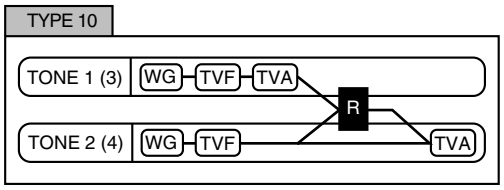


This type sends the filtered tone 1 (3) and tone 2 (4) through a ring modulator, and then mixes in the sound of tone 2 (4) and applies a filter to the result.

TYPE 9



This type passes the filtered sound of each tone through a ring modulator to create new overtones. The tone 1 (3) TVA will control the volume balance of the two tones, adjusting the depth of ring modulator.



This type passes the filtered sound of each tone through a ring modulator to create new overtones, and also mixes in the sound of tone 2 (4). Since the ring-modulated sound can be mixed with tone 2 (4), tone 1 (3) TVA can adjust the amount of the ring-modulated sound.

NOTE

- If you select a tone while on the Structure screen, the tone paired with the selected tone will also be selected.
- When TYPE 2–10 is selected and one tone of a pair is turned off, the other tone will be sounded as TYPE 1 regardless of the displayed setting.
- If you limit the keyboard area in which a tone will sound (Keyboard Range p. 48) or limit the range of velocities for which it will sound (Velocity Range p. 48), the result in areas or ranges where the tone does not sound is just as if the tone had been turned off. This means that if TYPE 2–10 is selected and you create a keyboard area or velocity range in which one tone of a pair does not sound, notes played in that area or range will be sounded by the other tone as TYPE 1 regardless of the displayed setting.

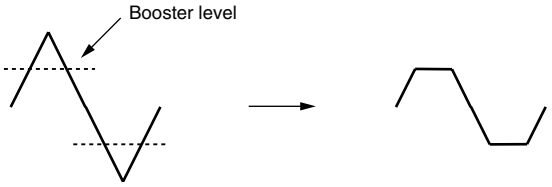
Booster 1&2, 3&4 (Booster Gain)

When a Structure Type of TYPE 3 or TYPE 4 is selected, you can adjust the depth of the booster. The booster increases the input signal in order to distort the sound. This creates the distortion effect frequently used with electric guitars. Higher settings will produce more distortion.

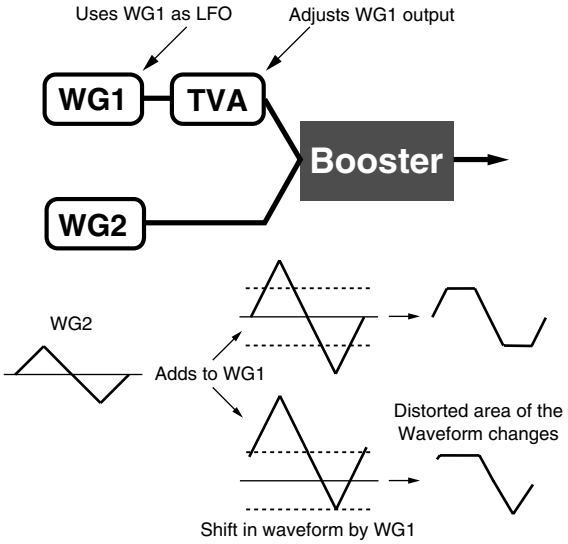
Value: 0, +6, +12, +18

Booster

The Booster is used to distort the incoming signal.



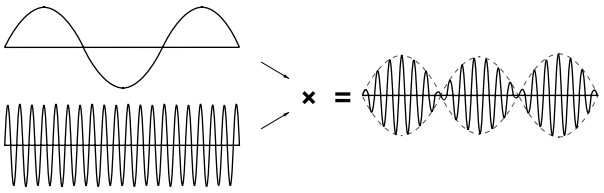
In addition to using this to create distortion, you can use the waveform (WG1) of one of the tones as an LFO which shifts the other waveform (WG2) upward or downward to create modulation similar to PWM (pulse width modulation). This parameter works best when you use it in conjunction with the Wave Gain parameter (p. 45).



Ring Modulator

A ring modulator multiplies the waveforms of two tones with each other, generating many new overtones (inharmonic partials) which were not present in either waveform. (Unless one of the waveforms is a sine wave, evenly-spaced frequency components will not usually be generated.)

As the pitch difference between the two waveforms changes the harmonic structure, the result will be an unpitched metallic sound. This function is suitable for creating metallic sounds such as bells.



Key Fade Lower (Keyboard Fade Width Lower)

This determines what will happen to the tone's level when a note that's lower than the tone's specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the tone to sound at all when a note below the keyboard range is played, set this parameter to "0."

Value: 0–127

Key Range Lower (Keyboard Range Lower) ❶

Specifies the lowest note that the tone will sound for each tone.

Value: C-1–UPPER

Key Range Upper (Keyboard Range Upper) ❷

Specifies the highest note that the tone will sound for each tone.

Value: LOWER–G9

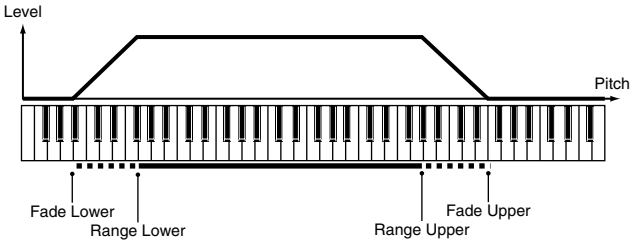
NOTE

If you attempt to raise the lower key higher than the upper key, or to lower the upper key below the lower key, the other value will be automatically modified to the same setting.

Key Fade Upper (Keyboard Fade Width Upper)

This determines what will happen to the tone's level when a note that's higher than the tone's specified keyboard range is played. Higher settings produce a more gradual change in volume. If you don't want the tone to sound at all when a note below the keyboard range is played, set this parameter to "0."

Value: 0–127



TMT Velocity Control (TMT Velocity Control Switch)

TMT Velocity Control determines whether a different tone is played (ON) or not (OFF) depending on the force with which the key is played (velocity).

When set to "RANDOM," the patch's constituent tones will sound randomly, regardless of any Velocity messages.

When set to "CYCLE," the patch's constituent tones will sound consecutively, regardless of any Velocity messages.

Value: OFF, ON, RANDOM, CYCLE

NOTE

Instead of using Velocity, you can also have tones substituted using the Matrix Control (p. 63). However, the keyboard velocity and the Matrix Control cannot be used simultaneously to make different tones to sound. When using the Matrix Control to switch tones, set the Velocity Control parameter to "OFF."

Velo Fade Lower (Velocity Fade Width Lower)

This Determines what will happen to the tone's level when the tone is played at a velocity lower than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to "0."

Value: 0–127

Velo Range Lower (Velocity Range Lower) ❸

This sets the lowest velocity at which the tone will sound. Make these settings when you want different tones to sound in response to notes played at different strengths.

Value: 1–UPPER

Velo Range Upper (Velocity Range Upper) ❹

This sets the highest velocity at which the tone will sound. Make these settings when you want different tones to sound in response to notes played at different strengths.

Value: LOWER–127

NOTE

If you attempt to set the Lower velocity limit above the Upper, or the Upper below the Lower, the other value will automatically be adjusted to the same setting.

MEMO

When using the Matrix Control to have different tones played, set the lowest value (Lower) and highest value (Upper) of the value of the MIDI message used.

Velo Fade Upper (Velocity Fade Width Upper)

This determines what will happen to the tone's level when the tone is played at a velocity greater than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to "0."

Value: 0–127

TMT Control Sw (TMT Control Switch)

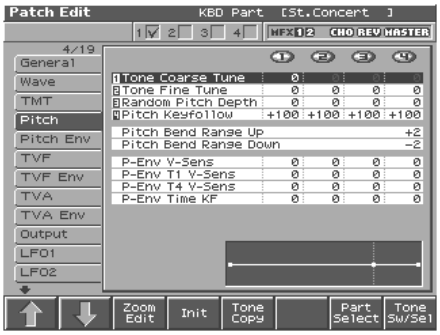
Use the Matrix Control to enable (ON), or disable (OFF) sounding of different tones.

Value: OFF, ON

NOTE

You can also cause different tones to sound in response to notes played at different strengths (velocity) on the keyboard (p. 48). However, the Matrix Control and the keyboard velocity cannot be used simultaneously to make different tones to sound. When you want to make the different tones to sound, set the Velocity Control parameter (p. 48) to "OFF."

Modifying Pitch (Pitch/Pitch Env)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

Tone Coarse Tune ★ ❶

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

Value: -48– +48

Tone Fine Tune ★ ❷

Adjusts the pitch of the tone's sound up or down in 1-cent steps (+/-50 cents).

Value: -50– +50

MEMO

One cent is 1/100th of a semitone.

Random Pitch Depth ❸

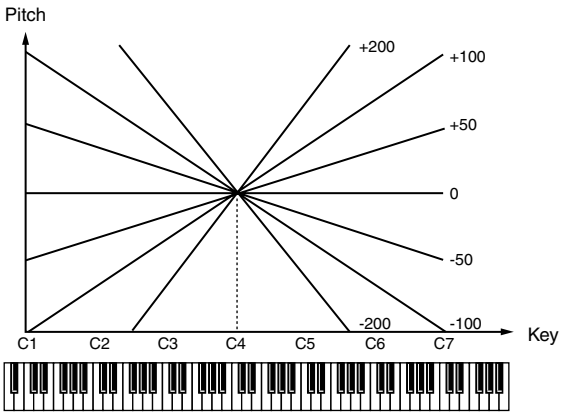
This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to "0." These values are in units of cents (1/100th of a semitone).

Value: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

Pitch Key follow ❹

This specifies the amount of pitch change that will occur when you play a key one octave higher (i.e., 12 keys upward on the keyboard). If you want the pitch to rise one octave as on a conventional keyboard, set this to "+100." If you want the pitch to rise two octaves, set this to "+200." Conversely, set this to a negative value if you want the pitch to fall. With a setting of "0," all keys will produce the same pitch.

Value: -200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200



Bend Range Up (Pitch Bend Range Up)

Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way right. For example, if this parameter is set to "12," the pitch will rise one octave when the pitch bend lever is moved to the right-most position.

Value: 0– +48

Bend Range Down (Pitch Bend Range Down)

Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way left. For example if this is set to "-48" and you move the pitch bend lever all the way to the left, the pitch will fall 4 octaves.

Value: -48–0

P-Env V-Sens (Pitch Envelope Velocity Sensitivity)

Keyboard playing dynamics can be used to control the depth of the pitch envelope. If you want the pitch envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the pitch envelope to have less effect for strongly played notes, set this to a negative (-) value.

Value: -63– +63

P-Env T1 V-Sens (Pitch Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

P-Env T4 V-Sens (Pitch Envelope Time 4 Velocity Sensitivity)

Use this parameter when you want key release speed to impact on Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

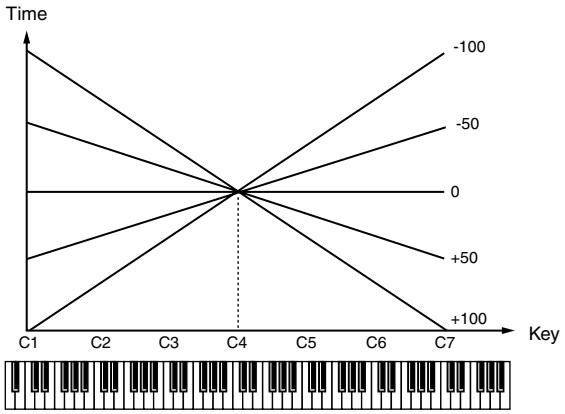
Value: -63– +63

P-Env Time KF (Pitch Envelope Time Key Follow)

Use this setting if you want the pitch envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the pitch envelope times for the C4 key, positive (+) settings will cause notes

higher than C4 to have increasingly shorter times, and negative (-) settings will cause them to have increasingly longer times. Larger settings will produce greater change.

Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



Pitch Env

P-Env Depth (Pitch Envelope Depth) ❶, ❷, ❹

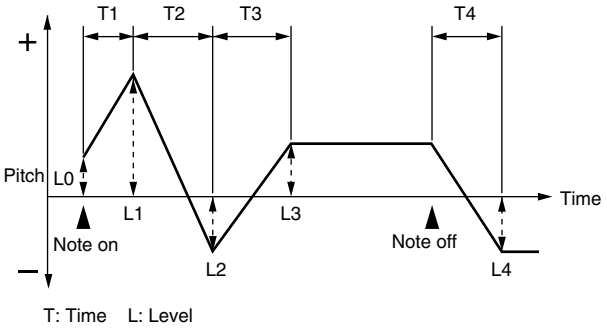
Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.

Value: -12– +12

P-Env Time 1–4 (Pitch Envelope Time 1–4) ★ ❸

Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)

Value: 0–127



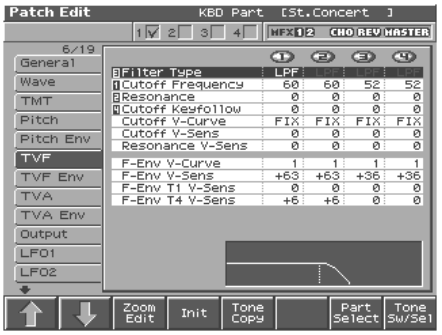
T: Time L: Level

P-Env Level 0–4 (Pitch Envelope Level 0–4)

Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive (+) settings will cause the pitch to be higher than the standard pitch, and negative (-) settings will cause it to be lower.

Value: -63– +63

Modifying the Brightness of a Sound with a Filter (TVF/TVF Env)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

TVF

Filter Type ❸

Selects the type of filter. A filter is a function that cuts off a specific frequency band to change a sounds brightness, thickness, and other qualities.

Value

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency (Cutoff Freq). in order to round off, or un-brighten, the sound. This is the most common filter used in synthesizers.

BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Freq), and cuts the rest. This can be useful when creating distinctive sounds.

HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Freq). This is suitable for creating percussive sounds emphasizing their higher ones.

PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Freq). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

LPF2: Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Freq) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano.

LPF3: Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Freq) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same TVF Envelope settings.

NOTE

If you set "LPF2" or "LPF3," the setting for the Resonance parameter will be ignored (p. 51).

Cutoff Frequency ★ ❶

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

* ***Cutoff Frequency:*** *the frequency at which the filter begins to have an effect on the waveform's frequency components.*

Value: 0–127

With "LPF/LPF2/LPF3" selected for the Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter.

If "BPF" is selected, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds.

With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound.

With "PKG" selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting.

HINT

To edit the overall patch while preserving the relative differences in the Cutoff Frequency values set for each tone, set the Cutoff Offset parameter (p. 44).

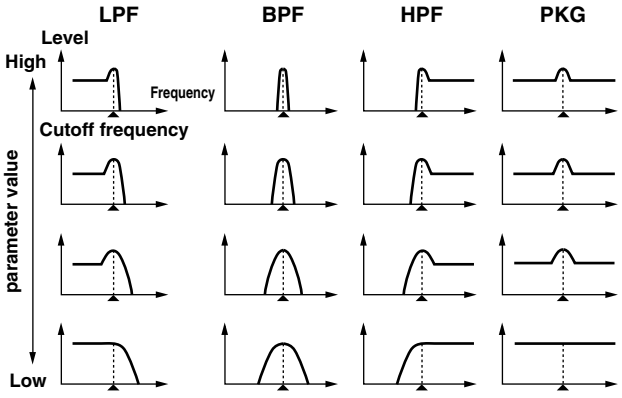
Resonance ★ ❷

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Value: 0–127

HINT

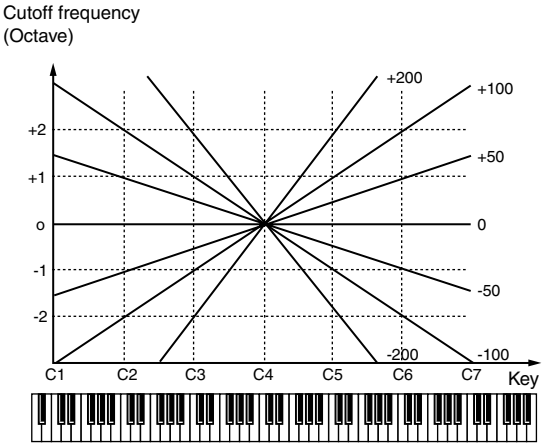
To edit the overall patch while preserving the relative differences in the Resonance values set for each tone, set the Resonance Offset parameter (p. 44).



Cutoff Key follow ❹

Use this parameter if you want the cutoff frequency to change according to the key that is pressed. Relative to the cutoff frequency at the C4 key (center C), positive (+) settings will cause the cutoff frequency to rise for notes higher than C4, and negative (-) settings will cause the cutoff frequency to fall for notes higher than C4. Larger settings will produce greater change.

Value: -200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200



Cutoff V-Curve (Cutoff Frequency Velocity Curve)

Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to "FIXED" when the Cutoff frequency is not to be changed according to the force with which the keys are pressed.

Value: FIXED, 1–7

Cutoff V-Sens (Cutoff Velocity Sensitivity)

Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. If you want strongly played notes to raise the cutoff frequency, set this parameter to positive (+) settings. If you want strongly played notes to lower the cutoff frequency, use negative (-) settings.

Value: -63– +63

HINT

To edit the overall patch while preserving the relative differences in the Cutoff Frequency Velocity Sensitivity values set for each tone, set the Velocity Sens Offset parameter (p. 44). However, this setting is shared by the Level V-Sens parameter (p. 53).

Resonance V-Sens (Resonance Velocity Sensitivity)

This allows keyboard velocity to modify the amount of Resonance. If you want strongly played notes to have a greater Resonance effect, set this parameter to positive (+) settings. If you want strongly played notes to have less Resonance, use negative (-) settings.

Value: -63– +63

F-Env V-Curve (TVF Envelope Velocity Curve)

Selects one of the following 7 curves that will determine how keyboard playing dynamics will affect the TVF envelope. Set this to "FIXED" when the amount of TVF Envelope applied is not to be changed according to the force with which the keys are pressed.

Value: FIXED, 1–7

F-Env V-Sens (TVF Envelope Velocity Sensitivity)

Specifies how keyboard playing dynamics will affect the depth of the TVF envelope. Positive (+) settings will cause the TVF envelope to have a greater effect for strongly played notes, and negative (-) settings will cause the effect to be less.

Value: -63– +63

F-Env T1 V-Sens (TVF Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the TVF envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

F-Env T4 V-Sens (TVF Envelope Time 4 Velocity Sensitivity)

The parameter to use when you want key release speed to control the Time 4 value of the TVF envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

TVF ENV

F-Env Depth (TVF Envelope Depth)

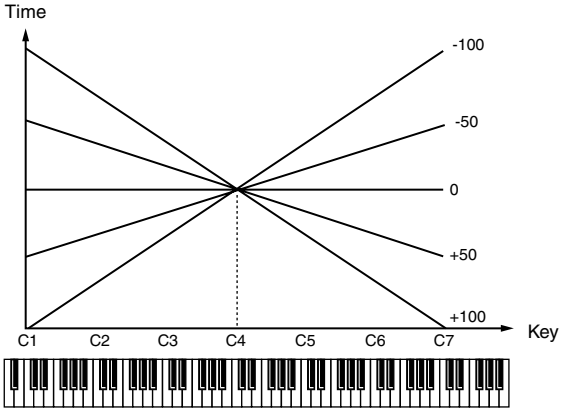
Specifies the depth of the TVF envelope. Higher settings will cause the TVF envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.

Value: -63– +63

F-Env Time KF (TVF Envelope Time Key Follow)

Use this setting if you want the TVA envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the TVF envelope times for the C4 key (center C), positive (+) settings will cause notes higher than C4 to have increasingly shorter times, and negative (-) settings will cause them to have increasingly longer times. Larger settings will produce greater change.

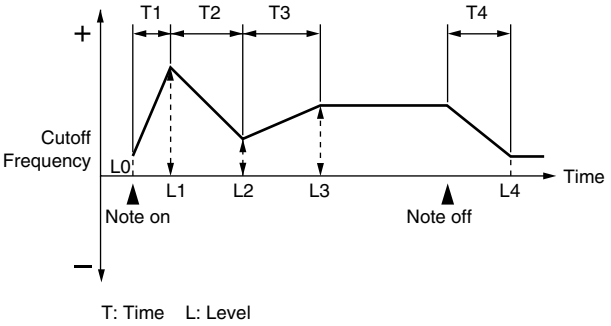
Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



F-Env Time 1–4 (TVF Envelope Time 1–4) ★ ❶, ❷, ❹

Specify the TVF envelope times (Time 1–Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

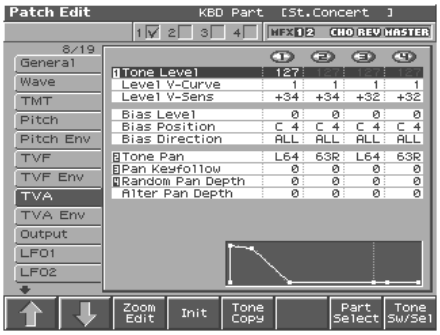


F-Env Level 0–4 (TVF Envelope Level 0–4) ❸

Specify the TVF envelope levels (Level 0–Level 4). These settings specify how the cutoff frequency will change at each point, relative to the standard cutoff frequency (the cutoff frequency value specified in the TVF screen).

Value: 0–127

Adjusting the Volume (TVA/TVA Env)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

TVA

Tone Level ★ ❶

Sets the volume of the tone. This setting is useful primarily for adjusting the volume balance between tones.

Value: 0–127

Level V-Curve (TVA Level Velocity Curve)

You can select from seven curves that determine how keyboard playing strength will affect the volume. If you do not want the volume of the tone to be affected by the force with which you play the key, set this to "FIXED."

Value: FIXED, 1–7

Level V-Sens (TVA Level Velocity Sensitivity)

Set this when you want the volume of the tone to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in tone volume increase the more forcefully the keys are played; to make the tone play more softly as you play harder, set this to a negative (-) value.

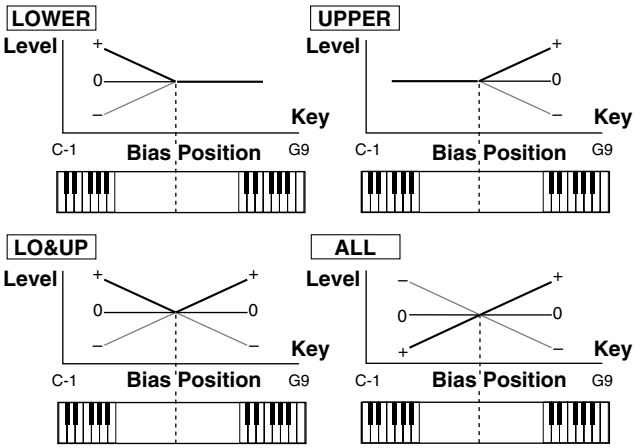
Value: -63– +63

HINT

If you wish to make adjustments to the entire patch while maintaining the relative values of TVA Level Velocity Sensitivity among tones, adjust the Velocity Sens Offset parameter (p. 44). However, this setting is shared by the Cutoff V-Sens parameter (p. 51).

Bias

Bias causes the volume to be affected by the keyboard position. This is useful for changing volume through keyboard position (pitch) when playing acoustic instruments.



Bias Level

Adjusts the angle of the volume change that will occur in the selected Bias Direction. Larger settings will produce greater change. Negative (-) values will invert the change direction.

Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100

Bias Position

Specifies the key relative to which the volume will be modified.

Value: C-1–G9

Bias Direction

Selects the direction in which change will occur starting from the Bias Position.

Value

LOWER: The volume will be modified for the keyboard area below the Bias Point.

UPPER: The volume will be modified for the keyboard area above the Bias Point.

LO&UP: The volume will be modified symmetrically toward the left and right of the Bias Point.

ALL: The volume changes linearly with the bias point at the center.

Tone Pan ★ ❷

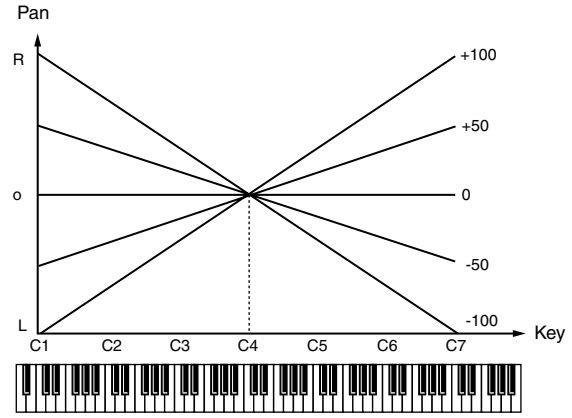
Sets the pan of the tone. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

Pan Key Follow ❸

Use this parameter if you want key position to affect panning. Positive (+) settings will cause notes higher than C4 key (center C) to be panned increasingly further toward the right, and negative (-) settings will cause notes higher than C4 key (center C) to be panned toward the left. Larger settings will produce greater change.

Value: -100– +100



Random Pan Depth ❹

Use this parameter when you want the stereo location to change randomly each time you press a key. Higher settings will produce a greater amount of change.

Value: 0–63

Alter Pan Depth (Alternate Pan Depth)

This setting causes panning to be alternated between left and right each time a key is pressed. Higher settings will produce a greater amount of change. "L" or "R" settings will reverse the order in which the pan will alternate between left and right. For example if two tones are set to "L" and "R" respectively, the panning of the two tones will alternate each time they are played.

Value: L63–0–63R

NOTE

When any value from Type "2"–"10" is selected for the Structure parameter in the Pan KF, Rnd Pan Depth, Alter Pan Depth parameter settings, the output of tones 1 and 2 are joined in tone 2, and the output of tones 3 and 4 are joined in tone 4. For this reason, tone 1 will follow the settings of tone 2, and tone 3 will follow the settings of tone 4 (p. 46).

TVA Env

A-Env T1 V-Sens (TVA Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the TVA envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

A-Env T4 V-Sens (TVA Envelope Time 4 Velocity Sensitivity)

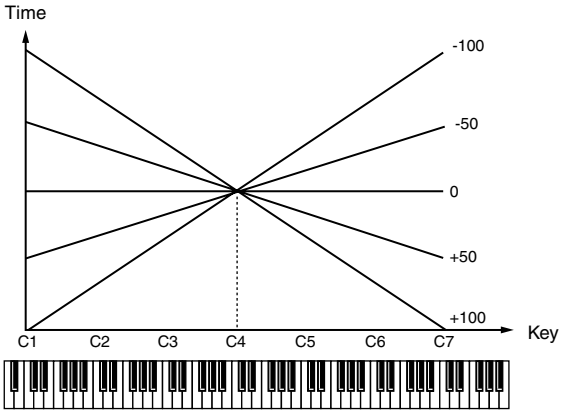
The parameter to use when you want key release speed to control the Time 4 value of the TVA envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

A-Env Time KF (TVA Envelope Time Key Follow)

Use this setting if you want the TVA envelope times (Time 2–Time 4) to be affected by the keyboard location. Based on the TVA envelope times for the C4 key (center C), positive (+) settings will cause notes higher than C4 to have increasingly shorter times, and negative (-) settings will cause them to have increasingly longer times. Larger settings will produce greater change.

Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



A-Env Time 1–4 (TVA Envelope Time 1–4) ★ ❶, ❷, ❹

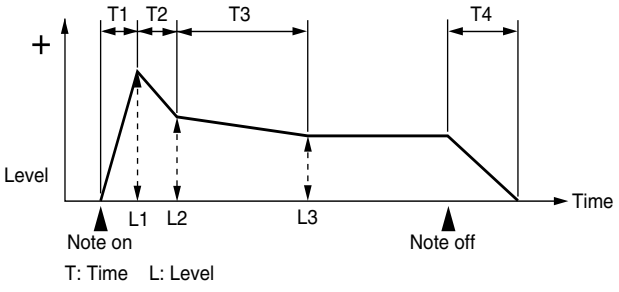
Specify the TVA envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

A-Env Level 1–3 (TVA Envelope Level 1–3) ❸

Specify the TVA envelope levels (Level 1–Level 3). These settings specify how the volume will change at each point, relative to the standard volume (the Tone Level value specified in the TVA screen).

Value: 0–127



Output

Patch Out Assign

Specifies for each patch how the direct sound will be output.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

TONE: Outputs according to the settings for each tone.

* *When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.*

* *If the Mix/Parallel parameter ([MENU]/System/General) is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).*

Tone Out Assign

Sets the direct sound's output method for each tone.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

NOTE

- If the Patch Output Assign is set to anything other than "TONE," these settings will be ignored.
- When the Structure Type parameter has a setting of Type "2"–"10," the outputs of tones 1 and 2 will be combined with tone 2, and the outputs of tones 3 and 4 will be combined with tone 4. For this reason, tone 1 will follow the settings of tone 2, and tone 3 will follow the settings of tone 4 (p. 46).
- When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

HINT

- When setting the "MFX," set the output destination with the MFX Output Assign (p. 179) for the sound after it has passed through the multi-effects.
- Chorus and reverb are output in mono at all times.
- The output destination of the signal after passing through the chorus is set with the Chorus Output Select (p. 177) and the Chorus Output Assign (p. 177).
- The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (p. 177).

Tone Out Level

Set the level of the signal that is sent to the output destination specified by Tone Output Assign.

Value: 0–127

Tone Chorus Send (Send Level (Output=MFX)) ❶

Specifies the level of the signal sent to the chorus for each tone if the tone is sent through MFX.

Value: 0–127

Tone Reverb Send (Send Level (Output=MFX)) ❷

Specifies the level of the signal sent to the reverb for each tone if the tone is sent through MFX.

Value: 0–127

Tone Chorus Send (Send Level (Output=non MFX)) ❸

Sets the level of the signal sent to chorus for each tone if the tone is not sent through MFX.

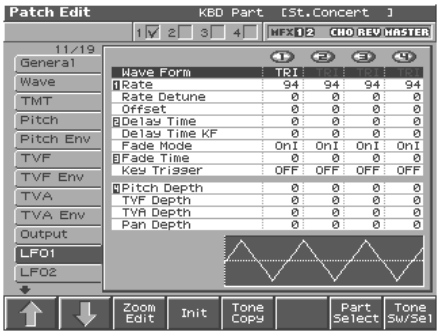
Value: 0–127

Tone Reverb Send (Send Level (Output=non MFX)) ❹

Sets the level of the signal sent to reverb for each tone if the tone is not sent through MFX.

Value: 0–127

Modulating Sounds (LFO)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

MEMO

An LFO (Low Frequency Oscillator) causes change over a cycle in a sound. Each tone has two LFOs (LFO1/LFO2), and these can be used to cyclically change the pitch, cutoff frequency and volume to create modulation-type effects such as vibrato, wah and tremolo. Both LFOs have the same parameters so only one explanation is needed.

LFO 1/2

Waveform (LFO1/LFO2 Waveform)

Selects the waveform of the LFO.

Value

SIN: Sine wave

TRI: Triangle wave

SAW-U: Sawtooth wave

SAW-D: Sawtooth wave (negative polarity)

SQR: Square wave

RND: Random wave

BND-U: Once the attack of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

BND-D: Once the decay of the waveform output by the LFO is allowed to develop in standard fashion, the waveform then continues without further change.

TRP: Trapezoidal wave

S&H: Sample & Hold wave (one time per cycle, LFO value is changed)

CHAOS: Chaos wave

NOTE

If you set this to "BD-U" or "BD-D," you must turn the 1:/2:Key Trigger parameter to "ON." If this is "OFF," it will have no effect.

LFO Rate (LFO1/LFO2 Rate) ★ ❶

Adjusts the modulation rate, or speed, of the LFO.

Value: 0–127, Note

LFO Rate sets the beat length for the synchronized tempo is synchronized with the tempo set in a sequencer.

(Example)

For a tempo of 120 (120 quarter notes occur in 1 minute (60 seconds))

Setting	LFO Rate
𝅗𝅥 (half note)	1 second (60 / 60 =1 (second))
♩ (quarter note)	0.5 seconds (60 / 120= 0.5 (seconds))
♪ (eighth note)	0.25 seconds (60 / 240= 0.25 (seconds))

NOTE

This setting will be ignored if the Waveform parameter is set to "CHAOS."

Rate Detune (LFO1/LFO2 Rate Detune)

LFO Rate Detune makes subtle changes in the LFO cycle rate (1:/2:Rate parameter) each time a key is pressed. Higher settings will cause greater change. This parameter is invalid when Rate is set to "note."

Value: 0–127

Offset (LFO1/LFO2 Offset)

Raises or lowers the LFO waveform relative to the central value (pitch or cutoff frequency). Positive (+) settings will move the waveform so that modulation will occur from the central value upward. Negative (-) settings will move the waveform so that modulation will occur from the central value downward.

Value: -100, -50, 0, +50, +100

Delay Time (LFO1/LFO2 Delay Time) ❷

Delay Time (LFO Delay Time) specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).

Value: 0–127

After referring to **"How to Apply the LFO"** (p. 57), change the setting until the desired effect is achieved.

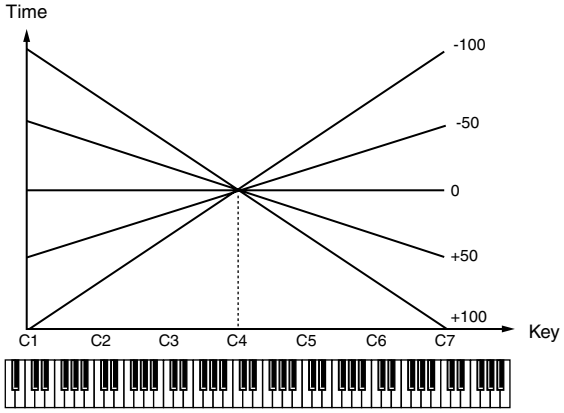
HINT

When using violin, wind, or certain other instrument sounds in a performance, rather than having vibrato added immediately after the sounds are played, it can be effective to add the vibrato after the note is drawn out somewhat. If you set the Delay Time in conjunction with the Pitch Depth parameter and Rate parameter, the vibrato will be applied automatically following a certain interval after the key is pressed. This effect is called **Delay Vibrato**.

Delay Time KF (LFO1/LFO2 Delay Time Key Follow)

Adjusts the value for the Delay Time parameter depending on the key position, relative to the C4 key (center C). To decrease the time that elapses before the LFO effect is applied (the effect is continuous) with each higher key that is pressed in the upper registers, select a positive value; to increase the elapsed time, select a negative value. Larger settings will produce greater change. If you do not want the elapsed time before the LFO effect is applied (the effect is continuous) to change according to the key pressed, set this to "0."

Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



Fade Mode (LFO1/LFO2 Fade Mode)

Specifies how the LFO will be applied.

Value: ON <, ON >, OFF <, OFF >

After referring to **"How to Apply the LFO"** (p. 57), change the setting until the desired effect is achieved.

Fade Time (LFO1/LFO2 Fade Time) ❸

Specifies the time over which the LFO amplitude will reach the maximum (minimum).

Value: 0–127

After referring to **"How to Apply the LFO"** (p. 57), change the setting until the desired effect is achieved.

Key Trigger (LFO1/LFO2 Key Trigger)

This specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).

Value: OFF, ON

Pitch Depth (LFO1/LFO2 Pitch Depth) ★ ❹

Specifies how deeply the LFO will affect pitch.

Value: -63– +63

TVF Depth (LFO1/LFO2 TVF Depth) ★

Specifies how deeply the LFO will affect the cutoff frequency.

Value: -63– +63

TVA Depth (LFO1/LFO2 TVA Depth) ★

Specifies how deeply the LFO will affect the volume.

Value: -63– +63

Pan Depth (LFO1/LFO2 Pan Depth) ★

Specifies how deeply the LFO will affect the pan.

Value: -63– +63

HINT

Positive (+) and negative (-) settings for the Depth parameter result in differing kinds of change in pitch and volume. For example, if you set the Depth parameter to a positive (+) value for one tone, and set another tone to the same numerical value, but make it negative (-), the modulation phase for the two tones will be the reverse of each other. This allows you to shift back and forth between two different tones, or combine it with the Pan setting to cyclically change the location of the sound image.

NOTE

When the Structure parameter is set to any value from "2" through "10," the output of tones 1 and 2 will be combined into tone 2, and the output of tones 3 and 4 will be combined into tone 4. This applies to the Pan Depth parameter settings. For this reason, tone 1 will follow the settings of tone 2, and tone 3 will follow the settings of tone 4 (p. 46).

Step LFO

LFO Step Type (LFO Step Type)

When generating an LFO waveform from the data specified in LFO Step1–16, specify whether the level will change abruptly at each step or will be connected linearly.

Value: TYPE1 (stair-step change), TYPE2 (linear change)

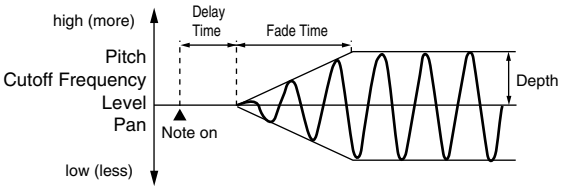
Step 1–16 (LFO Step 1–16)

Specifies the data for the Step LFO. If the LFO Pitch Depth is +63, each +1 unit of the step data corresponds to a pitch of +50 cents.

Value: -36– +36

How to Apply the LFO

● Apply the LFO gradually after the key is pressed

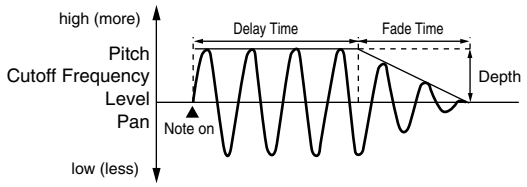


Fade Mode: ON <

Delay Time: The time from when the keyboard is played until the LFO begins to be applied.

Fade Time: The time over which the LFO amplitude will reach the maximum after the Delay Time has elapsed.

● Apply the LFO immediately when the key is pressed, and then gradually begin to decrease the effect

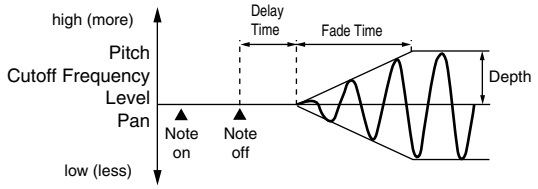


Fade Mode: ON >

Delay Time: The time that the LFO will continue after the keyboard is played.

Fade Time: The time over which the LFO amplitude will reach the minimum after the Delay Time has elapsed.

● Apply the LFO gradually after the key is released

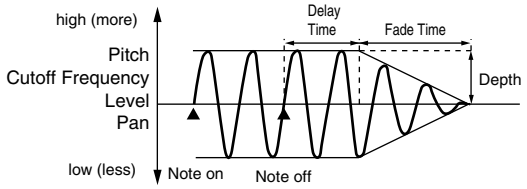


Fade Mode: OFF <

Delay Time: The time from when the keyboard is released until the LFO begins to be applied.

Fade Time: The time over which the LFO amplitude will reach the maximum after the Delay Time has elapsed.

● Apply the LFO from when the key is pressed until it is released, and gradually begin to decrease the effect when the key is released

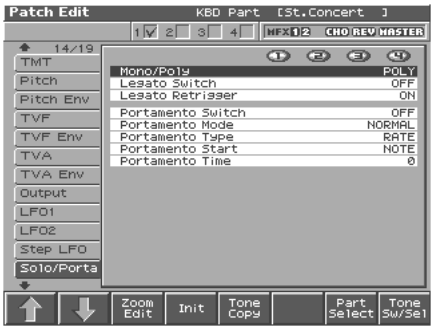


Fade Mode: OFF >

Delay Time: The time that the LFO will continue after the keyboard is released.

Fade Time: The time over which the LFO amplitude will reach the minimum after the Delay Time has elapsed.

Apply Portamento or Legato to the Sound (Solo Porta)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

Mono/Poly

Specifies whether the patch will play polyphonically (POLY) or monophonically (MONO). The "MONO" setting is effective when playing a solo instrument patch such as sax or flute.

Value

MONO: Only the last-played note will sound.

POLY: Two or more notes can be played simultaneously.

Legato Switch (Legato Switch)

Legato Switch is valid when the Mono/Poly parameter is set to "MONO." This setting specifies whether the Legato Switch will be used (ON) or not (OFF).

With the Legato Switch parameter "ON," pressing a key while continuing to press a previous key causes the note to change pitch to the pitch of the most recently pressed key, sounding all the while. This creates a smooth transition between notes, which is effective when you wish to simulate the hammering-on and pulling-off techniques used by a guitarist.

Value: OFF, ON

Legato Retrigger (Legato Retrigger Switch)

The Legato Retrigger is valid when the Mono/Poly parameter is set to "MONO" and the Legato Switch parameter is set to "ON." The setting determines whether sounds are replayed (ON) or not (OFF) when performing legato. Normally you will leave this parameter "ON." When "OFF," when one key is held down and another key is then pressed, only the pitch changes, without the attack of the latter key being played. Set this to "OFF" when performing wind and string phrases or when using modulation with the mono synth keyboard sound.

Value: OFF, ON

Let's say you have the Legato Switch set to "ON," and the Legato Retrigger set to "OFF." When you try to sound a legato (by pressing a higher key while a lower key is held down), the pitch may sometimes not be able to rise all the way to the intended pitch (stopping instead at an intermediate pitch). This can occur because the limit of pitch rise, as determined at the wave level, has been exceeded. Additionally, if differing upper pitch limits are used for the waves of a Patch that uses multiple tones, it may stop being heard in MONO. When making large pitch changes, set the Legato Retrigger to "ON."

Portamento Switch

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

Value: OFF, ON

Portamento

Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. By applying portamento when the Mono/Poly parameter is "MONO," you can simulate slide performance techniques on a violin or similar instrument.

Portamento Mode

Specifies the performance conditions for which portamento will be applied.

Value

NORMAL: Portamento will always be applied.

LEGATO: Portamento will be applied only when you play legato (i.e., when you press the next key before releasing the previous key).

Portamento Type

Specifies the type of portamento effect.

Value

RATE: The time it takes will depend on the distance between the two pitches.

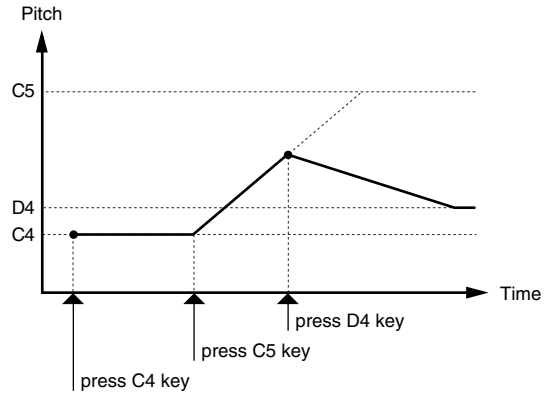
TIME: The time it takes will be constant, regardless of how far apart in pitch the notes are.

Portamento Start

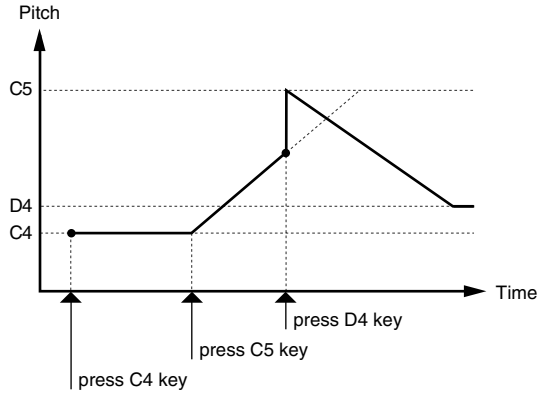
When another key is pressed during a pitch change produced by portamento, a new pitch change will begin. This setting specifies the pitch at which the change will begin.

Value

PITCH: Starts a new portamento when another key is pressed while the pitch is changing.



NOTE: Portamento will begin anew from the pitch where the current change would end.

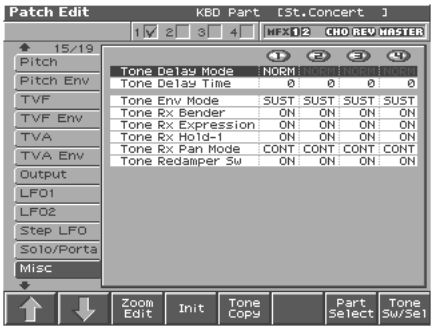


Portamento Time

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

Miscellaneous Settings (Misc)

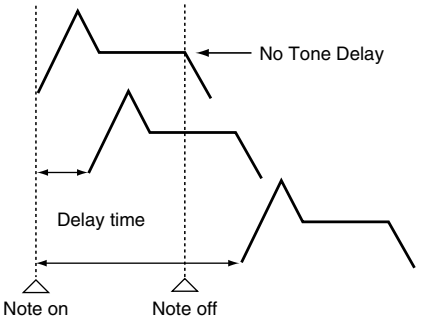


Tone Delay Mode

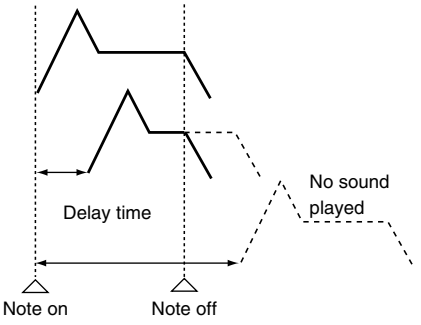
Selects the type of tone delay.

Value

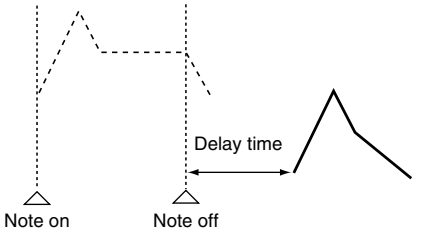
NORM: The tone begins to play after the time specified in the Delay Time parameter has elapsed.



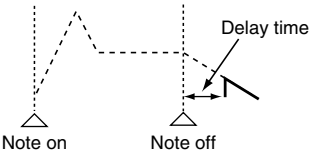
HOLD: Although the tone begins to play after the time specified in the Delay Time parameter has elapsed, if the key is released before the time specified in the Delay Time parameter has elapsed, the tone is not played.



OFF-N: Rather than being played while the key is pressed, the tone begins to play once the period of time specified in the Delay Time parameter has elapsed after release of the key. This is effective in situations such as when simulating noises from guitars and other instruments.



OFF-D: Rather than being played while the key is pressed, the tone begins to play once the period of time specified in the Delay Time parameter has elapsed after release of the key. Here, however, changes in the TVA Envelope begin while the key is pressed, which in many cases means that only the sound from the release portion of the envelope is heard.



NOTE

If you have selected a waveform that is a decay-type sound (i.e., a sound that fades away naturally even if the key is not released), selecting "OFF-N" or "OFF-D" may result in no sound being heard.

Tone Delay

This produces a time delay between the moment a key is pressed (or released), and the moment the tone actually begins to sound. You can also make settings that shift the timing at which each tone is sounded. This differs from the Delay in the internal effects, in that by changing the sound qualities of the delayed tones and changing the pitch for each tone, you can also perform arpeggio-like passages just by pressing one key. You can also synchronize the tone delay time to the tempo of the sequencer.

NOTE

- If you are not going to use Tone Delay, set the Delay Mode parameter to "NORM" and Delay Time parameter to "0."
- If the Structure parameters set in the range of "2"–"10," the output of tones 1 and 2 will be combined into tone 2, and the output of tones 3 and 4 will be combined into tone 4. For this reason, tone 1 will follow the settings of tone 2, and tone 3 will follow the settings of tone 4 (p. 46).

Tone Delay Time

Specifies the time from when the key is pressed (or if the Delay Mode parameter is set to "OFF-N" or "OFF-D," the time from when the key is released) until when the tone will sound.

Value: 0–127, Note

Tone Delay Time specifies the beat length for the synchronized tempo when the tempo that specifies the elapsed time until the tone is sounded (Patch Tempo) is synchronized with the tempo set in a sequencer.

(Example)

For a tempo of 120 (120 quarter notes occur in 1 minute (60 seconds))

Setting	Delay time
𝅗𝅥 (half note)	1 second (60 / 60 =1 (second))
♩ (quarter note)	0.5 seconds (60 / 120= 0.5 (seconds))
♪ (eighth note)	0.25 seconds (60 / 240= 0.25 (seconds))

Tone Env Mode (Tone Envelope Mode)

When a loop waveform (p. 41) is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to "NO SUS."

Range: NO SUS, SUST

NOTE

If a one-shot type Wave (p. 41) is selected, it will not sustain even if this parameter is set to "SUST."

Tone Rx Bender (Tone Receive Pitch Bend Switch)

For each tone, specify whether MIDI Pitch Bend messages will be received (ON), or not (OFF).

Value: OFF, ON

Tone Rx Expression (Tone Receive Expression Switch)

For each tone, specify whether MIDI Expression messages will be received (ON), or not (OFF).

Value: OFF, ON

Tone Rx Hold-1 (Tone Receive Hold Switch)

For each tone, specify whether MIDI Hold-1 messages will be received (ON), or not (OFF).

Value: OFF, ON

NOTE

If "NO SUS" is selected for Env Mode parameter, this setting will have no effect.

Tone Rx Pan Mode

For each tone, specify how pan messages will be received.

Value

CONT: Whenever Pan messages are received, the stereo position of the tone will be changed.

K-ON: The pan of the tone will be changed only when the next note is played. If a pan message is received while a note is sounding, the panning will not change until the next key is pressed.

NOTE

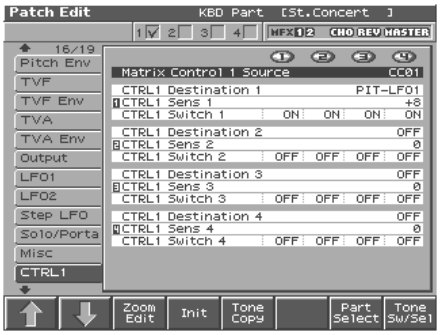
The channels cannot be set so as not to receive Pan messages.

Tone Redamper Sw (Tone Redamper Switch)

You can specify, on an individual tone basis, whether or not the sound will be held when a Hold 1 message is received after a key is released, but before the sound has decayed to silence. If you want to sustain the sound, set this "ON." When using this function, also set the Rx Hold-1 parameter "ON." This function is effective for piano sounds.

Value: OFF, ON

Matrix Control Settings (Ctrl1–4)



For details on the setting, refer to **"How to Make the Patch Settings"** (p. 39).

Matrix Control

Ordinarily, if you wanted to change tone parameters using an external MIDI device, you would need to send System Exclusive messages—MIDI messages designed exclusively for the Fantom-S. However, System Exclusive messages tend to be complicated, and the amount of data that needs to be transmitted can get quite large.

For that reason, a number of the more typical of the Fantom-S's tone parameters have been designed so they accept the use of Control Change (or other) MIDI messages for the purpose of making changes in their values. This provides you with a variety of means of changing the way patches are played. For example, you can use the Pitch Bend lever to change the LFO cycle rate, or use the keyboard's touch to open and close a filter.

The function which allows you use MIDI messages to make these changes in realtime to the tone parameters is called the **Matrix Control**. Up to four Matrix Controls can be used in a single patch.

To use the Matrix Control, specify which MIDI message (Source parameter) will be used to control which parameter (Destination parameter), and how greatly (Sns parameter), and the tone to which the effect is applied (Tone parameter).

Matrix Control 1–4 Source

Sets the MIDI message used to change the tone parameter with the Matrix Control.

Value

OFF: Matrix control will not be used.

CC01–31, 33–95: Controller numbers 1–31, 33–95

For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS CTRL1–SYS CTRL4: MIDI messages used as common matrix controls.

VELOCITY: Velocity (pressure you press a key with)

KEY FOLLOW: Key follow (keyboard position with C4 as 0)

TEMPO: The specified tempo (sequencer tempo) or the tempo of an external MIDI sequencer.

LFO1: LFO 1

LFO2: LFO 2

PITCH ENV: Pitch envelope

TVF ENV: TVF envelope

TVA ENV: TVA envelope

Velocity and Key follow correspond to Note messages.

- Although there are no MIDI messages for LFO 1 through TVA Envelope, they can be used as Matrix Control. In this case, you can change the tone settings in realtime by playing patches.
- If you want to use common controllers for the entire Fantom-S, select "SYS CTRL1"–"SYS CTRL4." MIDI messages used as System Control 1–4 are set with the System Ctrl 1–4 Source parameters (p. 190).

- There are parameters that determine whether or not Pitch Bend, Controller Number 11 (Expression) and Controller Number 64 (Hold 1) are received (p. 61). When these settings are "ON," and the MIDI messages are received, then when any change is made in the settings of the desired parameter, the Pitch Bend, Expression, and Hold 1 settings also change simultaneously. If you want to change the targeted parameters only, then set these to "OFF."
- There are parameters that let you specify whether specific MIDI messages will be received for each channel in a performance (p. 90). When a patch with Matrix Control settings is assigned to a part, confirm that any MIDI messages used for the Matrix Control will be received. If the Fantom-S is set up such that reception of MIDI messages is disabled, then the Matrix Control will not function.

CTRL Destination 1–4 (Matrix Control Destination 1–4)

Matrix Control Destination selects the tone parameter that is to be controlled when using the Matrix Control. The following parameters can be controlled. When not controlling parameters with the Matrix Control, set this to "OFF." Up to four parameters can be specified for each Matrix Control, and controlled simultaneously.

In this manual, Parameters that can be controlled using the Matrix Control are marked with a "★."

● Opening and Closing the Filter

CUTOFF: Changes the cutoff frequency.

RESONANCE: Emphasizes the overtones in the region of the cutoff frequency, adding character to the sound.

● Changing the Volume, Pan, and Pitch

LEVEL: Changes the volume level.

PAN: Changes the pan.

PITCH: Changes the pitch.

● Changing How the Effects Are Applied

OUTPUT LEVEL: Changes the volume of output levels.

CHORUS SEND: Changes the amount of chorus.

REVERB SEND: Changes the amount of reverb.

● Applying LFO to Modulate Sounds

LFO1/LFO2 PCH DEPTH: Changes the vibrato depth.

LFO1/LFO2 TVF DEPTH: Changes the wah depth.

LFO1/LFO2 TVA DEPTH: Changes the tremolo depth.

LFO1/LFO2 PAN DEPTH: Changes the effect that the LFO will have on pan.

LFO1/LFO2 RATE: Changes the LFO cycle rate. Changes the speed of the LFO cycles.

* *The speed will not change if LFO Rate is set to "note."*

● Changing the Pitch Envelope

PIT ENV A-TIME: Changes the Env Time 1 parameter of the pitch envelope.

PIT ENV D-TIME: Changes the Env Time 2 and Env Time 3 parameters of the pitch envelope.

PIT ENV R-TIME: Changes the Env Time 4 parameter of the pitch envelope.

● Changing the TVF Envelope

TVF ENV A-TIME: Changes the Env Time 1 parameter of the TVF envelope.

TVF ENV D-TIME: Changes the Env Time 2 and Env Time 3 parameters of the TVF envelope.

TVF ENV R-TIME: Changes the Env Time 4 parameter of the TVF envelope.

● Changing the TVF Envelope

TVA ENV A-TIME: Changes the Env Time 1 parameter of the TVA envelope.

TVA ENV D-TIME: Changes the Env Time 2 and Env Time 3 parameters of the TVA envelope.

TVA ENV R-TIME: Changes the Env Time 4 parameter of the TVA envelope.

● Splitting Tones That Are Played

TMT

HINT

- If the Matrix Control is used to split tones, set the TMT Vel Control parameter to "OFF," and the TMT Control Switch parameter to "ON" (p. 48).
- If the Matrix Control is used to split tones, we recommend setting the Matrix Control Sens to "+63." Selecting a lower value may prevent switching of the tones. Furthermore, if you want to reverse the effect, set the value to "-63."
- If you want to use matrix control to switch smoothly between tones, use the Velo Fade Lower and Velo Fade Upper parameters (p. 48). The higher the values set, the smoother the switch is between the tones.

● Changing the Depth of Frequency Modulation for FXM

FXM DEPTH

● Controlling the amount of realtime stretch/ shrink

TIME

NOTE

This will have no effect if Realtime Time Stretch (p. 45) is not selected. If matrix control sensitivity is set to "+" the stretch/ shrink time will become shorter, and if set to "-" the time will become longer.

● Changing Specific Multi-Effects Parameters

MFX CTRL1–4: Change the parameter that was specified by MFX Control 1–4 Assign parameter.

NOTE

No effects are available, even with the Matrix Control, when the settings are such that no multi-effects are applied.

CTRL Sens 1–4 (Matrix Control Sens 1–4)

Sets the amount of the Matrix Control's effect that is applied. If you wish to modify the selected parameter in a positive (+) direction – i.e., a higher value, toward the right, or faster etc. – from its current setting, select a positive (+) value. If you wish to modify the selected parameter in a negative (-) direction – i.e., a lower value, toward the left, or slower etc. – from its current setting, select a negative (-) value. When both positive and negative are selected, the changes are greater as the value increases. Set it to "0" if you don't want this effect.

Value: -63– +63

CTRL Tone 1–4 (Tone Control Switch 1–4)

Matrix Control Tone selects the tone to which the effect is applied when using the Matrix Control.

Value

OFF: The effect will not be applied.

ON: The effect will be applied.

REVS: The effect will be applied in reverse.

Setting Effects for a Patch (Effects/ MFX/MFX Control/Chorus/Reverb)

For details regarding effect settings, refer to the pages shown below.

- **"Applying Effects in Patch Mode"** (p. 175)
- **"Making Multi-Effects Settings (MFX1–3)"** (p. 180)
- **"Making Chorus Settings (Chorus)"** (p. 182)
- **"Making Reverb Settings (Reverb)"** (p. 182)

Creating a Rhythm Set

With the Fantom, you have total control over a wide variety of settings. 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**. This chapter explains the procedures used in creating rhythm sets, and the functions of the rhythm set parameters.

How to Make the Rhythm Set Settings

Start with an existing rhythm set and edit it to create a new rhythm set. Rhythm sets are created from a collection of multiple rhythm tones (percussion instruments). You can change the assignments of the rhythm tones for each key with rhythm set edit.

The rhythm tone assigned to each key consists of up to four waves. Rhythm tones and waves are related in the same way that patches and tones are related.

1. **Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and rhythm set whose settings you want to edit (p. 37).**

NOTE

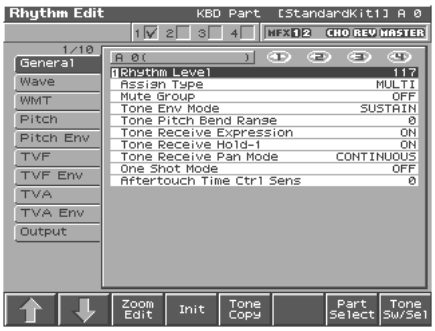
You cannot edit the rhythm sets in the GM group.

HINT

If you want to create all your rhythm sets from the ground up, rather than the rhythm sets that have already been prepared, carry out the **Initialize** operation (p. 65).

2. **Press [EDIT].**

   The Rhythm Edit screen appears.



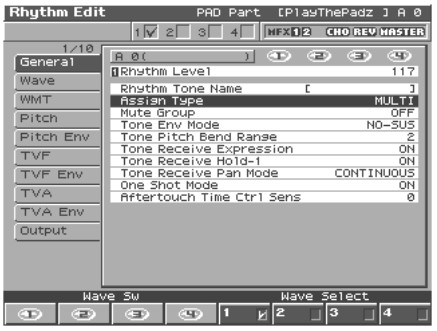
3. **The parameters are organized into several editing groups. Press [1 (⇑)] or [2 (⇓)] to select the tab for the editing group that contains the parameter you wish to edit.**

For details on how the parameters are grouped, refer to **"Parameter list"** (Parameter List).

4. **Use ▲ or ▼ to move the cursor to the parameter you wish to modify.**

5. **Press [8 (Wave Sw/Sel)] to select the wave that you want to edit.**

   The Wave Sw/Select window will appears.



   Press any one of the [5 (Wave Select1)]–[8 (Wave Select4)] buttons to select the wave that you want to edit.

- **Simultaneously editing the same parameter of multiple waves**

  Simultaneously press two or more of the [5 (Wave Select1)]–[8 (Wave Select4)] buttons to select the tones that you want to edit at the same time. When a tone is on, a check mark (✔) will be displayed.

- **To switch a wave on/off**

  Press a [1 (Wave Sw1)]–[4 (Wave Sw4)] button to switch the corresponding wave on/off.

* *Press ◀ or ▶, you can select the wave.*

6. **When you have made your selection, press [EXIT].**

7. **Turn the VALUE dial, or Press [INC]/[DEC] to set a value.**

- **To change the part that you want to edit**

  Press [7 (Part Select)].

8. **Repeat steps 5–7 to complete a rhythm set.**

9. **If you wish to save the changes you've made, press [WRITE] to perform the Save operation (p. 66). If you do not wish to save changes, press [EXIT] to return to the Patch Play screen.**

   If you return to the Patch Play screen without saving, an "*" will be displayed at the left of the rhythm set number, indicating that the rhythm set settings have been edited.

NOTE

If you turn off the power or select a different sound while the display indicates "*," your edited rhythm set will be lost.

Editing in a Graphic Display (Zoom Edit)

You can edit while viewing a graphic display of the most frequently used important parameters.

Zoom Edit lets you edit the following parameters.

Parameter	page
Pitch Envelope	p. 71
TVF	p. 72
TVF Envelope	p. 73
TVA Envelope	p. 74

1. **Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and patch that you want to edit.**

2. Press [EDIT], and then press [3 (Zoom Edit)].

The Zoom Edit screen will appear.

3. The parameters are organized into several edit groups. Press [1]–[4] to select the tab for the parameters that you want to edit.

- **To select a Wave for editing or switch a Wave on/off**

  Press [8 (Tone Sw/Sel)].
- **To switch to a different part for editing**

  Press [7 (Part Select)].

4. Use [CURSOR] to move the cursor to the parameter that you want to edit.

You can use the realtime control knob to set the value.

5. Turn the VALUE dial or use [INC][DEC] to modify the value.

6. When you have finished editing, press [EXIT].

Initializing Rhythm Set Settings (Init)

"Initialize" means to return the settings of the currently selected sound to a standard set of values or to the factory settings.

NOTE

The Initialize operation will affect only the currently selected sound; the sounds that are stored in user memory will not be affected. If you wish to restore all of the Fantom's settings to their factory values, perform a Factory Reset (p. 196).

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) and rhythm set that you want to initialize (p. 37).

2. Press [EDIT], and then press [3 (Patch)].

3. Press [4 (Init)].

Select the type of initialization.

- **ALL:** All keys of the rhythm set will be initialized.
- **KEY:** One key will be initialized. When KEY is selected, you need to specify the key (A0–C8) that is to be initialized.

4. Press [8 (Exec)].

A message will ask for confirmation.

5. Press [8 (Exec)].

The initialization will be carried out, and you'll be returned to the Rhythm Edit screen.

* *To cancel, press [7 (Cancel)].*

Copying Rhythm Tone Settings (Copy)

This operation copies the settings of any desired rhythm set to the currently selected rhythm set. You can use this feature to make the editing process faster and easier.

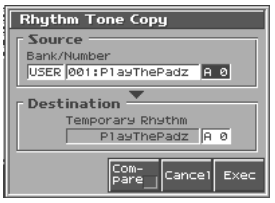
Basic Procedure for Rhythm Tone Copy

1. Press [PATCH/RHYTHM] to access the Patch Play screen, and select the part (keyboard part or pad part) that you want to edit and the copy-destination Rhythm set (p. 37).

2. Press [EDIT].

3. Press [5 (Tone Copy)].

The Rhythm Copy window appears.



4. Using [CURSOR] to move the cursor, select the "Source (copy-source)" bank and number, and the rhythm tone.

5. Turn the VALUE dial or use [INC][DEC] to make the setting.

6. Using [CURSOR] to move the cursor, select the "Destination (copy-destination)" rhythm tone number.

7. Turn the VALUE dial or use [INC][DEC] to make the setting.

8. Press [8 (Exec)].

A message will ask for confirmation.

9. Press [8 (Exec)] to return to the Rhythm Edit screen.

* *To cancel, press [7 (Cancel)].*

The Compare Function

For the Rhythm Tone Copy operations, you can use the Compare function.

If you want to play the copy-source patch, press [6 (Compare)] to add a check mark (✔). Now you can play the copy-source rhythm set from the keyboard or pad.

NOTE

The rhythm set auditioned using the Compare function may sound slightly different than when it is played normally.

Cautions When Selecting a Waveform

The sounds of the Fantom are based on complex PCM waveforms, and if you attempt to make settings that are contrary to the type of the original waveform, the results will not be as you expect.

The internal waveforms of the Fantom fall into the following two groups.

One-shot: These waveforms contain sounds that have short decays. A one-shot waveform records the initial rise and fall of the sound. Some of the Fantom's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The Fantom also contains many other one-shot waveforms that are elements of other sounds. These include attack components such as piano-hammer sounds and guitar fret noises.

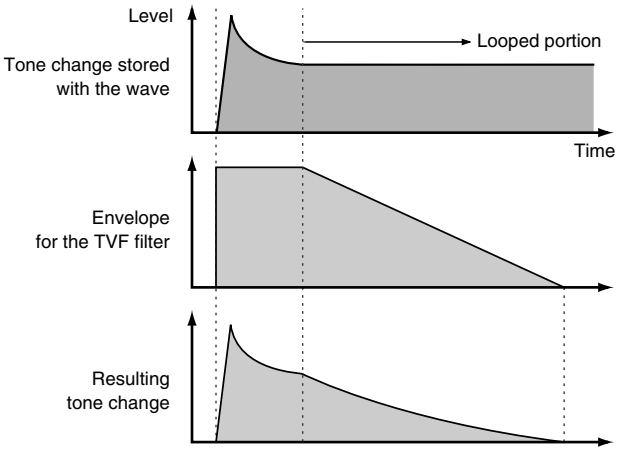
Looped: These waveforms include sounds with long decays as well as sustained sounds. Loop waveforms repeatedly play back (loop) the portion of the waveform after the sound has reached a relatively steady state. The Fantom's looped waveforms also include components of other sounds, such as piano-string resonant vibrations and the hollow sounds of brass instruments.

Cautions When Using a One-shot Waveform

It is not possible to use the envelope to modify a one-shot waveform to create a decay that is longer than the original waveform, or to turn it into a sustaining sound. If you were to program such an envelope, you would be attempting to shape a portion of the sound that simply doesn't exist, and the envelope would have no effect.

Cautions When Using a Loop Waveform

With many acoustic instruments such as piano and sax, extreme timbral changes occur during the first few moments of each note. This initial attack is what defines much of the instrument's character. For such waveforms, it is best to use the complex tonal changes of the attack portion of the waveform just as they are, and to use the envelope only to modify the decay portion. If you attempt to use the envelope to modify the attack portion as well, the characteristics of the original waveform may prevent you from getting the sound that you intend.



Saving Rhythm Sets You've Created (Write)

Changes you make to sound settings are temporary, and will be lost if you turn off the power or select another sound. If you want to keep the modified sound, you must save it in the internal user memory or memory card.

When you edit the patch settings, an "*" will appear in the Patch Play screen.

NOTE

When you perform the save procedure, the data that previously occupied the save destination will be lost.

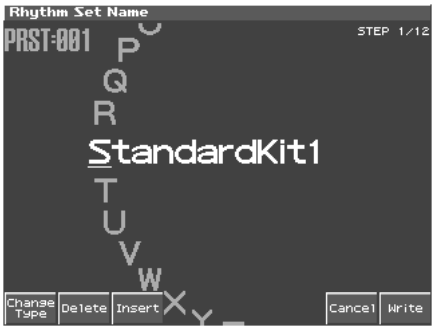
1. **Make sure that the Rhythm Set you wish to save is selected.**
2. **Press [WRITE].**

   The WRITE Menu screen appears.

3. **Press [2 (Patch/Rhythm)].**

   * *Press ▲ or ▼ to select "Rhythm Edit," and then press [ENTER].*

   The Rhythm Set Name screen appears.



4. **Assign a name to the rhythm set.**

   - [1 (Change Type)]: Selects the type of character. Each time you press this, you will alternately select the first character of a character set: uppercase (A), lowercase (a), or numerals and symbols (0).
   - [2 (Delete)]: Deletes the character at the cursor location, and moves the subsequent characters one space forward.
   - [3 (Insert)]: Inserts a space at the cursor location.
   - ▲ , ▼ : Move the cursor.
   - [VALUE dial] [INC][DEC]: Selects a character.

   * *If you decide to discard your input, press [7 (Cancel)].*

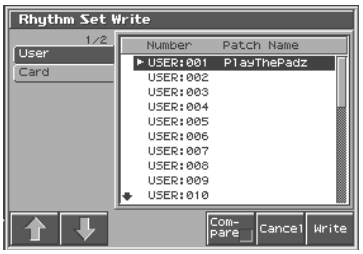
   * *You can use the pads to specify characters (p. 25).*

5. **When you have finished inputting the name, press [8 (Write)].**

   A screen will appear, allowing you to select the write-destination rhythm set.

6. Turn the VALUE dial or use [INC][DEC] and [2 (⇑)] [3 (⇓)] to select the write destination and rhythm set number.

The write destination can be either the Fantom-S's internal user area (User), or a memory card (Card).



HINT

By pressing [6 (Compare)] you can check the save-destination Rhythm set (Compare function).

7. Press [8 (Write)].

A message will ask you for confirmation.

NOTE

Never switch off the Fantom-S while data is being saved.

8. Press [8 (Exec)] to execute the save operation. To cancel the operation, press [7 (Cancel)].

* *To cancel, press [7 (Cancel)].*

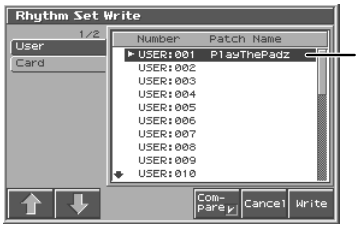
Auditioning the Save-Destination Rhythm Set (Compare)

Before you save a rhythm set, you can audition the rhythm set which currently occupies the save destination to make sure that it is one you don't mind overwriting. This can help prevent important rhythm sets from being accidentally overwritten and lost.

1. Follow the procedure in "Saving Rhythm Sets You've Created (Write)" through step 5 to select the save destination.

2. Press [7 (Compare)] to add a check mark (✔).

The Rhythm Compare window appears, making it possible to sound the currently selected save destination rhythm set.



3. Play the keyboard or pad to sound the save destination rhythm set, then check whether you really want to overwrite it.

NOTE

The rhythm set auditioned using the Compare function may sound slightly different than when it is played normally.

4. If you wish to change the save destination, re-specify the save-destination rhythm set by using ▲ or ▼.

5. Press [7 (Write)].

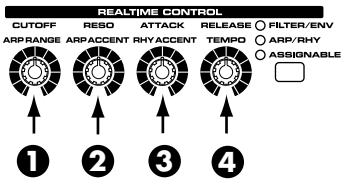
6. Press [8 (Exec)] once again to execute the Save operation.

Functions of Rhythm Set Parameters

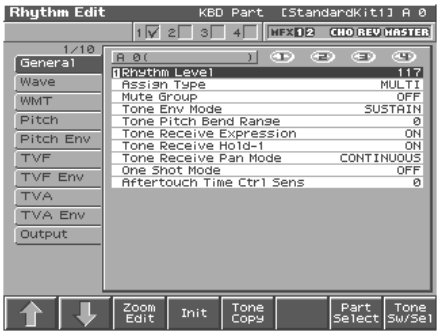
This section explains the functions the different rhythm set parameters have, as well as the composition of these parameters.

If a number is displayed for the parameter name, (❶, ❷, ❸, ❹), you can use the realtime controller knob of the corresponding number (the left most knob is number 1, the right most knob is number 4) to set the value.

When you enter the Rhythm Edit screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the parameters of the patch or rhythm set. If you once again press the button located at the right of the Realtime Control knobs to make the indicator light, the knobs will control their original functions. When you exit the Rhythm Edit screen, the indicator will automatically return to its previous lit state.



Making Settings Common to the Entire Rhythm Set (General)



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

NOTE

Rhythm Level applies to the entire rhythm set; the other parameters are set individually for each rhythm tone.

General

Rhythm Level (Rhythm Set Level) ❶

Sets the volume of the rhythm set.

Value: 0–127

HINT

The volume levels of the tones from which the rhythm set is composed is set with the Tone Level parameter (p. 74). The volume levels of the Waves from which the rhythm tone is composed is set with the Wave Level parameter (p. 70).

Tone Name (Rhythm Tone Name)

You can assign a name of up to 12 characters to the rhythm tone.

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

For details on assigning names, refer to **"Assigning a Name"** (p. 25)

Assign Type

Assign Type sets the way sounds are played when the same key is pressed a number of times.

Value

MULTI: Layer the sound of the same keys. Even with continuous sounds where the sound plays for an extended time, such as with crash cymbals, the sounds are layered, without previously played sounds being eliminated.

SINGLE: Only one sound can be played at a time when the same key is pressed. With continuous sounds where the sound plays for an extended time, the previous sound is stopped when the following sound is played.

Mute Group

On an actual acoustic drum set, an open hi-hat and a closed hi-hat sound can never occur simultaneously. To reproduce the reality of this situation, you can set up a Mute Group.

The Mute Group function allows you to designate two or more rhythm tones that are not allowed to sound simultaneously. Up to 31 Mute Groups can be used. rhythm tones that are not belong to any such group should be set to "OFF."

Value: OFF, 1–31

Tone Env Mode (Rhythm Tone Envelope Mode)

When a loop waveform (p. 66) is selected, the sound will normally continue as long as the key is pressed. If you want the sound to decay naturally even if the key remains pressed, set this to "NO SUS."

Value: NO-SUS, SUSTTAIN

NOTE

If a one-shot type Wave (p. 66) is selected, it will not sustain even if this parameter is set to "SUST."

Tone Pitch Bend Range (Rhythm Tone Pitch Bend Range)

Specifies the amount of pitch change in semitones (4 octaves) that will occur when the Pitch Bend Lever is moved. The amount of change when the lever is tilted is set to the same value for both left and right sides.

Value: 0–48

Tone Receive Expression (Rhythm Tone Receive Expression Switch)

For each rhythm tone, specify whether MIDI Expression messages will be received (ON), or not (OFF).

Value: OFF, ON

Tone Receive Hold-1 (Rhythm Tone Receive Hold-1 Switch)

For each rhythm tone, specify whether MIDI Hold-1 messages will be received (ON), or not (OFF).

NOTE

If "NO SUS" is selected for Env Mode parameter (p. 68), this setting will have no effect.

Tone Receive Pan Mode (Rhythm Tone Receive Pan Mode)

For each rhythm tone, specify how pan messages will be received.

Value

CONTINUOUS: Whenever Pan messages are received, the stereo position of the tone will be changed.

KEY-ON: The pan of the tone will be changed only when the next note is played. If a pan message is received while a note is sounding, the panning will not change until the next key is pressed.

NOTE

The channels cannot be set so as not to receive Pan messages.

One Shot Mode

The sound will play back until the end of the waveform (or the end of the envelope, whichever comes first). The result will be the same as when the envelope's Tone Env Mode parameter (p. 68) is set to NO-SUS. If you have set Wave Group (p. 69) to Sample, the loop setting will be forced to ONE SHOT.

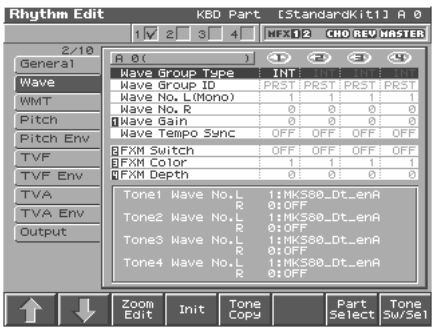
Value: OFF, ON

Aftertouch Time Ctrl Sens (Sensitivity)

If Wave Group is set to SAMPLE and Tempo Sync is ON, aftertouch will control the amount of time stretching/shrinking caused by Time Stretch. If Time Stretch is not being applied, nothing will happen. If the stretch/shrink time will become shorter, and if set to "-" the time will become longer.

Value: -63–+63

Modifying Waveforms (Wave)



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

MEMO

With rhythm tones, sounds are created by combining up to four Waves (eight for stereo).

Tips on Creating a Rhythm Tone

The Waves for the bass drum, snare, hi-hat, toms, and other percussion instruments are each assigned to one rhythm tone. When adding 3D effects to the sound, make the Pan settings for each rhythm tone individually.

Wave Group

Select the groups containing the Waves comprising the rhythm tone.

Value

INT: Waveforms stored in internal memory

EXP: Waveform stored in a Wave Expansion Board (SRX series) installed in EXP slots.

SMAP: Sample waveforms

MSAM: Multisample waveforms

NOTE

You cannot select a waveform group of a Wave Expansion Board that is not installed.

Wave Bank

Select the wave bank.

Value

When the wave group is EXP: A-D

When the wave group is SAMP: PRST, USER, CARD

When the wave group is MSAM: USER, CARD

Wave No. L (Mono) (Wave Number L (Mono)) Wave No. R (Wave Number R)

This selects the Waves comprising the rhythm tone. Along with the Wave number, the Wave name appears at the lower part of the display.

When in monaural mode, only the left side (L) is specified. When in stereo, the right side (R) is also specified.

Value: ----, 1–1228 (The upper limit will depend on the wave group.)

* *When using a multisample in stereo, you must specify the same number for L and R.*

Wave Tempo Sync ❶

When you wish to synchronize a Phrase Loop to the clock (tempo), set this to "ON." This is valid only when a separately sold wave expansion board is installed, and a waveform that indicates a tempo (BPM) is selected as the sample for a wave.

Value: OFF, ON

NOTE

- If a waveform from a wave expansion board is selected for the tone, turning the Wave Tempo Sync parameter "ON" will cause pitch-related settings (p. 71) and FXM-related settings (p. 69) to be ignored.
- If a sample is selected for a tone, you must first set the BPM (tempo) parameter of the sample.
- If a sample is selected for a tone, Wave Tempo Sync will require twice the normal number of voices.

Phrase Loop

Phrase loop refers to the repeated playback of a phrase that's been pulled out of a song (e.g., by using a sampler). One technique involving the use of Phrase Loops is the excerpting of a Phrase from a pre-existing song in a certain genre, for example dance music, and then creating a new song with that Phrase used as the basic motif. This is referred to as "Break Beats."

Realtime Time Stretch

If the wave group is "SAMP" or "MSAM," and the Wave Tempo Sync parameter is turned "ON," you can vary the playback speed of the waveform without affecting the pitch.

Wave Gain ❶

Sets the gain (amplification) of the waveform. The value changes in 6 dB (decibel) steps—an increase of 6 dB doubles the waveform's gain.

Value: -6, 0, +6, +12

FXM Switch ❷

This sets whether FXM will be used (ON) or not (OFF).

Value: OFF, ON

FXM

FXM (Frequency Cross Modulation) uses a specified waveform to apply frequency modulation to the currently selected waveform, creating complex overtones. This is useful for creating dramatic sounds or sound effects.

FXM Color ❸

Specifies how FXM will perform frequency modulation. Higher settings result in a grainier sound, while lower settings result in a more metallic sound.

Value: 1–4

FXM Depth ❹

Specifies the depth of the modulation produced by FXM.

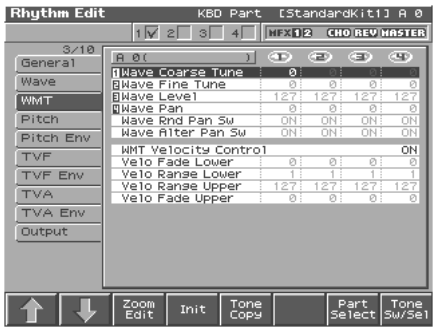
Value: 0–16

NOTE

When the Tempo Sync parameter is set to "ON," settings related to Pitch (p. 71) and FXM (p. 69) are disabled.

Changing How a Rhythm Tone Is Sounded (WMT)

The WMT (Wave Mix Table) uses key velocity to control the four waveforms assigned to the rhythm tone.



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

Wave Coarse Tune ❶

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

Value: -48– +48

HINT

The Coarse Tune of the entire rhythm tone is set by the Tone Coarse parameter (p. 71).

Wave Fine Tune ❷

Adjusts the pitch of the waveform's sound up or down in 1-cent steps (+/-50 cents).

Value: -50– +50

MEMO

One cent is 1/100th of a semitone.

HINT

The Fine Tune of the entire rhythm tone is set by the Tone Fine Tune parameter (p. 71).

Wave Level ❸

You can set the volume of the waveform.

Value: 0–127

HINT

The volume level of each rhythm tone is set with the Tone Level parameter; the volume levels of the entire rhythm set is set with the Rhythm Level parameter (p. 67).

Wave Pan ❹

This specifies the pan of the waveform. "L64" is far left, "0" is center, and "63R" is far right.

Value: L63–0–63R

WMT Velocity Control (Velocity Control Switch)

WMT Velocity Control determines whether a different rhythm tone is played (ON) or not (OFF) depending on the force with which the key is played (velocity).

When set to "RND," the rhythm set's constituent rhythm tones will sound randomly, regardless of any Velocity messages.

Value: OFF, ON, RANDOM

Wave Rnd Pan Sw (Wave Random Pan Switch)

Use this setting to cause the waveform's panning to change randomly each time a key is pressed (ON) or not (OFF).

Value: OFF, ON

The range of the panning change is set by the Rnd Pan Depth parameter (p. 74).

Wave Alter Pan Sw (Wave Alternate Pan Switch)

This setting causes panning of the waveform to be alternated between left and right each time a key is pressed. Set Alternate Pan Switch to "ON" to pan the Wave according to the Alter Pan Depth parameter (p. 74) settings, or to "REV" when you want the panning reversed. If you do not want the panning to change each time a key is pressed, set this to "OFF."

Range: OFF, ON, REV

Velo Fade Lower (Velocity Fade Width Lower)

This Determines what will happen to the tone's level when the tone is played at a velocity lower than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to "0."

Value: 0–127

Velo Range Lower (Velocity Range Lower)

This sets the lowest velocity at which the waveform will sound. Make these settings when you want different waveforms to sound in response to notes played at different strengths.

Value: 1–UPPER

Velo Range Upper (Velocity Range Upper)

This sets the highest velocity at which the waveform will sound. Make these settings when you want different waveforms to sound in response to notes played at different strengths.

Value: LOWER–127

NOTE

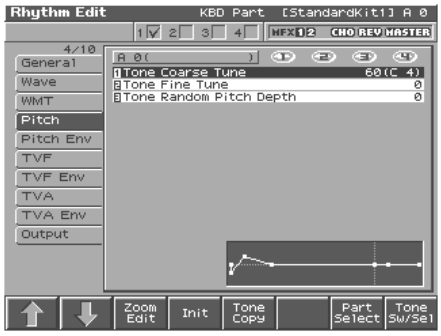
If you attempt to set the Lower velocity limit above the Upper, or the Upper below the Lower, the other value will automatically be adjusted to the same setting.

Velo Fade Upper (Velocity Fade Width Upper)

This determines what will happen to the tone's level when the tone is played at a velocity greater than its specified velocity range. Higher settings produce a more gradual change in volume. If you want notes played outside the specified key velocity range to not be sounded at all, set this to "0."

Value: 0–127

Modifying Pitch (Pitch/Pitch Env)



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

Pitch

Tone Coarse Tune (Rhythm Tone Coarse Tune) ❶

Selects the pitch at which a rhythm tone sounds.

Value: C-1– G9

HINT

Set the coarse tuning for Waves comprising the rhythm tones with the Wave Coarse Tune parameter (p. 70).

Tone Fine Tune (Rhythm Tone Fine Tune) ❷

Adjusts the pitch of the rhythm tone's sound up or down in 1-cent steps (+/-50 cents).

Value: -50– +50

MEMO

One cent is 1/100th of a semitone.

HINT

Set the fine tuning for Waves comprising the rhythm tones with the Wave Fine Tune parameter (p. 70).

Tone Random Pitch Depth ❸

This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to "0." These values are in units of cents (1/100th of a semitone).

Value: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

Pitch Env

P-Env Depth (Envelope Depth)

Adjusts the effect of the Pitch Envelope. Higher settings will cause the pitch envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.

Value: -12– +12

P-Env V-Sens (Pitch Envelope Velocity Sensitivity)

Keyboard playing dynamics can be used to control the depth of the pitch envelope. If you want the pitch envelope to have more effect for strongly played notes, set this parameter to a positive (+) value. If you want the pitch envelope to have less effect for strongly played notes, set this to a negative (-) value.

Value: -63– +63

P-Env T1 V-Sens (Pitch Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the Pitch envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

P-Env T4 V-Sens (Pitch Envelope Time 4 Velocity Sensitivity)

Use this parameter when you want key release speed to impact on Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

P-Env Time 1–4 (Pitch Envelope Time 1–4) ❶, ❷, ❹

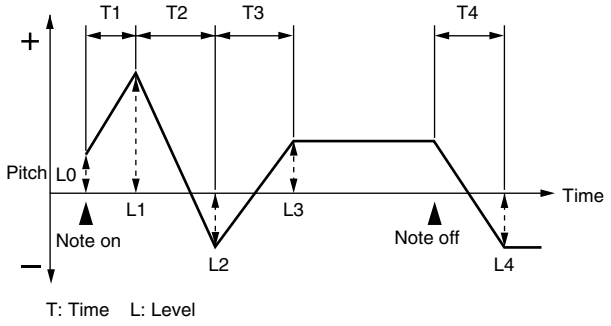
Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)

Value: 0–127

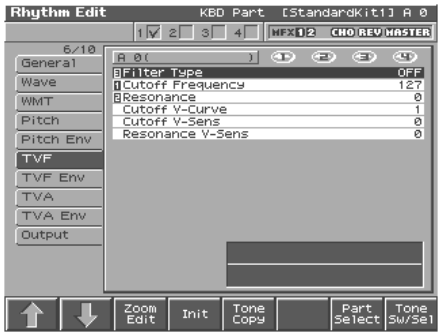
P-Env Level 0–4 (Pitch Envelope Level 0–4) ❸

Specify the pitch envelope levels (Level 0–Level 4). It determines how much the pitch changes from the reference pitch (the value set with Coarse Tune or Fine Tune on the Pitch screen) at each point. Positive (+) settings will cause the pitch to be higher than the standard pitch, and negative (-) settings will cause it to be lower.

Value: -63– +63



Modifying the Brightness of a Sound with a Filter (TVF/TVF Env)



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

TVF

Filter Type ❸

Selects the type of filter. A filter is a function that cuts off a specific frequency band to change a sounds brightness, thickness, and other qualities.

Value

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency (Cutoff Frequency). in order to round off, or un-brighten, the sound. This is the most common filter used in synthesizers.

BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency (Cutoff Frequency), and cuts the rest. This can be useful when creating distinctive sounds.

HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency (Cutoff Frequency). This is suitable for creating percussive sounds emphasizing their higher ones.

PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency (Cutoff Frequency). You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

LPF2: Low Pass Filter 2. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter is half that of the LPF. This makes it a comparatively warmer low pass filter. This filter is good for use with simulated instrument sounds such as the acoustic piano.

LPF3: Low Pass Filter 3. Although frequency components above the Cutoff frequency (Cutoff Frequency) are cut, the sensitivity of this filter changes according to the Cutoff frequency. While this filter is also good for use with simulated acoustic instrument sounds, the nuance it exhibits differs from that of the LPF2, even with the same TVF Envelope settings.

NOTE

If you set "LPF2" or "LPF3," the setting for the Resonance parameter will be ignored.

Cutoff Frequency ❶

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

Value: 0–127

With "LPF/LPF2/LPF3" selected for the Filter Type parameter, lower cutoff frequency settings reduce a tone's upper harmonics for a more rounded, warmer sound. Higher settings make it sound brighter.

If "BPF" is selected, harmonic components will change depending on the TVF Cutoff Frequency setting. This can be useful when creating distinctive sounds.

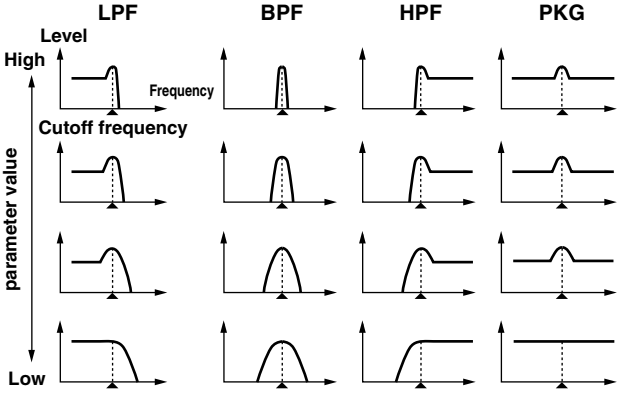
With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound.

With "PKG" selected, the harmonics to be emphasized will vary depending on Cutoff Frequency setting.

Resonance ❷

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Value: 0–127



Cutoff V-Curve (Cutoff Frequency Velocity Curve)

Selects one of the following seven curves that determine how keyboard playing dynamics (velocity) influence the cutoff frequency. Set this to "FIXED" when the Cutoff frequency is not to be changed according to the force with which the keys are pressed.

Value: FIXED, 1–7

Cutoff V-Sens (Cutoff Velocity Sensitivity)

Use this parameter when changing the cutoff frequency to be applied as a result of changes in playing velocity. If you want strongly played notes to raise the cutoff frequency, set this parameter to positive (+) settings. If you want strongly played notes to lower the cutoff frequency, use negative (-) settings.

Value: -63– +63

Resonance V-Sens (Resonance Velocity Sensitivity)

This allows keyboard velocity to modify the amount of Resonance. If you want strongly played notes to have a greater Resonance effect, set this parameter to positive (+) settings. If you want strongly played notes to have less Resonance, use negative (-) settings.

Value: -63– +63

TVF Env

F-Env Depth (TVF Envelope Depth)

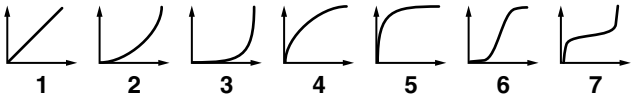
Specifies the depth of the TVF envelope. Higher settings will cause the TVF envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.

Value: -63– +63

F-Env V-Curve (TVF Envelope Velocity Curve)

Selects one of the following 7 curves that will determine how keyboard playing dynamics will affect the TVF envelope. Set this to "FIXED" when the amount of TVF Envelope applied is not to be changed according to the force with which the keys are pressed.

Value: FIX, 1–7



F-Env V-Sens (TVF Envelope Velocity Sensitivity)

Specifies how keyboard playing dynamics will affect the depth of the TVF envelope. Positive (+) settings will cause the TVF envelope to have a greater effect for strongly played notes, and negative (-) settings will cause the effect to be less.

Value: -63– +63

F-Env T1 V-Sens (TVF Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the TVF envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

F-Env T4 V-Sens (TVF Envelope Time 4 Velocity Sensitivity)

The parameter to use when you want key release speed to control the Time 4 value of the TVF envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

F-Env Level 1–4 (TVF Envelope Level 1–4) ❶, ❷, ❹

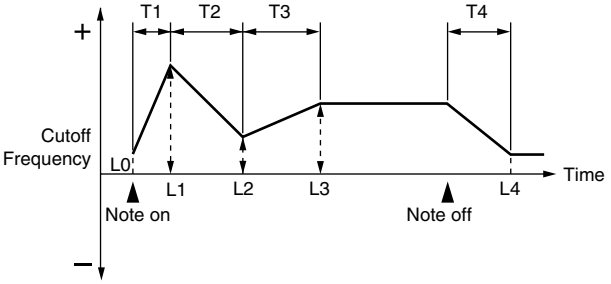
Specify the TVF envelope levels (Level 0–Level 4). These settings specify how the cutoff frequency will change at each point, relative to the standard cutoff frequency (the cutoff frequency value specified in the TVF screen).

Value: 0–127

F-Env Time 1–4 (TVF Envelope Time 1–4) ❸

Specify the TVF envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127



T: Time L: Level

Adjusting the Volume (TVA/TVA Env)

For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

TVA

Tone Level (Rhythm Tone level) ❶

Sets the volume of the rhythm tone. Use this parameter to adjust the volume balance between rhythm tones.

Value: 0–127

HINT

The volume levels of the Waves from which the rhythm tone is composed is set with the WMT1–4 Wave Level parameter (p. 70).

Level V-Curve (Level Velocity Curve)

You can select from seven curves that determine how keyboard playing strength will affect the volume. If you do not want the volume of the rhythm tone to be affected by the force with which you press the key, select "FIXED."

Value: FIXED, 1–7

Level V-Sens (Level Velocity Sensitivity)

Set this when you want the volume of the rhythm tone to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in rhythm tone volume increase the more forcefully the keys are played; to make the tone play more softly as you play harder, set this to a negative (-) value.

Value: -63– +63

Tone Pan (Rhythm Tone Pan) ❷

Sets the pan for the rhythm tone. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

HINT

Set the Pan for Waves comprising the rhythm tones with the Wave Pan parameter (p. 70).

Random Pan Depth ❸

Use this parameter when you want the stereo location to change randomly each time you press a key. Higher settings will produce a greater amount of change.

Value: 0–63

NOTE

This will affect only waves whose Wave Rnd Pan Sw parameter (p. 70) is ON.

Alternate Pan Depth ❹

This setting causes panning to be alternated between left and right each time a key is pressed. Higher settings will produce a greater amount of change. "L" or "R" settings will reverse the order in which the pan will alternate between left and right. For example if two rhythm tones are set to "L" and "R" respectively, the panning of the two rhythm tones will alternate each time they are played.

Value: L63–0–63R

NOTE

This will affect only waves whose Wave Alter Pan Sw parameter (p. 70) is ON or REV.

TVA Env

A-Env T1 V-Sens (TVA Envelope Time 1 Velocity Sensitivity)

This allows keyboard dynamics to affect the Time 1 of the TVA envelope. If you want Time 1 to be speeded up for strongly played notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

A-Env T4 V-Sens (TVA Envelope Time 4 Velocity Sensitivity)

The parameter to use when you want key release speed to control the Time 4 value of the TVA envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

A-Env Time 1–4 (TVA Envelope Time 1–4) ❶, ❷, ❹

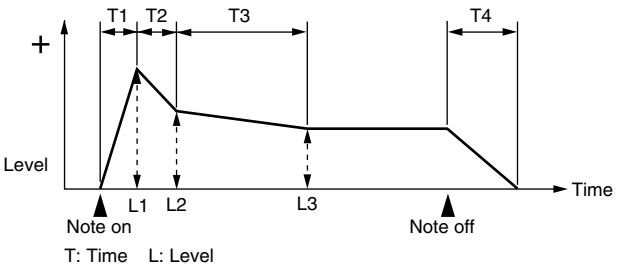
Specify the TVA envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

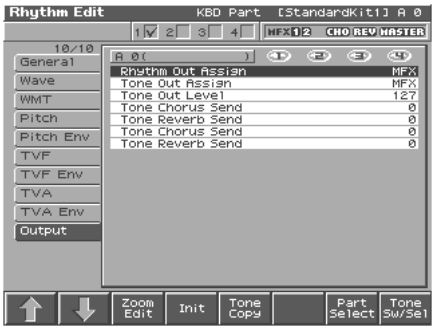
A-Env Level 1–3 (TVA Envelope Level 1–3) ❸

Specify the TVA envelope levels (Level 1–Level 3). These settings specify how the volume will change at each point, relative to the standard volume (the Rhythm Tone Level value specified in the TVA screen).

Value: 0–127



Output Settings



For details on the setting, refer to **"How to Make the Rhythm Set Settings"** (p. 64).

Rhythm Out Assign

Specifies for each rhythm set how the direct sound will be output.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

NOTE

When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

Tone Out Assign

Sets the direct sound's output method for each tone.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

NOTE

- If the Rhythm Output Assign is set to anything other than "TONE," these settings will be ignored.
- When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

HINT

- When setting the "MFX," set the output destination with the MFX Output Assign (p. 179) for the sound after it has passed through the multi-effects.
- Chorus and reverb are output in mono at all times.
- The output destination of the signal after passing through the chorus is set with the Chorus Output Select (p. 177) and the Chorus Output Assign (p. 177).
- The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (p. 177).

Tone Out Level

Set the level of the signal that is sent to the output destination specified by Patch/Tone Output Assign.

Value: 0–127

Tone Chorus Send (Send Level (Output=MFX)) ❶

Specifies the level of the signal sent to the chorus for each tone if the tone is sent through MFX.

Value: 0–127

Tone Reverb Send (Send Level (Output=MFX)) ❷

Specifies the level of the signal sent to the reverb for each tone if the tone is sent through MFX.

Value: 0–127

Tone Chorus Send (Send Level (Output=non MFX)) ❸

Sets the level of the signal sent to chorus for each tone if the tone is not sent through MFX.

Value: 0–127

Tone Reverb Send (Send Level (Output=non MFX)) ❹

Sets the level of the signal sent to reverb for each tone if the tone is not sent through MFX.

Value: 0–127

Setting Effects for a Rhythm Set (Effects/MFX/MFX Control/Chorus/Reverb)

For details regarding effect settings, refer to the pages shown below.

- **"Applying Effects in Patch Mode"** (p. 175)
- **"Making Multi-Effects Settings (MFX1–3)"** (p. 180)
- **"Making Chorus Settings (Chorus)"** (p. 182)
- **"Making Reverb Settings (Reverb)"** (p. 182)

Playing in Performance Mode

A performance contains settings that apply to each individual part, such as the patch (rhythm set) assigned to each part, and its volume and pan.

Broadly speaking, Performance mode consists of two screens: Layer screen and Mixer screen.

Use the Layer screen (p. 76) when you want to combine multiple sounds (patches or rhythm sets) to create complex sounds. This lets you play patches together ("layer") or play different patches in separate areas of the keyboard ("split").

Use the Mixer screen (p. 76) when you want to mix the sounds by adjusting the level and pan for each of 16 parts.

When you play the keyboard, you will hear the current part and the parts that have a check mark.

In addition to the settings of each part, the following settings can also be stored for each performance.

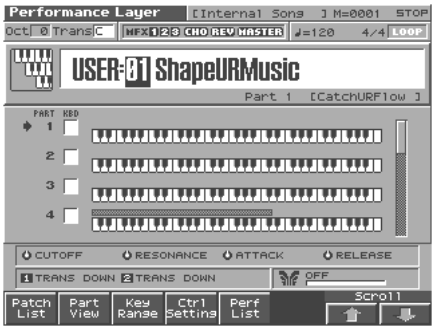
- Controller settings such as the D Beam, realtime control knobs, assignable switches, and pads
- Arpeggio and chord memory settings
- Rhythm group number

Displaying Performance Layer Screen

To access the Performance Layer screen, use the following procedure.

1. **Press PERFORMANCE [LAYER/SPLIT].**

   You will enter Performance mode, and the Layer screen appears.

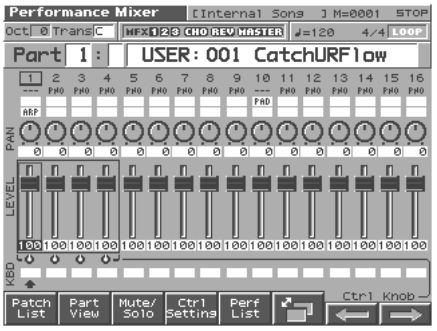


Displaying Performance Mixer Screen

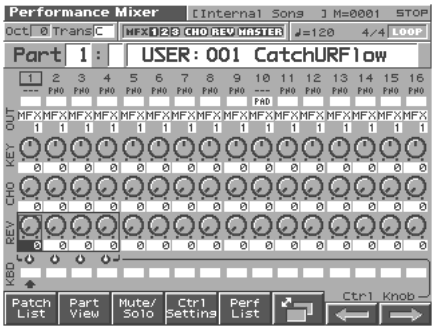
To access the Performance Mixer screen, use the following procedure.

1. **Press PERFORMANCE [MIXER].**

   You will enter Performance mode, and the Mixer screen appears.

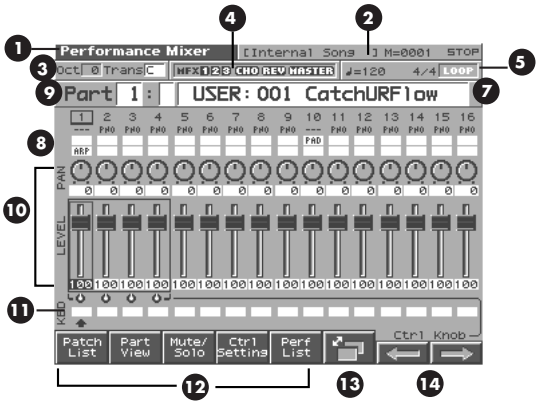


2. **Press [6] to switch the page.**

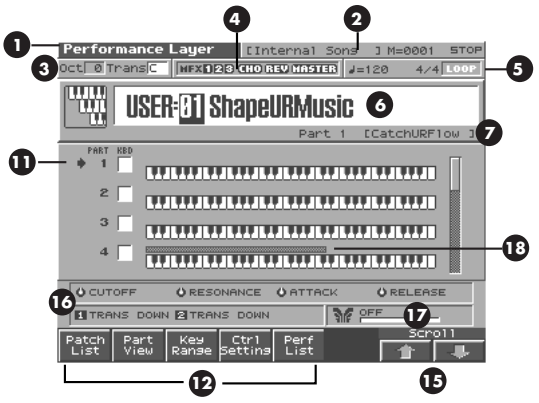


Functions in the PERFORMANCE Layer/Mixer Screen

MIXER screen



LAYER screen



❶ Indicates the current sound generating mode.

❷ Indicates the name of the currently selected song, the measure location, the time signature, and the sequencer status.

❸ Indicates the Octave Shift (Oct) and the Transpose (Trans).

❹ Indicates multi-effects (MFX), chorus (CHO), reverb (REV) and mastering (MASTER) on and off.

❺ Indicates the tempo at which the song, Arpeggio or rhythm pattern is played.
Indicates the Loop Play on/off (LOOP).

❻ MIXER screen: Indicates the group, number, and name of the selected performance.
LAYER screen: Selects the group, number of the selected performance.

❼ LAYER screen: Displays the patches assigned to the parts.
When you switch the current part, the part number will also change.

❽ Indicates that this is the Pad part and Arpeggio part.

❾ Current Indicates the part.

❿ Set the pan (PAN), volume (LEVEL), reverb (REV), chorus (CHO), key shift (KEY), and output destination (OUT) of the part.
The setting screen is divided into two screens, and you can press function button [6] to switch between them.

⓫ Turns the keyboard switch on/off.
For the currently selected part, an "⇑" (MIXER screen) or "⇒" (LAYER screen) will be displayed.

⓬ Jumps to the setting screen of the displayed parameter.

⓭ Switches the setting screen.

⓮ Selects the part whose settings will be modified by the realtime control knobs.
The four knobs correspond to the four selected parts. Turn the knobs to adjust the values.

⓯ Scrolls the settings through parts 1-16.

⓰ Indicates the functions that are assigned to each realtime controller knob (●) and assignable switch (■).

⓱ This indicates the function that is assigned to the D Beam controller,
and the response status of the D Beam controller.

⓲ Indicates the key range in which you can play the keyboard or play rhythm sets.

Selecting a Performance

The Fantom-S has two performance groups, including the User group and Preset groups, with each group storing 64 performances, for a total of 128 performances.

USER

This is the group inside the Fantom-S which can be rewritten. Performances you yourself create can be stored in this group. The Fantom-S contains 64 preset performances.

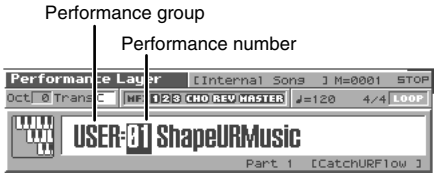
PRST (Preset)

This is the group inside the Fantom-S which cannot be rewritten. However you may modify the settings of the currently selected performance, and then store the modified performance in User memory. The Fantom-S contains 64 preset performances.

CARD (Memory Card)

This group lets you use patches stored on a memory card inserted in the rear panel card slot. Since the data in this group can be rewritten, you can use this group to store patches that you create.

1. **Press [LAYER/SPLIT].**
2. **Press [CURSOR] to move the cursor to the performance group.**

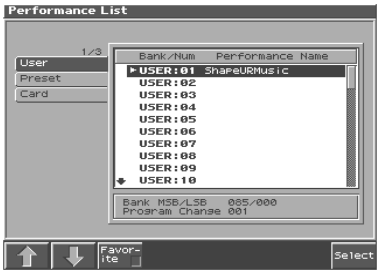


3. **Turn the VALUE dial, or press [INC]/[DEC] to select a performance group.**
   USER: User
   PRST: Preset
   CARD: Memory Card
4. **Press [CURSOR] to move the cursor to the performance number.**
5. **Turn the VALUE dial or press [INC]/[DEC] to select the performance number.**

Selecting Performances from the List

You can display a list of performances and select a performance from that list.

1. **Press [LAYER/SPLIT] or [MIXER].**
2. **Press [5 (Perf List)].**
   The Performance List screen appears.



3. **To switch the performance group, press [2 (⇑)] [3 (⇓)] to move the cursor to the performance group tab, and press ▲ or ▼ to select the performance.**
4. **Press [8 (Select)] to close the Performance List screen.**

Selecting Favorite Performances (Favorite Sound)

You can bring together your favorite and most frequently used performances in one place by registering them in the Favorite sound. By using this function you can quickly select your favorite performances from internal memory.

For instructions on how to register to the Favorite Sounds, refer to **"Registering a Favorite Performance (Favorite Sound)"** (p. 79).

1. **Press [LAYER/SPLIT] or [MIXER].**
2. **Press [5 (Perf List)] and then press [3 (Favorite)].**
   The Favorite List screen appears.

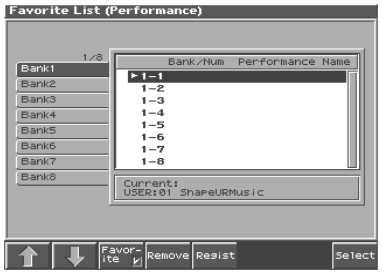
3. **Press ▲ or ▼ to select a performance number.**
   To switch banks, press [1 (⇑)] [2 (⇓)].
4. **Press [8 (Select)] to select the patch.**

Registering a Favorite Performance (Favorite Sound)

You can bring together your favorite and most frequently used Performances in one place by registering them in the Favorite sound. By using this function you can rapidly select favorite Performances from internal memory or a Wave Expansion Board. You can register a total of 64 Performances (8 sounds x 8 banks) as favorite sounds.

For details on selecting a favorite sound, refer to **"Selecting Favorite Performances (Favorite Sound)"** (p. 78).

1. **Select the Performance that you wish to register (p. 78).**
2. **Press [5 (Perf List)].**
3. **Press [3 (Favorite)].**
   The Favorite List screen appears.



4. **Press [1 (⇑)] [2 (⇓)] to select the bank in which you wish to register the Performance.**
5. **Press ▲ or ▼ to select the number to which you wish to register. The number you select here corresponds to [1]–[8].**
6. **Press [5 (Regist)] to execute the registration.**

* *To cancel, press [EXIT].*

HINT

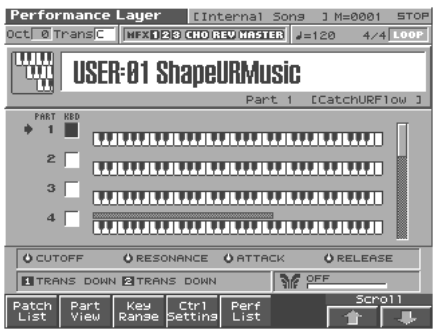
By pressing [4 (Remove)] you can cancel the Performance registration that is selected in the Favorite List screen.

Using the Layer Screen

Selecting a Part

The currently selected part is called the "current part."

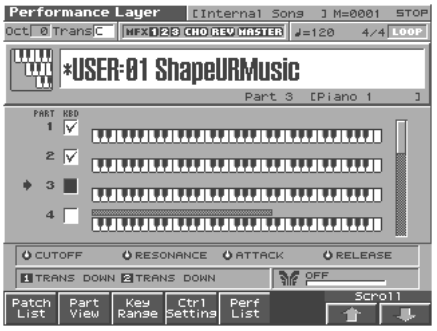
1. **From the Layer screen, Use ▼ or ▲ to select the part.**
   The selected part is indicated by "▶".



Selecting the Part that You want to Sound

Here's how to select the part that you want to sound the assigned patch or rhythm set.

1. **From the Layer screen, Use [CURSOR] to move the cursor to "KBD," and press [INC] to add a check mark (✔) to "KBD."**
   When you play the keyboard, you will hear the current part and the parts that have a check mark.



About the keyboard switch

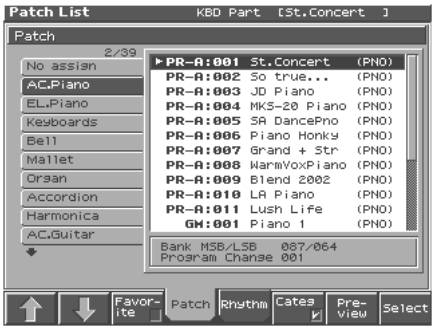
Use the keyboard switch when you want to play multiple sounds layered together (Layer) or assign different sounds to different regions of the keyboard (Split). Conversely, you can turn off all keyboard switches when you are creating data, etc.

Selecting the Sound for a Part

If you don't like the patch that is assigned to a part, it's easy to switch the patch.

Selecting from a list display

1. **Select the part whose sound you want to switch.**
2. **Press [1 (Patch List)].**
   The Patch List screen will appear.



* *To cancel, press [EXIT].*

3. **Use ▲ or ▼ to select a patch.**
   If [6 (Categ)] has a check mark (✔), the list will show the categories. If you press [6 (Categ)] to remove the check mark, the list will show the patch groups.

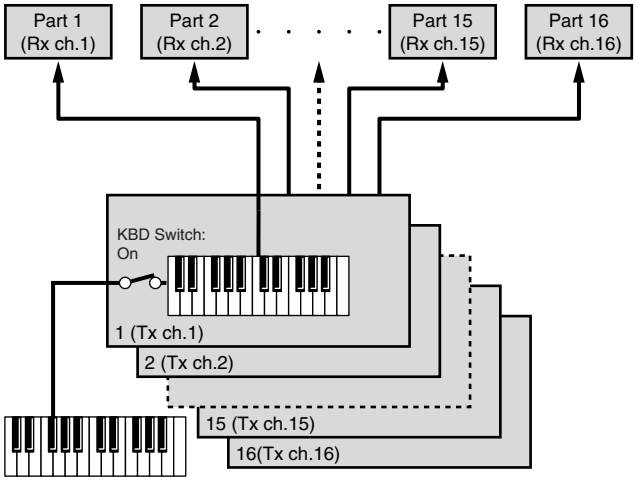
To switch groups, press [1 (⇑)] [2 (⇓)].

By Pressing [7 (Preview)] you can audition the sound of the patch, by means of a phrase preselected as being suitable for that particular type (category) of patch (Phrase Preview).

4. Press [8 (Select)] to select the patch.

Combining and Playing Sounds Together (Layer)

In Performance mode you can play the sounds of all parts whose Internal Switch is on, and all connected parts. Combining the parts will produce, thicker, fatter sounds.



Rx ch.: Receive Channel
Tx ch.: Transmit Channel

1. Press [LAYER/SPLIT] to access the Layer screen.

2. Press ▲ or ▼ to select the part you want to play.

The Performance Edit screen appears.

3. Press [INC] to add a check mark to the part that you want to sound.

Pressing [DEC] will remove the check mark.

The bar shown above the keyboard indicates the range of keys that will sound.

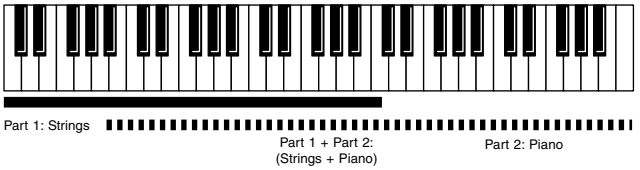
When you play the keyboard, you will hear the current part and the parts that have a check mark.

4. Repeat steps 2. 3. to turn the Internal Switch on for all parts that are connected to the parts you want to play.

Playing Different Sounds in Different Areas of the Keyboard (Split)

In Performance mode you can divide the keyboard and play a different patch in each area (this is called "split"). As the note range that plays each part can be specified individually, you can split the keyboard into a maximum of 16 sections.

For instance, you can play strings in the lower range, piano in the upper range, and both sounds in the middle range.



MEMO

A split performance is one application of a layer. Changing the key range of each part in the layer results in a split.

1. Press [LAYER/SPLIT] to access the Layer screen.

2. Press ▲ or ▼ to select the part you want to play.

3. Press [3 (Key Range)].

4. Press [3 (KBD)], move the cursor to the keyboard switch, and press [INC] to turn on the keyboard switch that is connected to the part you want to sound.

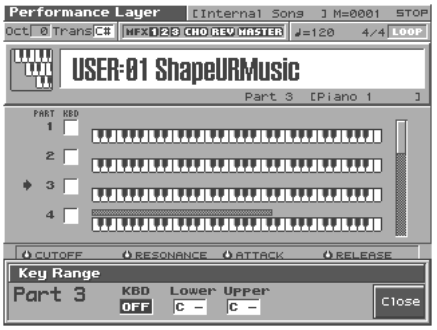
5. To set the lower limit of the range, use [4 (Lower)] to move the cursor to "Key Range Lower." To set the lower limit of the range, use [5 (Upper)] to move the cursor to "Key Range Upper."

Turn the VALUE dial or press [INC]/[DEC] to specify the range.

The bar shown above the keyboard indicates the range of keys that will sound.

NOTE

If you attempt to set the lower limit higher than the upper limit, or attempt to set the upper limit below the lower limit, the other setting will change with the same value.



Value: Key Range Lower: C-1–UPPER
Key Range Upper: LOWER–G9

HINT

By specifying sections for different parts so that they overlap each other, you can combine two or more parts only in a specific section.

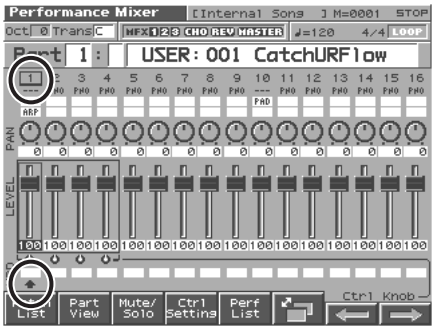
6. When you are finished making settings, press [8 (Close)] to return to the Performance Layer screen, and begin playing.

Using the Mixer Screen

Selecting a Part

The currently selected part is called the "current part."

1. From the Mixer screen, Use ◀ or ▶ to select the part.



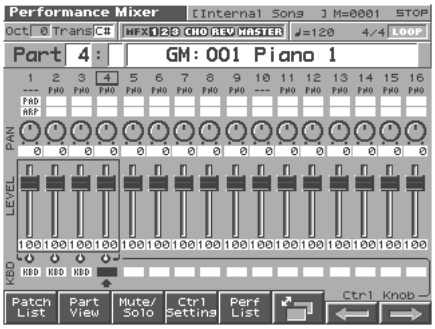
* *Use [CURSOR] to move the "Part", and turn VALUE dial or press [INC] [DEC] to select the part.*

Here's how to select the part that you want to sound the assigned patch or rhythm set.

1. From the Mixer screen, Use [CURSOR] to move the cursor to the bottom of the screen.

2. Press [INC] to display "KBD," and select the part that you want to sound.

When you play the keyboard, you will hear the current part and the parts that have a check mark (KBD).



About the keyboard switch

Use the keyboard switch when you want to play multiple sounds layered together (Layer) or assign different sounds to different regions of the keyboard (Split). Conversely, you can turn off all keyboard switches when you are creating data, etc.

Selecting the Sound for a Part

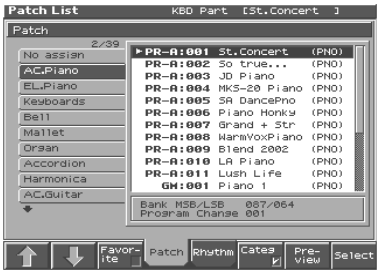
If you don't like the patch that is assigned to a part, it's easy to switch the patch.

Selecting from a list display

1. Select the part whose sound you want to switch.

2. Press [1 (Patch List)].

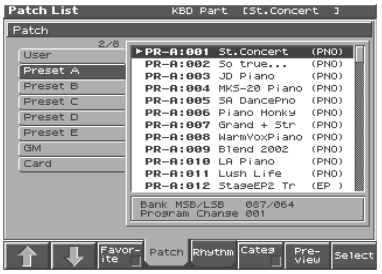
The Patch List screen will appear.



* *To cancel, press [EXIT].*

3. Use ▲ or ▼ to select a patch.

If [6 (Categ)] has a check mark (✔), the list will show the categories. If you press [6 (Categ)] to remove the check mark, the list will show the patch groups.



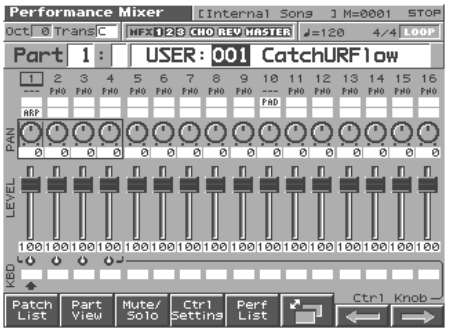
To switch groups, press [1 (⇑)] [2 (⇓)].

By Pressing [7 (Preview)] you can audition the sound of the patch, by means of a phrase preselected as being suitable for that particular type (category) of patch (Phrase Preview).

4. Press [8 (Select)] to select the patch.

Selecting in the Mixer Screen

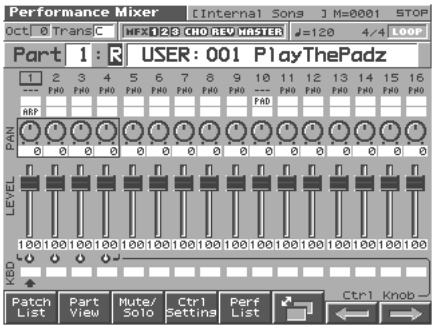
1. Press [MIXER] to access the MIXER screen, and use [CURSOR] to move the cursor to the patch name.



2. Turn the VALUE dial or use [INC] [DEC] to select a patch.

Selecting the Rhythm Set

1. **Press [MIXER] to access the Mixer screen, and use [CURSOR] to move the cursor to the following location.**



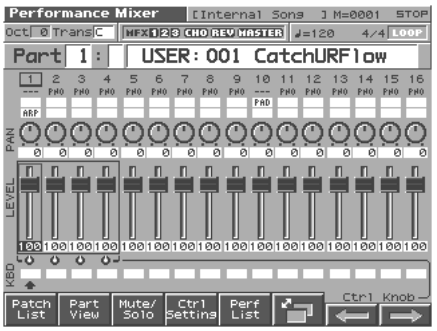
2. **Turn the VALUE dial or press [INC] [DEC] to select "R."**
   The rhythm set will be selected.

Editing the Part Settings

The following Part parameters can be edited from the Mixer screen:

- Level (p. 85)
- Pan (p. 85)
- Chorus Send Level (p. 85)
- Reverb Send Level (p. 85)
- Chorus Tune (p. 86)
- Output Assign (p. 85)

1. **Press [MIXER].**

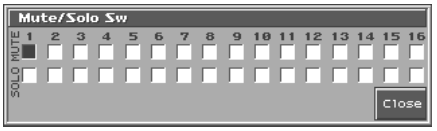


2. **Use ▲ ▼ to move the cursor to the pan (PAN) or level (LEVEL) value.**
3. **Turn the VALUE dial or use [INC] [DEC] to set the value.**
4. **Press [6] to switch the page.**
5. **Use ▲ ▼ to move the cursor to the reverb send level (REV), chorus send level (CHO), coarse tune (KEY), or output assign (OUT) values.**
6. **Turn the VALUE dial or use [INC] [DEC] to set the value.**
7. **By pressing [7 (⇐)] [8 (⇒)] or ▲ ▼ you can move the frame within the screen.**
   The frame corresponds to the four REALTIME CONTROL knobs located at the left of the display. Turning the left most knob will edit the left most value enclosed by the frame.

Selecting a Part to Play Individually (Solo)

You can have only the performance of a specific part be played when playing back a song.

1. **Press [MIXER] to access the Mixer screen.**
2. **Press [3 (Mute/Solo)].**
   The Mute Solo window appears.



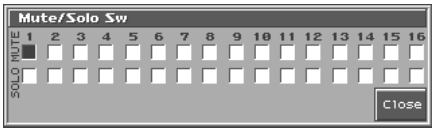
3. **Use [CURSOR] to move the cursor to the "SOLO" area of the part that you want to play by itself.**
4. **Turn the VALUE dial or press [INC]/[DEC] to assign a check mark (✔).**
   When a song is played back, only the parts with a check mark will play back.
5. **Press [8 (Close)].**

MEMO
This setting is linked with the Solo Part Select parameter (Part View screen), and can be saved as a performance setting (p. 96).

Silencing the Playback of a Specific Part (Mute)

While you play along with the playback of a song, you can turn off the specific part. This allows you to turn off the melody part for karaoke applications or for practicing the muted part.

1. **Press [MIXER] to access the Mixer screen.**
2. **Press [3 (Mute/Solo)].**
   The Mute Solo window appears.



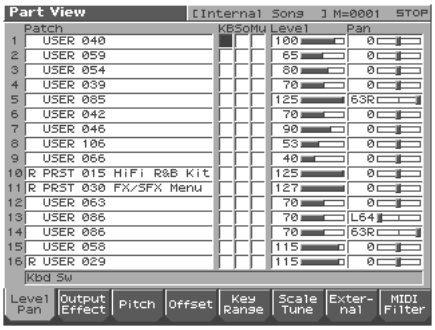
3. **Use [CURSOR] to move the cursor to the "Mute" area of the part that you want to mute.**
4. **Turn the VALUE dial or press [INC]/[DEC] to assign a check mark (✔).**
   When a song is played back, the parts with a check mark will not play back.
5. **Press [8 (Close)].**

MEMO
Part Mute does not turn off the MIDI receive switch; rather, it sets the volume to the minimum setting to silence the sound. Therefore, MIDI messages are still received.

Viewing the Part Settings as a List (Performance Part View)

In Performance mode you can view the part settings as a list. This is called the "Part View" screen. In this screen you can view a list that shows settings for all parts at once, such as the patch assigned to each part, and its volume and pan settings. You can also edit these settings here, and make detailed settings that cannot be made in the Layer screen or Mixer screen.

1. **Access the Performance Layer or Mixer screen.**
2. **Press [2 (Part View)].**
   The Part View screen will appear.
   For detail on the setting, refer to **"Viewing the Part Settings as a List (Performance Part View)"** (p. 84).



3. **Press [1 (Level/Pan)]–[8 (MIDI Filter)] to select the screen.**
4. **Press [EXIT] to return to the Layer or Mixer screen.**

Performing with the Arpeggio/ Rhythm function

For detail on the setting, refer to **"Playing Arpeggios (ARPEGGIO/ RHYTHM Function)"** (p. 104).

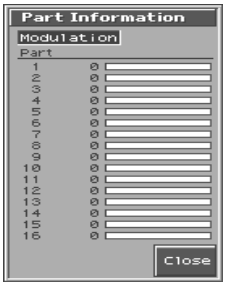
Performing with the Realtime Controllers and D Beam Controller

For detail on the setting, refer to **"Make Settings for the Realtime Controllers and D Beam Controller (Ctrl)"** (p. 92).

Confirming MIDI Information for Each Part (Part Information)

In Performance mode, the reception status of MIDI messages that control various things can be viewed for each part. This is useful when you want to check whether the sound generator is responding correctly to the keyboard, or to operations from an external MIDI controller.

1. **Access the Performance Layer or Mixer screen (p. 76).**
2. **Press [MENU] to open the Menu window.**
3. **Press ▲ or ▼ to select "Part Information," and then press [ENTER].**
   The Part Information window appears.



4. **Turn VALUE dial or press [INC][DEC] to select the message that you want to check.**
   Modulation: Modulation Information
   Breath: Breath Information
   Foot Type: Foot type Information
   Volume: Volume Information
   Panpot: Panpot Information
   Expression: Expression Information
   Hold 1: Hold 1 Information
   Pitch Bend: Pitch Bend Information
   Aftertouch: Aftertouch Information
   Voices: Voice Information (The number of voices used)
5. **Press [8 (Close)] to close the window.**

Creating a Performance

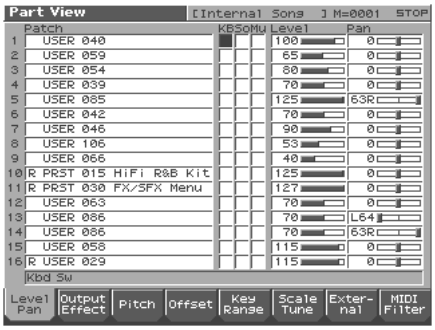
With the Fantom-S, you have total control over a wide variety of settings. Each item that can be set is known as a **parameter**. When you change the values of parameters, you are doing what is referred to as **Editing**. This chapter explains the procedures used in creating Performances, and the functions of the Performance parameters.

Viewing the Part Settings as a List (Performance Part View)

In Performance mode you can view the part settings as a list. This is called the "Part View" screen. In this screen you can view a list that shows settings for all parts at once, such as the patch assigned to each part, and its volume and pan settings. You can also edit these settings here, and make detailed settings that cannot be made in the Layer screen, or Mixer screen.

1. **Access the Performance Layer or Mixer screen.**
2. **Press [2 (Part View)].**

   The Part View screen will appear.



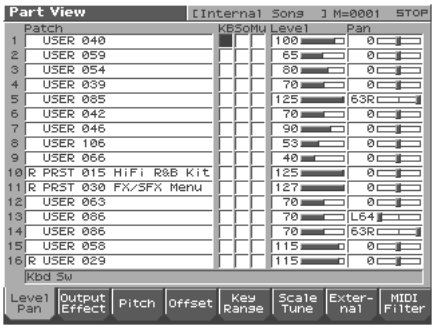
3. **When you have finished making settings, press [EXIT] to return to the LAYER/SPLIT or Mixer screen.**

HINT

When the cursor is at a patch group or patch number, you can press [ENTER] to open the Patch List screen and choose a patch from the list (p. 28).

Adjusting the Parameters of Each Part

1. **Access the Part View screen (p. 95).**
2. **Press [1 (Level/Pan)]–[8 (MIDI Filter)] to select the parameter.**



3. **Use [CURSOR] to move the cursor to the parameter you want to change.**
4. **Turn the VALUE dial or press [INC]/[DEC], set the value.**

* *The name of the parameter at the cursor location is displayed in the bottom line of the Part View screen.*

[1 (Level/Pan)]

Patch Type

Sets the assignment of a patch (Patch) or rhythm set (Rhythm) to each of the parts.

Patch Bank

Selects the group to which the desired patch or rhythm set belongs.

Value

USR: User
PRA–E: Preset A–E
GM: GM (GM2)
XP-A–D: Wave Expansion Boards installed in EXP-A–D Slots

Patch Number

Selects the desired patch or rhythm set by its number.

Value: 001–

Keyboard Switch

Specifies, for each part, whether or not the keyboard controller section will be connected to the internal sound generator.

Value: OFF, ON (✔)

Solo Switch

Select one part whose sound you want to play. Turn it "✔" to the part that you want to solo. Parts other than the part you select here will not sound.

Value: OFF, ON (✔)

Mute Switch

Temporarily mutes (✔) or releases the mute (OFF) for the Performance of each part.

Use this setting when, for example, you want to use the instrument for karaoke by muting the part playing the melody, or when you want to play something using a separate sound module.

Value: OFF, ON (✔)

MEMO

The Mute Switch parameter does not turn the part off, but sets the volume to minimum so that no sound is heard. Therefore, MIDI messages are still received.

Part Level

Adjust the volume of each part. This setting's main purpose is to adjust the volume balance between parts.

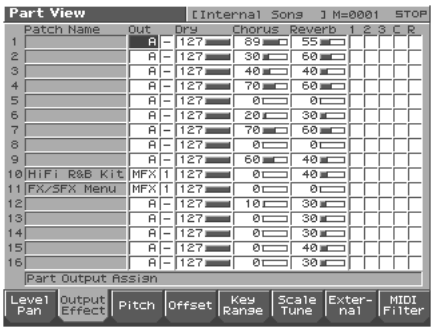
Value: 0–127

Part Pan

Adjust the pan of each part. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

[2 (Output Effect)]



☞ For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Part Output Assign

Specifies for each part how the direct sound will be output.

Value

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

PAT: The part's output destination is determined by the settings of the patch or rhythm set assigned to the part.

NOTE

When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

HINT

- When setting the "MFX," set the output destination with the MFX Output Assign for the sound after it has passed through the multi-effects.
- Chorus and reverb are output in mono at all times.
- The output destination of the signal after passing through the chorus is set with the Chorus Output Select and the Chorus Output Assign.
- The output destination of the signal after passing through the reverb is set with the reverb Output Assign.

Part Output MFX Select (Part Output Multi-Effects Select)

Of the three types of multi-effects that can be used simultaneously, specify which multi-effects will be used.

Value: 1–3 (MFX-1–MFX-3)

Part Output Level

Set the level of the signal that is sent to the output destination specified by Part Output Assign.

Value: 0–127

Part Chorus Send Level

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

Value: 0–127

Part Reverb Send Level

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

Value: 0–127

MFX1–3 Source
Chorus Source
Reverb Source

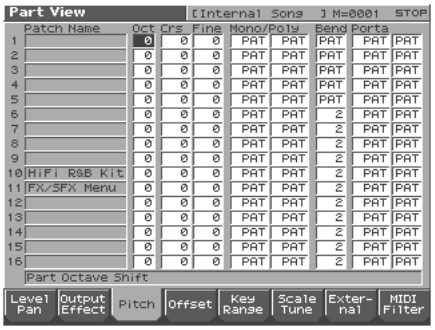
The settings of a specific patch can be used as the settings for MFX1 (1)–MFX3 (3), chorus (C), and reverb (R). This setting specifies the part to which this patch has been assigned.

If no part is selected, the settings of the Performance will be used.

MEMO

For the following parameters, settings can be made individually for each multi-effects (MFX1–MFX3) selected in Part Output MFX Select.

[3 (Pitch)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Part Octave Shift

Adjusts the pitch of the part's sound up or down in units of an octave (+/-3 octaves).

Value: -3– +3

NOTE

Note that when a rhythm set is assigned to a part, if the Octave Shift parameter is set, the rhythm tone that is played also changes.

Part Coarse Tune

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

Value: -48– +48

Coarse Tune and Octave Shift

The Coarse Tune and Fine Tune parameters, along with the Octave Shift parameter, can all be seen as doing the same thing to the sound, i.e., changing the pitch of the sound. For example, if C4 (Middle C) is played with the Coarse Tune parameter set to "+12," the note produced is C5 (one octave above C4). For example, if C4 (Middle C) is played with the Octave Shift parameter set to "+1," the note produced is C5 (one octave above C4).

However, internally these function very differently. When the Coarse Tune parameter is set to "+12," the pitch itself is raised one octave. On the other hand, when the Octave Shift parameter is set to "+1," it is the same as pressing the keys one octave up. In other words, use the Coarse Tune parameter when changing the pitch, and the Octave Shift parameter when you want to shift the entire keyboard, for example, when the number of keys is insufficient.

Part Fine Tune

Adjusts the pitch of the part's sound up or down in 1-cent steps (+/-50 cents).

Value: -50– +50

MEMO

One cent is 1/100th of a semitone.

Part Mono/Poly

Set this parameter to "MONO" when the patch assigned to the part is to be played monophonically, or to "POLY" when the patch is to be played polyphonically. When using the setting of the patch assigned to each part (p. 49), set this to "PAT."

Value: MONO, POLY, PAT

NOTE

For the part to which the rhythm set is assigned, this setting is ignored.

Part Legato Switch

You can add legato when performing monophonically. Legato is a playing style in which the spaces between notes are smoothed, creating a flowing feel with no borders between the notes. This creates a smooth transition between notes, which is effective when you wish to simulate the hammering-on and pulling-off techniques used by a guitarist.

Turn this parameter "ON" when you want to use the Legato feature and "OFF" when you don't. When using the setting of the patch assigned to each part (p. 58), set this to "PAT."

Value: OFF, ON, PAT

NOTE

For the part to which the rhythm set is assigned, this setting is ignored.

Part Pitch Bend Range

Specifies the amount of pitch change in semitones (2 octaves) that will occur when the Pitch Bend Lever is moved. The amount of change when the lever is tilted is set to the same value for both left and right sides. When using the setting of the patch assigned to each part (p. 49), set this to "PAT."

Value: 0–24, PAT

Part Portamento Switch

Specify whether portamento will be applied. Turn this parameter "ON" when you want to apply Portamento and "OFF" when you don't. When using the setting of the patch assigned to each part (p. 59), set this to "PAT."

Value: OFF, ON, PAT

Part Portamento Time

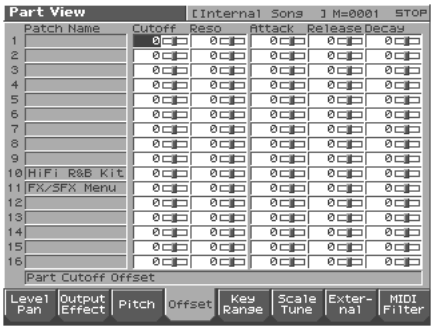
When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time. When using the setting of the patch assigned to each part (p. 59), set this to "PAT."

Value: 0–127, PAT

NOTE

For the part to which the rhythm set is assigned, this setting is ignored.

[4 (Offset)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Part Cutoff Offset

Adjusts the cutoff frequency for the patch or rhythm set assigned to a part.

Value: -64– +63

NOTE

Patches also have a Cutoff Offset setting (p. 44). The final Cutoff frequency value is the sum of the tone Cutoff Frequency value and the patch and part Cutoff Offset values. If the tone's cutoff frequency is already set to "127" (maximum), there will be no change produced by setting the Cutoff Offset to a positive value.

Part Resonance Offset

Adjusts the Resonance for the patch or rhythm set assigned to a part.

Value: -64– +63

NOTE

Patches also have a Resonance Offset setting (p. 44). The final Resonance value is the sum of the tone Resonance value and the patch and part Resonance Offset values. If the tone's resonance is already set to "127" (maximum), there will be no change produced by setting the resonance offset to a positive value.

Part Attack Time Offset

Adjusts the TVA/TVF Envelope Attack Time for the patch or rhythm set assigned to a part.

Value: -64– +63

NOTE

Patches also contain the Attack Time Offset setting (p. 44). The final TVA Envelope attack time value is therefore the sum of the tone's TVA Envelope Time 1 setting, the patch's Attack Time Offset, and the part's Attack Time Offset. If the tone's Time 1 parameter is already set to "127" (maximum), there will be no change produced by setting the Attack Time Offset to a positive value.
The same applies to the TVF envelope.

Part Release Time Offset

Adjusts the TVA/TVF Envelope Release Time for the patch or rhythm set assigned to a part.

Value: -64– +63

NOTE

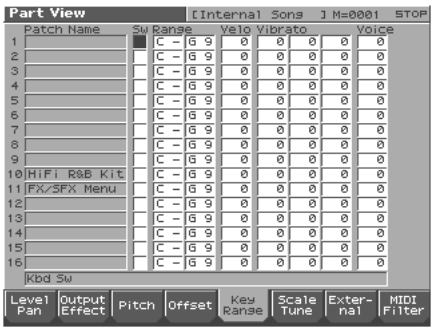
Patches also contain a Release Time Offset setting (p. 44). The final TVA Envelope release time value is therefore the sum of the tone's TVA Envelope Time 4 setting, the patch's Release Time Offset, and the part's Release Time Offset. If the tone's Time 4 parameter is set to "127" (maximum), there will be no change in the Release Time Offset, even when this is set to a positive value. The same applies to the TVF envelope.

Part Decay Time Offset

Adjusts the TVA/TVF Envelope Decay Time for the patch or rhythm set assigned to a part.

Value: -64– +63

[5 (Key Range)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Specifies whether the controller (keyboard) section will be connected to the internal sound generator and MIDI OUT regardless of the current part. Normally, you will leave this off, but you can turn it on if you want to layer sounds.

Value: ON, OFF

Keyboard Switch

Specifies, for each part, whether or not the keyboard controller section will be connected to the internal sound generator.

Value: On, OFF

Keyboard Range Lower (Part Keyboard Range Lower)

Specifies the lowest note that the tone will sound for each part.

Value: C-1–UPPER

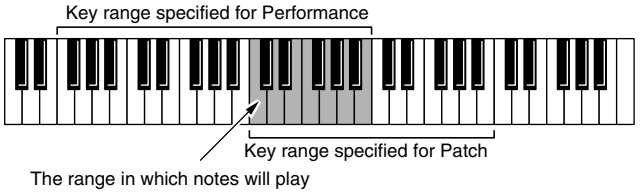
Keyboard Range Upper (Part Keyboard Range Upper)

Specifies the highest note that the tone will sound for each part.

Value: LOWER–G9

NOTE

When the Key Range (p. 48) is set for each individual tone in a patch, sounds are produced in the range where the Key Range of each tone and the Key Range for the part overlap.



NOTE

If you attempt to raise the lower key higher than the upper key, or to lower the upper key below the lower key, the other value will be automatically modified to the same setting.

Part Velocity Sensitivity Offset

This changes the volume and cutoff frequency for each part according to the velocity with which the keys are pressed. If you want strongly played notes to raise the volume/cutoff frequency, set this parameter to positive (+) settings. If you want strongly played notes to lower the volume/cutoff frequency, use negative (-) settings. Set Velocity Sensitivity to "0" when you want sounds played at a fixed volume and cutoff frequency, regardless of the force with which the keys are played.

Value: -63– +63

NOTE

Patches also contain a Velocity Sensitivity Offset setting (p. 44). The ultimate Velocity Sensitivity Offset value is the sum of the part's and the patch's Velocity Sensitivity Offsets. Accordingly, if the patch's Velocity Sensitivity Offset parameter is set to "127" (maximum), there will be no change in the part's Velocity Sensitivity Offset, even when this is set to a positive value.

Part Vibrato Rate

For each part, adjust the vibrato speed (the rate at which the pitch is modulated). The pitch will be modulated more rapidly for higher settings, and more slowly with lower settings.

Value: -64– +63

Part Vibrato Depth

For each part, this adjusts the depth of the vibrato effect (the depth at which the pitch is modulated). The pitch will be modulated more greatly for higher settings, and less with lower settings.

Value: -64– +63

Part Vibrato Delay

For each part, this adjusts the time delay until the vibrato (pitch modulation) effect begins. Higher settings will produce a longer delay time before vibrato begins, while lower settings produce a shorter time.

Value: -64– +63

Voice Reserve

This setting specifies the number of voices that will be reserved for each part when more than 64 voices are played simultaneously.

Value: 0–63, FUL

NOTE

It is not possible for the settings of all parts to total an amount greater than 64. The remaining number of available voices will be displayed at (rest=). Pay attention to this readout as you make set the Voice Reserve parameter.

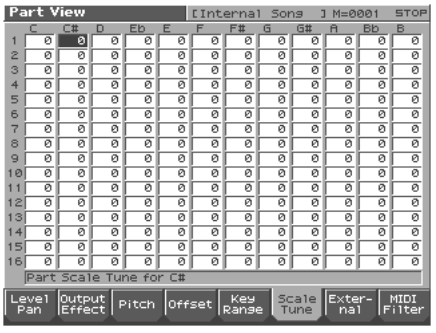
Calculating the Number of Voices Being Used

The Fantom-S is able to play up to 64 notes simultaneously. The polyphony, or the number of voices (sounds) does not refer only to the number of sounds actually being played, but changes according to the number of tones used in the patches, and the number of Waves used in the tones. The following method is used to calculate the number of sounds used for one patch being played.

(Number of Sounds Being Played) x (Number of Tones Used by Patches Being Played) x (Number of Waves Used in the Tones)

Realtime Stretch requires twice the normal polyphony.

[6 (Scale Tune)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Part Scale Tune C–B

Make scale tune settings for each part.

Value: -64– +63

Scale Tune is switched on/off by means of the Scale Tune Switch parameter (p. 194).

Equal Temperament

This tuning divides the octave into 12 equal parts, and is the most widely used method of temperament used in Western music. The Fantom-S employs equal temperament when the Scale Tune Switch is set to "OFF."

Just Temperament (Tonic of C)

Compared with equal temperament, the principle triads sound pure in this tuning. However, this effect is achieved only in one key, and the triads will become ambiguous if you transpose.

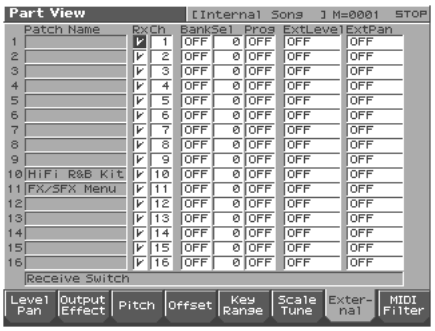
Arabian Scale

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. On the Fantom-S, you can use Arabian temperament in the three keys of G, C and F.

<Example>

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

[7 (External)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

Receive Switch

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

If this is "OFF," the part will not respond. Normally, you should leave this "ON," but you can turn it "OFF" when you do not want a specific part to be playing during song playback.

Value: OFF, ON

Receive Channel

Specifies the MIDI receive channel for each part

Value: 1–16

Ext Bank Select MSB (External Bank Select MSB)

If you want a Bank Select number MSB (controller number 0) to also be transmitted when you switch Performances, specify the value that you want to transmit (0–127) for each part. If you do not want this message to be transmitted, set this to "OFF."

Value: 0–127, OFF

NOTE

The data of the part for which the Keyboard Switch is turned off will not be transmitted.

Ext Bank Select LSB (External Bank Select LSB)

If you want a Bank Select number LSB (controller number 32) to also be transmitted when you switch Performances, specify the value that you want to transmit (0–127) for each part.

Value: 0–127

NOTE

The data of the part for which the Keyboard Switch is turned off will not be transmitted.

Ext Program Number (External Program Change Number)

If you want a Program Change number to also be transmitted when you switch Performances, specify the value that you want to transmit (0–128) for each part. If you do not want this message to be transmitted, set this to "OFF."

Value: 1–128, OFF

NOTE

The data of the part for which the Keyboard Switch is turned off will not be transmitted.

Ext Level (External Level)

If you want Volume messages to also be transmitted when you select a Performance, specify the desired value (0–127) for the part. If you do not want this message to be transmitted, set this to "OFF."

Value: 0–127, OFF

NOTE

The data of the part for which the Keyboard Switch is turned off will not be transmitted.

Ext Pan (External Pan)

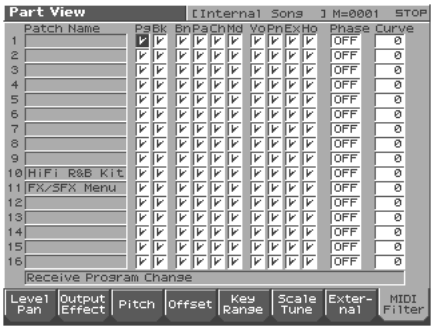
If you want Pan messages to also be transmitted when you select a Performance, specify the desired value (L64–0–63R) for the part. If you do not want this message to be transmitted, set this to "OFF."

Value: L64–0–63R, OFF

NOTE

The data of the part for which the Keyboard Switch is turned off will not be transmitted.

[8 (MIDI Filter)]



For details on the setting, refer to **"Adjusting the Parameters of Each Part"** (p. 84).

MIDI Filter

Program Change (Receive Program Change Switch)

For each MIDI channel, specify whether MIDI Program Change messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Bank Select (Receive Bank Select Switch)

For each MIDI channel, specify whether MIDI Bank Select messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Pitch Bend (Receive Pitch Bend Switch)

For each MIDI channel, specify whether MIDI Pitch Bend messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Channel Pressure (Receive Channel Pressure Switch)

For each MIDI channel, specify whether MIDI Channel Pressure messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Polyphonic Key Pressure (Receive Polyphonic Key Pressure Switch)

For each MIDI channel, specify whether MIDI polyphonic key pressure messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Modulation (Receive Modulation Switch)

For each MIDI channel, specify whether MIDI Modulation messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Volume (Receive Volume Switch)

For each MIDI channel, specify whether MIDI Volume messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Pan (Receive Pan Switch)

For each MIDI channel, specify whether MIDI Pan messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Expression (Receive Expression Switch)

For each MIDI channel, specify whether MIDI Expression messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Hold-1 (Receive Hold 1 Switch)

For each MIDI channel, specify whether MIDI Hold 1 messages will be received (ON), or not (OFF). Assigning a check mark (✔) will turn it on, and removing the check mark will turn it off.

Phase Lock (Phase Lock Switch)

Set Phase Lock to "✔" (ON) when you want to suppress discrepancies in timing of parts played on the same MIDI channel.

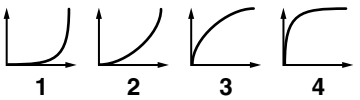
NOTE

When the Phase Lock parameter is set to "ON," parts on the same MIDI channel are put in a condition in which their timing is matched, enabling them to be played at the same time. Accordingly, a certain amount of time may elapse between reception of the Note messages and playing of the sounds. Turn this setting to "ON" only as needed.

Velocity Curve

Velocity Curve selects for each MIDI channel one of the four following Velocity Curve types that best matches the touch of the connected MIDI keyboard. Set this to "OFF" if you are using the MIDI keyboard's own velocity curve.

Value: OFF, 1–4



Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)

The Fantom-S lets you assign the parameters that will be affected when you operate the realtime control knobs, assignable switches, D Beam, pitch bend, or modulation lever. This lets you modify the sound in a variety of ways by operating the controllers.

1. **Access the Performance Layer or Mixer screen, and select the Performance whose settings you wish to modify (p. 78).**

HINT

If you want to create all your Performances from the ground up, rather than the Performances that have already been prepared, carry out the **Initialize** operation (p. 96).

2. **Press [4 (Ctrl Setting)].**

The Control Setting (Performance) screen appears.

3. **Press [5 (Ctrl Setting)] – [6 (Ctrl Switch)] to select the parameter.**

[5(Ctrl Setting)]: Controller-related settings, Settings for the entire performance

[6 (Ctrl Switch)]: Controller switch on/off settings

4. **The parameters are organized into several editing groups. Press [1 (⇑)] [2 (⇓)] to select the tab for the editing group that contains the parameter you wish to edit.**

☞ For details on the parameter groupings, refer to **"Parameter list"** (Parameter List).

5. **Use [CURSOR] to move the cursor to the parameter you wish to modify.**

6. **Turn the VALUE dial or press [INC]/[DEC] to get the value you want.**

7. **Repeat steps 4–6 to set the parameter.**

8. **Setting for the Solo Synth are saved for system settings. Press [8 (System Write)] to execute the write operation.**

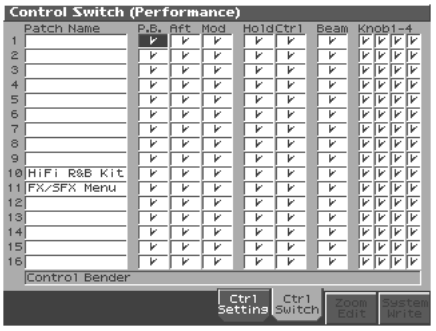
9. **Setting for the Control Settings are saved independently for each performance setting. If you wish to save the changes you've made, press [WRITE] to perform the Save operation (p. 96). If you do not wish to save changes, press [EXIT] to return to the Performance Layer or Mixer screen.**

If you return to the Performance PLAY screen without saving, the display will indicate "*," reminding you that the Performance settings have been modified.

NOTE

If you turn off the power or select a different sound while the display indicates "*," your edited Performance will be lost.

Control Switch Settings (Ctrl Switch)



☞ For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

Control Bender (Control Pitch Bend Switch)

For each part, specify whether MIDI Pitch Bend messages will be transmitted (ON), or not (OFF).

Value: OFF, ON

Control Aftertouch (Control Aftertouch Switch)

For each part, specify whether MIDI Aftertouch messages will be transmitted (ON), or not (OFF).

Value: OFF, ON

Control Modulation (Control Modulation Switch)

For each part, specify whether MIDI Modulation messages will be transmitted (ON), or not (OFF).

Value: OFF, ON

Control Hold Pedal (Control Hold Pedal Switch)

For each part, you can specify whether control messages from a pedal connected to the HOLD PEDAL jacks will be transmitted (ON), or not (OFF).

Value: OFF, ON

Control Pedal (Control Pedal Switch)

For each part, you can specify whether control messages from a pedal connected to the CONTROL PEDAL jacks will be transmitted (ON), or not (OFF).

Value: OFF, ON

Control D Beam (Control D Beam Switch)

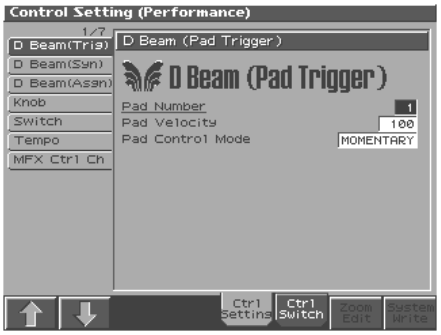
Specifies whether each part will be controlled by the D Beam.

Value: OFF, ON

Control Knob (Control Knob Switch)

Specifies whether each part will be controlled by the control knob.
Value: OFF, ON

Make Settings for the Realtime Controllers and D Beam Controller (Ctrl)



For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

D Beam (Pad Trigger)

Instead of striking the pads themselves, you can also use the D Beam controller to control the sounding of the pads.

HINT

Settings for the PAD trigger are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

Pad Number

Specifies the pad number affected by the D Beam.
Value: 1–16

Pad Velocity

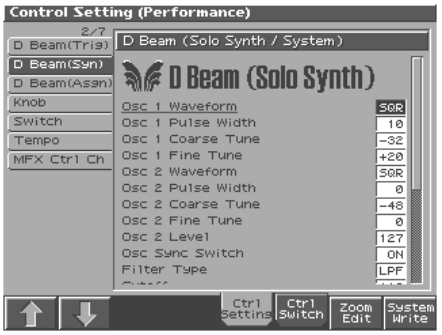
Specifies the strength of the pad sound played by the D Beam controller.
Value: 1–127

Pad Control Mode

This specifies how the D Beam will behave when it is obstructed. If this is set to MOMENTARY, the parameter will be on only while the D Beam is obstructed, and will turn off when you stop obstructing it. If this is set to LATCH, the parameter will alternately be switched on/off each time you obstruct the D Beam.
Value: MOMENTARY, LATCH

D Beam (Solo Synth)

You can use the D Beam controller to perform in a way similar to on a mono synth.



For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

HINT

When you press [7 (Panel View)], the Panel View screen will appear, which displays the above parameters in graphical fashion, simulating an analog synthesizer. From the Panel View screen, you can press [2 (Image View)] to open the Image View screen, where you can see a graphical indication of the D Beam output value. Press [EXIT] to leave this screen.
To exit from this screen, press [EXIT].

HINT

Settings for the Solo Synth are saved for system settings.

OSC 1/2 Waveform

Select the waveform. **SAW** is a sawtooth wave, and **SQR** is a square wave.

OSC 1/2 Pulse Width

Specifies the pulse width of the waveform. By cyclically modifying the pulse width you can create subtle changes in the tone.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: 0–127

OSC 1/2 Coarse Tune

Adjusts the pitch of the tone's sound up or down in semitone steps (+/-4 octaves).
Value: -48–+48

OSC 1/2 Fine Tune

Adjusts the pitch of the tone's sound up or down in 1-cent steps (+/-50 cents).
Value: -50–+50

OSC2 Level

Adjust the level.
Value: 0–127

OSC1 Sync Switch

Turning this switch on produces a complex sound with many harmonics. This is effective when the OSC1 pitch is higher than the OSC2 pitch.

Value: OFF, ON

Filter Type

Selects the type of filter.

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency. in order to round off, or un-brighten, the sound. This is the most common filter used in synthesizers.

BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency, and cuts the rest. This can be useful when creating distinctive sounds.

HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency. This is suitable for creating percussive sounds emphasizing their higher ones.

PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency. You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

Cutoff

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

Value: 0–127

Resonance

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Value: 0–127

Level

Sets the volume.

Value: 0–127

Chorus Send Level

Sets the level of the signal sent to chorus.

Value: 0–127

Reverb Send Level

Sets the level of the signal sent to reverb.

Value: 0–127

LFO Rate

Adjusts the modulation rate, or speed, of the LFO.

Value: 0–127

LFO Osc 1 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC1 pitch.

Value: -63–+63

LFO Osc 2 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC2 pitch.

Value: -63–+63

LFO Osc 1 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC1 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

LFO Osc 2 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC2 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

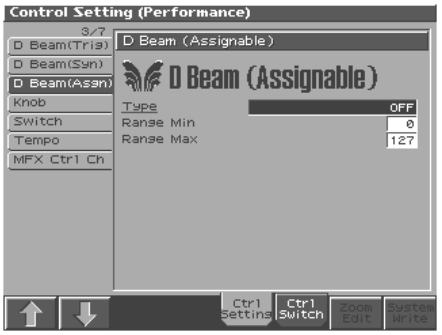
Range (Solo synth range)

Specifies the range in which the pitch of the solo synth will vary.

Value: 2 OCTAVES, 4 OCTAVES, 8 OCTAVES

D Beam (Assignable)

By assigning a variety of functions to the D Beam controller you can apply different effects to the sound in real time.



For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

HINT

Settings for the ASSIGNABLE are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

Type (Assignable Type)

Specifies the function controlled by the D Beam controller.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

Bend Up: Raises the pitch in semitone steps (up to 4 octaves higher).

Bend Down: Lowers the pitch in semitone steps (up to 4 octaves lower).

Start/Stop: Starts/Stops the sequencer.

TAP Tempo: Tap tempo (a tempo specified by the interval at which you move your hand over the D Beam controller).

Arp Grid: Arpeggio Grid

Arp Duration: Arpeggio Duration

Arp Motif: Arpeggio Motif

Arp Oct Up: The range in which the arpeggio is sounded will rise in steps of an octave (maximum 3 octaves).

Arp Oct Down: The range in which the arpeggio is sounded will lower in steps of an octave (maximum 3 octaves).

Range Min (D Beam Range Lower)

Specify the lower limit of the range of the D Beam controller.

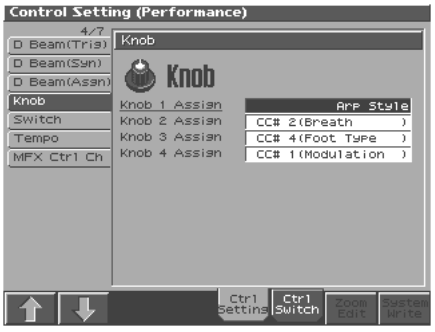
Value: 0–127

Range Max (D Beam Range Upper)

Specify the upper limit of the range of the D Beam controller.
By setting Range Max below Range Min you can invert the range of change.

Value: 0–127

Knob



☞ For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

NOTE Knob parameters are valid only when the REALTIME CONTROL button is set to "ASSIGNABLE."

Knob Assign 1–4 (Realtime Control Knob Assign 1–4)

Specify the functions that will be controlled by the [ ] knobs.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

Pitch Bend: Pitch Bend

Aftertouch: Aftertouch

Arp Style: Arpeggio Style

Arp Grid: Arpeggio Grid

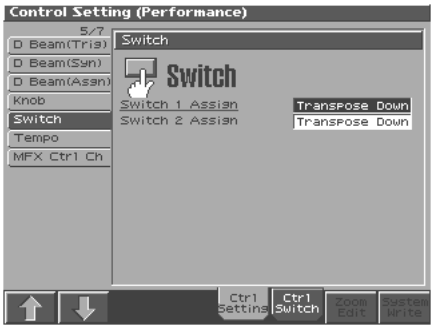
Arp Duration: Arpeggio Duration

Arp Motif: Arpeggio Motif

Chord Form: Chord Form

Master Level: The volume of the entire Fantom-S

Switch



☞ For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

Switch 1/2 (Assignable Switch 1–2)

Specify the functions that will be controlled by the [1]/[2] buttons.

Value

Transpose Down: Lowers the key range in semitone steps (up to 5 semitones lower).

Transpose Up: Raises the key range in semitone steps (up to 6 semitones higher).

Tap Tempo: Tap tempo (a tempo specified by the interval at which you press the button).

Mono/poly: Pressed to toggle between polyphonic (POLY) and monophonic (MONO) play of a patch.

Portamento: Portamento On/Off

Hold: Hold play On/Off

MFX1–3 Sw: Multi-effect 1–3 switch

Chorus Sw: Chorus switch

Reverb Sw: Reverb switch

Mastering Sw: Mastering switch

Loop: Loop play On/Off

Rhythm Start/Stop: Rhythm pattern playback On/Off

Tempo

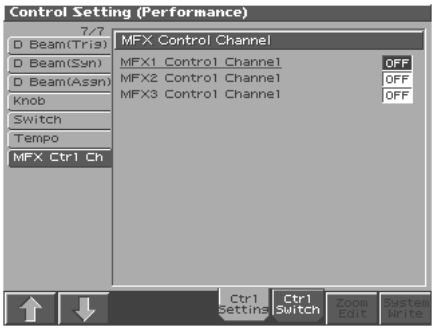
☞ For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

Recommended Tempo

If you want the sequencer tempo to change when you switch Performances, specify the tempo that will follow this change. This setting is valid when the Seq Tempo Override parameter is "ON." In order to enable this setting, turn on the Tempo Override parameter (p. 190).

Value: 20–250

MFX Ctrl Ch



☞ For details on the setting, refer to **"Selecting the Parameter Controlled by the Realtime Controllers or D Beam Controller (Control Setting)"** (p. 91).

MFX 1–3 Control Channel

Select the channel to which the multi-effect will be applied. Control to modify multi-effects parameters in realtime, when MFX1–3 Source parameter is set to "Prf." Set to "OFF" when the Multi-effects Control is not being used.

Value: 1–16, OFF

Setting Effects for a Performance (Effects/MFX/MFX Control/Chorus/Reverb)

☞ For details regarding effect settings, refer to the pages shown below.

- **"Applying Effects in Performance Mode"** (p. 178)
- **"Making Multi-Effects Settings (MFX1–3)"** (p. 180)
- **"Making Chorus Settings (Chorus)"** (p. 182)
- **"Making Reverb Settings (Reverb)"** (p. 182)

Changing the Settings of the Patch Assigned to a Part

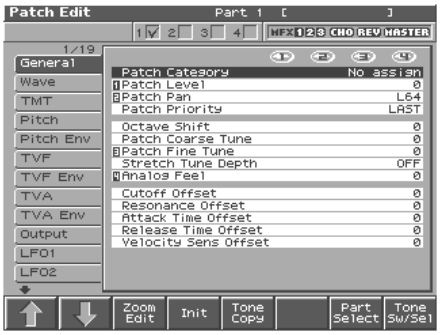
When using patches in Performance mode, some settings such as effects settings will be affected by Performance settings. If you wish to edit a patch while hearing how it will sound in the Performance, use this procedure:

* *Here we explain how to change the setting of a patch assigned to a part. The procedure for changing the settings of rhythm sets is the same. Substitute "rhythm set" wherever "patch" appears in a sentence.*

1. Make sure the Performance mode is selected.

2. Press [EDIT].

The patch assigned to the part is displayed in the Patch Edit screen.



3. The rest of the procedure is the same as when making changes in Patch mode (p. 39).

Initializing Performance Settings (Init)

"Initialize" means to return the settings of the currently selected sound to a standard set of values.

NOTE

The Initialize operation will affect only the currently selected sound; the sounds that are stored in user memory will not be affected. If you wish to restore all of the Fantom-S's settings to their factory values, perform a Factory Reset (p. 196).

1. **Access the Performance Layer or Mixer screen, and select the Performance that you wish to initialize (p. 78).**
2. **Press [MENU] to access the MENU window.**
3. **Press ▲ or ▼ to select "Initialize," and then press [ENTER].**
4. **Press ▲ or ▼ to select the initialization type.**
   - **DEFAULT:** Resets the currently selected performance in the Temporary memory to the standard values. Use this setting when you wish to create a sound from scratch.
   - **SOUND CONTROL:** Initializes the values of the following part parameters. Cutoff Offset, Resonance Offset, Attack Time Offset, Release Time Offset, Decay Time Offset, Vibrato Rate, Vibrato, Depth, Vibrato Delay
5. **Press [8 (Exec)].**
   A message will ask you for confirmation.
6. **Press [8 (Exec)].**
   Return to the previous screen.

Saving Performance You've Created (Write)

Changes you make to sound settings are temporary, and will be lost if you turn off the power or select another sound. If you want to keep the modified sound, you must save it in the internal User memory. When you modify the settings of a Performance, the Performance Layer screen will indicate "*." Once you save the Performance into internal memory (user memory), the "*" indication goes away.

NOTE

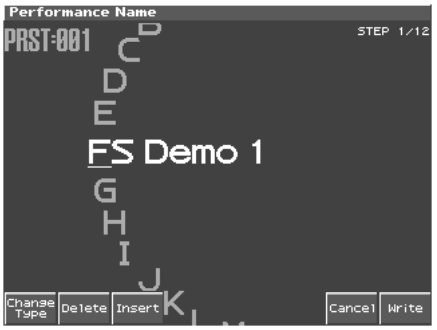
When you perform the save procedure, the data that previously occupied the save destination will be lost.

1. **Make sure that Performance you wish to save is selected.**
2. **Press [WRITE].**
   The Write Menu screen appears.

3. **Press [1 (Perf)].**

* *Alternatively, you can use CURSOR ▲ or ▼ to select "Performance," and then press [ENTER].*

The Performance Write screen appears.



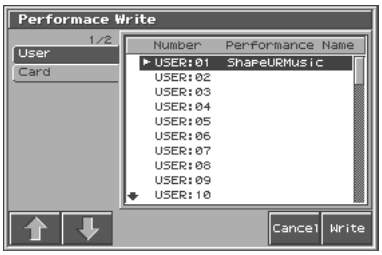
4. **Assign a name to the performance.**
   - [1 (Change Type)]: Selects the type of character. Each time you press this, you will alternately select the first character of a character set: uppercase (A), lowercase (a), or numerals and symbols (0).
   - [2 (Delete)]: Deletes the character at the cursor location, and moves the subsequent characters one space forward.
   - [3 (Insert)]: Inserts a space at the cursor location.
   - ◀ , ▶ : Move the cursor.
   - [VALUE dial] [INC][DEC]: Selects a character.

* *If you decide to discard your input, press [7 (Cancel)].*

* *You can use the pads to specify characters (p. 25).*

5. When you have finished inputting the name, press [8 (Write)].

A screen will appear, allowing you to select the write-destination patch.



6. Turn the VALUE dial or use [INC][DEC] and ◀ ▶ to select the write destination and patch number.

The write destination can be either the Fantom-S's internal user area (User), or a memory card (Card).

7. Press [8 (Write)].

A message will ask you for confirmation.

NOTE

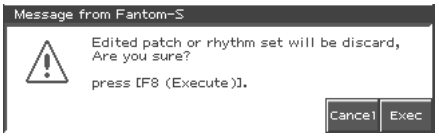
Never switch off the Fantom-S while data is being saved.

8. Press [8 (Exec)] to execute the save operation.

* *To cancel the operation, press [7 (Cancel)].*

When Changing the Settings for the Patch or Rhythm Set Assigned to a Part in a Performance

After changing the settings for the patch or rhythm set assigned to a part in a Performance, if you then try to save the Performance without first saving the changes in the settings, the following message appears.



In such cases, first save the patches and rhythm sets, and then save the performance.

Modifying the Sound in Real Time

You can use the D Beam controller, realtime controllers, assignable switches or a pedal to modify the sound while you perform.

MEMO

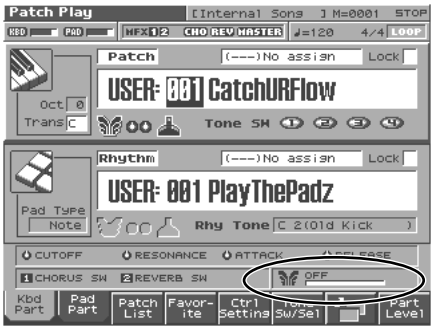
Here we will explain the procedures and settings for using these functions in Patch mode. The operations are the same in Performance mode.

Waving Your Hand Over the D Beam to Modify the Sound (D Beam Controller)

The **D Beam controller** can be used simply by waving your hand over it. It can be used to apply various effects, depending on the function that is assigned to it. 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. On the Fantom-S, the D Beam controller can be used not only to modify the sounds assigned to the Keyboard part or Pad part, but also to control the pitch of a monophonic (solo) synthesizer sound.

1. Access the Patch Play screen (p. 26).

The following area of the screen is the D Beam controller display area.



2. Press either the D BEAM [PAD TRIGGER], [SOLO SYNTH], or [ASSIGNABLE] button to turn on the D Beam controller.

- **ASSIGNABLE button:** Operates the function assigned to the D Beam controller.
- **PAD TRIGGER button:** Use the D Beam controller to play sounds instead of striking the pads.
- **SOLO SYNTH button:** Lets you use the D Beam as a monophonic synthesizer.

3. While you play the keyboard or pads to produce sound, place your hand above the D Beam controller and move it slowly up and down.

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

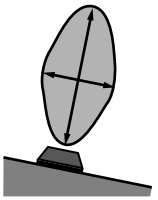
4. To turn off the D Beam controller, once again press the button you pressed in step 2 so the indicator goes out.

MEMO

If Performance mode is selected, the D Beam controller on/off setting is saved for each performance as part of the performance settings.

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.



The response of the D Beam Controller can also be checked in the "D Beam" area of the display. This is displayed graphically as a bar that lengthens as you move your hand closer, and shortens as you move your hand away.

NOTE

The usable range of the D Beam controller will become extremely small when used under strong direct sunlight. Please be aware of this when using the D Beam controller outside.

NOTE

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. Increase this value will raise the sensitivity (p. 189).

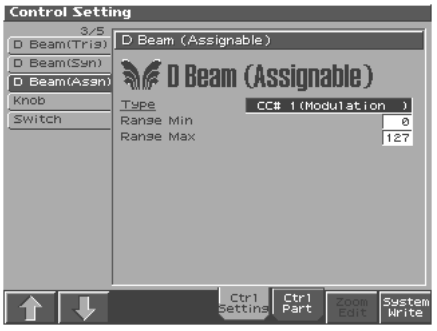
Making Settings for the D Beam Controller

ASSIGNABLE

You can assign various functions to the D Beam controller and apply a wide range of effects to the sound in real time.

1. Hold down [JUMP] and press D BEAM [ASSIGNABLE].

The Assignable screen appears.



2. Move the cursor to the parameter that you want to set, and turn the VALUE dial or press [INC]/[DEC] to make the setting.

3. Press [EXIT] the Assignable screen will close.

Assignable Type

Specifies the function controlled by the D Beam controller.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

Bend Up: Raises the pitch in semitone steps (up to 4 octaves higher).

Bend Down: Lowers the pitch in semitone steps (up to 4 octaves lower).

Start/stop: Starts/Stops the sequencer.

TAP Tempo: Tap tempo (a tempo specified by the interval at which you move your hand over the D Beam controller).

Arp Grid: Arpeggio Grid

Arp Duration: Arpeggio Duration

Arp Motif: Arpeggio Motif

Arp Oct Up: The range in which the arpeggio is sounded will rise in steps of an octave (maximum 3 octaves).

Arp Oct Down: The range in which the arpeggio is sounded will lower in steps of an octave (maximum 3 octaves).

Range Min (D Beam Range Lower)

Specify the lower limit of the range of the D Beam controller.

Value: 0–127

Range Max (D Beam Range Upper)

Specify the upper limit of the range of the D Beam controller.
By setting Range Max below Range Min you can invert the range of change.

Value: 0–127

HINT

Settings for the ASSIGNABLE are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

HINT

If Patch mode is selected, this is saved as part of the system settings. If you want to save the settings, press [8 (System Write)].

PAD Trigger settings (Pad-related settings)

You can use the D Beam controller to control the pads as an alternative to striking the pads themselves.

1. **Hold down [JUMP] and press D BEAM [PAD TRIGGER].**
   The Pad Trigger Screen appears.

2. **Move the cursor to the parameter that you want to set, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**

3. **Press [EXIT] the Pad Trigger screen will close.**

Pad Number

Specifies the pad number affected by the D Beam.

Value: 0–16

Pad Velocity

Specifies the strength of the pad sound played by the D Beam controller.

Value: 1–127

Pad Control Mode

This specifies how the D Beam will behave when it is obstructed. If this is set to MOMENTARY, the parameter will be on only while the D Beam is obstructed, and will turn off when you stop obstructing it. If this is set to LATCH, the parameter will alternately be switched on/off each time you obstruct the D Beam.

Value: MOMENTARY, LATCH

HINT

Settings for the PAD trigger are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

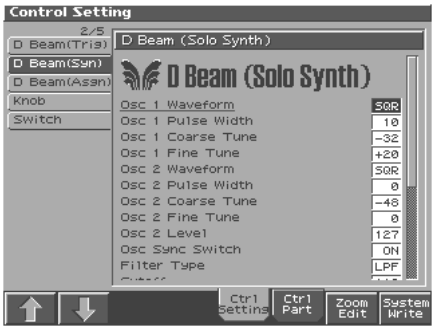
HINT

If Patch mode is selected, this is saved as part of the system settings. If you want to save the settings, press [8 (System Write)].

SOLO SYNTH

On the Fantom-S you can play a monophonic synthesizer whose pitch is controlled by the D Beam.

1. **Hold down [JUMP] and press D BEAM [SOLO SYNTH].**
   The Solo Synth screen appears.



2. **Move the cursor to the parameter that you want to set, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**

3. **If you want to save the settings, press [8 (System Write)].**
   If you press [EXIT] the Assignable screen will close.

HINT

Setting for the Solo Synth are saved for system settings.

HINT

When you press [7 (Panel View)], the Panel View screen will appear, which displays the above parameters in graphical fashion, simulating an analog synthesizer. From the Panel View screen, you can press [2 (Image View)] to open the Image View screen, where you can see a graphical indication of the D Beam output value. Press [EXIT] to leave this screen. To exit from this screen, press [EXIT].

OSC 1/2 Waveform

Select the waveform. **SAW** is a sawtooth wave, and **SQR** is a square wave.

Value: SAW, SQR

OSC 1/2 Pulse Width

Specifies the pulse width of the waveform. By cyclically modifying the pulse width you can create subtle changes in the tone.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: 0–127

OSC 1/2 Coarse Tune

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

Value: -48–+48

OSC 1/2 Fine Tune

Adjusts the pitch of the tone's sound up or down in 1-cent steps (+/-50 cents).

Value: -50–+50

OSC2 Level

Adjust the OSC2 level.

Value: 0–127

OSC1 Sync Switch

Turning this switch on produces a complex sound with many harmonics. This is effective when the OSC1 pitch is higher than the OSC2 pitch.

Value: OFF, ON

Filter Type

Selects the type of filter.

OFF: No filter is used.

LPF: Low Pass Filter. This reduces the volume of all frequencies above the cutoff frequency. in order to round off, or un-brighten, the sound. This is the most common filter used in synthesizers.

BPF: Band Pass Filter. This leaves only the frequencies in the region of the cutoff frequency, and cuts the rest. This can be useful when creating distinctive sounds.

HPF: High Pass Filter. This cuts the frequencies in the region below the cutoff frequency. This is suitable for creating percussive sounds emphasizing their higher ones.

PKG: Peaking Filter. This emphasizes the frequencies in the region of the cutoff frequency. You can use this to create wah-wah effects by employing an LFO to change the cutoff frequency cyclically.

Cutoff

Selects the frequency at which the filter begins to have an effect on the waveform's frequency components.

Value: 0–127

Resonance

Emphasizes the portion of the sound in the region of the cutoff frequency, adding character to the sound. Excessively high settings can produce oscillation, causing the sound to distort.

Value: 0–127

Level

Sets the volume.

Value: 0–127

Chorus Send Level

Sets the level of the signal sent to chorus.

Value: 0–127

Reverb Send Level

Sets the level of the signal sent to reverb.

Value: 0–127

LFO Rate

Adjusts the modulation rate, or speed, of the LFO.

Value: 0–127

LFO Osc 1 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC1 pitch.

Value: -63–+63

LFO Osc 2 Pitch Depth

Specifies the depth to which the LFO will modulate the OSC2 pitch.

Value: -63–+63

LFO Osc 1 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC1 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

LFO Osc 2 Pulse Width Depth

Specifies the depth to which the LFO will modulate the pulse width of the OSC2 waveform.

* *The Pulse Width is activated when "SQR" is selected with OSC1/2 waveform.*

Value: -63–+63

Range (Solo synth range)

Specifies the range in which the pitch of the solo synth will vary.

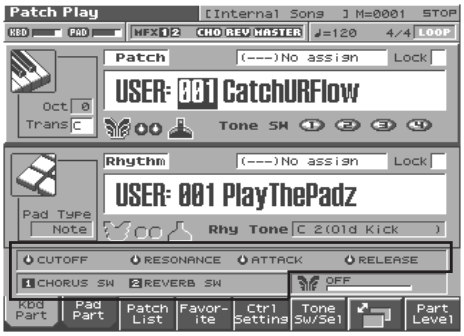
Value: 2 OCTAVES, 4 OCTAVES, 8 OCTAVES

Using Knobs or Buttons to Modify the Sound (Realtime Controller)

You can use the REALTIME CONTROL knobs and ASSIGNABLE SW buttons to modify the sound in real time.

1. **Access the Patch Play screen (p. 26).**

   The "Realtime Control" area shows the function that is assigned to each realtime controller knob and button. [ ] indicate the four knobs, and [ ], [ ] indicate the two buttons.



2. **While playing the keyboard or pressing the pads to produce sound, operate the REALTIME CONTROL knobs and ASSIGNABLE SW buttons.**

   The sound will change according to the function assigned to each knob or button.

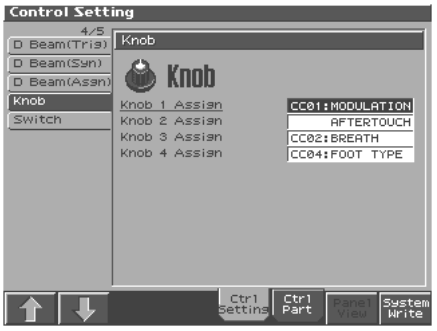
Making Realtime Controller Settings

Realtime Controller Knob Settings

You can select the function of the realtime control knobs by pressing the button located at the right of the knobs.

1. **Hold down [JUMP] and press the button located at the right of the REALTIME CONTROL knobs.**

   The Knob screen appears.



2. **Move the cursor to the parameter that you want to set, and turn the VALUE dial or press [INC]/[DEC] to set it.**

3. **Press [8 (Exit)] to close the Knob screen.**

HINT

Realtime controller settings are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

Knob Assign 1–4 (Realtime Control Knob Assign 1–4)

Specify the functions that will be controlled by the [ ] knobs.

Value

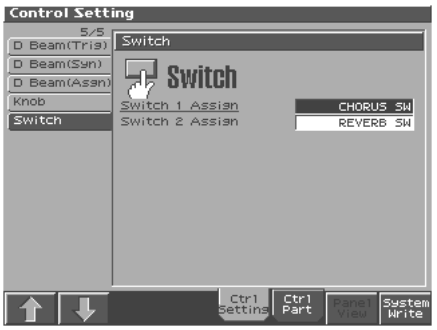
CC01–31, 33–95: Controller numbers 1–31, 33–95

For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

PITCH BEND: Pitch Bend
AFTERTOUCH: Aftertouch
ARP STYLE: Arpeggio Style
ARP GRID: Arpeggio Grid
ARP DURATION: Arpeggio Duration
ARP MOTIF: Arpeggio Motif
CHORD FORM: Chord Form
MASTER LEVEL: The volume of the entire Fantom-S

Assignable Switch Settings

1. **Hold down [JUMP] and press a ASSIGNABLE SW button.**
   The Switch screen appears.



2. **Move the cursor to the parameter that you want to set, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**
3. **Press [8 (Exit)] to close the Knob screen.**

HINT

Realtime controller settings are saved independently for each performance as part of the performance settings. This lets you create performances that make effective use of controller settings.

Switch Assign

Specify the function that will be controlled by the assignable switch.

Value

TRANSPOSE DOWN: Lowers the key range in semitone steps (up to 5 semitones lower).

TRANSPOSE UP: Raises the key range in semitone steps (up to 6 semitones higher).

TAP TEMPO: Tap tempo (a tempo specified by the interval at which you press the button).

MONO/POLY: Pressed to toggle between polyphonic (POLY) and monophonic (MONO) play of a patch.

PORTAMENTO: Portamento On/Off

HOLD: Hold play On/Off

MFX1–3 SW: Multi-effect 1–3 switch

CHORUS SW: Chorus switch

REVERB SW: Reverb switch

MASTERING SW: Mastering switch

LOOP: Loop play On/Off

RHY START/STOP: Rhythm pattern playback On/Off

HINT

If Patch mode is selected, assignable switches are available when the keyboard part is selected.

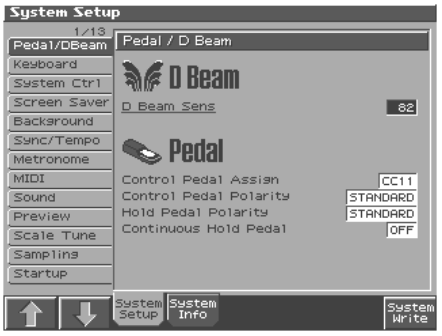
Using a Pedal to Modify the Sound (Control Pedal)

You can modify the sound by pressing a pedal that is connected to the rear panel PEDAL HOLD jack or PEDAL CONTROL jack.
Pedal such as expression pedals (DP-8; available separately), pedal switches (DP series; available separately), or foot switches (BOSS FS-U; available separately) can be connected to the Fantom-S.

1. **Access the Patch Play screen (p. 26).**
2. **While playing the keyboard to produce sound, operate a pedal.**
   The sound will change according to the function that is assigned to the control pedal.

Making Control Pedal Settings

1. **Press [MENU].**
2. **Use ▲ or ▼ to select "System," and then press [ENTER].**
   The System Setup screen appears.
3. **Press [1 (⇑)] or [2 (⇓)] to select "Pedal/D Beam."**
   A screen like the following appears.



4. **Turn the VALUE dial or press [INC]/[DEC] to make the setting.**
5. **If you want to save your settings, press [8 (System Write)]. Press [Exit] to return to the Patch Play screen.**

Control Pedal Assign

This specifies the function of each pedal connected to the PEDAL CONTROL jacks.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For details on control change messages, refer to **"MIDI Implementation"** (Parameter List).

BEND UP: The pitch will rise in semitone steps (maximum 4 octaves) each time you press the pedal.

BEND DOWN: The pitch will fall in semitone steps (maximum 4 octaves) each time you press the pedal.

AFTERTOUCH: Aftertouch

OCT UP: Each pedal press raises the key range in octave steps (up to 3 octaves higher).

OCT DOWN: Each pedal press lowers the key range in octave steps (up to 3 octaves lower).

START/STOP: The sequencer will start/stop.

PUNCH IN/OUT: Manual punch-in/out recording will start/stop.

TAP TEMPO: Tap tempo (a tempo specified by the interval at which you press the pedal).

PROG UP: The next sound number will be selected.

PROG DOWN: The previous sound number will be selected.

FAVORITE UP: The favorite sound of the next number or bank will be selected.

FAVORITE DOWN: The favorite sound of the previous number or bank will be selected.

ARP/RHY SW: Switches the Arpeggio/Rhythm function on/off.

RHY START/STOP: Switch Rhythm pattern playback on/off.

CHORD SW: Chord function On/Off

Control Pedal Polarity

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

Value: STANDARD, REVERSE

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."

Range: STANDARD, REVERSE

Continuous Hold Pedal

This setting determines whether the HOLD PEDAL jack will provide support for half-pedaling (ON), or not (OFF). When this is set to support use of half-pedaling techniques, you can then connect an optional expression pedal (DP-8, etc.), and employ pedal work to achieve even finer control in performances in which piano tones are used.

Value: OFF, ON

Playing Arpeggios (ARPEGGIO/RHYTHM Function)

About Arpeggio

The Fantom-S's Arpeggio function lets you perform arpeggios (chords in which notes are played in succession, one note at a time) just by playing the chords, using the notes in the chords you play.

Not only can you use the factory-set **Arpeggio Styles**, which determine the way the arpeggio is played, but you can also freely rewrite Styles and enjoy performing your own original arpeggios.

A Arpeggio Style is not part of any Performance, but rather independent data; you can store up to 128 Arpeggio Styles. You can use a single Arpeggio Style in different Patches and Performances at the same time.

A performance contains a number by which one of these arpeggio styles are recalled; this number is saved individually for each performance.

A patch cannot store the number by which an arpeggio style is recalled.

What's more, you can perform in ensemble using these arpeggios and rhythm patterns.

* *You cannot play the arpeggio from the pads.*

Playing Arpeggios

Turning Arpeggio On and Off

You can save the Arpeggio On/Off settings individually in each Patch, Rhythm Set, or Performance.

1. **Press ARPEGGIO/RHYTHM [ON/OFF], causing the indicator to light.**
   The button will light.

2. **Play a chord on the keyboard.**
   The Fantom-S will play an arpeggio, according to the notes forming the chord you have just voiced.

3. **To finish playing arpeggios, press [ON/OFF] again so the indicator turns off.**

HINT

In arpeggio settings, the **Style (Arpeggio Style)** (p. 105) is particularly important. The playback pattern of the arpeggio is determined mainly by this selection.

For details regarding each parameter, refer to **"Arpeggio Settings"** (p. 105).

Using in Combination with the Chord Memory Function

When performing with the Arpeggio, you can also use it along with the Chord Memory function (p. 110). After first storing complex Chord Forms in memory, you can then call them up when Arpeggio function is on, and you can easily create complex arpeggio sounds just by pressing a single key.

Determining the Tempo for Arpeggio Performances

This sets the arpeggio tempo. You can save the arpeggio tempo settings individually in each Patch, Rhythm Set, or Performance.

1. **Press [TEMPO].**
   The current tempo value appears in the display.

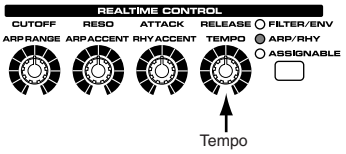
2. **Press VALUE dial or [INC], [DEC] to set the tempo value (5–300), or set the value by tapping [6 (Tap)] a number of times with the same rhythm (Tap Tempo).**

* *If you press [7 (Click)] to assign a check mark (✔), the click will sound.*

3. **When you have made the setting, press [8 (Close)].**

Using a controller to adjust the playback tempo

Since tempo control is assigned to one of the Fantom-S's realtime control knobs, it's easy to adjust the tempo while playing arpeggios.



1. **Press the REALTIME CONTROL button so the ARP/RHY indicator lights.**
2. **Play an arpeggio, and turn the realtime control knob.**

Holding an Arpeggio

By using the following procedure, you can produce arpeggios even without continuing to press the keyboard.

1. **Press [ARPEGGIO HOLD].**
   The indicator will begin blinking.
2. **Play a chord.**
3. **If you play a different chord or notes while the arpeggio is being held, the arpeggio will change accordingly.**
4. **To cancel Arpeggio Hold, press [ARPEGGIO HOLD] simultaneously once again.**

When Using a Hold Pedal

If you play an arpeggio while pressing the hold pedal, the arpeggio will continue to be played even if you release the chord.

1. **Connect an optional pedal switch (DP series etc.) to the HOLD PEDAL jack.**
2. **Press ARPEGGIO/RHYTHM [ON/OFF] to turn on the arpeggio.**
3. **Play a chord while pressing the hold pedal.**
4. **If you play a different chord or notes while the arpeggio is being held, the arpeggio will change accordingly.**

Turning Arpeggio Switch On and Off

If you don't want to play arpeggios, turn off the arpeggio switch.

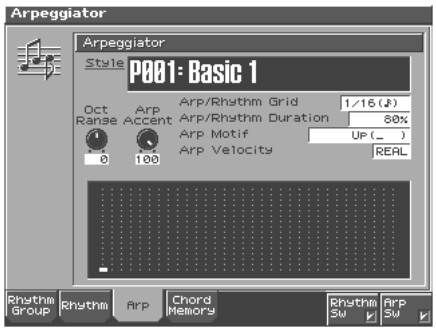
HINT

If the arpeggio switch is turned off, no arpeggios will be played even if ARPEGGIO/RHYTHM [ON/OFF] is lit.

1. **Press [SELECT/EDIT].**
2. **Press [2 (Arp Sw)] to remove a check mark (✔).**
   The setting is toggled on/off each time you press [2 (Arp Sw)].
3. **When you have made the setting, press [EXIT].**

Arpeggio Settings

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [3 (Arp)].**
   A screen like the one below appears.
   If Performance mode is selected, (Performance) will appear at the right of "Arpeggiator."



3. **Press [CURSOR] to move the cursor to each parameter, and either turn the VALUE dial or press [INC] or [DEC] to make the setting.**
4. **When you have made the setting, press [EXIT].**

Selecting Styles for Arpeggio Performances (Arpeggio Style)

This selects the arpeggio's basic performance Style. The arpeggio styles are kept in preset memory and user memory.

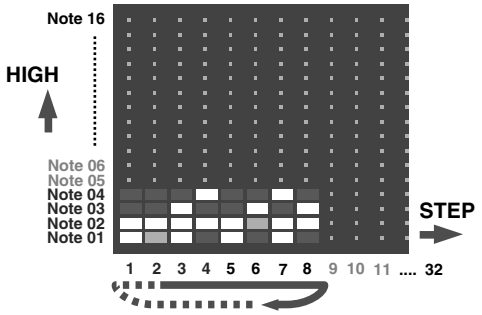
Value: U001–128 (User), P001–128 (Preset)

For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

For more on the prepared Arpeggio Styles already programmed in the Fantom-S, refer to Sound List.

About Arpeggio Styles

An Arpeggio Style is a series of data for basic arpeggio patterns and chord styles recorded in the form of a grid consisting of a maximum of 32 steps x 16 pitches.



Each grid contains one of the following kinds of data.

- ON: Note On (with Velocity data)
- TIE: Tie (hold of the previous note)
- REST: Rest (no sound played)

The keys that are pressed along with the sequence in which they are pressed is referenced to the "lowest-pitched key during input." Thus, you can use a single Arpeggio Style in different Patches and Performances at the same time.

A Arpeggio Style is not part of any patch or Performance, but rather independent data; you can store up to 64 Arpeggio Styles.

Changing the Beat and Shuffle (Grid)

This sets the particular note division and resolution in a "single grid" used in creating the arpeggio in an Arpeggio Style, and how much of a "shuffle" syncopation is to be to applied (none/weak/strong) to it (grid type).

* *Grid settings are shared with the arpeggio.*

☞ For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value:
- **1/4:** Quarter note (one grid section = one beat)
- **1/8:** Eighth note (two grid sections = one beat)
- **1/8L:** Eighth note shuffle Light (two grid sections = one beat, with a light shuffle)
- **1/8H:** Eighth note shuffle Heavy (two grid sections = one beat, with a heavy shuffle)
- **1/12:** Eighth note triplet (three grid sections = one beat)
- **1/16:** Sixteenth note (four grid sections = one beat)
- **1/16L:** Sixteenth note shuffle Light (four grid sections = one beat, with a light shuffle)
- **1/16H:** Sixteenth note shuffle Heavy (four grid sections = one beat, with a heavy shuffle)
- **1/24:** Sixteenth note triplet (six grid sections = one beat)

Applying Staccato and Tenuto (Duration)

This setting (duration) determines whether the sounds are played staccato (short and clipped), or tenuto (fully drawn out).

* *Grid settings are shared with the arpeggio.*

☞ For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value: 30, 40, 50, 60, 70, 80, 90, 100, 120, Full

30–120: For example, when set to "30," the length of the note in a grid (or when a series of grids is connected with ties, the final grid) is 30% of the full length of the note set in the grid type.

FUL (Full): Even if the linked grid is not connected with a tie, the same note continues to sound until the point at which the next new sound is specified.

Selecting Ascending/Descending Variations (Different Ways of Playing the Sounds) (Motif)

This selects the method used to play sounds (motif) when you have a greater number of notes than programmed for the Arpeggio Style.

☞ For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

MEMO

When the number of keys played is less than the number of notes in the Style, the highest-pitched of the pressed keys is played by default.

Value:

UP (L): Only the lowest of the keys pressed is sounded each time, and the notes play in order from the lowest of the pressed keys.

UP (L&H): Notes from both the lowest and highest pressed keys are sounded each time, and the notes play in order from the lowest of the pressed keys.

UP (_): The notes play in order from the lowest of the pressed keys. No one note is played every time.

DOWN (L): Only the lowest of the keys pressed is sounded each time, and the notes play in order from the highest of the pressed keys.

DOWN (L&H): Notes from both the lowest and highest pressed keys are sounded each time, and the notes play in order from the highest of the pressed keys.

DOWN (_): The notes play in order from the highest of the pressed keys. No note is played every time.

UP&DOWN (L): Notes will be sounded from the lowest to the highest key you press and then back down to the lowest key, with only the lowest key sounded each time.

UP&DOWN (L&H): Notes from both the lowest and highest pressed keys are sounded each time, and the notes play in order from the lowest of the pressed keys and then back again in the reverse order.

UP&DOWN (_): The notes play in order from the lowest of the pressed keys, and then back again in the reverse order. No note is played every time.

RANDOM (L): Notes will be sounded randomly for the keys you press, with only the lowest key sounded each time.

RANDOM (_): Only the lowest of the keys pressed is sounded each time, the notes you press will be sounded randomly. No note will sound each time.

PHRASE: Pressing just one key will play a phrase based on the pitch of that key. If you press more than one key, the key you press last will be used.

<Example>

Action of a Style starting from the lowest note, "1-2-3-2" when the keys "C-D-E-F-G" are played

When "UP (L)" is selected as the motif:

C-D-E-D → C-E-F-E → C-F-G-F (→ repeated)

When "UP (_)" is selected as the motif:

C-D-E-D → D-E-F-E → E-F-G-F (→ repeated)

When "UP&DOWN (L&H)" is selected as the motif:

C-D-G-D → C-E-G-E → C-F-G-F → C-E-G-E (→ repeated)

Adjusting the Velocity of the Arpeggio (Arpeggio Velocity)

Specifies the loudness of the notes that you play.

If you want the velocity value of each note to depend 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).

☞ For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value: REAL, 1–127

Selecting the Part that Will Play Arpeggios in Performance Mode (Part)

Here's how to specify the part that will use the arpeggio in Performance mode. You can specify only one part for playing arpeggios.

If a rhythm set is assigned to a part in Performance mode, you can play a rhythm pattern along with the arpeggios.

The part you select here functions for both the arpeggio and the chord memory functions.

For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value: Part1–16

Hanging the Range of the Arpeggio (Octave Range)

This adds an effect that shifts arpeggios one cycle at a time in octave units (octave range). You can set the shift range upwards or downwards (up to three octaves up or down).

For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value: -3–0–+3

HINT

You can also use a REALTIME CONTROL knob to control this.

Changing the Accent Strength (Accent Rate)

When you play arpeggios, the velocity of each arpeggiated note is determined by the velocity of the notes programmed within the arpeggio style. You can adjust the amount ("spread") of this dynamic variation. With a setting of 100%, the arpeggiated notes will have the velocities that are programmed by the arpeggio style. With a setting of 0%, all arpeggiated notes will be sounded at a fixed velocity.

For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value: 0-100%

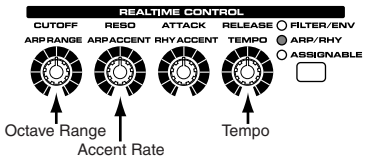
HINT

You can also use a REALTIME CONTROL knob to control this.

Using the Realtime Control Knobs to Edit the Arpeggio Settings

You can use the realtime control knobs to change the arpeggio settings by editing the parameters in real time.

1. **Play arpeggios.**
2. **Press the REALTIME CONTROL button to select "ARP/RHY."**
   The "ARP/RHY" indicator will light.

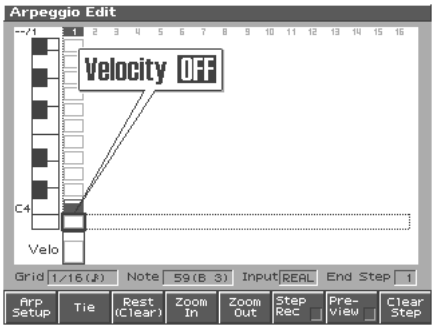


3. **Turn the REALTIME CONTROL knobs.**
   While arpeggios are playing, you can use the knobs to control the following parameters.
   - **"Hanging the Range of the Arpeggio (Octave Range)"** (p. 107)
   - **"Changing the Accent Strength (Accent Rate)"** (p. 107)

Creating Your Own Styles

Not only can you use the prepared internal **Arpeggio Styles** that determine how arpeggios are played, but you can also create them as well. This way, you can enjoy performing your own original arpeggios. Arpeggio Style you create can be stored in internal user memory.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [3 (Arp)].**
3. **Press [EDIT].**
   The Arpeggio Style Edit screen will appear.



4. **Use [CURSOR] to move the cursor.**
   Use ▲, ▼ to select the pitch (note number: 0 (C-1)–127 (G9) that you want to input.
   Use ◀, ▶ to move to the step that you want to input.
   If you hold down [SHIFT] and press ◀ or ▶, the cursor will move to grid locations that contain data.
5. **Turn the VALUE dial or use [INC] [DEC] to change the data at the cursor location (velocity: OFF, 1–127, Tie).**
6. **When ARPEGGIO/RHYTHM [ON/OFF] is unlit, you can hold down [SHIFT] and hit a pad to check the pitch of the note to input.**
7. **By pressing a pad you can enter the note number at the cursor location, within a range of sixteen different velocities.**
   When you input the note, the cursor will move to the next step.
8. **By pressing a function button you can perform the following operations.**

- **Tie: [2 (Tie)]**
  Input a tie at the cursor location and proceed to the next step.
- **Rest (Clear): [3 (Rest (Clear))]**
  Input a rest at the cursor location and proceed to the next step.
- **Zoom In: [4 (Zoom In)]**
  Show the Arpeggio Style input screen at a higher magnification.
- **Zoom Out: [5 (Zoom Out)]**
  Show the Arpeggio Style input screen at a lower magnification.
- **Step Rec (Step Recording): [6 (Step Rec)]**
  By pressing [6 (Step Rec)] to add a check mark (✔), you can input data from the keyboard or pads.
- **Preview: [7 (Preview)]**
  By pressing [7 (Preview)] to add a check mark (✔), you can audition the arpeggio that you are inputting. When you press it once again to clear the check mark, the playback will stop.
- **Clear Step: [8 (Clear Step)]**
  Clear all data at the step where the cursor is located.

9. When you have finished editing, press [EXIT].

NOTE

A maximum of sixteen different notes (pitches) can be used in one style.

MEMO

If you want to erase all data that was input for the same note number, hold down [SHIFT] and press [2 (Clear Note)]. A message will ask you for confirmation. When you press [8 (Exec)] the data will be erased. If you decide to cancel the operation, press [7 (Cancel)].

Inputting the Data from the Keyboards or Pads

1. From the Arpeggio Edit screen, press [6 (Step Rec)] to add a check mark (✔).

2. Press ◀ or ▶ to move the step.

3. Press the key o pad.
When all the keys or pads are released, the song advances by the selected step time interval.

4. When you have finished making settings, press [6 (Step Rec)] once again to clear the check mark.

Changing the Length of an Arpeggio Style or the Velocity of the Notes You Input

1. From the Arpeggio Edit screen, press [1 (Arp Setup)].
The Arp Setup window will appear.

2. Use ▲ ▼ to select a parameter, and turn the VALUE dial or use [INC] [DEC] to edit the value.

- **End Step**
  Length of the arpeggio style
  Value: 1–32
- **Input Velocity**
  Specifies the velocity (volume) of the notes that will be input. If this is set to REAL, you can add dynamics by varying the force with which you press the pad or key.
  Value: REAL, 1–127

3. When you have finished making settings, press [8 (Close)].

Initializing the Arpeggio Style that You are Editing (Init)

1. Access the Arpeggio Edit screen.

2. Hold down [SHIFT] and press [1 (Init)].
A message will ask for confirmation.

3. Press [8 (Exec)] to execute the Initialize operation.
If you decide to cancel, press [7 (Cancel)].

Saving the Styles You Have Created (WRITE)

The Styles you create are temporary; they are deleted as soon as you turn off the power or select some other Style. You can store 128 arpeggio styles in the User memory.

Arpeggio style settings are saved as independent data, not as part of the data for each patch. The settings in Patch mode, it is not possible to save arpeggio parameters (e.g., arpeggio style, grid type, motif, duration, octave range).
It can be saved to individual in Performance mode. If you want to save your settings, press [WRITE] and save the performance.

1. **Confirm that the current Style is the one you want to save.**
2. **Press [3 (Arp)].**
3. **Press [8 (Write)].**
   The Arpeggio name entry screen will appear (p. 42).
4. **When you have finished entering the name, press [8 (Write)].**
   A screen in which you can select the destination for the write will appear.

5. **Turn the VALUE dial or use [INC] [DEC] to select the write destination.**
6. **Press [8 (Write)].**
   A message will ask you for confirmation.
7. **To write the data, press [8 (Exec)].**
   Never switch off the Fantom-S while data is being saved.

* *To cancel, press [7 (Cancel)].*

Using the Chord Memory Function (CHORD MEMORY)

About the Chord Memory Function

Chord Memory is a function that allows you to play chords based on pre-programmed **Chord Forms**, just by pressing a single key on the keyboard. The Fantom-S can store 64 preset chord forms and 64 user chord forms. If you wish, you can overwrite any of the 64 user (factory set) chord forms.

The chord memory function operates on the arpeggio part in Performance mode. If a rhythm set is selected for that part, you can also use this to play rhythms.

* *You cannot use the chord memory function with the pads.*

MEMO

When you press the C4 key (Middle C), the chord is played using the exact chord structure recorded in the Chord Form. This is referenced to the C4 key; parallel chords are played by pressing other keys.

Using in Combination with the Arpeggio Function

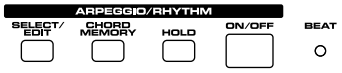
When performing with the Chord Form function, you can also use it along with the Arpeggio function (p. 104). After first storing complex Chord Forms in memory, you can then call them up when Arpeggio is on, and you can easily create complex arpeggio sounds just by pressing a single key.

Performing with the Chord Memory Function

Turning Chord Memory Function On and Off

1. **Press ARPEGGIO/RHYTHM [CHORD MEMORY] to turn on the Chord Memory function.**

   The button is lighted.



2. **Play the keyboard.**

   A chord will sound according to the currently selected chord form.

3. **To finish playing arpeggios, press [CHORD MEMORY] again so the indicator turns off.**

NOTE

you use the Chord Memory function with a tone for which the Mono/Poly Parameters (p. 58) is Mono, only one sound in the chord is played. When using the Chord Memory function to turn Poly the Mono/Poly Parameters (p. 58).

Selecting Chord Forms

This selects the **Chord Form** to which the sounds making up the chord being played are registered when the Chord Memory function is used.

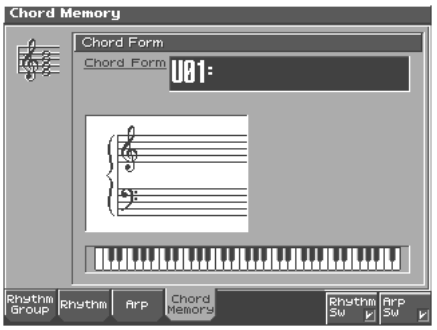
It can be saved to individual in Performance mode.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**

2. **Press [4 (Chord Memory)].**

   The following screen appears.

   If Performance mode is selected, (Performance) will appear at the right of "Chord Form."



3. **Either turn the VALUE dial or use [INC]/[DEC] to select a Chord Form number.**

   The notes of the chord will be displayed.

☞ For more on the Chord Forms pre-programmed at the factory, refer to the "Sound Parameter List."

4. **When you have finished selecting a Chord Form, press [Exit].**

* *A Chord form is not part of any Performance, but rather independent data; you can store up to 64 Chord forms. You can use a single Chord form in different Patches and Performances at the same time.*
A performance contains a number by which these chord forms are recalled; these numbers are saved individually for each performance (p. 96).

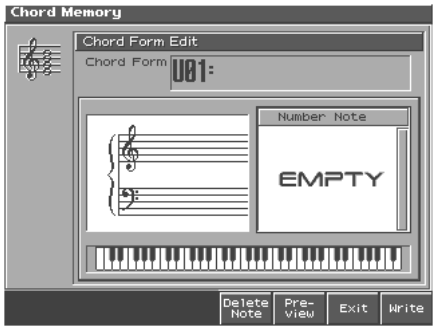
* *To save the selected Chord Form number, press [WRITE] and carry out the write procedure (p. 111).*

* *A patch cannot store the number by which an arpeggio style is recalled.*

Creating Your Own Chord Forms

Not only can you use the prepared internal Chord Forms, which determine the constituent notes of chords played using the Chord Memory function, but you can also freely create and rewrite them as well.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [4 (Chord Memory)].**
3. **Turn the VALUE dial to select a chord form.**
4. **Press [EDIT].**
   The following screen appears.



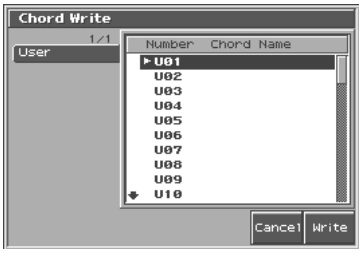
5. **Use the keyboard to input the chord that you want to play.**
   When you press a key, the note will be added in the screen.
   If you input a note by mistake, press [5 (Del Note)].
   You can also erase a note you input by pressing the same key.
   You can press [6 (Preview)] to hear the chord that you are inputting.
6. **If you want to save the chord form you created, proceed to step 3 of "Saving the Chord Forms You Have Created." If you don't want to save it, press [7 (Exit)].**

Saving the Chord Forms You Have Created

The Chord Form you create are temporary; they are deleted as soon as you turn off the power or select some other Style. If you want to keep a Chord Form you have made, save it to the Fantom-S's user memory.

The Chord Form are saved as independent data, not as part of the data for each patch. The settings in Patch mode, it is not possible to save chord form data. **It can be saved to individual in Performance mode.** If you want to save your settings, press [WRITE] and save the performance.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [4 (Chord Memory)].**
   Confirm that the chord form the one you want to save.
3. **Press [8 (Write)].**
   The Chord Form name entry screen will appear.
4. **When you have finished entering the name, press [8 (Write)].**
   A screen will appear, allowing you to select the write destination.



5. **Use ▲ or ▼ to select the write destination.**
6. **Press [8 (Write)].**
   A message will ask you confirm.
7. **To save the chord form, press [8 (Exec)].**
   Never switch off the Fantom-S while data is being saved.

* *To cancel, press [7 (Cancel)].*

Playing Rhythms

About Rhythm Patterns

The Fantom-S contains 256 preset rhythm patterns. You can play a variety of rhythm patterns simply by pressing the pads. In addition to using these built-in rhythm patterns, you can also create your own.

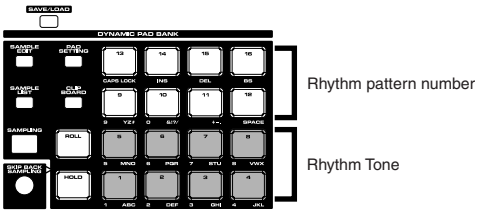
The 256 rhythm patterns are maintained as independent data; they are not part of a performance's data. This means that any one rhythm pattern can be shared by various rhythm sets or performances. In Performance mode, a number by which a rhythm pattern is recalled can be stored as one of the performance parameters. This number cannot be stored in Patch mode.

Rhythm Patterns and Rhythm Groups

On the Fantom-S, a set of rhythm pattern numbers, percussion instrument sounds and a rhythm set assigned to the sixteen pads is stored as a Rhythm Group (p. 112).

Using Rhythm Groups

A rhythm group is a set of rhythm pattern numbers, percussion instrument sounds and a rhythm set assigned to the sixteen pads. One rhythm group contains assignments for the sixteen pads.



* *You are free to change how rhythm pattern numbers and rhythm sounds are assigned.*

Rhythm group data is not part of a rhythm set or performance; the 32 rhythm groups are stored as independent data. This means that any one rhythm group can be shared by various patches or performances. In addition to using the built-in rhythm groups, you can also create your own.

A rhythm group stores numbers by which rhythm patterns are recalled. A performance can contain a number to recall one of these rhythm groups. In Performance mode, a number by which a rhythm group is recalled can be stored as one of the performance parameters. This number cannot be stored in Patch mode.

Playing Rhythm

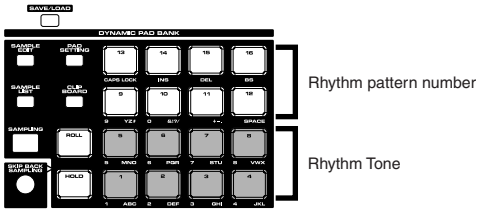
Turning Rhythm On and Off

1. **Press ARPEGGIO/RHYTHM [ON/OFF], causing the indicator to light.**

The button will light.

2. **Play a pad (9-16).**

According to the pad you pressed, the assigned rhythm pattern will begin playing.



A pattern will begin playing when you press any pad from 9–16 that isn't illuminated. A rhythm tone will sound when you press a pad that is blink. The pattern or rhythm tone that is sounded by each pad can be specified in Rhythm Group Edit (p. 116).

3. **To finish playing rhythm pattern, press [ON/OFF] again so the indicator turns off.**

You can also stop playback by pressing the blinking pad.

Determining the Tempo for Rhythm Pattern Performances

This sets the Rhythm Pattern tempo.

Specify the tempo of the rhythm pattern.

1. **Press [TEMPO].**

The current tempo value appears in the display.

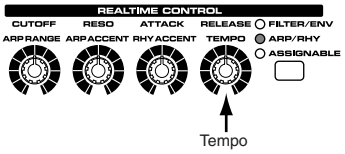
2. **Press VALUE dial or [INC], [DEC] to set the tempo value (5–300), or set the value by tapping [6 (Tap)] a number of times with the same rhythm (Tap Tempo).**

* *When you press [7 (Click)] to assign a check mark (✔), the click will sound.*

3. **When you have made the setting, press [8 (Close)].**

Using a controller to adjust the playback tempo

Since tempo control is assigned to one of the Fantom-S's realtime control knobs, it's easy to adjust the tempo at which the rhythm pattern will play back.



1. **Press the REALTIME CONTROL button so the ARP/RHY indicator lights.**
2. **Play an Rhythm Pattern, and turn the realtime control knob.**

Select the Rhythm Group

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [1 (Rhythm Group)].**

   A screen like the one below appears.

   If Performance mode is selected, (Performance) will appear at the right of "Rhythm Group."

* *When you select the Rhythm group, the most suitable rhythm set is assigned to the Pad part. (In the screen, this is indicated by "Recommended Rhy (Recommended Rhythm set).")*

3. **Turn the VALUE dial or press [INC] or [DEC] to make the setting.**

   This selects the Rhythm group's basic performance Style.

   Value: P01–32 (Preset), U01–32 (User)

4. **When you have made the setting, press [EXIT].**

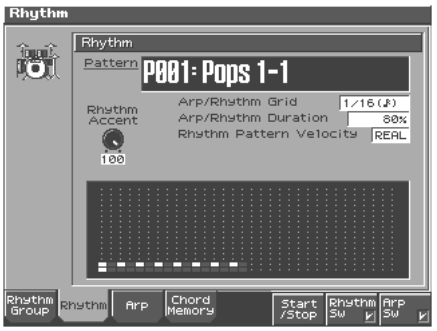
☞ For more on the prepared Rhythm Patterns already programmed in the Fantom-S, refer to Sound List.

Rhythm Pattern Settings

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [2 (Rhythm)].**

   A screen like the one below appears.

   If Performance mode is selected, (PERFORMANCE) will appear at the right of "Rhythm."



3. **Press ▲ or ▼ to move the cursor to each parameter, and either turn the VALUE dial or press [INC] or [DEC] to make the setting.**
4. **Press [6 (Start/Stop)].**
5. **When you have made the setting, press [EXIT].**

   The rhythm pattern will be sounded.

Selecting Rhythm Patterns

Select the basic playing style of the rhythm.

This selects the rhythm's basic performance Style.

Value: P001–256 (Preset), U001–256 (User)

☞ For details on the settings, refer to **"Rhythm Pattern Settings"** (p. 113)

☞ For more on the prepared Rhythm Patterns already programmed in the Fantom-S, refer to Sound List.

Changing the Beat and Shuffle (Grid)

This sets the particular note division and resolution in a "single grid" used in creating the pattern in an Rhythm Pattern, and how much of a "shuffle" syncopation is to be to applied (none/weak/strong) to it (grid type).

* *Grid settings are shared with the arpeggio.*

☞ For details on the settings, refer to **"Arpeggio Settings"** (p. 105)

Value:

1/4: Quarter note (one grid section = one beat)

1/8: Eighth note (two grid sections = one beat)

1/8L: Eighth note shuffle Light
(two grid sections = one beat, with a light shuffle)

1/8H: Eighth note shuffle Heavy
(two grid sections = one beat, with a heavy shuffle)

1/12: Eighth note triplet (three grid sections = one beat)

1/16: Sixteenth note (four grid sections = one beat)

1/16L: Sixteenth note shuffle Light
(four grid sections = one beat, with a light shuffle)

1/16H: Sixteenth note shuffle Heavy
(four grid sections = one beat, with a heavy shuffle)

1/24: Sixteenth note triplet (six grid sections = one beat)

Applying Staccato and Tenuity (Duration)

This setting (duration) determines whether the sounds are played staccato (short and clipped), or tenuity (fully drawn out).

* *Grid settings are shared with the arpeggio.*

For details on the settings, refer to **"Rhythm Pattern Settings"** (p. 113)

Value: 30, 40, 50, 60, 70, 80, 90, 100, 120, Full

30–120: For example, when set to "30," the length of the note in a grid (or when a series of grids is connected with ties, the final grid) is 30% of the full length of the note set in the grid type.

FUL (Full): Even if the linked grid is not connected with a tie, the same note continues to sound until the point at which the next new sound is specified.

NOTE

This has no effect if the Tone Env Mode parameter (p. 68) is set to "No Sus."

Changing the velocity of Rhythm Pattern (Rhythm Pattern Velocity)

This specifies the strength with which the keys you press will be sounded. If you want the velocity to change according to the force with which you press the keys, set this to "REAL." If you want the velocity to be a fixed value regardless of the force with which you press the keys, specify the desired value (1–127).

For details on the settings, refer to **"Rhythm Pattern Settings"** (p. 113)

Value: REAL, 1–127

Changing the Accent Strength (Accent Rate)

When you play rhythm patterns, the velocity of each note is determined by the velocity of the notes programmed within the arpeggio style. You can adjust the amount ("spread") of this dynamic variation. With a setting of 100%, the notes will have the velocities that are programmed by the rhythm pattern. With a setting of 0%, all notes will be sounded at a fixed velocity.

For details on the settings, refer to **"Rhythm Pattern Settings"** (p. 113)

Value: 0–100%

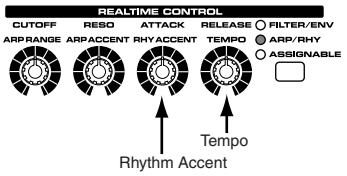
HINT

You can also use a REALTIME CONTROL knob to control this.

Using the Realtime Control Knobs to Control the Rhythm

Here's how you can use the realtime control knobs to control the rhythm in real time by adjusting the rhythm parameters.

1. **Play rhythm.**
2. **Press the REALTIME CONTROL button to select "ARP/RHY."**
   The "ARP/RHY" indicator will light.



3. **Turn the REALTIME CONTROL knobs.**
   While Rhythm Pattern are playing, you can use the knobs to control the following parameters.
   - Rhythm Accent Rate → p. 114
   - TEMPO → p. 112

Turning Rhythm Switch On and Off

If you do not want to perform rhythms, turn off the rhythm switch.

NOTE

If the rhythm switch is turned off, it will not be possible to play rhythms even if [ON/OFF] is on (lit).

1. **Press [PATCH/RHYTHM] to access the Patch Play screen.**
2. **Press [SELECT/EDIT].**
3. **Press [7 (Rhythm Sw)] to add a check mark (✔).**
   The setting is toggled on/off each time you press [7 (Rhythm Sw)].
4. **When you have made the setting, press [EXIT].**

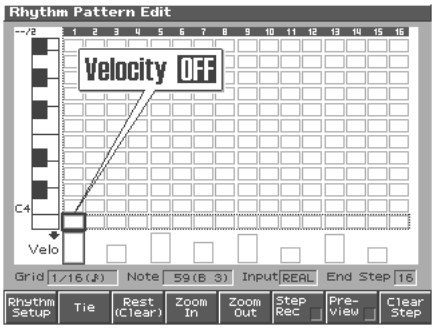
Creating Your Own Styles (Rhythm Pattern Edit)

Not only can you use the prepared internal **Rhythm Pattern** that determine how rhythm patterns are played, but you can also create them as well. This way, you can enjoy performing your own original rhythm pattern.

A rhythm pattern you create can be stored in internal user memory.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [2 (Rhythm)].**
3. **Press [EDIT].**

   The Rhythm Pattern Edit screen will appear.



4. **Use [CURSOR] to move the cursor.**

   Use ▲ ▼ to select the pitch (note number: 0 (C-1)–127 (G9) that you want to input.

   Use ◀ ▶ to move to the step that you want to input.

   If you hold down [SHIFT] and press ◀ or ▶, the cursor will move to grid locations that contain data.

5. **Turn the VALUE dial or use [INC] [DEC] to change the data at the cursor location (velocity: OFF, 1–127, Tie).**
6. **When ARPEGGIO/RHYTHM [ON/OFF] is unlit, you can hold down [SHIFT] and hit a pad to check the pitch of the note to input.**
7. **By pressing a pad you can enter the note number at the cursor location, within a range of sixteen different velocities.**

   When you input the note, the cursor will move to the next step.

8. **By pressing a function button you can perform the following operations.**

   - **Tie: [2 (Tie)]**

     Input a tie at the cursor location and proceed to the next step.
   - **Rest (Clear): [3 (Rest (Clear))]**

     Input a rest at the cursor location and proceed to the next step.
   - **Zoom In: [4 (Zoom In)]**

     Show the Rhythm pattern input screen at a higher magnification.
   - **Zoom Out: [5 (Zoom Out)]**

     Show the Rhythm pattern input screen at a lower magnification.
   - **Step Rec (Step Recording): [6 (Step Rec)]**

     By pressing [6 (Step Rec)] to add a check mark (✔), you can input data from the keyboard or pads.
   - **Preview: [7 (Preview)]**

     By pressing [7 (Preview)] to add a check mark (✔), you can audition the rhythm pattern that you are inputting. When you press it once again to clear the check mark, the playback will stop.
   - **Clear Step: [8 (Clear Step)]**

     Clear all data at the step where the cursor is located.

9. **When you have finished editing, press [EXIT].**

NOTE

A maximum of sixteen notes (specified pitches) can be used in one style

MEMO

If you want to erase all data that was input for the same note number, hold down [SHIFT] and press [2 (Clear Note)]. A message will ask you for confirmation. When you press [8 (Exec)] the data will be erased. If you decide to cancel the operation, press [7 (Cancel)].

Inputting the Data from the Keyboards or Pads

1. **From the Arpeggio Edit screen, press [6 (Step Rec)] to add a check mark (✔).**
2. **Press ◀ or ▶ to move the step.**
3. **Press the key or pad.**

   When all the keys or pads are released, the song advances by the selected step time interval.

4. **When you have finished making settings, press [6 (Step Rec)] once again to clear the check mark.**

Changing the Length of a Rhythm Pattern or the Velocity of the Notes You Input

1. **From the Rhythm Pattern Edit screen, press [1 (Rhythm Setup)].**

   The Rhythm Setup window appears.

2. **Press ▲ or ▼ to select the parameter, and then turn the VALUE dial or press [INC]/[DEC] to set the value.**

   - **End Step**

     Specifies the style length

     Range:1–32
   - **Input Velocity**

     Specify the velocity (volume) of the note messages you will input.

     If this is set to REAL, your playing strength on the pads or keyboards will vary the dynamics.

     Range: REAL, 1-127

3. **When you have finished making settings, press [8 (Close)].**

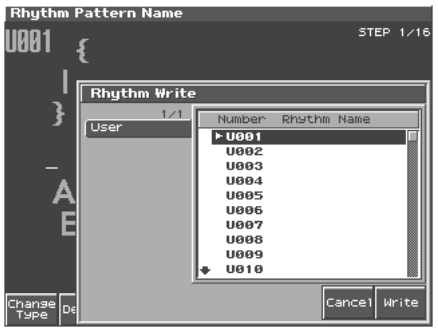
Initializing the Rhythm Pattern that You are Editing (Init)

1. **Access the Rhythm Pattern Edit screen.**
2. **While holding down [SHIFT], press [1 (Init)].**
   A message will ask you for confirmation.
3. **Press [8 (Exec)] to execute the Initialize operation.**
   The initialization will be carried out. To cancel, press [7 (Cancel)].

Saving the Patterns You Have Created (WRITE)

The rhythm patterns you create are temporary; they are deleted as soon as you turn off the power or select some other rhythm patterns. You can store 256 rhythm patterns in the User memory.

1. **Confirm that the current Pattern is the one you want to save.**
2. **Press [2 (Rhythm)].**
3. **Press [WRITE].**
   The name entry screen will appear (p. 42).
4. **When you have finished entering the name, press [8 (Write)].**
   A screen in which you can select the destination for the write will appear.



5. **Turn the VALUE dial or use ▲, ▼ to select the write destination.**
6. **Press [8 (Write)].**
   A message will ask you for confirmation.
7. **To write the data, press [8 (Exec)].**
   Never switch off the Fantom-S while data is being saved.

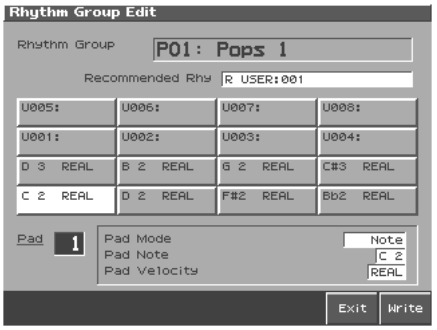
* *To cancel, press [7 (Cancel)].*

Rhythm pattern settings are saved as independent data, not as part of the data for each patch. The settings in Patch mode, it is not possible to save rhythm pattern parameters (e.g., pattern, grid type).
It can be saved to individual in Performance mode. If you want to save your settings, press [WRITE] and save the performance.

Creating Your Own Styles (Rhythm Group Edit)

Not only can you use the prepared internal **Rhythm Groups** that determine how rhythm are played, but you can also create them as well. This way, you can enjoy performing your own original rhythm group.

1. **Press ARPEGGIO/RHYTHM [SELECT/EDIT].**
2. **Press [1 (Rhythm Group)].**
3. **Press [EDIT].**
   The Rhythm Group edit screen will appear.

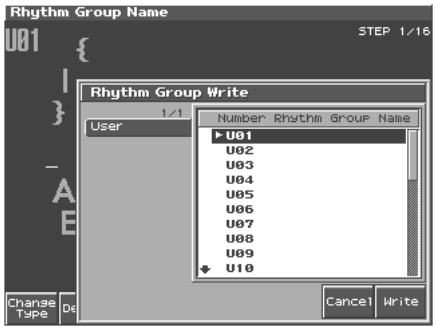


4. **Use [CURSOR] to select a parameter, and turn the VALUE dial or use [INC][DEC] to set the value.**
   You can also choose the pad that you want to set by pressing that pad.
   - **Recommended Rhy (Recommended Rhythm Set)**
     Specifies which rhythm set will be used.
   - **Pad Mode**
     Specifies whether a rhythm tone or a rhythm pattern number will be assigned to the pad.
     Range: Pattern, Note, Off
   - **Rhy Ptn Number (Rhythm Pattern Number)**
     If Pad Mode is set to Pattern, specifies the pattern number that will sound when you press the pad.
     Range: U001–256, P001–256
   - **Rhy Ptn Velocity (Rhythm Pattern Velocity)**
     Specifies the velocity of the rhythm pattern when the pad mode is set to "Pattern."
     Range: REAL, 1–127
   - **Pad Note**
     If Pad Mode is set to Note, specifies the note number that will sound when you press the pad.
     Range: C-1 –G9
   - **Pad Velocity**
     Specifies the strength of the sound heard when you strike the pad. If this is set to REAL, you can add dynamics by varying the strength of your strike.
     Range: REAL, 1–127
5. **When you have made the setting, press [8 (Exit)].**

Saving the Rhythm Group You Have Created (WRITE)

The Rhythm Group you create are temporary; they are deleted as soon as you turn off the power or select some other Style. You can store 32 Rhythm Groups in the User memory.

1. **Confirm that the current Style is the one you want to save.**
2. **Press [1 (Rhythm Group)].**
3. **Press [WRITE].**
   The name entry screen will appear (p. 42).
4. **When you have finished entering the name, press [WRITE].**
   A screen in which you can select the destination for the write will appear.



5. **Turn the VALUE dial or use [INC] [DEC] to select the write destination.**
6. **Press [8 (Write)].**
   A message will ask you for confirmation.
7. **To write the data, press [8 (Exec)].**
   Never switch off the Fantom-S while data is being saved.

* *To cancel, press [CANCEL].*

Rhythm group settings are saved as independent data, not as part of the data for each patch. The settings in Patch mode, it is not possible to save rhythm group settings.
It can be saved to individual in Performance mode. If you want to save your settings, press [WRITE] and save the performance.

Sampling

The Fantom-S lets you sample audio sources, such as an audio device, mic, or CD.

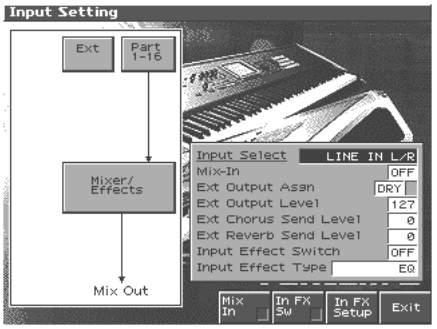
This section explains the sampling procedure and what the parameters do.

Making Input Source Settings (INPUT SETTING)

1. Connect the input device whose sound you will sample (e.g., CD player or mic) to the AUDIO INPUT jacks located on the rear panel of the Fantom-S.

> **Cautions when using a microphone**
>
> Howling could be produced depending on the location of microphones relative to speakers. This can be remedied by:
>
> 1. Changing the orientation of the microphone(s).
> 2. Relocating microphone(s) at a greater distance from speakers.
> 3. Lowering volume levels.

2. Press [INPUT SETTING].



3. Press ▲ or ▼ to select the parameter that you want to set.

4. Turn the VALUE dial or press [INC]/[DEC] to set the value.

- **Input Select**

  Specifies the input source of the sound to be sampled.

  Value

  LINE IN L/R: INPUT jacks L/R (stereo)

  LINE IN L: jack L (mono)

  MICROPHONE: INPUT jack L (mono, mic level)

- **Mix-In**

  Specifies whether the external source will be input.

  You can also switch this on/off by pressing [5 (Mix In)].

  Value: ON–OFF

- **External Output Assign**

  Output destination of the external input sound that is mixed in

  Value

  DRY: Output to OUTPUT (A) jacks without passing through effects

  MFX: Output through multi-effects

  When you select "MFX", selects which of the three multi-effects (1–3) will be used.

- **External Output Level**

  Volume level of the external input sound.

  Value: 0–127

- **External Chorus Send Level**

  Adjusts the depth of chorus that will be applied to the external input source. Set this to "0" if you do not want to apply chorus.

  Value: 0–127

- **External Reverb Send Level**

  Depth of reverb applied to the external input sound. Set this to 0 if you don't want to apply reverb.

  Value: 0–127

- **Input Effect SW**

  Specifies whether the external input sound will be sent through the effects processor (Input Effect). You can also switch this on/off by pressing [6 (In FX Sw)].

  Value: ON–OFF

- **Input Effect Type**

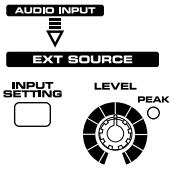
  Selects the type of effect that will be applied to the external input source.

  When you press [7 (In FX Setup)], the parameter setting screen for the currently selected input effect will be displayed.

  Value: EQ, ENHANCER, COMPRESSOR, LIMITER, NOISE SUP, C CANCELLER

5. Play back the external input source.

6. Turn the EXT SOURCE LEVEL knob to adjust the volume.



* *If the volume of the external source is too high, the PEAK indicator will light. If this occurs, turn down the LEVEL knob until the PEAK indicator no longer lights.*

7. Press [8 (Exit)].

Input Effect Setup Settings

1. Press [INPUT SETTING], and then press [7 (In FX Setup)].

The Input Effect Setup screen appears.

2. Press ▲ or ▼ to move the cursor.

3. Turn the VALUE dial, or press [INC] /[DEC] to set the value.

- **Type (Input Effect Type)**

  Selects the input effect type.

Parameter	Explanation
01: Equalizer	Adjusts the tone of the low-frequency and high-frequency ranges.
02: Enhancer	Modifies the harmonic content of the high-frequency range to add sparkle to the sound.
03: Compressor	Restrains high levels and boosts low levels to make the overall volume more consistent.
04: Limiter	Compresses the sound when it exceeds a specified volume, to keep distortion from occurring.
05: Noise Suppressor	Suppresses noise during periods of silence.
06: Center Canceler	Removes the sounds that are localized at the center of the stereo input. This is a convenient way to eliminate a vocal.

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

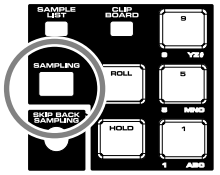
In this settings screen, you can edit parameters for the type of input effect you selected. For details on the parameters that can be edited, refer to the section "Input effect parameters" within "Parameter List."

MEMO

When you enter the Input Effect Setup screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the MFX parameters. If you once again press the button located at the right of the Realtime Control knobs so the indicator is lit, the knobs will control their original functions. When you exit the Input Effect Setup screen, the indicator will automatically return to its previous lit state.

Sampling Procedure

1. Press [SAMPLING/RESAMPLING] to access the Sampling Menu screen.



The upper part of the screen will show the amount of free memory. If the free memory reaches 0%, no further sampling is possible.

2. Press [1 (Sampling)]–[F5 (SOLO)] to select the sampling mode. The sampling-standby screen will appear.

To cancel, press [8 (Exit)].

* *You cannot sample the sound that is output from the OUTPUT B jacks. You'll need to set things up so that the sound you want to sample is output from the OUTPUT A (MIX) jacks.*

Sampling mode

- **Sampling:[1 (Sampling)]**

  Sample a sound from an external input source.

* *Operating the keyboards, pads, sequencer will not play the internal sound generator.*

- **Re-Sampling:[2 (Re-Sampl)]**

  Resample the sound of the internal sound generator. The sound of the external input will not be heard.

* *The volume of a phrase that you resample may be less than the volume of the original phrase. If necessary, execute the Normalize command (p. 130) to raise the volume.*

- **Mix Sampling:[3 (Mix)]**

  Sample the combined sounds of the internal sound generator and an external input source.

- **Auto divide sampling:[4 (Auto Devide)]**

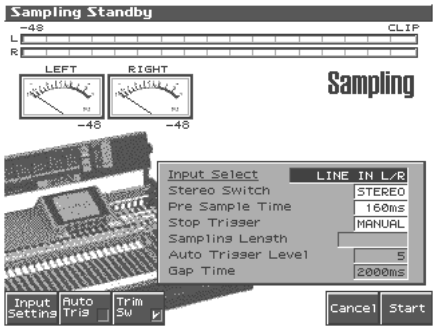
  Sample an extended source, and automatically divide it into several samples at silent regions. If the sample contains silence, it will be divided at that point, and the subsequent portion will be assigned to the next sample number.

* *Operating the keyboards, pads or D Beam controllers will not play the internal sound generator.*

- **Solo sampling:[5 (Solo)]**

  While playing the internal sound generator as usual, sample only the sound from the external input.

* *Effects cannot be applied to the external input sound.*



3. Make the settings for things such as the input source of the sound to be sampled, and triggering.

- **Input Select**

  Specifies the input source of the sound that is to be sampled.

  Value

  LINE IN L/R: INPUT jacks L/R (stereo)

  LINE IN L: INPUT jack L (mono)

  MICROPHONE: INPUT jack L (mic level)

* *This cannot be set when resampling.*

- **Stereo Switch**

  Specifies whether the sound will be sampled in stereo or in monaural. Mono sampling uses half as much memory space.

  Value

  MONO: The sound will be sampled as one wave. If the sound is stereo, the left and right signals will be mixed.

  STEREO: The sound will be sampled as two waves, L and R.

- **Pre Sample Time**

  The length of sound preceding the moment at which sampling was manually or automatically initiated that will be captured in the sample. This lets you prevent the attack portion of the sound from being omitted from the sample.

  Value: 0–1000 ms

- **Stop Trigger**

  Specifies how sampling will end.

  Value

  MANUAL: Continue sampling until you press [STOP].

  BEAT: Sample the specified number of beats at the current tempo (BPM).

  TIME: Sample the specified length of time.

- **Sampling Length**

  You can specify this if Stop Trigger is "BEAT" or "TIME."

  Value

  Sampling LengthWhen Stop Trigger is "BEAT":1–20000:Number of beats to continue sampling

  When Stop Trigger is "TIME":00'00"010–50'00"000:length of time to continue sampling. The maximum value will depend on the amount of memory.

- **Auto Trigger Level**

  Specifies the volume at which sampling will begin if you have pressed [2 (Auto Trig)] to turn Auto Trig ON.

  Value: 0–7 (A setting of 0 is the minimum.)

- **Gap Time**

  Specifies the length of the silences at which the sample will be divided if the Sampling Mode is set to Auto Divide. Whenever there is a silent region longer than the specified time, the sample will be divided at that point, and the next sample number will be assigned to the sound that follows.

  Value: 500, 1000, 1500, 2000 ms

* *This parameter is valid only when you are using Auto Divide Sampling.*

- **Input Setting:[1(INPUT SETTING)]**

  Makes settings for the external input (p. 118).

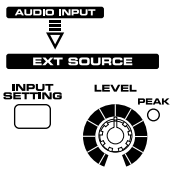
- **Auto Trigger:[2(AUTO TRIG)]**

  If this is on, sampling will begin automatically when the input sound is detected.

- **Trim Sw:[3(TRIM SW)]**

  If this is turned on, the Start point and End point settings (p. 125) will be automatically adjusted after sampling is performed, so any silent portions at the beginning or end of the sampled sound are excluded.

4. In the EXT SOURCE section of the panel, use LEVEL knob to adjust the input level of the external source.



* *If the volume of the external source is too high, the PEAK indicator will light. If this occurs, turn down the LEVEL knob until the PEAK indicator no longer lights.*

* *If the level of the sound to be sampled is too high, the word "CLIP" will appear at the lower right of the level meter in the screen.*

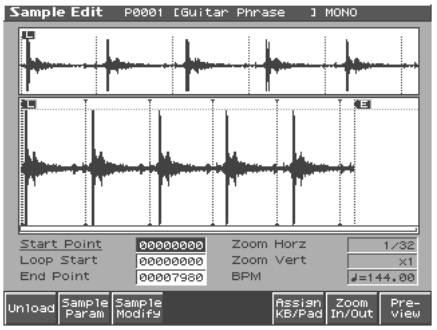
* *Using a connection cable that contains a resistor can cause the sound level to be low. Use a connection cable that does not contain a resistor.*

5. Press [8 (Start)] to begin sampling.

6. If Stop Trigger is set to MANUAL, press [7 (Stop)] to stop sampling.

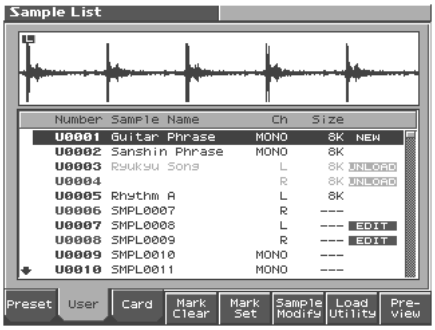
The Sample Edit (p. 124) screen will appear.

* *If you want to edit the sample, refer to p. 124.*



When you finish sampling, the sample will automatically be added to the sample list. Press [SAMPLE LIST] to view the sample list.

Samples you record will be lost when you turn off the power. If you want to keep your sample, press [WRITE] to save it (p. 134). Samples shown as "NEW" in the sample list have not yet been saved.



7. Press [EXIT] to go back to where you were before you entered the Sampling screen.

Dividing a Sample During Sampling

1. During sampling, press [8 (Divide)].

The sample will be divided at the point where you pressed the button, and the subsequent material will be sampled as a sample of the next number.

* *When sampling in mono, you can divide the material into a maximum of 256 samples. When sampling in stereo, you can divide the material into a maximum of 128 samples (L/R total 256 samples).*

HINT

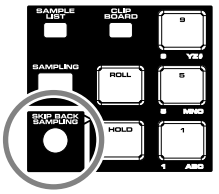
Sampling time

The Fantom-S contains 32 MB of memory, which allows about 6 minutes of mono or about 3 minutes of stereo sampling. If you want to sample for a longer time than this, you must install separately sold memory (DIMM) (p. 207).

Sampling Earlier in Time (Skip Back Sampling)

Sometimes you may want to preserve a nice phrase that you happened to play a bit earlier. In such cases, you can use the Skip Back Sampling function to sample sounds that were played earlier in time.

When you execute skip-back sampling, several beats of your prior performance are saved as a sample. You can assign this sample to a pad and play it from the pad.



Button lit: Skip-back sampling can be performed in this state.

Button unlit: Skip-back sampling cannot be performed. Not operating. You cannot use skip-back sampling if there is insufficient free memory.

Button blinking: The following screen will appear, and Skip Back Sampling will be executed.

1. Press [SKIP BACK SAMPLING].

The following screen will appear, and Skip Back Sampling will be executed.

Sampling will stop automatically, and the Sample Edit screen will appear.

HINT

From the Sample Edit screen you can press [3 (Sample Modify)] to edit the sample (p. 129 and following). In addition, you can press [6 (Assign KB/Pad)] and assign the sample to a part as a patch (p. 127), or assign it to a pad (p. 126).

MEMO

You can specify how far back sampling will occur when you perform skip-back sampling (5–40 seconds). With the factory settings this is set to 10 seconds.

If you want to keep the sample, perform the Save procedure (p. 134).

Editing a Sample

This section explains how you can edit a sample that you sampled/imported

Editing is performed in sample memory—a memory area dedicated to samples (p. 23).

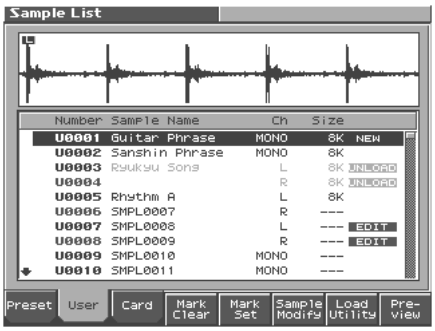
Selecting a Sample (Sample List)

Select a sample from the list.

Selecting a Sample

1. Press [SAMPLE LIST].

The Sample List display appears.



2. Specify the group from which you want to select a sample.

- **[1 (Preset)]:** Select from preset samples.
- **[2 (User)]:** Select from user samples.
- **[3 (Card)]:** Select from samples stored on a memory card.

* *You cannot edit preset (Preset) samples.*

3. Use VALUE dial, [INC][DEC], or ▲ ▼ to select a sample.

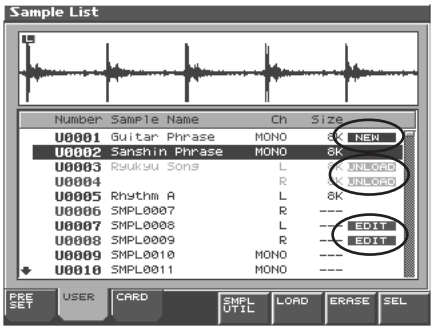
If you hold down [SHIFT] while you operate the above buttons, the sample number will change in steps of ten.

You can press [8 (Preview)] to audition the selected sample.

4. Press [ENTER].

The Sample Edit Screen appears.

The sample list shows the current state of the samples.



NEW: This is a sample that you sampled. It has not been saved, and will be lost when you turn off the power. The same is true for samples imported as WAV/AIFF.

UNLOAD: The sample has been saved, but not loaded into sample memory.

EDIT: This is a sample that you loaded or sampled and are editing. Your edits will be lost when you turn off the power. If you want to keep them, you must Write the sample.

The Fantom-S has a parameter (Sample Default Load, (p. 195)) that specifies whether the samples in user memory, the samples in a memory card, or the preset samples will be automatically loaded into sample memory when you turn on the power. If Sample Default Load is turned off, samples will not be loaded into memory when you turn on the power. In this case, you will need to load samples into memory yourself. If you have unload a sample from sample memory, you will also need to load it

Loading a Sample

Here's how you can load a sample from the user area, a memory card, or a preset into sample memory.

1. **Press [SAMPLE LIST].**
   The Sample List display appears.
2. **From [1 (Preset)]–[3 (Card)], select the bank that contains the desired sample.**
3. **Use VALUE dial, [INC][DEC], or ▲ ▼ to select a sample.**
   If you want to load two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the samples that you want to select.
   To remove the check mark, press [4 (Mark Clear)].
   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all samples of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected samples.
   The edit screen for the selected sample will appear.
4. **Press [7 (Load Utility)], and then press [7 (Load)].**
   A message will ask you for confirmation.
5. **Press [8 (Exec)] to load the sample.**
   To cancel, press [7 (Cancel)].
   The Sample Edit screen appears.

* *You can also perform this operation from the Sample Edit or Sample List screen by pressing [MENU] and selecting Load Sample.*

Loading all Samples

Here's all samples in the user memory and memory card can be loaded.

NOTE
When you execute Load All Samples, all unsaved samples will be erased.

NOTE
If the total size of the data in the user bank and card bank exceeds the size of memory, the samples of the user bank will be loaded first. At this time, as many card bank samples as possible will be loaded, starting from the lowest-numbered sample.

1. **From the Sample List screen or Sample Edit Screen (p. 124), Press [MENU].**
2. **▲ or ▼ to select "Load All Sample", and then press [ENTER].**
   A message will ask you for confirmation.
3. **Press [8 (Exec)] to execute.**
   To cancel, press [7 (Cancel)].

* *You can also perform this operation from the Sample Edit or Sample List screen by pressing [MENU] and selecting Load All Sample.*

Unloading a Sample

Here's how you can unload a sample from sample memory. The saved sample file itself will not be deleted.

1. **With the Sample List screen shown, choose [1 (Preset)]–[3 (Card)] to select the group that contains the sample you want to erase.**
2. **Use VALUE dial, [INC][DEC], or ▲ ▼ to select a sample.**
   If you want to erase two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the samples that you want to select.
   To remove the check mark, press [4 (Mark Clear)].
   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all samples of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected samples.
   The edit screen for the selected sample will appear.
   You can press [8 (Preview)] to audition the selected sample.
3. **Press [7 (Load Utility)], and the press [6 (Unload)].**
   A message will ask you for confirmation.
4. **Press [8 (Exec)] to unload the sample.**
   To cancel, press [7 (Cancel)].

* *You can also perform this operation from the Sample Edit screen by pressing [MENU] and selecting Unload Sample.*

Deleting a Sample

Here's how to completely delete a sample file.

* *You cannot delete the preset samples.*

1. **With the Sample List screen shown, choose [2 (User)]–[3 (Card)] to select the group that contains the sample you want to delete.**
2. **Turn the VALUE dial, or press ▲ or ▼ to select the sample.**
   If you want to delete two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the samples that you want to select.
   To remove the check mark, press [4 (Mark Clear)].
   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all samples of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected samples.
   The edit screen for the selected sample will appear.
   You can press [8 (Preview)] to audition the selected sample.
3. **Press [7 (Load Utility)], and the press [5 (Delete Sample)].**
   A message will ask you for confirmation.
4. **Press [8 (Exec)] to delete the sample.**
   To cancel, press [7 (Cancel)].

* *You can also perform this operation from the Sample Edit or Sample List screen by pressing [MENU] and selecting Delete Sample File.*

Importing a Audio File

Here's how an audio file (WAV/AIFF) can be loaded into memory as a sample.

NOTE

Place the audio files in the "TMP/AUDIO_IMPORT" folder on the user memory or memory card. For details on how you can use your computer to copy a file into the user area or memory card, refer to p. 184.

1. **From the Sample List screen or Sample Edit screen (p. 124), press [MENU] to select "Import Audio", and then press [ENTER].**
2. **Press [1 (User)] or [2 (Card)] to select the import-source area.**

   User: Select a file from the user area.

   Card: Select a file from the memory card.
3. **Use [CURSOR] to move the cursor to the "TMP/AUDIO_IMPORT."**
4. **Press ▲ or ▼, then select the file that you want to import.**

   If you want to select two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the files that you want to select. To remove the check mark, press [4 (Mark Clear)].

   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all files of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected files.
5. **Press [8 (Import)].**

   A message will ask you for confirmation.

* *To cancel, press [7 (Cancel)].*

6. **Press [8 (Exec)].**

   The file will be imported, and the Sample List screen will appear.

* *To cancel, press [7 (Cancel)].*

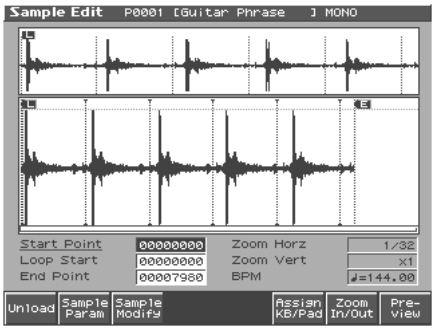
MEMO

The imported file will be added to the sample list as a sample. This sample is temporary, and will be lost when you turn off the power. If you want to keep it, press [WRITE] to save the data.

Displaying Sample Edit Screen

1. **When you press [SAMPLE EDIT] in the sampling section.**

   The Sample Edit screen will appear.



NOTE

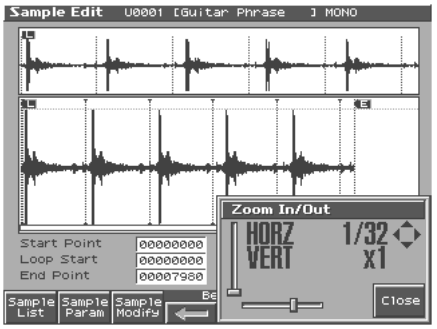
Samples that you edit will be lost when you turn off the power. If you want to keep them, you must Save them (p. 134).

Magnifying/Shrinking the Waveform Display (Zoom In/Out)

Here's how to change the magnification of the sample display.

1. **In the Sample Edit screen, press [7 (Zoom In/Out)].**

   The Zoom In/Out sub-window will appear.



2. **Use [CURSOR] to change the magnification of the display.**
   - Horizontal axis (time axis): 1/1–1/65536

     Press ▶ to increase the display magnification.

     Press ◀ to decrease the display magnification.

   * *Either turn the VALUE dial or use [INC], [DEC] to adjust this setting.*

   - Vertical axis (waveform amplitude axis): x1–x128

     Press ▲ to increase the display magnification.

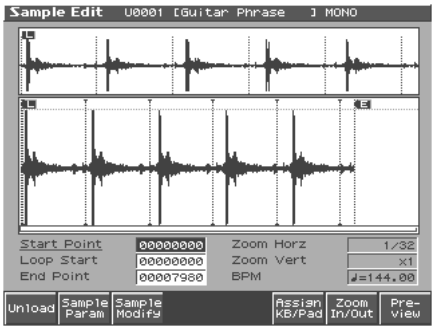
     Press ▼ to decrease the display magnification.
3. **Press [8 (Close)] to close the sub-window.**

Even without displaying the Zoom In/Out sub-window, you can press CURSOR ◀ ▶ to expand/shrink the horizontal axis, or hold down [SHIFT] and press CURSOR ▲ ▼ to expand/shrink the vertical axis.

Setting the Start/End Points of the Sample

You can specify the portion of the sample that will actually sound. You can also specify the region that is to be looped.

1. **Press [SAMPLE LIST] and select the sample that you want to edit (p. 122).**
2. **Press [SAMPLE EDIT].**



* *For details on how to select a sample, refer to Sample List (p. 122).*

3. **Use ▼ or ▲ to select the point that you want to set.**
   - **Start Point:**
     This is the point at which playback will start. Set this so that any unwanted portion at the beginning of the sample will be skipped, and the sound will begin at the desired moment.
   - **Loop Start:**
     This is the point at which loop playback (second and subsequent times) will start. Set this if you want to loop the sound from a point other than the start point.
   - **End Point:**
     This is the point at which playback will end. Set this so that any unwanted portion at the end of the sample will not be heard.
4. **Either turn the VALUE dial or use [INC], [DEC] to move the point so it's where you want it to be.**
   You'll probably find it convenient to zoom-in when making fine adjustments, and zoom-out when making major adjustments (p. 124).

MEMO

You can move the point in units of one beat by pressing [4 (⇒)] or [5 (⇐)]. You can press [8 (Preview)] to audition the selected sample.

The preset samples cannot be moved by beat.

After specifying the start point and end point, you can execute Truncate (p. 129) to delete unwanted portions at the beginning and end of the sample.

About the beat

Samples contain beat data. Up to 100 beat locations are specified for one sample. If the sample contains more than 100 beats, fifty beat locations will be specified from the beginning and end of the sample, respectively.

* *The preset samples do not contain beat data.*

When you want to reset the beat indication. (Reset Grid function)

You can have the sample grid (beat indication) be recalculated based on a specified start point and BPM. To do this, go to the Sample Edit screen, set the Sample Start Point, set the BPM in the Sample Prm screen, press [5 (Reset Grid)], then press [8 (Exec)].

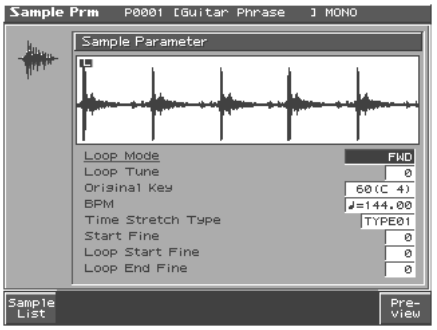
NOTE

Sample modify operations (Chop, Normalize, etc.) apply to the entire sample. Even if you specify a start point or end point, they will be ignored. If you want to apply the operation only to the region between the start point and end point, use Truncate to delete unwanted portions of the sample, and then perform the sample modifying operation.

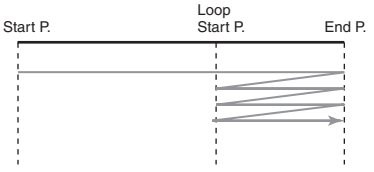
Making Settings for Sample (Sample Parameters)

Here you can make various settings for the sample.

1. **Press [SAMPLE LIST] and select the sample that you want to edit (p. 122).**
2. **Press [SAMPLE EDIT] to access the Sample Edit screen, and press [2 (Sample Param)].**

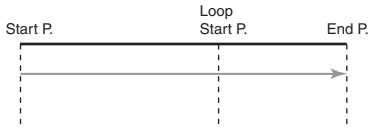


3. **Press ▲ or ▼ to select a parameter.**
4. **Use VALUE dial or [INC], [DEC] to edit the value.**
   - **Loop Mode**
     Specifies how the sample will be played.
     Value
     FWD (Forward)
     After the Sample played back from the Start point to the End point, it will then be repeatedly played back in the forward direction, from the Loop Start point to the End point.



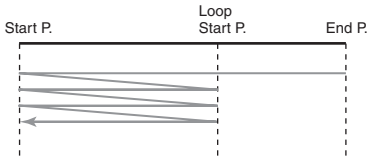
ONE-SHOT

The sample will be played back only once, from the Start point to the End point.



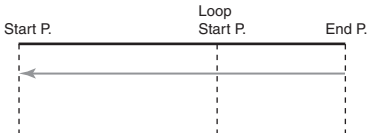
REV (Reverse)

When the sample has been played back from the End point to the Start point, it will be repeatedly played back in the reverse direction, from the Loop Start point to the Start point.



REV-ONE (Reverse One-shot)

The sample will be played back only once from the End point to the Start point in the reverse direction.



- **Loop Tune**

  Specifies the pitch of the loop region.

  Value:-50– +50

* *Make fine adjustments in one-cent (1/100 semitone) increments.*

- **Original Key**

  Note number that will play the sample at the pitch at which it was sampled.

  Value:0 (C-1)–127 (G9)

- **BPM (TEMPO)**

  Specifies the original tempo of the sample.

  Value:5.00–300.00

* *In order to synchronize the tempo, Wave Temp Sync (p. 45, p. 69) must be turned on.*

* *When setting the BPM (tempo) value, you can hold down [SHIFT] and turn the VALUE dial, or use [INC] [DEC] to adjust the value to the right of the decimal point.*

- **Time Stretch Type**

  Specifies how the tempo will be synchronized. Decreasing this value will optimize the sound for more rapid phrases, and increasing this value will optimize the sound for slower phrases.

  Value:TYPE01–TYPE10

- **Start Fine**

  Fine adjustment of the Start point.

  Value:0–255

- **Loop Start Fine**

  Fine adjustment of the Loop Start point.

  Value:0–255

- **Loop End Fine**

  Fine adjustment of the End point.

  Value:0–255

5. Press [EXIT] when you are finished.

Assigning Samples to a Pad (Assign To Pad)

Here's how to assign samples as the rhythm tones of a rhythm set. For example, you can create an original rhythm set by replacing certain tones of a preset rhythm set with different samples.

* *From the Sample List screen you can also press [7 (Load Utility)]→ [2 (Assign to Pad)] to execute Assign To Pad.*

* *You cannot execute this with more than one sample selected.*

From Patch Mode

1. Press [SAMPLE LIST] to select a sample, and then press [SAMPLE EDIT] to access the Sample Edit screen.

2. Press [6 (Assign KB/Pad)].

The Assign to Kbd/Pad screen will appear.

3. Press [7 (Assign to Pad)].

The Assign to Pad screen will appear.

4. Select the desired pad by pressing it directly.

5. Press [8 (Exec)].

If you add a check mark to [1 (Tempo Sync)], the Wave Tempo Sync parameter (p. 69) will be turned ON for the rhythm tone that is assigned.

A message will ask your confirmation.

6. Press [8 (Exec)] to execute Assign to Pad.

The sample will be assigned (as a rhythm tone) to the specified pad.

To cancel, press [7 (Cancel)].

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

From Performance Mode

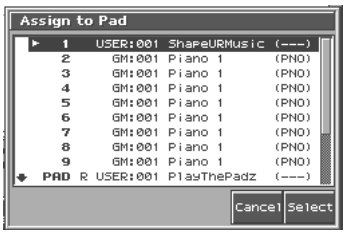
1. Press [SAMPLE LIST] to select a sample, and then press [SAMPLE EDIT] to access the Sample Edit screen.

2. Press [6 (Assign KB/Pad)].

The Assign to Kbd/Pad screen will appear.

3. Press [7 (Assign to Pad)].

The Assign to Pad screen will appear.



4. Press ▲ or ▼ to select the part, and then press [8 (Select)].

If a rhythm set is not assigned to the selected part, a message will ask "Change into Rhythm and Initialize?", asking if you want to assign an initialized rhythm set to the selected part.

The Assign to Pad screen will appear.

5. Select the desired pad by pressing it directly.

6. Press [8 (Exec)].

If you add a check mark to [1 (Tempo Sync)], the Wave Tempo Sync parameter (p. 69) will be turned ON for the rhythm tone that is assigned.

A message will ask your confirmation.

7. Press [8 (Exec)] to execute Assign to Pad.

The sample will be assigned (as a rhythm tone) to the specified pad.

To cancel, press [7 (Cancel)].

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

NOTE

You cannot listen to a multisample unless you assign it to a part as a patch.

NOTE

If you select another rhythm set, the rhythm set you assigned will be replaced by that patch. If you want to keep the patch you created, press [WRITE] and save it.

Assigning a Sample as a Patch to a Part (Assign to Keyboard)

Here's how you can use the currently selected sample to create a patch, and assign it to a keyboard part.

* *From the Sample List screen you can also press [7 (Load Utility)]→ [2 (Assign to Pad)] to execute Assign To Pad.*

* *You cannot execute this with more than one sample selected.*

From Patch Mode

1. Press [SAMPLE LIST] to select a sample, and then press [SAMPLE EDIT] to access the Sample Edit screen.

2. Press [6 (Assign KB/Pad)].

Assign to Kbd/Pad window appears.

3. Press [6 (Assign to Kbd)].

The Assign to Keyboard window will appear, and you can verify the assignment for the keyboard part.

4. Press [8 (Exec)]

If you add a check mark to [2 (Tempo Sync)], the Wave Tempo Sync parameter (p. 45) will be turned ON for the patch that is assigned.

A message will ask you for confirmation.

5. Press [8 (Exec)].

The sample will be assigned (as a patch) to the specified keyboard part.

To cancel, press [7 (Cancel)].

From Performance Mode

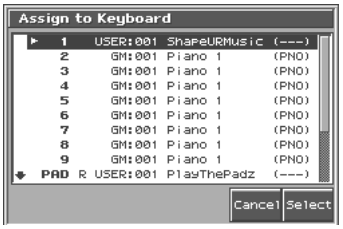
1. Press [SAMPLE LIST] to select a sample, and then press [SAMPLE EDIT] to access the Sample Edit screen.

2. Press [6 (Assign KB/Pad)].

Assign to Kbd/Pad window appears.

3. Press [6 (Assign to Kbd)].

Assign to Keyboard window appears.



4. Press ▲ or ▼ to specify the part to which the new patch is to be assigned, and then press [8 (Select)].

The Assign to Keyboard window will appear, and you can verify the assignment for the part.

5. Press [8 (Exec)]

If you add a check mark to [2 (Tempo Sync)], the Wave Tempo Sync parameter (p. 45) will be turned ON for the patch that is assigned.

A message will ask you for confirmation.

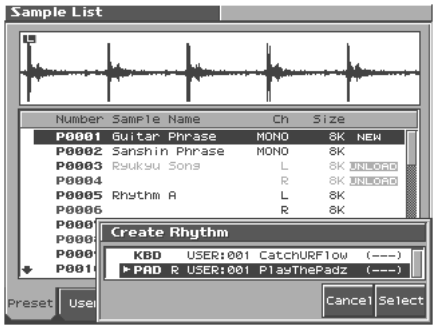
6. **Press [8 (Exec)].**
   The sample will be assigned (as a patch) to the specified part.
   To cancel, press [7 (Cancel)].
7. **Press [EXIT] to return to the previous screen.**

NOTE
If you select another patch, the patch you assigned will be replaced by that patch. If you want to keep the patch you created, press [WRITE] and save it.

Create a Rhythm Set (Create Rhythm)

Here's how you can use the sample(s) to create a rhythm set. This operation is called **Create Rhythm**.
When you execute Create Rhythm, the sample(s) will become a rhythm set and will be assigned to a part.
For example, you could record a sample, use the Chop function to divide it, and then use this Create Rhythm operation to assign the divided samples to a part as a rhythm set. Alternatively, you can assign a mark to two or more samples in the sample list, and execute Create Rhythm to assign the samples to a part as a rhythm set.

1. **Press [SAMPLE LIST] to access the Sample List screen.**
2. **Select the samples.**
   If you want to select two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the samples that you want to select.
   To remove the check mark, press [4 (Mark Clear)].
   You can press [8 (Preview)] to audition the selected sample.
3. **Press [7 (Load Utility)], and then press [4 (Create Rhythm)].**
   The Create Rhythm window will appear.



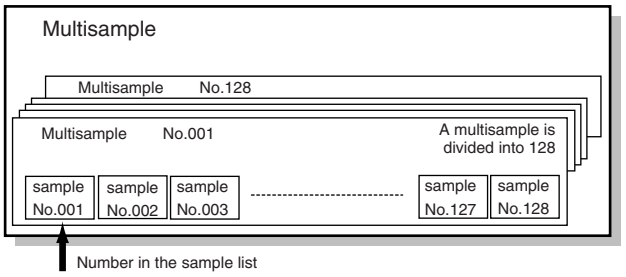
4. **Either turn the VALUE dial or use [INC] [DEC] to select the part that you want to assign.**
5. **Press [8 (Select)].**
   A message will ask you for confirmation.
   To cancel, press [7 (Cancel)].
6. **Press [8 (Exec)]**
   The sample will be assigned (as a patch) to the specified part.
   To cancel, press [7 (Cancel)].
7. **Press [EXIT] to return to the previous screen.**
   If, from Performance mode, you select and play the part selected in step 4, it will sound as a rhythm set. Since the samples will be assigned consecutively from the C2 key, we recommend that you set Pad Set to User, and set the pad bass note to C2 when playing the part from the pads (p. 136).

* *If you select another rhythm set, the rhythm set you assigned will be replaced by that rhythm set. If you want to keep the rhythm set, press [WRITE] and save it.*

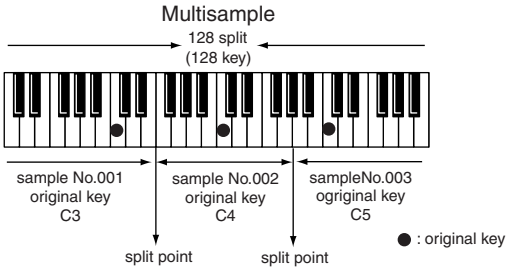
* *The sounds will be assigned in order starting at the C2 key.*

Creating a Multisample (Create Multisample)

A set of two or more samples assigned to be played from the keyboard is called a "multisample." A multisample can contain up to 128 splits. The Fantom-S can hold 128 multisamples in user memory and 128 multisamples in a memory card. You can also assign a multisample to a part as a patch.



If, for example, only one note (e.g., the sound of the C4 key) is sampled from a wide-ranging instrument such as a piano, and assigned to the entire range of keys, it will sound unnatural when played significantly below or above its original pitch. If the instrument is sampled at several different pitches and assigned to different ranges of the keyboard, this unnatural effect can be minimized.



When you create a multisample, the split points are automatically determined according to the original key of each sample. Before you begin this process, you should set the original key of each sample to the range where you want it to be assigned.
A sample will not sound at a pitch higher than one octave above the original key.

1. **Press [SAMPLE LIST] to access the Sample List screen, and select the sample(s) that you want to include in your new multisample.**

If you want to select two or more samples from the sample list, press [5 (Mark Set)] to add a check mark (✔) to each sample.

Pressing [4 (Mark Clear)] will clear the check mark.

You can press [8 (Preview)] to audition the selected sample.

If the total number of marks exceeds 128, the multisample will be created from the 128 lowest-numbered samples.

You cannot create a multisample using samples from more than one bank.

2. Press [7 (Load Utility)], and then press [3 (Create Multi Sample)].

The Create Multisample Name screen will appear.

3. Assign a name.

- [1 (Change Type)]: Changes the type of character. Each time you press this you will alternately select the first character of the uppercase alphabet (A), lowercase alphabet (a), and numerals and symbols (0).
- [2 (Delete)]: Deletes the character at the cursor, and moves subsequent characters one space forward.
- [3 (Insert)]: Inserts a space (blank) at the cursor location.
- ◀ , ▶ : Move the cursor.
- ▲ , ▼ : Switch between uppercase and lowercase letters.
- VALUE dial, [INC][DEC]: Select characters.

* *If you decide to stop inputting the name, press [7 (Cancel)].*

* *You can use the pads to specify characters (p. 25).*

4. When you have finished inputting the name, press [8 (Write)].

A screen will appear, allowing you to select the destination for the write.

5. Either turn the VALUE dial or use [INC] [DEC] to select the write destination.

Multisamples consisting of user samples will be written to User, and multisamples consisting of card samples will be written to Card.

6. Press [8 (Write)].

A message will ask you to confirm the operation.

7. If you are sure you want to write the multisample, press [8 (Exec)].

If you decide to cancel, press [7 (Cancel)].

Never switch off the Fantom-S while data is being saved.

Unloading a Sample (Unload)

In the Sample Edit screen you can press [1 (Unload)] to unload the currently selected sample and return to the previous screen.

Removing Unwanted Portions of a Sample (Truncate)

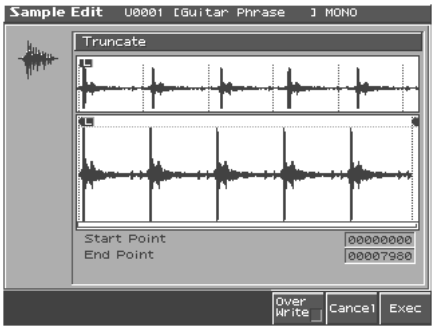
This operation cuts the portions of the sample that are earlier than the Start Point and later than the Loop End Point.

* *You cannot execute this with more than one sample selected.*

1. Press [SAMPLE EDIT] to access the Sample Edit screen.

2. Press [3 (Sample Modify)] to access the Sample Modify window.

3. Press [1 (Truncate)].



4. If you want to replace the current sample with the truncated sample, press [6 (Over Writer)] to display the "✔" symbol.

5. Press [8 (Exec)].

A message will ask you for confirmation.

6. To execute the Truncate operation, press [8 (Exec)].

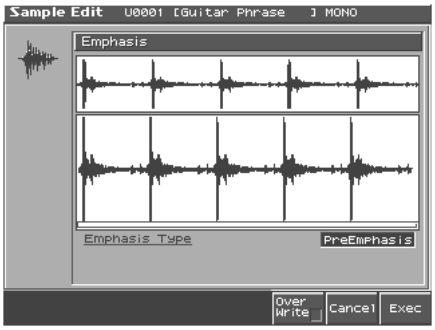
* *If you want to cancel without executing, press [7 (Cancel)].*

Boosting or Limiting the High-frequency Range of the Sample (Emphasis)

In some cases, the audio quality will be improved if you boost the high-frequency range of an imported sample. Also, the high-frequency range of the sample may be emphasized when you use a sampler made by another manufacturer. In this case, you can minimize the change in tonal character by attenuating the high-frequency range.

* *You cannot execute this with more than one sample selected.*

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [2 (Emphasis)].**



4. **Either turn the VALUE dial or use [INC], [DEC] to select the emphasis type.**
   - **PreEmphasis:** Emphasizes the high-frequency range.
   - **DeEmphasis:** Attenuates the high-frequency range.
5. **If you want to replace the current sample with the emphasized sample, press [6 (Over Writer)] to display the "✔" symbol.**
6. **Press [8 (Exec)].**
   A message will ask you for confirmation.
7. **To execute, press [8 (Exec)].**

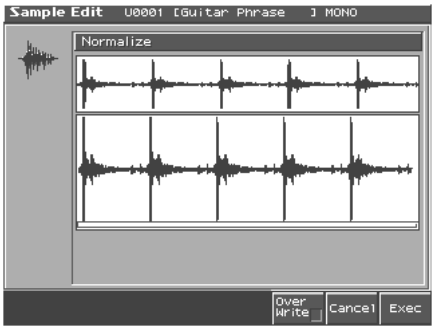
* *To cancel, press [7 (Cancel)].*

Maximizing the Volume of a Sample (Normalize)

This operation raises the level of the entire sample as much as possible without exceeding the maximum level. In some cases, the volume of a phrase you resampled (p. 119) will be lower than the volume of the original phrase. In this case, it is a good idea to boost the volume by executing the Normalize operation.

* *You cannot execute this with more than one sample selected.*

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [3 (Normalize)].**



4. **If you want to replace the current sample with the normalized sample, press [6 (Over Writer)] to display the "✔" symbol.**
5. **Press [8 (Exec)].**
   A message will ask you for confirmation.
6. **To execute, press [8 (Exec)].**

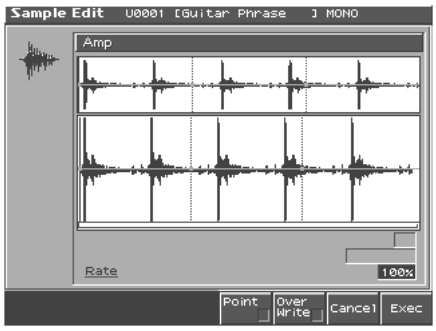
* *To cancel, press [7 (Cancel)].*

Amp

This operation applies an envelope (time-variant change) to the volume of the sample.
You can also adjust the volume of the entire sample.

* *You cannot execute this with more than one sample selected.*

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [4 (Amp)].**



4. **Use VALUE dial or [INC], [DEC] to set the value.**
   - **Rate 1–4:** Specifies the rate of volume boost.
     This specifies how much boost will be applied relative to the current volume. The entire sample you select will be boosted.
     Value: 0–400%
5. **If you want to specify a point, press [5 (Point)] to add a check mark. Press ▲ or ▼ to select a parameter, and then use VALUE dial or [INC], [DEC] to set the value.**
   - **Current Point:**Specifies the currently selected point. Beginning near the start point, the points will be numbered 1, 2, 3, or 4.
   - **Point 1–4:** Location of the current point
   - **Rate 1–4:** Amplification ratio of the current point
     Specifies how the volume of each point is to be boosted relative to the current value.
     Value: 0–400%
6. **If you want the edited sample to replace the current sample, press [6 (Over Writer)] to display the "✔" mark.**
7. **Press [8 (Exec)].**
   A message will ask you for confirmation.
8. **To execute, press [8 (Exec)].**

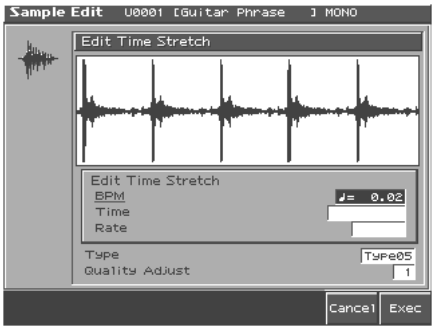
* *To cancel, press [7 (Cancel)].*

Stretching or Shrinking a Sample (Time Stretch)

This operation stretches or shrinks the sample to modify the length or tempo. You can stretch or shrink the sample by a factor of one half to double the original length.

* *You cannot execute this with more than one sample selected.*

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [5 (Time Strtch)].**



4. **Press ▲ or ▼ to select the parameter.**
   - **Edit Time Stretch**
     BPM: Change the BPM (p. 116) of the sample to the BPM you specify.
     Time: Specify the length of the sample as a time value.
     Rate: Specify the length relative to the current length of the sample.
     Value: 50.0–200.0%
   - **Type**
     Lower settings of this value will make the sound more suitable for faster phrases, and higher settings will make the sound more suitable for slower phrases.
     Value: TYPE01–TYPE10
   - **Quality Adjust**
     Make fine adjustments to the tonal quality of the Time Stretch.
     Value: 1–10
5. **Use VALUE dial or [INC/DEC] to specify the tempo/length.**
   When setting the BPM (tempo) value, you can hold down [SHIFT] and turn the VALUE dial, or use [INC] [DEC] to adjust the value to the right of the decimal point.
6. **Press [8 (Exec)].**
   The length of the sample will be changed as specified.

* *To cancel, press [7 (Cancel)].*

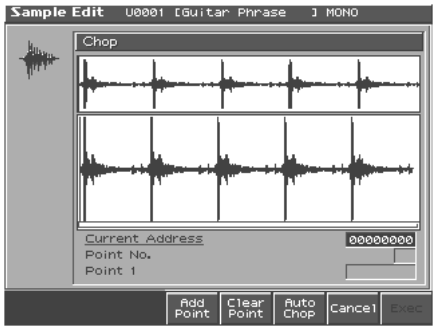
Dividing a Sample into Notes (Chop)

The **chop** function divides a sample waveform into separate notes.

* *The Create Rhythm function (p. 128) makes it easy to create a rhythm set from a chopped sample.*

* *You cannot execute this with more than one sample selected.*

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [3 (Chop)].**



Procedure for Dividing a Sample

You can freely specify the point(s) at which the sample is to be divided.

1. **Press ▲ or ▼ to move the cursor to "Current Address."**
2. **Either turn the VALUE dial or use [INC], [DEC] to move the point.**
3. **At the location where you want to divide the sample, press [4 (Add Point)].**
   The current location will be the dividing point.
4. **Repeat steps 5 and 6 to specify other dividing points as desired.**
   You can specify up to 15 locations at which to divide the sample; i.e., the sample will be divided into a maximum of 16 pieces.
5. **Audition the sample as described in the section "Auditioning the divided samples."**
   If you want to re-make settings, press [7 (Cancel)], and move or delete the point (p. 133).
6. **Press [8 (Exec)].**
   A message will ask you for confirmation.
7. **To execute the division, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

When you execute the Chop operation, a message will ask whether you want to execute Create Rhythm.

* *The divided samples will be added to the sample list.*

8. **If you want to execute Create Rhythm, press [8 (Exec)].**
   For the rest of the procedure, refer to **"Create a Rhythm Set (Create Rhythm)"** (p. 128).
9. **If you don't want to execute Create Rhythm, press [7 (Cancel)].**

Automatically Dividing a Sample (Auto Chop)

Here's how you can automatically specify the points at which the sample is to be divided, and then divide the sample.

1. **From step 3 of p. 132, press [6 (Auto Chop)].**
   The Auto Chop sub-window will appear.
2. **Either turn the VALUE dial or use [INC], [DEC] to select the method by which the sample is to be divided.**
   - **Chop Type**
     Specify how the sample will be divided.
     Value
     Level: Divide according to volume.
     Beat: Divide at beats based on the BPM (p. 116) of the sample.
     Divide x: Divide into 'x' number of equal lengths.
3. **Press ▼.**
4. **Either turn the VALUE dial or use [INC], [DEC] to set the value.**
   - **Level (If Chop Type is Level)**
     Level at which the sample is to be divided. Lower settings of this value will cause the sample to be divided more finely.
     Value:1–10
   - **Beat (If Chop Type is Beat)**
     Beat interval at which the sample is to be divided.
     Value:1/32, 1/16T, 1/16, 1/8T, 1/8, 1/4T, 1/4, 1/2, 1/1, 2/1
   - **Times (If Chop Type is Divide x)**
     Number of samples into which the sample is to be divided
     Value:2–16
5. **Press [8 (Exec)].**
   The sample will be automatically divided according to your settings, and the points will be specified. A maximum of 15 division points will be set (16 regions).
   To cancel, press [7 (Cancel)].
6. **Audition the sample as described in the section "Auditioning the divided samples."**
   If you want to re-make settings, press [7 (Cancel)], and move or delete the point p. 133).
7. **Press [8 (Exec)].**
   A message will ask you for confirmation.
8. **To execute the division, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

When you execute Auto Chop, a message will ask you whether you want to execute Create Rhythm.

9. **If you want to execute Create Rhythm, press [8 (Exec)].**
   For the rest of the procedure, refer to **"Create a Rhythm Set (Create Rhythm)"** (p. 128).

* *The divided samples will be added to the sample list.*

10. **If you don't want to execute Create Rhythm, press [7 (Cancel)].**
    You will return to the Sample Edit screen.

Auditioning the Divided Samples

After dividing the sample, you can press the velocity pads to audition each of the divided samples.
From the sample nearest to the start point, the samples will be played by pads [1], [2],...[16]

Moving a Dividing Point

1. **Press ▲ or ▼ to move the cursor to "Point No."**
2. **Turn VALUE dial to select the point that you want to move.**
   In order from the start point, the points are numbered 1, 2,...15.
3. **Press ▼.**
4. **Turn VALUE dial to move the dividing point.**

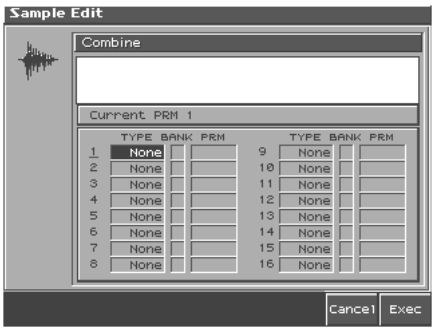
Deleting a Dividing Point

1. **Press ▲ or ▼ to move the cursor to "Point No."**
2. **Turn VALUE dial to select the point that you want to delete.**
3. **Press [5 (Clear Point)].**
   The dividing point will be deleted.

Joining Two or More Samples (Combine)

This operation combines multiple samples into a single sample. You can combine as many as sixteen samples. You can also place silent spaces between the samples.

1. **Press [SAMPLE EDIT] to access the Sample Edit screen.**
2. **Press [3 (Sample Modify)] to access the Sample Modify window.**
3. **Press [7 (Combine)].**



4. **Either turn the VALUE dial or use [INC], [DEC] to set the value.**
   - **1–16:** The sample or silence to be combined
   - **TYPE**
     Value
     Sample: sample, **Time:** silent region (specified as time), **Beat:** silent region (specified as a note value)
   - **BANK** (Bank that contains the sample)
     Value U: user, **C:** card

   * *This will be displayed only if TYPE is set to Sample.*

   - **PRM** (Sample number, or the duration/note value of the silent region)
     Value: 1–10000 ms (if TYPE is set to Time), note value: 1/32, 1/16T, 1/16, 1/8T, 1/8, 1/4T, 1/4, 1/2, 1/1, 2/1 (if TYPE is set to Beat)
     The note value is based on the BPM of the sample immediately before the silent region.

   * *If there is no sample immediately before the silent region, the current BPM will be used.*

5. **Use [CURSOR] to select a parameter and repeat step 4.**
   You can press [6 (Preview)] to audition the selected sample.
6. **Press [6 (Exec)].**
   A message will ask you for confirmation.
7. **To execute, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

Saving a Sample

A newly loaded sample, as well as any changes you've made in the settings for a sample will be lost as soon as you turn off the power. If you want to keep such data, you must save it as follows.

1. Press [SAMPLE EDIT].

1. Press [1 (Sample List)].

Samples displayed as "NEW" or "EDIT" have not yet been saved.

2. Select the sample that you want to save.

If you want to select two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the samples that you want to select. To remove the check mark, press [4 (Mark Clear)].

If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all samples of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected samples.

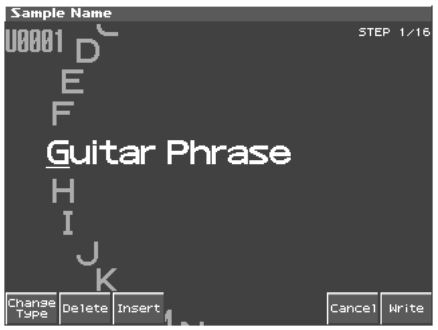
The edit screen for the selected sample will appear.

You can press [8 (Preview)] to audition the selected sample.

3. Press [WRITE].

The Write Menu screen will appear. Make sure that "Sample" is highlighted.

4. Press [3 (Sample)] or [ENTER].



If you have selected more than one sample, a message will ask you to confirm the writing operation. Samples will be written into the identical number corresponding to each bank of the sample list. Sample names will be assigned automatically. If you want to write the samples, press [8 (Exec)]. If you decide to cancel, press [7 (Cancel)].

5. Assign a name to the sample.

- [1 (Change Type)]:Selects the type of character.
  Each time you press this, you will alternately select the first character of the uppercase alphabet (A), lowercase alphabet (a), or numerals and symbols (0).
- [2 (Delete)]:Deletes the character at the cursor location, while shifting the following characters to the left, closing the gap.
- [3 (Insert)]:Inserts a space at the cursor location.
- ◀ , ▶ :Moves the cursor (the location at which to enter/edit a character).
- ▲ , ▼ :Switches letters between uppercase and lowercase.
- VALUE dial, [INC][DEC]:Selects characters.

* *If you decide to discard your changes, press [7 (Cancel)].*

* *You can use the pads to specify characters (p. 25).*

6. When you have finished inputting the name, press [8 (Write)].

A screen will appear allowing you to select the write-destination sample.

7. Turn the VALUE dial or use [INC][DEC] or ◀ ▶ to select the write destination and sample number.

The write destination can be either the Fantom-S's internal user memory (User), or a memory card (Card).

8. Press [8 (Write)].

A message will ask you for confirmation.

Never switch off the Fantom-S while data is being saved.

Using the Pads

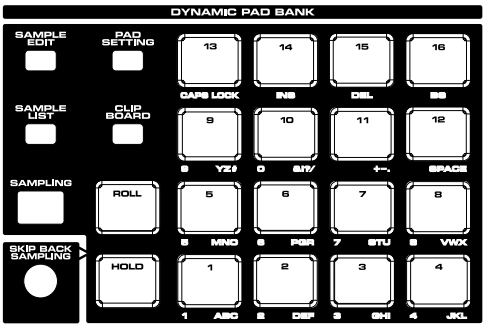
The pads of the Fantom-S function in the same way as the keyboard, and can also be used to play RPS and rhythm patterns. You can add dynamics to the sound by varying the force with which you strike the pads.

Using the Hold Function to Sustain a Sound

You can use the Hold function to make the sound continue even after you take your finger off the pad. This is useful when you want a sound such as a looped (repeating) phrase to play continuously.

To play other sounds while holding one sound

1. Hold down a pad and press [HOLD].



The [HOLD] and the pad will blink.

Hold will be turned on, and the sample will continue sounding even when you take your finger off the pad. In this state, pressing another pad will cause its sample to sound only as long as you continue pressing that pad.

2. When you once again press the blinking [PAD] or [HOLD], the sound will stop.

To hold two or more samples

1. Press [HOLD] so the pad is lighted.

2. Press a pad.

The sample whose pad is blink will continue sounding. If you press another pad in this state, its sample will also continue sounding in the same way.

3. The sound will stop when you press a lit pad. When you press [HOLD], all samples will stop pad sounding.

NOTE

The Hold function will not work in the following cases:

- When RPS is on (p. 172)
- When the Multi Velocity parameter (p. 137) is on
- When the Tone Env Mode parameter (p. 68) is set to "NO-SUS"
- When the One Shot Mode parameter (p. 68) is on

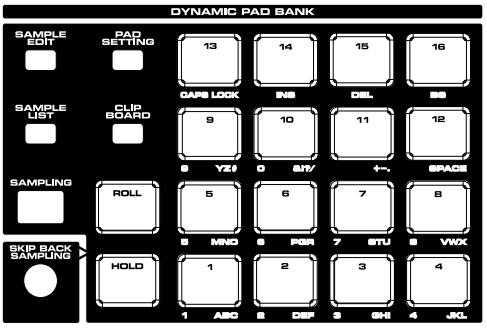
Using the Roll Function to Play Sounds

You can use the Roll function to play a "roll" (repeated notes at brief intervals) as long as you continue holding the pad.

1. Hold down [ROLL] and press a pad.

* *If you press only [ROLL], a roll will continue sounding on all 16 pads.*

* *If you press only [ROLL], the Roll function will be turned on for all sixteen pads.*



In this state, a roll will be played as long as you hold down a pad.

2. Take your hand off the pad, and the sound will stop.

* *The resolution of the roll is set by the Roll Resolution parameter (p. 137), which is displayed while you hold down [PAD SETTING].*

NOTE

The Roll function will not work in the following cases:

- When you have made settings so that a pattern is played when you press a pad
- When RPS is on
- This cannot be used to switch images via V-Link.

Using the Clipboard to Copy Pad Settings

The "clipboard" temporarily stores pad velocity and note number settings. This provides an easy way to copy settings from one pad to another, and also lets you swap (exchange) the settings of two pads.

* *The clipboard is available when the Pad Set parameter is set to "USER."*

Copying one Pad Setting

1. **Hold down the pad that you want to copy, and press [CLIPBOARD].**

   The settings (velocity and note number) will be copied to the clipboard, and [CLIPBOARD] will light.

   The copied setting will sound if you press [CLIPBOARD].

2. **Hold down [CLIPBOARD] and press the copy-destination pad.**

Copying Two or More Pad Setting

1. **Hold down one of the pads that you want to copy, and press [CLIPBOARD].**

   The settings (velocity and note number) will be copied to the clipboard, and [CLIPBOARD].

2. **Repeat step 1 several times as desired.**

   You can copy up to 16 settings to the clipboard.

* *If more than one setting has been copied to the clipboard, pressing [CLIPBOARD] will sound the setting that was copied last.*

3. **Hold down [CLIPBOARD] and press a copy-destination pad.**

   The copies will be executed consecutively, starting with the pad you pressed last.

   You can press [CLIPBOARD] to hear the content that will be copied next.

(Example)

Pad [1]+[CLIPBOARD] → copy the settings of pad [1]
Pad [2]+[CLIPBOARD] → copy the settings of pad [2]

Settings will be copied as follows

[CLIPBOARD]+ pad [12] → settings of pad [2] copied to pad [12]
[CLIPBOARD]+ pad [11] → settings of pad [1] copied to pad [11]

When all copy have been finished, the clipboard will be empty, and the [CLIPBOARD] indicator will go out.

Adjusting the Pad Settings (PAD SETTING)

1. **Press [PAD SETTING].**

2. **Press ▲ or ▼ to move the cursor to the parameter.**

3. **Turn the VALUE dial or use [INC] [DEC] to make pad settings.**

- **Pad Part**

  Specifies the part that will be used as the pad part. When you specify this, the word "PAD" will appear below the part number in the Performance Layer and Mixer screens. You can set this parameter when in Performance mode.

  Value: 1–16

- **Patch/Rhythm Set Type**

  Specifies whether a patch or a rhythm set will be assigned to the pad part.

  Value: Patch, Rhythm

- **Patch/Rhythm Set Group**

  Specifies the group of the patch or rhythm set.

  Value: USER, PR-A–E (Fantom-S88; F), GM , CARD, (XP A–D)

- **Patch/Rhythm Set Number**

  Specifies the number of the patch or rhythm set.

- **Pad Set**

  Specifies the pad set.

  Value

  User: You can specify the velocity and note number for each of the sixteen pads. In Patch mode, one such setting can be stored as a system parameter. In Performance mode, these settings can be stored individually for each performance as performance parameters.

  Note: Sixteen notes starting from the note number specified as the bass note will be automatically assigned to the pads.

  Rhythm: Note numbers will be assigned in the arrangement most suitable for playing a rhythm set.

- **Base (Pad Base Note)**

  Specifies the lowest note when Pad Set is set to "Note."

  Value: C-1–G9

- **Pad Number**

  If the pad set is set to "User," this specifies the pad for which you will make settings. You can also specify a pad directly by pressing it.

  Value: Pad 1–Pad 16

- **Note (Pad Note)**

  Specifies the note number of the pad when Pad Set is set to "User."

  Value: C-1–G9

- **Velocity (Pad Velocity)**

  When Pad Set is set to "User," specifies the loudness of the sound produced by striking the pad.

  If you set this to REAL, you can vary the dynamics of the sound by varying the strength with which you press the pad.

  Value: REAL, 1–127

- **Pad Common Velo (Pad Common Velocity)**

  Specifies the loudness of the sound produced when you strike the pad. If you set this to "REAL," you can vary the loudness by varying the striking force. This setting is common to all sixteen pads.

* *If you have specified multi-velocity (p. 170), that setting will be used.*

  Range: REAL, 1–127

- **Roll Resolution**

  Specifies the spacing of the notes when you use the pads to play a roll.

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

- **Pad Sens (Pad Sensitivity)**

  Specifies the touch sensitivity of the pad.

  Value

  Light: Specifies a light playing touch for the pads. Even light strikes on the pad will produce loud sounds, compared to the Medium setting.

  Medium: Specifies the standard playing touch for the pads. This provides the normal playing feel.

  Heavy: Specifies a heavier playing touch for the pads. Since loud sounds will be produced only when you strike the pads more strongly than usual, this produces the sensation that the playing touch is heavier.

- **Aftertouch Sens (Aftertouch Sensitivity)**

  Specifies the Aftertouch sensitivity. Higher values will allow Aftertouch to be applied more easily. Normally you will leave this at "100."

  Value: 0-100

4. If you want to save your settings, perform the Write procedure.

Mode	Parameter	Write procedure
Performance mode	Pad Common Velo Pad Sens Aftertouch Sens Roll Resolution	Press [8 (System Write)] * Save as System parameters
	Pad settings other than the above	Press [WRITE]. * Saved as performance parameters.
Patch mode	All pad settings	Press [8 (System Write)]. * Saved as System parameter.

* *The Write procedure varies depending on the selected mode or parameter.*

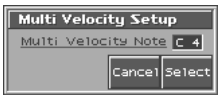
5. When you have finished making settings, press [EXIT].

Multi-Velocity

You can use the sixteen pads to play a specified note at sixteen velocity levels. The same note number will be sounded by all sixteen pads. This function can be useful when you are having difficulty inputting the velocities you intend.

1. From the Pad Setting screen, press [7 (Multi Velo)].

The Multi Velocity Setup window will appear.



2. Turn the VALUE dial or use [INC] [DEC] to specify the note number.

3. Press [8 (Select)].

The window will close, and a check mark will be added to [7 (Multi Velo)].

If you want to turn off multi-velocity, press [7 (Multi Velo)] once again to remove the check mark.

Assigning a Pattern to a Pad (RPS Function)

The Fantom-S lets you assign a previously recorded phrase to a pad as a pattern, and play it by pressing that pad. For details, refer to **"Playing a Phrase at the Touch of a Finger (RPS Function)"** (p. 172).

Using the Pads to Play Rhythms

The Fantom-S lets you assign rhythm patterns and/or rhythm sounds to the pads and play them by pressing the pads. For details, refer to **"Playing Rhythms"** (p. 112).

Playing Back a Song

This chapter explains how you can use the Fantom-S's sequencer to play back a song.

HINT

When you play back a song, we recommend that you use the sound generator in **Performance mode** (p. 76). In Performance mode, up to sixteen different sounds can be played separately by the sixteen parts, making this mode ideal for playing songs that are multi-instrument ensembles of drums, bass, piano, etc.

Precautions concerning use of memory cards

You must turn off the power of the Fantom-S before you insert or remove a memory card.

Playing a Song Immediately (Quick Play)

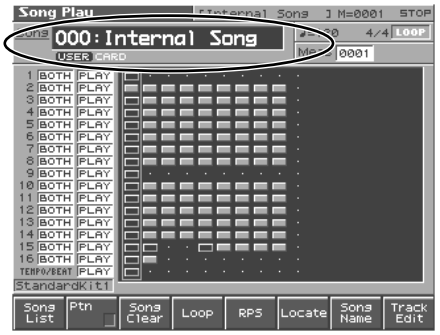
The Fantom-S is able to play a song from user memory and memory card immediately, without first loading the song into internal memory. This is called the **Quick Play** function.

Quick Play can be used with MRC Pro songs (extension:.SVQ) and Standard MIDI Files (extension:.MID).

1. **Press [SEQUNCER].**

   The Song Play screen appears.

2. **Use [CURSOR] to move the cursor to "Song."**



3. **Turn the VALUE dial or press [INC]/[DEC] to select the song that you want to play.**

   Press [1 (Song List)] to access the Song List screen, and choose from a list of songs.

- **[1 (User)]:** Songs in user memory
- **[2 (Card)]:** Songs on a memory card

* *The User/Card setting is shown below the song name when you return to the Song Play screen.*

- **[3 (View Svq)]:** View SVQ files.
- **[4 (View Smf)]:** View SMF files.
- **[5 (View Mrc)]:** An S-MRC format song file created on a device such as the MC-50

4. **Press [PLAY] to start playback.**

   When the song finishes playing, it will stop automatically. If you want to stop playback midway through the song, press [STOP].

MEMO

If you have interrupted song playback, "+" may be displayed at the right of the measure number. This indicates that the song is stopped in mid measure.

NOTE

There will be no sound if samples have not been loaded for the patches used in the song. You must load the necessary samples beforehand (p. 170).

Playing Back Songs Consecutively (Chain Play)

The **Chain Play** function lets you consecutively play back (Quick Play) songs on user memory and memory card in the order you specify.

1. **Press [MENU] to access the Menu window.**

2. **Use ▲ or ▼ to select "Chain Play," and then select [ENTER].**

   The Chain Play screen appears.

3. **Press [1 (User)] if you want to choose from user memory, or press [2 (Card)] if you want to choose from memory card.**

NOTE

You cannot combine USER songs and CARD songs.

HINT

By holding down [SHIFT] and pressing ▲ or ▼ you can jump to the beginning or end of the song list.

If you want to perform Chain Play repeatedly, press [7 (Repeat All)] and assign a check mark (✔).

If you press [6 (Auto Step)] to assign a check mark (✔), playback will ends, and the next song will begin playing automatically.

4. Press [PLAY] to start Chain Play.

Starting from the song of step 1. If you want to stop playback before it is finished, press [STOP].

HINT

If you want to begin playback from midway through the chain, use ▲ or ▼ to move to the desired step, and then press [PLAY].

5. When you are finished with Chain Play, press [STOP].

NOTE

Chain Play cannot be started or stopped by a Start or Stop message from an external MIDI device. Nor will MIDI Continue, Song Position Pointer, Song Select, or Clock messages be received.

Various Playback Methods

Fast-Forward and Rewind During Playback

Fast-forward, rewind, and jump can be performed during playback, as well as while stopped. Use the following procedures for each operation.

Fast-forward: Press [FWD].
Continuous fast-forward: Press and hold [FWD].
Rapid fast-forward: Press [FWD] and then press [BWD].
Rewind: Press [BWD].
Continuous rewind: Press and hold [BWD].
Rapid rewind: Press [BWD] and then press [FWD].
Jump to the previous locate position: Hold down [SHIFT] and press [BWD].
Jump to the next locate position: Hold down [SHIFT] and press [FWD].
Jump to the beginning of the song: Press [RESET].

NOTE

- A certain amount of time may be required for fast-forward, rewind, or jump during Quick Play.
- Song playback will be interrupted if you jump to the beginning or end of the song while the song is playing.

Playing Back Correctly from the Middle of the Song (MIDI Update)

When you play back from the middle of a song, for example after fast-forward or rewind, the correct patch may not be selected, or the pitch may be incorrect. This is because the MIDI messages in the area that you skipped have not been transmitted to the sound generator. In such cases, you can use the **MIDI Update** function. When you perform **MIDI Update**, the MIDI messages (other than Note messages) from the beginning of the song until the location to which you moved will be transmitted to the sound generator, ensuring that the sound generator will be in the correct state for the resumption of playback.

1. Make sure that song playback is stopped.

NOTE

It is not possible to perform MIDI Update while the song is playing.

2. Hold down [SHIFT] and press [PLAY].

The display will indicate "MIDI Update..." while processing takes place, and when finished, will indicate "Completed!"

Muting the Playback of a Specific Instrument

If you want to silence the playback of a specific instrument, you can mute the phrase track that contains the sequencer data for that instrument.

For details on the procedure, refer to **"Silencing the Playback of a Track (Mute)"** (p. 150).

Changing the Playback Tempo of a Song

The tempo at which a song will play back is recorded on its tempo track, but the tempo of the entire song can be adjusted during playback. The tempo at which the song actually plays is called the **playback tempo**.

NOTE

The playback tempo is a temporary setting. It will be lost if you switch to another song or turn off the power. If you want the song to always play back at this tempo, you must re-save the song to disk (p. 168).

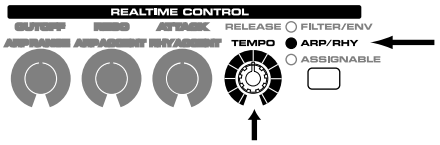
1. Press [TEMPO].

The Tempo window appears.

2. **Turn the VALUE dial or press [INC]/[DEC] to set the playback tempo.**
   - If you press [7 (Click)] to display the check mark (✔), a click will sound at the specified tempo. This will switch on/off each time you press the button.
   - By pressing [6 (Tap)] you can set the tempo to the timing at which you press the button (Tap Tempo). Press the button three or more times at quarter-note intervals of the desired tempo.
3. **When you have finished making settings, press [8 (Close)].**

Using a Controller to Change the Playback Tempo

Since tempo control is assigned to the realtime control knob of the Fantom-S, it's easy to change the playback tempo of the song.



1. **Press the REALTIME CONTROL button so the ARP/RHY indicator lights.**
2. **Play back the song, and turn the realtime control knob.**

You are also free to assign the Tempo Control function to the following controllers. For details on this setting, refer to the pages that discuss each controller.

- D Beam controller (p. 98)

Playing a Song Back at a Fixed Tempo (Muting the Tempo Track)

If the tempo changes while a song is being played back, this is because those tempo changes have been recorded in the Tempo track. If you want to override these tempo changes and play back at a fixed tempo, you can mute the Tempo track.

☞ For details on this operation, refer to **"Silencing the Playback of a Track (Mute)"** (p. 150).

Playing Back a S-MRC Format Song

The Fantom-S is able to play back S-MRC format songs created on the MC-50 in the same way as MRC Pro songs or Standard MIDI Files. However, S-MRC format songs cannot be Quick Played. You must first load them into internal memory and convert them to MRC Pro song format before playing them.

☞ For details on the procedure, refer to **"Loading a Song (Load)"** (p. 170).

Playing Back a Song Repeatedly (Loop Play)

Use the Loop function when you want to repeatedly play back an entire song or just a specified portion of a song.

1. **Press [SEQUENCER].**
2. **Press [4 (Loop)].**
   The Loop window appears.
3. **Press [7 (Loop)] to assign a check mark (✔).**
   The Loop switch will turn on. Now playback will loop according to the region and the number of times specified in the Loop window. To turn off the Loop switch, press [7 (Loop)] once again.

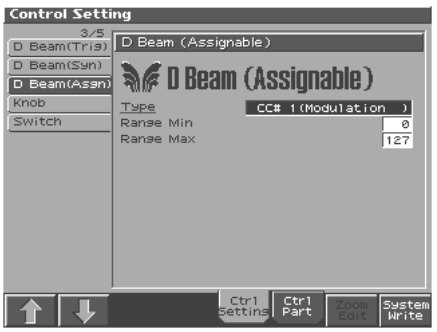
☞ For details on making settings in the Loop window, refer to **"Specifying the Area of a Song that will Repeat (Loop Points)"** (p. 151).

4. **When you have finished making settings, press [8 (Close)] to close the Loop window.**

Using the D Beam Controller to Start/Stop Song Playback

You can start/stop song playback by passing your hand over the D Beam controller.

1. **Select the song that you want to play back (p. 138).**
2. **Hold down [JUMP] and press D BEAM [ASSIGNABLE].**
   The D Beam Assignable screen appears.



3. **Use [CURSOR] to move the cursor to "Type."**
4. **Turn the VALUE dial or press [INC]/[DEC] to set this to "START/STOP."**
5. **Press D BEAM [ASSIGNABLE] to turn on the D Beam controller.**
6. **When you pass your hand across the D Beam controller, song playback will start. When you pass your hand across it once again, playback will stop.**

HINT

You can also start/stop song playback by using a pedal connected to the PEDAL CONTROL jack (p. 189).

Recording Songs

This chapter explains the procedure for using the Fantom-S's sequencer to record a song.

HINT

Normally, when recording or playing back a song, you will put the sound generator in **Performance mode**. The reason for this is that in this mode, only the sound of the specified MIDI channel will be heard when you record while playing the keyboard of the Fantom-S, and that when the song is played back, the parts can independently play up to 16 different sounds. Thus, Performance mode is suitable for recording and playing back a song that uses an ensemble of multiple instruments, such as drums, bass, and piano.

Two Recording Methods

You can use one of two methods of recording: **realtime recording** or **step recording**. Select the method that is appropriate for your situation.

Realtime Recording (p. 142)

Realtime recording is the recording method in which your keyboard playing and controller operations are recorded just as you perform them.

Step Recording (p. 146)

Step recording is the recording method in which you can input notes and rests one by one. This method is suitable for inputting drums or bass with precise timing. In addition to using notes, you can also create a song by putting patterns together.

Before You Record a New Song

Overview of the Recording Process

1. **Select a sound**
2. **Clear the internal memory**
3. **Specify the time signature of the song (p. 141)**
4. **Use realtime recording (p. 142) or step recording (p. 146) to record**
5. **Use track edit (p. 151) or micro edit (p. 162) to edit the song**
6. **Save the song to user memory or memory card (p. 168)**

Select the Sound to be Used for Recording

Before you record a song, select the sound that you want to use for recording. Select the recording method that is appropriate for your situation.

Performance

Select a Performance when you want to record an ensemble performance using multiple instruments. When recording a song, we recommend that you normally select a Performance.

Patch/Rhythm set

Select a patch or rhythm set if you want to use a single patch or rhythm set to record your playing.

Erasing the Song/Pattern from Internal Memory (Song Clear)

When you record a song, the sequencer data is temporarily recorded in internal memory. If you want to record a new song, you must erase any existing sequencer data from internal memory.

NOTE

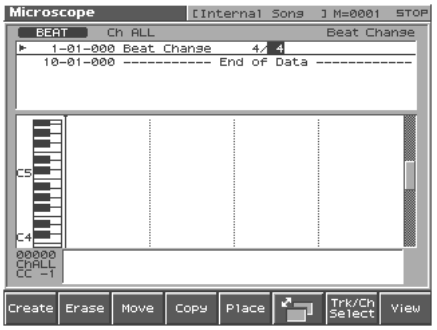
If internal memory contains an important song that you want to keep, you should first save that song to user memory/memory card (p. 168).

1. **Press [SEQUENCER] to access the Song Play screen.**
2. **Press [3 (Song Clear)].**
   The Song Clear window appears.
3. **Press [8 (Exec)] to execute the operation.**
   When the operation has been completed, the display will briefly indicate "Completed!"
   To cancel, press [7 (Cancel)].

Specify the Time Signature

Before you record a new song, you must specify the time signature. However, a time signature of 4/4 is automatically specified when you perform the Song Initialize operation or when the power is turned on, so you will need to make this setting only if you want to record a new song in a different time signature.

1. **Press [SEQUENCER] to access the Song Play screen.**
2. **Press [EDIT].**
   The Microscope screen appears.
3. **Press [7 (Trk/Ch)], select "BEAT" (beat track), and press [8 (Close)].**
   The Microscope screen for the beat track appears.



4. **Move the cursor to "Beat Change," and specify the time signature.**
5. **Press [EXIT] to return to the Song Play screen.**

If you want to change time signatures midway through the song, refer to **"Changing the Time Signature Midway Through the Song"** (p. 167).

If you are recording to a phrase track, see **"Recording Your Performance as You Play It (Realtime Recording)"** (p. 142).

Specifying the Time Signature of a Pattern

Each pattern has a Pattern Beat setting that manages the time signature of that pattern. The pattern beat acts as a guide when the pattern is played or recorded, and is handled independently of the time signature of the song (i.e., the time signature recorded in the beat track).

The pattern beat is normally set to a time signature of 4/4, but you can change this setting when the song has a time signature other than 4/4, or when you want to record a pattern with a time signature different than that of the song.

Only one pattern beat setting can be specified at the beginning of each pattern. This means that it is not possible to change time signatures midway through a pattern. Nor is it possible to delete the pattern beat, or move or copy it.

1. **Press [SEQUENCER] to access the Song Play screen.**
2. **Press [2 (Ptn)].**
   The Pattern Play screen appears.
3. **Turn the VALUE dial or press [INC]/[DEC] to select the pattern.**
4. **Press [6 (Ptn Beat)].**

5. **Move the cursor, and set the time signature.**

Recording Your Performance as You Play It (Realtime Recording)

Realtime Recording is the recording method in which your keyboard playing and controller operations are recorded just as you perform them. Use this recording method when you want to capture the nuances of your own performance.

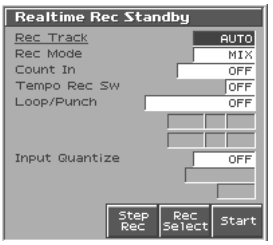
Basic Operation for Realtime Recording

1. **Make sure that the preparations for recording have been completed as described in "Before You Record a New Song" (p. 141).**

HINT

If you want to record into an existing song, load the desired song into internal memory (p. 149). Then press [FWD] or [BWD] to specify the measure at which you want to begin recording. The measure at which recording will begin is indicated by the "M=" in the upper part of each PLAY screen.

2. **Press [REC].**
   The [REC] indicator will blink, and the Recording Standby window appears.



This window lets you set various parameters for realtime recording.

MEMO

If you want to record a pattern, access the Pattern Play screen ([SEQUENCER]→[2 (Ptn)] p. 151) and then press [REC].

3. **As basic settings, specify the following three parameters. Use [CURSOR] to move the cursor to each parameter, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**

- **Rec Track**

  Specify the phrase track or pattern on which you want to record. In the Song Play screen, "TRK" will appear if you press [1 (Song List)], and "PTN" will appear if you press [2 (PTN)].
  If this is set to "AUTO," the phrase track of the same number as the part currently selected for the keyboard will be chosen automatically.

  Value: AUTO, TRK 1–TRK 16, PTN001–PTN100 (* when recording on a pattern)

- **Rec Mode (Recording Mode)**

  Select how recording is to take place.

Value

MIX: Mix-recording will be carried out. Normally, you will record using this method. 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. By using this in conjunction with Loop-recording, you can record repeatedly over a specified area without erasing the previously recorded performance. For example, this is a convenient way to record a drum performance one instrument at a time; bass drum → snare drum → hi-hat, etc.

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.

- **Count In**

  Select how recording is to begin.

  Value

  OFF: Recording will begin immediately when you press [PLAY].

  1 MEAS: When you press [PLAY], a count (playback) will begin one measure before the recording-start location, and recording will begin when you reach the recording-start location.

  2 MEAS: When you press [PLAY], 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: As an alternative to pressing [PLAY], you can play the keyboard, strike a pad, or press the Hold pedal to start recording.

4. When you are finished making settings in the Recording Standby window, press [PLAY] or [8 (Start)].

The Recording Standby window will close, the [REC] indicator will change from blinking to lit, and recording will begin.

When recording begins, the Realtime Recording window will appear.

In this window you can perform the following operations.

- Specify the punch-in/out points (Punch In p. 144)
- Realtime Erase (Erase p. 145)
- Rehearsal function (Rehearsal p. 145)

For details on these operations, refer to the appropriate page.

To close the Realtime Recording window, press [8 (Close)] or [PLAY]. To open it once again, press [PLAY].

5. When you are finished recording, press [STOP].

The [REC] indicator will go dark.

HINT

If you are not satisfied with the realtime recording you just made, you can press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to recording (Undo/Redo).

After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Recording Tempo Changes in a Song (Tempo Recording)

If you want the tempo to change during the song, you can record those tempo changes in the Tempo track. If tempo changes have already been recorded in the tempo track, they will be rewritten.

Set the following recording parameters in addition to the basic settings described in step 3 of **"Basic Operation for Realtime Recording"** (p. 142).

Tempo Rec Sw (Tempo Recording Switch)

Specify whether tempo changes will be recorded (ON), or not (OFF).

Value: OFF, ON

HINT

You will be able to use realtime control knob ([ ]) movements to control the tempo easily (p. 140).

Loop Recording and Punch-In Recording

You can record repeatedly over a specified area (Loop recording), or re-record just that area (Punch-in recording).

Set the following recording parameters in addition to the basic settings described in step 3 of **"Basic Operation for Realtime Recording"** (p. 142).

Loop/Punch

Specify how loop recording or punch-in recording is to take place.

Value

OFF: Loop recording or punch-in recording will not occur.

LOOP (POINT): Recording takes place repeatedly, according to the loop point settings.

LOOP (1 MEAS): The one-measure area starting at the record-start measure will be recorded repeatedly.

LOOP (2 MEAS): The two-measure area starting at the record-start measure will be recorded repeatedly.

LOOP (4 MEAS): The four-measure area starting at the record-start measure will be recorded repeatedly.

LOOP (8 MEAS): The eight-measure area starting at the record-start measure will be recorded repeatedly.

LOOP (16 MEAS): The sixteen-measure area starting at the record-start measure will be recorded repeatedly.

LOOP SONG ALL: The entire song from beginning to end will be recorded repeatedly.

AUTO PUNCH: Auto punch-in recording will be performed. You must pre-specify the area (punch points) in which recording is to take place. This is convenient when you want to re-record over a mistake. The song will play back when you begin recording. When you reach the punch-in point, playback will switch to record mode.

MANUAL PUNCH: Manual punch-in recording will be performed. Recording takes place (erasing the existing data) in the area that you specify by pressing a pedal or button. This is convenient when you want to re-record more than one location in which you made a mistake. The song will play back when you begin recording. When you press a pedal or button, playback will switch to record mode, and will switch back to play mode when you press the pedal or button once again. By pressing the pedal or button, you can toggle between record and play modes.

Start Point

Specify the measure and beat at which loop recording or auto punch-in recording is to begin. It is not possible to specify the Clock.

End Point

Specify the measure and beat at which loop recording or auto punch-in recording is to Stop. It is not possible to specify the Clock.

NOTE

The minimum loop length is four quarter notes.

Using Auto Punch-In Recording

1. **In the Recording Standby window, set the Loop/Punch parameter to "AUTO PUNCH."**
2. **Set the Start Point/End Point parameters to the desired punch points.**
3. **Move to a measure earlier than the specified Start Point, and press [PLAY].**
   The song will begin playing. Recording will begin at the location specified by the Start Point parameter. Playback will resume at the location specified by the End Point parameter.
4. **Press [STOP] to stop playback.**

Using Manual Punch-In Recording

HINT

If you want to use a pedal connected to the PEDAL CONTROL jack to specify the area for recording, you must first set the Pedal 1 or 2 Assign parameter to "PUNCH I/O" (p. 189).

1. **In the Recording Standby window, set the Loop/Punch parameter to "MANUAL PUNCH."**
2. **Press [PLAY].**
   Song playback will begin, and the Realtime Recording window will appear.

3. **At the point where you want to begin recording, press [5 (Punch In)] or step on the pedal.**
   Playback will switch to record mode.
4. **At the point where you want to stop recording, once again press [5 (PUNCH OUT)] or step on the pedal.**
   You will return to playback mode.
5. **Press [STOP] to stop playback.**

Correct the Timing of Your Playing as You Record (Recording Quantize)

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

Set the following recording parameters in addition to the basic settings described in step 3 of **"Basic Operation for Realtime Recording"** (p. 142).

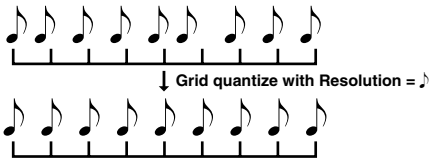
Input Quantize

Specify whether to quantize while recording.

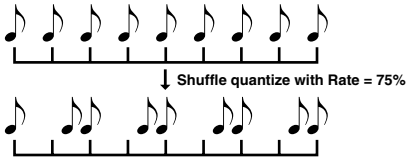
Value

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 , ♩

Strength (Grid Quantize 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

Shuffle Resolution

When you are using Shuffle Quantize, make this setting to specify the note value used for quantization.

Value: ♪ , ♩

Rate (Shuffle Quantize Rate)

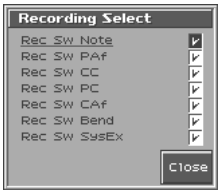
Make this setting when using Shuffle Quantize. It specifies the degree to which the backbeat will be separated from the downbeat specified by the Shuffle Resolution parameter. With a setting of "50%," the backbeat will be exactly between adjacent downbeats. With a setting of "0%," the backbeat will be 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 Sequencer Data that will Be Recorded (Recording Select)

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

1. **Access the Recording Standby window (p. 142).**
2. **Press [7 (Rec Select)].**
   The Recording Select window appears.



3. **Use ▲ or ▼ to select the sequencer data (MIDI messages) that will be recorded.**
   Note: Note messages. These MIDI messages represent notes.
   PAF (Poly Aftertouch): Polyphonic aftertouch. These MIDI messages apply aftertouch to individual keys.
   CC (Control Change): Control change messages. These MIDI messages apply various effects such as modulation or expression.
   PC (Program Change): Program change messages. These MIDI messages select sounds.
   CAF (Channel Aftertouch): Channel aftertouch messages. These MIDI messages apply aftertouch to an entire MIDI channel.
   Bend (Pitch Bend): Pitch bend messages. These MIDI messages change the pitch.
   SysEx (System Exclusive): System exclusive messages. These MIDI messages are used to make settings unique to the Fantom-S, such as sound parameters.
4. **Turn the VALUE dial or press [INC]/[DEC] to add a check mark.**
   The message will be recorded if you assign a check mark (✔), and will not be recorded if you remove the check mark.
   If you press [5 (All Off)], no sequencer data will be recorded.
   If you press [6 (All On)], all of the sequencer data will be recorded.
5. **Press [EXIT] to close the Recording Select window.**

Erasing Unwanted Data While You Record (Realtime Erase)

Realtime Erase is a function that erases unwanted data during realtime recording. This is particularly convenient during loop recording, since it lets you erase data without stopping recording.

NOTE
Realtime Erase can be executed only if the Recording Mode is set to "MIX."

1. **Begin realtime recording (p. 142).**
   The Realtime Recording window appears.

2. **Press [6 (Erase)].**
   The Realtime Erase window appears.

3. **Erase unwanted data.**
   To erase all data (except for Pattern Call messages), press [7 (Erase All)]. Data will be erased for as long as you hold down the button.
   To erase notes of a specific key, hold down that key. Data for that note will be erased for as long as you hold down that key.
   To erase notes of a specific key range, hold down the top and bottom keys of that range. Data for that range will be erased for as long as you hold down those keys.
4. **Press [8 (Close)] to close the Realtime Erase window.**
   You will return to the normal recording state.

Auditioning Sounds or Phrases While Recording (Rehearsal Function)

The Rehearsal function lets you temporarily suspend recording during realtime recording. This is convenient when you want to audition the sound that you will use next, or to practice the phrase that you will record next.

1. **Begin realtime recording (p. 142).**
   The Realtime Recording window appears.

2. **Press [7 (Rehearsal)] or [REC].**
   The [REC] indicator will blink, indicating that you are in rehearsal mode. In this state, nothing will be recorded when you play the keyboard.
3. **To return to record mode, press [7 (Rehearsal)] or [REC] once again.**

Inputting Data One Step at a Time (Step Recording)

Step Recording is the method of inputting notes and rests individually, as if you were writing them onto a musical staff. In addition to inputting notes, this method can also be used to create a song by joining patterns.

Inputting Notes and Rests

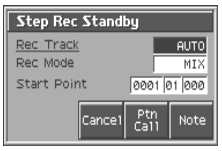
1. **Make sure that the preparations for recording have been performed as described in "Before You Record a New Song" (p. 141).**

HINT

If you will be recording into an existing song, load the desired song into internal memory (p. 149). Then use [FWD] or [BWD] to specify the measure at which you want to start recording. The recording-start measure is indicated by "M=" at the top of each PLAY screen.

2. **Press [REC], and then [6 (Step Rec)].**

The [REC] indicator will blink, and the Step Recording Standby window appears.



3. **Make settings for step recording. Use [CURSOR] to move the cursor to the desired parameter, and turn the VALUE dial or press [INC]/[DEC] to set it.**

- **Rec Track**

  Specify the phrase track or pattern on which you want to record. "TRK" will appear if you press [1 (Song List)], and "PTN" will appear if you press [2 (PTN)].

  Value: AUTO, TRK 1–TRK 16
  PTN001–PTN100 (* when recording on a pattern)

- **Rec Mode (Recording Mode)**

  Select how recording is to take place.

  Value

  MIX: Mix-recording will be carried out. Normally, you will record using this method. 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.

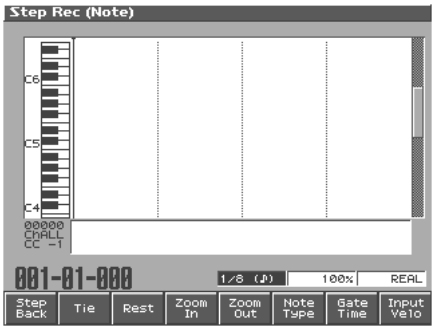
  REPLACE: Replace-recording will be carried out. If a performance has already been recorded on the recording-destination track, it will be erased as you record your new performance. Use this when you want to re-record.

- **Start Point**

  Specify the location (measure-beat-clock) at which recording will begin.

4. **Press [8 (Note)] or [PLAY].**

The [REC] indicator will light, and the Step Recording screen appears.



5. **Specify the note that you want to input. Use the function buttons ([6][7][8]) to select the desired parameter.**

- **Note Type**

  Specify the length of the notes that you want to input, in terms of a note value. The length of the note value indicates the length from one note-on to the next note-on.

  Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅯₃ , 𝅘𝅥𝅯. , 𝅘𝅥𝅰 , 𝅘𝅥𝅰₃ , 𝅘𝅥𝅱 , 𝅘𝅥𝅱 , 𝅘𝅥𝅱₃ , 𝅘𝅥𝅱. , 𝅘𝅥 , 𝅗𝅥₃ , 𝅗𝅥. , 𝅗𝅥 , 𝅗𝅥₃ , 𝅗𝅥. , 𝅗𝅥 , 𝅝 , 𝄻

- **Gate Time**

  Specify the proportion of the gate time relative to the Note Type. The gate time is the length between note-on and note-off. 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%

- **Input Velo**

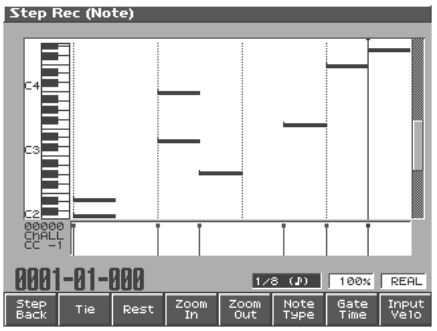
  Specify the strength with which the note will be played. If you want this to be the strength with which you actually pressed the key, select "REAL." Otherwise, use settings of p (piano)=60, mf (mezzo forte)=90, or f (forte)=120 as general guidelines.

  Value: 1–127

6. **Turn the VALUE dial or press [INC]/[DEC] to make the setting.**

7. **Press ◀ or ▶ to move to the desired input location, and press a note on the keyboard or a pad.**

When you press a key or a pad, the input position will advance by the value of the Note Type you specified. The velocities are displayed as a bar graph.



You can use the function buttons ([1][2][3][4][5]) to perform the following operations.

- **Step Back**
  Cancel the previously input note.
- **Tie**
  Extend the length of the previously input note by the current setting.
- **Rest**
  Inputs a rest. First set the Note Type parameter to a length that is the same as the rest you want to input, and then press [3 (Rest)].
- **Zoom In**
  Narrow the range of keys shown in the display. Use this when you want to view certain notes at greater magnification.
- **Zoom Out**
  Expand the range of notes shown in the display. Use this when you want to see which notes have been input.

8. Repeat the above steps to continue inputting.

HINT

The previous value of each parameter is remembered. This means that if you want to use the same settings as the previously input note, there is no need to change the settings. Once you have set the Gate Time parameter and Input Velocity parameter, it is not normally necessary to change them, so all you have to do is set the Step Time parameter and specify the pitch (note) of each note.

HINT

The note will not be finalized as long as you hold down the key. This means that you will be able to modify the various parameters of the note (Step Time, Gate Ratio, Velocity).

9. When you are finished step recording, press [STOP].
The [REC] indicator will go dark.

HINT

If you are not happy with the results of the previous step recording, you can press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to recording (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Inputting a Chord

Press the chord. The cursor will move to the next step when you release all keys or pads simultaneously.

Moving the input location

- Pressing ▶ will move the input location forward by the current Note Type value.
- Pressing ◀ will move the input location backward by the current Note Type value.
- Hold down [SHIFT] and press ▶ will advance the input location by one measure.
- Hold down [SHIFT] and press ◀ will return the input location by one measure.

Moving the display region

Pressing ▲ or ▼ will move the displayed region of notes upward or downward.

The Relation between Note Value Length and Gate Time

The relation between the length of the note value and the gate time is shown below. Since the Fantom-S's sequencer uses a TPQN (Ticks Per Quarter Note; i.e., resolution) of 480, a quarter note gate time is 480 clocks.

Note	Gate time
𝅘𝅥𝅯	30
𝅘𝅥𝅯3	40
𝅘𝅥𝅯.	45
𝅘𝅥𝅯𝅘𝅥𝅯	60
𝅘𝅥𝅯𝅘𝅥𝅯3	80
𝅘𝅥𝅯𝅘𝅥𝅯.	90
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	120
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯3	160
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯.	180
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	240
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯3	320
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯.	360
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	480
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯3	640
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯.	720
𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯𝅘𝅥𝅯	960
𝅝	1920
𝅜	3840

HINT

The gate time that is recorded in step recording will be the original gate time value multiplied by the value of the Gate Ratio parameter. For example, if the Gate Ratio parameter is set to "80%," inputting a quarter note will mean that the gate time is 480 x 0.8=384.

Assigning a Pattern to a Phrase Track

You can create a song by combining previously recorded patterns. This is done using step recording to assign patterns to a phrase track. However, please be aware that the patterns themselves are not placed in the phrase track. Rather, **Pattern Call messages** are placed in the phrase track to specify which pattern should be played back. This means that if you later modify the contents of a pattern, the song playback will also be affected.

NOTE

When you assign a pattern to a phrase track, its pattern beat will be ignored, and the pattern will use the time signature of the beat track. If the pattern beat and the beat track have different settings, the length of the measures will not match, and the playback may become incorrectly aligned. If this occurs, re-specify the time signature of the beat track (p. 141).

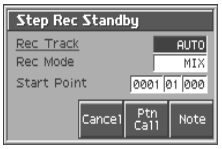
1. **Make sure that the preparations for recording have been performed as described in "Before You Record a New Song" (p. 141).**

HINT

If you will be recording into an existing song, load the desired song into internal memory (p. 149). Then use [FWD] or [BWD] to specify the measure at which you want to start recording. The recording-start measure is indicated by "M=" at the top of each PLAY screen.

2. **Press [REC], and then [6 (Step Rec)].**

   The [REC] indicator will blink, and the Step Recording Standby window appears.



3. **Make settings for step recording. Use [CURSOR] to move the cursor to the desired parameter, and turn the VALUE dial or press [INC]/[DEC] to set it.**

- **Rec Track**

  Specify the phrase track or pattern on which you want to record. "TRK" will appear if you press [1 (Song List)], and "PTN" will appear if you press [2 (PTN)].

  Value: AUTO, TRK 1–TRK 16
  PTN001–PTN100 (* when recording on a pattern)

- **Rec Mode (Recording Mode)**

  Select how recording is to take place.

  Value

  MIX: Mix-recording will be carried out. Normally, you will record using this method. 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.

  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.

- **Start Point**

  Specify the location (measure-beat-clock) at which recording will begin.

4. **Press [7 (Ptn Call)].**

5. **Turn the VALUE dial or press [INC]/[DEC] to select the pattern number (1–100) that you want to assign to the phrase track.**

   The pattern name of the selected pattern is displayed in "Pattern." "Length" shows the number of measures in the pattern.

6. **Press [8 (Put Ptn)].**

   A Pattern Call message for the pattern selected by the Pattern parameter will be recorded. You will advance by the length of the measures in that pattern, and will be ready to input the next pattern.

HINT

If you input the wrong pattern, you can press [BWD] or [1 (Step Back)] to delete the previously input Pattern Call message.

7. **Repeat the above steps to assign additional patterns.**

8. **When you are finished with step recording, press [EXIT] or [STOP].**

   The [REC] indicator will go dark.

HINT

If you are not satisfied with the step recording that you just performed, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to recording (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Editing Songs

This chapter explains the procedure for editing songs.

Loading the Song You Want to Edit

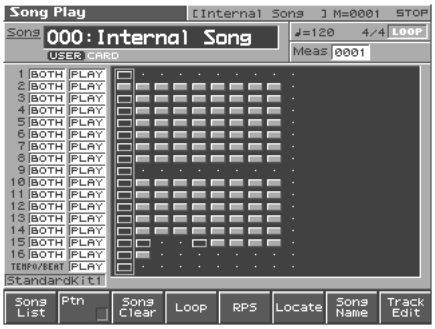
When you edit a song, you're modifying a song that's already recorded into internal memory. When you're going to edit a song saved to user memory or memory card, you have to first load it into the internal memory.

NOTE

The internal song will be lost if you turn power off or load another song into internal memory. If internal memory contains a song you wish to keep, you must save that song to user memory or memory card (p. 168).

1. **Press [SEQUENCER].**

   The Song Play screen appears.



2. **Press [1 (Song List)].**

   The Song List screen appears.

3. **Press [1 (User)] or [2 (Card)] to select the loading destination.**

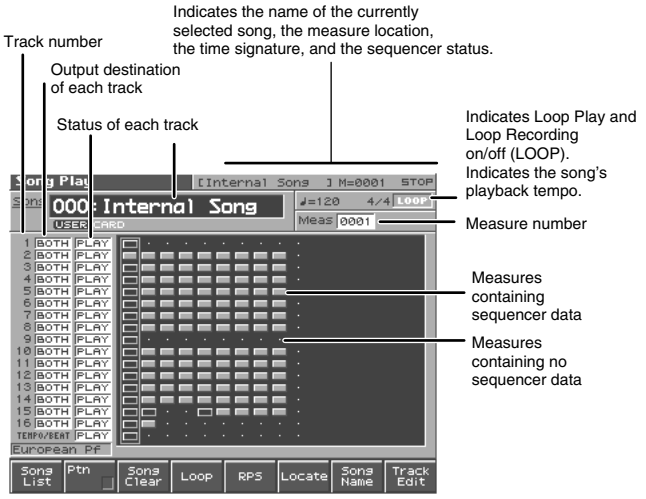
4. **Use ▲ or ▼ to select the song that you want to edit.**

5. **Press [8 (Load)].**

   A Message will ask you for confirmation.

6. **Press [8 (Exec)].**

   When the song has finished loading, the performance data of the loaded song will be displayed in the Song Play screen.



MEMO

If you play back the song while the Song Play screen is displayed, the screen will scroll in keeping with the song playback location.

Loading Individual Tracks/Patterns of Song Data

If you have selected a song file (extension ".SVQ") or Standard MIDI File (extension ".MID"), you can load individual phrase tracks or patterns.

1. **After step 4 of "Loading the Song You Want to Edit," press [7 (Load Track)].**

   The Load Song File (Track) window appears.

2. **Move the cursor to the left of "Source" (load source), and select the track (TRK 1–16) or pattern (PTN001–100) that you want to load.**

   * *If you are loading from a Standard MIDI File, it is not possible to select patterns (PTN001–100). Also, if you are loading from a Format 0 Standard MIDI File, this will be fixed at "TRK ALL," and individual tracks cannot be selected.*

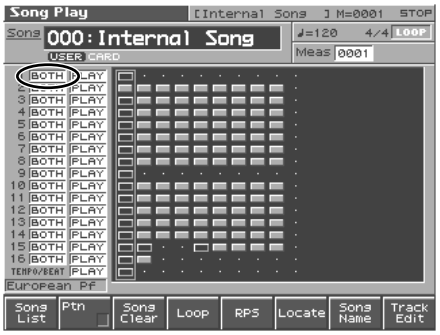
3. **Move the cursor to the right of "Destination" (load destination), and select the load-destination track (TRK 1–16) or pattern (PTN001–100).**

4. **Press [8 (Exec)] to execute the operation.**

Using Different Sound Generators for Each Track

By specifying the output destination for each track, you can use a variety of sound generators when playing back a song.

1. **Press [SEQUENCER] to access the Song Play screen.**
2. **Use [CURSOR] to move the cursor for the track whose output destination you want to specify.**



3. **By turning the VALUE dial or by pressing [INC]/[DEC], set the value.**

   OFF: The track will not be sounded.

   INT: The track will be sounded by the Fantom-S's internal sound generator.

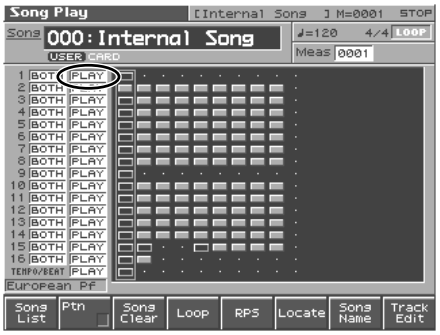
   MIDI: The track will be sounded by an external sound generator connected to the MIDI OUT connector.

   BOTH: The track will be sounded by both the internal and external sound generators.

Silencing the Playback of a Track (Mute)

If you wish to silence specific instruments during playback, you can mute the appropriate Phrase track containing that sequencer data.

1. **Press [SEQUENCER] to access the Song Play screen.**
2. **Use [CURSOR] to move the cursor for the track that you want to silence.**



MEMO

Tracks in which no sequencer data has been recorded are displayed as "----."

3. **Turn the VALUE dial or press [DEC] to select "MUTE."**

NOTE

Note that if you save a song with a Phrase track muted in the Standard MIDI File format, that Phrase track's data will not be saved. If you save a song that has a muted Phrase track in the MRC Pro song format, the mute status of the track will also be saved.

HINT

If you set the tempo track (Tempo) "Status" to "MUTE," the tempo track will be muted. If tempo changes have been recorded in a song, but you want to play the song at a fixed tempo, you can mute the tempo track.

Assigning Markers (Locate Positions) to a Song

Markers can be assigned to any location in a song. These are called **Locate Positions**. Normally, locations in a song are indicated as "measure-beat-clock," but a locate position is also displayed as an absolute time of "hours:minutes:seconds:frames."

Assigning a Locate Position

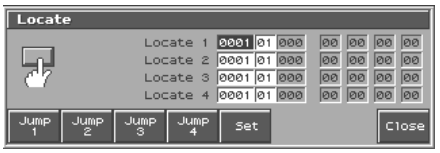
Up to four locate positions can be assigned in each song.

NOTE

It is not possible to assign a locate position to a pattern.

1. **Load the song in which you want to specify a locate position (p. 149).**
2. **Press [SEQUENCER].**
3. **Press [6 (Locate)].**

   The Locate window appears.



4. **Move the cursor to the "measure" or "beat" value of the locate number that you want to set.**
5. **Turn the VALUE dial or press [INC]/[DEC] to set each value.**
6. **Hold down [5 (Set)] and press [1 (Set1)]–[4 (Set4)], the locate position will be stored as the current location of the song.**

   You can also set this by pressing [5 (SET)] while you listen during song playback.

Moving to a Locate Position

Use the following procedure to change the song location to a Locate Position.

1. **Access the Locate window.**
2. **Press [1 (Jump1)] – [4 (Jump4)].**
   You will move to the specified locate position.

HINT

You can hold down [SHIFT] and press [BWD] to jump to the preceding location position, or hold down [SHIFT] and press [FWD] to jump to the next locate position.

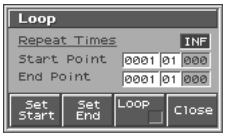
Specifying the Area of a Song that will Repeat (Loop Points)

When using Loop Play or Loop Recording, you can use the loop points you specify here to specify the repeated area, as an alternative to repeating the specified number of measures.

NOTE

It is not possible to assign a loop point to a pattern.

1. **Load the song for which you want to set loop points (p. 149).**
2. **Press [SEQUENCER].**
3. **Press [4 (Loop)].**
   The Loop window appears.



4. **Move the cursor to the desired parameter, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**
   - **Repeat**
     Select the number of repeats (1–99). If you want repetition to continue until you press [STOP], set this to "INFINIT."
   - **Start Point**
     Specify the location at which repetition is to begin.
     If you press [5 (Set Start)], the current location of the song will be set as the starting location.
   - **End Point**
     Specify the location at which repetition will end. The location you specify here will not be included in the repeated area.
     If you press [6 (Set End)], the current location of the song will be set as the ending location.
5. **If you press [7 (Loop)] to assign a check mark (✔), looping will be turned on.**

Editing Sequencer Data Over the Specified Range (Track Edit)

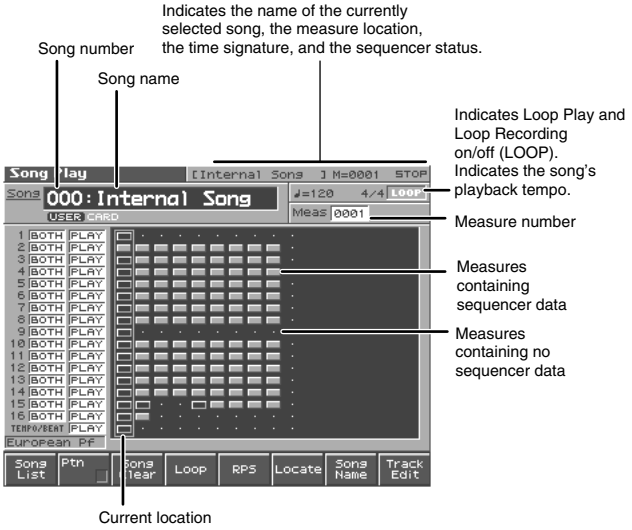
Track Edit lets you edit areas of sequencer data that you specify.

Basic Operation for Track Editing

1. **Access the Song Edit screen, and then load the song you want to edit (p. 149).**

MEMO

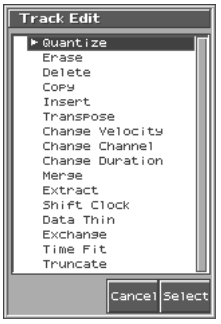
While editing a pattern, press [SEQUENCER] and then press [2 (PTN)] to access the Pattern Edit screen.



NOTE

If you select a song that has not been loaded into internal memory, the display will ask you for confirmation as follows: The Song "****" is not Internal Song. Load anyway for Song Edit? If you want to erase the song from the internal memory and load the new song, press [8 (OK)]. If you decide not to erase the song from the internal memory, press [EXIT].

2. **Press [SEQUENCER] and then press [8 (Track Edit)].**
   The Track Edit window appears.



3. Press ▲ or ▼ , and then press [8 (Exec)] to select the desired function.

Quantize→p. 152
Erase→p. 154
Delete→p. 155
Copy→p. 155
Insert Measure→p. 156
Transpose→p. 156
Change Velocity→p. 157
Change Channel→p. 158
Change Duration→p. 158
Merge→p. 159
Extract→p. 159
Shift Clock→p. 160
Data Thin→p. 161
Exchange→p. 161
Time Fit→p. 162
Truncate→p. 162

For details on the setting windows of each track editing function, refer to the following explanations of each function.

4. Set the parameters for each function. Use [CURSOR] to move the cursor to the desired parameter, and turn the VALUE dial or press [INC]/[DEC] to set the value. First check the region that is to be affected by the editing operation, and then make corrections if you want to change it.

5. Press [8 (Exec)] to execute the operation.

When the operation is completed, the display will briefly indicate "Completed!"

HINT

- If you decide not to execute the operation, press [7 (Cancel)].
- If you are not satisfied with the results of executing the function, you can press [MENU], and from the Menu window that appears, select "Undo Track Edit" to return to the state prior to executing the operation (Undo/Redo).
  After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

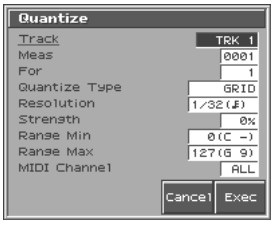
Aligning a Song's Timing (Quantize)

In the chapter **"Recording Songs"** (p. 141), we explained **Recording Quantize**, which lets you quantize during realtime recording. Alternatively, it is also possible to quantize a song that has already been recorded.

The Fantom-S has a **Preview function** that allows playing back the results of a Quantize operation while you are still setting parameters (before actual execution). This helps to make optimal Quantize settings.

NOTE

The Quantize operation will correct only the timing at which notes were pressed (note-on) and released (note-off), and will not correct any other sequencer data. This means that if you record MIDI messages such as bend range or modulation along with notes, quantization can cause the notes to go out of sync with the MIDI messages, skewing timing. To avoid such problems it is better to record non-keyboard data afterward, using mix recording, etc.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern

Sets the phrase track(s) or pattern that is to be quantized.

Value

TRK ALL: Phrase tracks 1–16

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

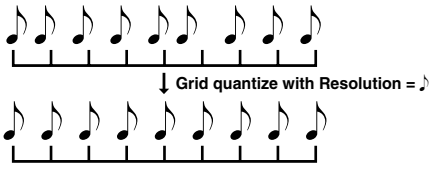
Sets the range of measures that are to be quantized. If you set "For" to "ALL," all measures will be specified.

Quantize Type

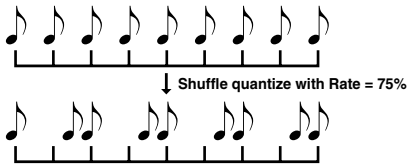
Specifies the Quantize range.

Value

GRID: Grid Quantize will be applied to recording. Since the notes will be adjusted to the timing of the specified note value, you can use this when you want drums or bass (for example) to play in an accurate rhythm.



SHUFFLE: Shuffle Quantize will be applied to recording. Use this when you want to produce a "shuffle" or "swing" rhythmic feel.



TEMPLATE: The Fantom-S provides 71 quantize templates. These templates contain various quantize settings for applying rhythmic 'feels' of many different musical categories. Select the template you want for quantization.

* *If your sequencer data notes are too far off from accurate time, Template Quantize may not work that efficiently so you won't achieve the desired results. If this is the case, apply Grid Quantize to your sequencer data first to lose timing mistakes.*

Resolution (Grid Quantize Resolution)

This parameter is used when Grid Quantize is selected. Specifies quantization time interval as a note value. Choose a Resolution that matches the smallest note in the area you're quantizing.

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

Strength (Grid Quantize Strength)

This parameter is used when Grid Quantize is selected. This parameter specifies a percentage of how note timing will be corrected toward the timing interval that is specified by the Resolution parameter. With a setting of "100%," the note will move all the way to the nearest timing interval of the Grid Resolution setting. A setting of "0%" will not change note timing at all.

Resolution (Shuffle Quantize Resolution)

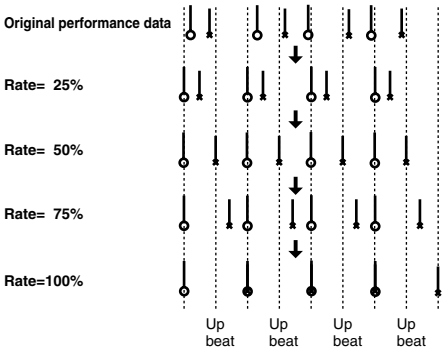
This parameter is used when Shuffle Quantize is selected. Specifies quantization time interval as a note value.

Value: 𝅘𝅥𝅯 , 𝅘𝅥𝅮

Rate (Shuffle Quantize Rate)

This parameter is used when Shuffle Quantize is selected. Specifies how far apart you want a down-beat specified by the Shuffle Resolution parameter to be from the up-beat that immediately follows. By shifting the timing of an up-beat, you can create a "swing" feel. A setting of "50%" will place the timing of the up-beat note at the exact mid point between the down-beat and the next down-beat. A setting of "0%" will move the up-beat note to the same timing as the previous down-beat. A setting of "100%" will move it to the same timing as the following down-beat.

VALUE:0–100%



Quantize Template (Quantize Template)

Specifies the template you wish to use.

Here is a list of preset groove templates.

001	Dance (small dynamics)
002	Dance (large dynamics)
003	Dance (light swing)
004	Dance (heavy swing)
005	Dance (dragging beats, small dynamics)
006	Dance (dragging beats, large dynamics)
007	Dance (dragging beats, light swing)
008	Dance (dragging beats, heavy swing)
009	Dance (pushing beats, small dynamics)
010	Dance (pushing beats, large dynamics)
011	Dance (pushing beats, light swing)
012	Dance (pushing beats, heavy swing)
013	Fusion (small dynamics)
014	Fusion (large dynamics)
015	Fusion (light swing)
016	Fusion (heavy swing)
017	Fusion (dragging beats, small dynamics)
018	Fusion (dragging beats, large dynamics)
019	Fusion (dragging beats, light swing)
020	Fusion (dragging beats, heavy swing)
021	Fusion (pushing beats, small dynamics)
022	Fusion (pushing beats, large dynamics)
023	Fusion (pushing beats, light swing)
024	Fusion (pushing beats, heavy swing)
025	Reggae (small dynamics)
026	Reggae (large dynamics)
027	Reggae (light swing)
028	Reggae (heavy swing)
029	Reggae (dragging beats, small dynamics)
030	Reggae (dragging beats, large dynamics)
031	Reggae (dragging beats, light swing)
032	Reggae (dragging beats, heavy swing)
033	Reggae (pushing beats, small dynamics)
034	Reggae (pushing beats, large dynamics)
035	Reggae (pushing beats, light swing)
036	Reggae (pushing beats, heavy swing)
037	Pops (small dynamics)
038	Pops (large dynamics)
039	Pops (light swing)
040	Pops (heavy swing)
041	Pops (dragging beats, small dynamics)
042	Pops (dragging beats, large dynamics)
043	Pops (dragging beats, light swing)
044	Pops (dragging beats, heavy swing)
045	Pops (pushing beats, small dynamics)
046	Pops (pushing beats, large dynamics)
047	Pops (pushing beats, light swing)
048	Pops (pushing beats, heavy swing)
049	Rhumba (small dynamics)
050	Rhumba (large dynamics)
051	Rhumba (light swing)
052	Rhumba (heavy swing)
053	Rhumba (dragging beats, small dynamics)
054	Rhumba (dragging beats, large dynamics)
055	Rhumba (dragging beats, light swing)
056	Rhumba (dragging beats, heavy swing)
057	Rhumba (pushing beats, small dynamics)
058	Rhumba (pushing beats, large dynamics)
059	Rhumba (pushing beats, light swing)
060	Rhumba (pushing beats, heavy swing)
061	Samba (for Pandeiro, etc.)
062	Samba (for Surdo, Timbale)
063	Axe (for Caixa)
064	Axe (for Surdo)
065	Salsa (for Cascala)
066	Salsa (for Conga)
067	Triplets
068	Quintuplets
069	Sextuplets
070	Septuplets over two beats
071	Lagging triplets

Timing (Quantize Timing)

This specifies how much a note will move toward the timing interval of the template you pick. At a setting of 100%, the note will be perfectly timed with the template. At a setting of 0%, the note will not move at all.

Range Min, Range Max

Specifies the range of note numbers to be quantized.
For example, if you want to quantize the range between C3 and C4, set "Note Min" to "C3," and set "Note Max" to "C4."
You can also specify the key range by pressing keys on the keyboard.

MIDI Channel

Specifies the MIDI channel(s) of the notes to be quantized.
If you wish to quantize all notes, set this parameter to "ALL." When quantizing only the notes of a specific MIDI channel, select that channel.
Value: ALL, 1–16

Preview Function

The Preview function allows you to hear how quantizing will work while you are still setting Quantize parameters (before you execute operation). This is called the **Preview function.** If you modify parameter values during preview playback, the next preview playback will include those latest value changes. Try various parameter settings to find the one that works best.

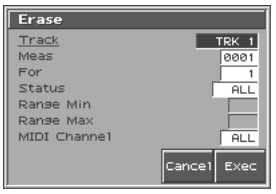
NOTE

Pattern Call events assigned to a phrase track or muted phrase tracks cannot be previewed.

Pressing [PLAY] when the Track Edit (Quantize) window is displayed selects Preview mode. The two measures from the current location of the song will play back repeatedly. The preview start location can also be specified by pressing [FWD] or [BWD]. To exit Preview mode, press [STOP].

Erasing Unwanted Performance Data (Erase)

This function erases all the sequencer data inside the specified area. As the erased data is replaced by rests, the original measures will remain.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern

Specifies the track(s) or pattern that is to be erased.
Value
ALL: Phrase tracks 1–16, the beat track, and the tempo track
TRK 1–TRK 16: The specified phrase track
TEMPO: Tempo track
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures that are to be erased. If you set "For" to "ALL," all measures will be specified.

Status

Selects the type of data to be erased.
Value
ALL: All types of sequencer data
NOTE: Note
P.AFT: Polyphonic Aftertouch
C.C: Controller numbers
PROG: Program numbers
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: System Exclusive messages
Tune: Tune Request
PTN: Pattern Call Message data

NOTE

If the Track parameter is set to "TEMPO," the Status parameter will not be available.

Range Min, Range Max

If you have set the Status parameter to "NOTE," "P.AFT," "C.C," or "PROG," specify the range. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To erase all notes or polyphonic aftertouch data, set "Range Min" to "C -1" and "Range Max" to "G9." To erase C4, set "Range Min" and "Range Max" to "C4." To erase C3 through C4, set "Range Min" to "C 3" and "Range Max" to "C4."
- To erase all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To erase all program numbers, set "Range Min" to "1" and "Range Max" to "128." To erase number 4, set "Range Min" and "Range Max" to "4." To erase numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

MIDI Channel

Selects the MIDI channel of the data to be erased.

When you want to erase all sequencer data, set this parameter to "ALL." To erase sequencer data of one specific MIDI channel only, select that MIDI channel.

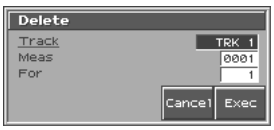
Value: ALL, 1–16

NOTE

If you set the Track parameter to "TEMPO," or if the Status parameter is set to "EXC," "TUNE" or "PTN," the Channel parameter will not be available.

Deleting Unwanted Measures (Delete)

This function deletes a specified area of sequencer data, and moves the subsequent data to fill the gap. As a result, the measure length will be shortened by the number of deleted measures.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern

Specifies the track(s) or pattern that is to be deleted.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track

TRK 1–TRK 16: The specified phrase track

TEMPO: Tempo track

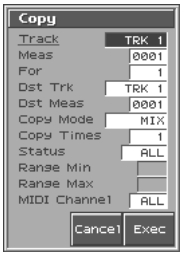
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures that are to be deleted. If you set "For" to "ALL," all measures will be specified.

Copying Phrases (Copy)

This function copies a specified area of sequencer data. It is convenient for repeating the same phrase several times. You can copy patterns to a phrase track, or copy data from a phrase track to a pattern.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Src Track / Pattern (Source Track / Pattern)

Specifies the copy-source track(s) or pattern.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track

TRK 1–TRK 16: The specified phrase track

TEMPO: Tempo track

PTN001–PTN100: The specified pattern

Src Measure, For (Edit Range)

Specifies the range of copy-source measures. If you set "For" to "ALL," all measures will be specified.

Dst Track/ Pattern (Destination Track/Pattern)

Check/modify the copy-destination track or pattern.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track

TRK 1–TRK 16: The specified phrase track

TEMPO: Tempo track

PTN001–PTN100: The specified pattern

MEMO

- If you set the source track to "ALL," the destination track can be set to either "ALL" or "PTN001–PTN100." If you select "PTN001–PTN100," the data from the 16 phrase tracks will be merged as it is copied.
- If "TEMPO" is selected as the source track, then only "Tempo" can be selected for the destination track.

Dst Measure (Destination Measure)

Specifies the copy-destination measure.

If you want the copy destination to be right after the last measure of a song, set this parameter to "END."

Copy Mode

Specifies whether you want to preserve the existing data in the copy destination when copying.

Value

MIX: Combines the data from the copy source with the existing data in the copy destination.

REPLACE: Musical data in the copy destination will be erased (i.e., overwritten) when the copy takes place. Only the sequencer data of the MIDI channels specified by the Channel parameter will be overwritten, and data of other MIDI channels will remain.

Copy Times

Specifies the number of times that the data will be copied to the copy destination.

Status

Selects the type of data to be copied.

Value

ALL: All types of sequencer data
NOTE: Note
P.AFT: Polyphonic Aftertouch
C.C: Controller numbers
PROG: Program numbers
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: System Exclusive messages
Tune: Tune Request
PTN: Pattern Call Message data

NOTE

If the source track is set to "TEMPO," the Status parameter will not be available.

Range Min, Range Max

If you have selected "NOTE," "P.AFT," "C.C," or "PROG" for the Status parameter, specify the range. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To copy all notes or polyphonic aftertouch data, set "Range Min" to "C-1" and "Range Max" to"G9." To copy C4, set "Range Min" and "Range Max" to "C4." To copy C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4."
- To copy all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To copy all program numbers, set "Range Min" to "1" and "Range Max" to "128." To copy number 4, set "Range Min" and "Range Max" to "4." To copy numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

MIDI Channel

Selects the MIDI channel of the data to be copied.

When you want to copy all the sequencer data, set this parameter to "ALL." To copy only the sequencer data of a specific MIDI channel, select the MIDI channel.

Value: ALL, 1–16

NOTE

If you set the source track to "TEMPO," or if the Status parameter is set to "EXC," "TUNE" or "PTN," the Channel parameter will not be available.

Inserting a Blank Measure (Insert)

This function inserts blank measures into a specified song position. As you can set the time signature of the blank measures, this is convenient when inserting a phrase having a different time signature in the middle of a song.

For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the track(s) or pattern into which blank measures will be inserted.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track
TRK 1–TRK 16: The specified phrase track
TEMPO: Tempo track
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the measure location at which the blank measures are to be inserted, and the number of blank measures to be inserted.

Beat

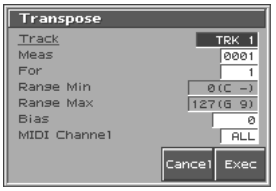
In general, the time signature of the measure immediately before insertion will be used for the blank measures. To change the time signature of the blank measures to be inserted, use the Beat parameter.

NOTE

Beat can be specified only when you have set the Track parameter to "ALL."

Transpose the Key (Transpose)

This transposes the pitch of notes within a specified area, over a +/- 127 semitone range. Use this function to modulate from one key to another in a song, or to transpose the entire song.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Sets the phrase track(s) or pattern that is to be transposed.

Value

ALL: Phrase Tracks 1–16

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Sets the range of measures that are to be transposed. If you set "For" to "ALL," all measures will be specified.

Range Min, Range Max

Specifies the range of note numbers to be transposed. For example, if you want to transpose notes in the range of C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4." You can also specify the key range by pressing keys on the keyboard.

Bias

Specifies the transpose amount in semitone steps. Set a "+" (positive) value to raise the pitch, or a "-" (negative) value to lower the pitch. If you do not want to transpose, set this to "0."

Value: -127– +127

MIDI Channel

Specifies the MIDI channel(s) of the notes to be transposed.

Set this parameter to "ALL" for transposing all notes. When transposing only the notes of specific MIDI channel(s), select the MIDI channel(s) using this parameter.

Value: ALL, 1–16

If You Want to Lower the Bass Sound One Octave...

If your bass is played one octave higher than the staff notation, use the Transpose function to lower it one octave.

To lower the bass sound one octave, set the Range parameter to "Lowest–Highest" for the bass part, and set the Bias parameter to "-12."

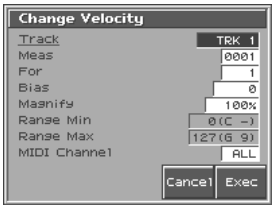
When You Want to Change Percussion Sounds...

You can also use the Transpose function to change percussion sounds.

Suppose you want to change conga to tom. If the conga sound is assigned to the D4 key, and the tom sound is assigned to the C3 key, set the Range parameter to "D4–D4" and the Bias parameter to "-14."

Changing the Velocity (Volume) (Change Velocity)

This function modifies the keyboard playing dynamics (velocity) of a specified note area.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the phrase track(s) or pattern whose velocity will be changed.

Value

ALL: Phrase Tracks 1–16

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures whose velocity will be changed. If you set "For" to "ALL," all measures will be specified.

Bias

Use this parameter to add a fixed bias amount to all velocities. If you want to increase the velocity values by 10, set this to "+10."

Value: -99– +99

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.

Value: 0–200%

Range Min, Range Max

Specifies the range of note numbers for which velocity will be modified. For example, if you want to modify the velocity of notes in the range of C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4." You can also specify the key range by pressing keys on the keyboard.

MIDI Channel

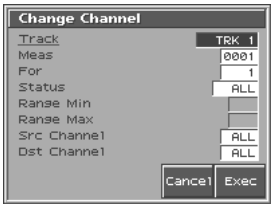
Specifies the MIDI channel(s) of notes for which velocity will be modified.

To modify velocity for all notes, set this parameter to "ALL." When modifying the velocity for only the notes of a specific MIDI channel, select that MIDI channel using this parameter.

Value: ALL, 1–16

Changing the MIDI Channel (Change Channel)

This function transfers the MIDI channel of a specified area of sequencer data into a different MIDI channel.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the phrase track(s) or pattern in which the MIDI channel will be changed.

Value

ALL: Phrase Tracks 1–16
TRK 1–TRK 16: The specified phrase track
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures in which the MIDI channel will be changed. If you set "For" to "ALL," all measures will be specified.

Status

Selects the type of data for which you wish to change the MIDI channel.

Value

ALL: All following sequencer data types
NOTE: Note
P.AFT: Polyphonic Aftertouch
C.C: Controller numbers
PROG: Program numbers
C.AFT: Channel Aftertouch
BEND: Pitch Bend

Range Min, Range Max

If you have set the Status parameter to "NOTE," "P.AFT," "C.C," or "PROG," you can specify the range of data. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To change the MIDI channel of all notes or polyphonic aftertouch data, set "Range Min" to "C -1" and "Range Max" to "G9." To change the MIDI channel of C4, set "Range Min" and "Range Max" to "C4." To change C3 through C4," set "Range Min" to "C3" and "Range Max" to "C4."
- To change the MIDI channel of all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To change the MIDI channel of all program numbers, set "Range Min" to "1" and "Range Max" to "128." To change number 4, set "Range Min" and "Range Max" to "4." To change numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

Src Channel, Dst Channel (MIDI Channel)

Set Src Channel to the MIDI channel that you want to change, and set Dst Channel to the MIDI channel to which it will be changed.
If you have selected ALL for the source MIDI channel, the sequencer data of all MIDI channels will be combined into the destination MIDI channel.

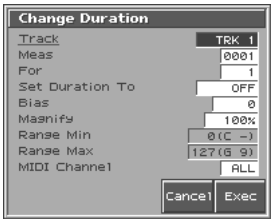
Value: ALL, 1–16

NOTE

It is not possible to select "ALL" for the destination MIDI channel.

Modifying the Length of Notes (Change Duration)

This function modifies the duration (time from note-on to note-off) of notes within a specified area. Depending on the setting, you can also create staccato or tenuto.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the phrase track(s) or pattern whose durations will be changed.

Value

ALL: Phrase Tracks 1–16
TRK 1–TRK 16: The specified phrase track
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures whose durations will be changed. If you set "For" to "ALL," all measures will be specified.

Bias

Set this parameter if you wish to increase or decrease all durations by a fixed amount. If you want to extend all duration by 10, set this to "+10."

Value: -4800– +4800

Magnify

Set this parameter if you wish to increase or decrease durations by a specified ratio. When set to "100%," no change is made. A value of "101%" or higher increases the duration; values of "99%" or lower decrease the duration. For example, to halve duration, set this parameter to "50%." To double durations, set this parameter to "200%."

Value: 0–200%

Range Min, Range Max

Specifies the range of note numbers for which duration will be modified. For example, if you want to change the duration of notes in the range of C3 to C4, set "Range Min" to "C3" and "Range Min" to "C4." You can also specify the key range by pressing keys on the keyboard.

MIDI Channel

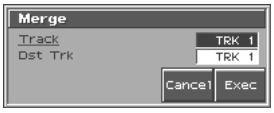
Specifies the MIDI channel(s) of notes for which duration will be modified.

If you wish to modify the duration for notes of all MIDI channels, set this parameter to ALL. When changing the duration for notes of a specific MIDI channel only, select that MIDI channel using this parameter.

Value: ALL, 1–16

Combining Two Phrase Tracks or Patterns into One (Merge)

The sequencer data of two phrase tracks or patterns will be combined into one.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Src Track / Src Pattern (Source Track)

Specifies the phrase track or pattern that is to be merged. After the Merge operation has been executed, no sequencer data will remain in this track.

Value

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Dst Track / Pattern (Destination Track/Pattern)

Specifies the merge-destination phrase track or pattern. After the Merge operation has been executed, the sequencer data will be combined into this track.

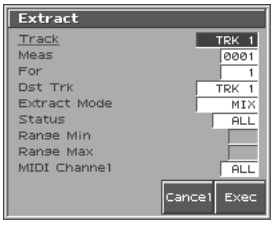
Value

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Extracting and Moving a Part of Sequencer Data (Extract)

This function extracts a specified sequencer data area from a phrase track or pattern and moves it to the same Song position of another phrase track or pattern. Additionally, just as with Standard MIDI File Format 0, when sequencer data from multiple MIDI channels is recorded on one track, you can also assign one MIDI channel to a single phrase track.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Src Track / Src Pattern (Source Track)

Specifies the phrase track or pattern from which the sequencer data will be extracted. After Extract is executed, the selected sequencer data no longer remains on this phrase track or pattern.

Value

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures from which sequencer data will be extracted. If you set "for" to "ALL," all measures will be specified.

Dst Track / Pattern (Destination Track/Pattern)

Specifies the move-destination track or pattern.

Value

ALL: According to its MIDI channel, the sequencer data will be divided among phrase tracks 1–16.

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Extract Mode

Specifies whether you want to keep the sequencer data at the destination.

Value

MIX: The data at the destination will combine with the extracted data.

REPLACE: The data at the destination will be erased and replaced by the extracted data.

MEMO

If you select "REPLACE," only the sequencer data on the MIDI channel specified by the Channel parameter will be the object of the operation. Sequencer data of all other MIDI channels will be unaffected.

Status

Selects the type of data to be extracted.

Value

ALL: All types of sequencer data
NOTE: Note
P.AFT: Polyphonic Aftertouch
C.C: Controller numbers
PROG: Program numbers
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: System Exclusive messages
Tune: Tune Request
PTN: Pattern Call Message data

Range Min, Range Max

If you set the Status parameter to "NOTE," "P.AFT," "C.C," or "PROG," specify the range of data. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To extract all notes or polyphonic aftertouch data, set "Range Min" to "C -1," and "Range Max" to "G9." To extract C4, set "Range Min" and "Range Max" to "C4." To extract C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4."
- To extract all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To extract all program numbers, set "Range Min" to "1" and "Range Max" to "128." To extract number 4, set "Range Min" and "Range Max" to "4." To extract numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

MIDI Channel

Selects the MIDI channel(s) of the data to be extracted.

To extract all sequencer data, set this parameter to ALL. To extract just the sequencer data of a specific MIDI channel, select that MIDI channel.

Value: ALL, 1–16

NOTE

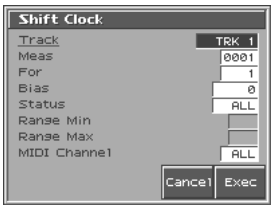
If you set the Status parameter to "EXC," "TUNE" or "PTN," the Channel parameter will not be available.

Shifting Performance Data Forward and Back (Shift Clock)

This function shifts the timing of sequencer data backward or forward in time within a specified area in steps of 1 clock. Slight shifts of timing can speed up or drag performance.

NOTE

When this function is executed, data that would be moved to a point before the beginning of the song will automatically shift to the beginning of the song. If data would be moved to a point past the end of the song, additional new measures will be created automatically as needed. The time signature of the newly created measures will be the same as that of the measure immediately preceding.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the track(s) or pattern whose sequencer data will be moved in units of one clock.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track
TRK 1–TRK 16: The specified phrase track
TEMPO: Tempo clock
PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures in which the sequencer data will be moved in units of one clock. If you set "For" to "ALL," all measures will be specified.

Bias

Specify the amount (number of clocks) by which the sequencer data will be moved.

Value: -4800– +4800

Status

Selects the type of data to be shifted in time.

Value

ALL: All types of sequencer data
NOTE: Note
P.AFT: Polyphonic Aftertouch
C.C: Controller numbers
PROG: Program numbers
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: System Exclusive messages
Tune: Tune Request
PTN: Pattern Call Message data

NOTE

If the Track parameter is set to "TEMPO," the Status parameter will not be available.

Range Min, Range Max

If you set the Status parameter to "NOTE," "P.AFT," "C.C," or "PROG," specify the range of data. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To shift all notes or polyphonic aftertouch data, set "Range Min" to "C -1" and "Range Max" to "G9." To shift C4, set "Range Min" and "Range Max" to "C4." To shift C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4."
- To shift all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To shift all program numbers, set "Range Min" to "1" and "Range Max" to "128." To shift number 4, set "Range Min" and "Range Max" to "4." To shift numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

MIDI Channel

Selects the MIDI channel of the data to be shifted in time.

To shift clocks of all sequencer data, set this parameter to ALL. To shift the sequencer data clock of just one specific MIDI channel, select that MIDI channel.

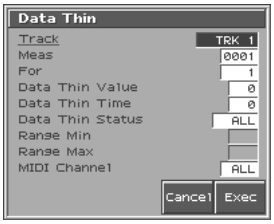
Value: ALL, 1–16

NOTE

If you set the Track parameter to "TEMPO," or if the Status parameter is set to "EXC," "TUNE" or "PTN," the Channel parameter will not be available.

Thinning Out the Sequencer Data (Data Thin)

Continuously variable controllers such as aftertouch, pitch bend, and expression tend to create unexpectedly large amounts of data when operated. Data Thin will strip out redundant data to increase the amount of memory available for the sequencer.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the track(s) or pattern whose sequencer data will be thinned.

Value

ALL: Phrase tracks 1–16, the beat track, and the tempo track

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Measure, For (Edit Range)

Specifies the range of measures whose sequencer data will be thinned. If you set "For" to "ALL," all measures will be specified.

Data Thin Value

For thinning data which incorporates rapid changes, use higher settings. If you don't want to thin that much data even though it is subject to rapid change, use lower settings.

Data Thin Time

If you are thinning data that changes gradually over time, use higher settings. If you don't want to thin that much data even though the changes are gradual, use lower settings.

Status

Selects the type of data to be thinned.

Value

ALL: All following sequencer data types

P.AFT: Polyphonic Aftertouch

C.C: Controller numbers

C.AFT: Channel Aftertouch

BEND: Pitch Bend

Range Min, Range Max

If you set the Status parameter to "P.AFT" or "C.C," specify the range of data. Set "Range Min" to the lowest value of the range, and "Range Max" to the highest value of the range.

HINT

- To thin out all polyphonic aftertouch data, set "Range Min" to "C -1" and "Range Max" to "G9." To thin out C4, set "Range Min" and "Range Max" to "C4." To thin out C3 through C4, set "Range Min" to "C3" and "Range Max" to "C4."
- To thin out all controller numbers, set "Range Min" to "0" and "Range Max" to "127." To thin out number 4, set "Range Min" and "Range Max" to "4." To thin out numbers 3 through 14, set "Range Min" to "3" and "Range Max" to "14."

MIDI Channel

Selects MIDI channel of the data to be thinned.

To thin all sequencer data, set this parameter to ALL. To thin sequencer data of just one specific MIDI channel, select that MIDI channel.

Value: ALL, 1–16

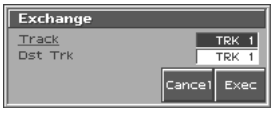
Swapping Two Phrase Tracks or Patterns (Exchange)

The phrase tracks or patterns will be exchanged in their entirety.

Value

TRK 1–TRK 16: The specified phrase track

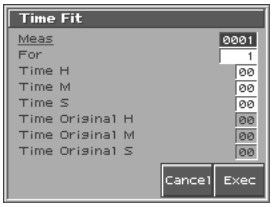
PTN001–PTN100: The specified pattern



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Adjusting the Song's Playback Time (Time Fit)

This function calculates the playback time of a song or allows you to modify the tempo track data so that the song will play back in a specified time.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Measure, For (Edit Range)

Measure the playback time, or check/modify the range of measures that are to be adjusted. If you set "For" to "ALL," all measures will be specified.

Time H/M/S

The playback time will be displayed. From left to right, the time display indicates "hours: minutes: seconds."

Time Original H/M/S

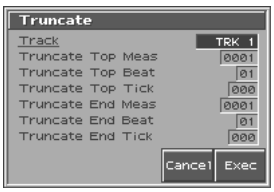
The current playback time will be displayed.

Deleting Blank Measures (Truncate)

Copying or merging may sometimes create blank measures at the beginning of a phrase track or pattern. Truncate deletes silent portions from the beginning of the specified phrase track to the first note-on.

NOTE

If other sequencer data (such as program changes or control changes) is recorded between the beginning and the first note-on of the specified phrase track, only the last data event of each type will be placed before the note-on.



For details on the settings, refer to **"Basic Operation for Track Editing"** (p. 151)

Track / Pattern (Source Track)

Specifies the phrase track or pattern from which blank measures will be deleted.

Value

TRK 1–TRK 16: The specified phrase track

PTN001–PTN100: The specified pattern

Below the Track parameter is displayed the location of the beginning of the specified track, and the position of the first note-on.

Editing Individual Items of Sequencer Data (Micro Edit)

Micro Edit lets you edit individual items of sequencer data recorded in a song, such as MIDI messages and tempo data.

Editing Sequencer Data (Basic Procedure in the Microscope)

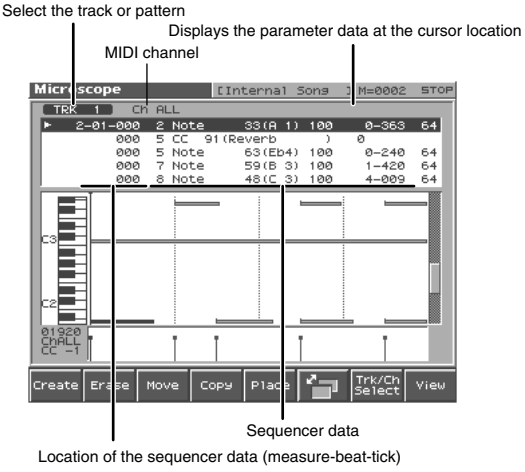
Access the Microscope screen when you want to view the sequencer data recorded in a song. Each line indicates the location (measure-beat-clock) at which the sequencer data is recorded, and the data recorded at that location.

1. **Load the song that contains the sequencer data you want to view/edit (p. 149).**

2. **Press [EDIT].**

   The Microscope screen appears.

   Press ▲ or ▼ to view sequencer data.



3. **Press [6] to switch the screen.**

   Each time you press [6] you will switch between the two screens.

4. **Press [7 (Trk/Ch Select)] to move the cursor to "Track," and select the track or pattern whose sequencer data you want to view/edit.**

   TRK 1–TRK 16: The specified phrase track

   TEMPO: Tempo track

   BEAT: Beat track

   PTN001–PTN100: The specified pattern (pattern mode only)

MEMO

In order to make efficient use of screen space, display is normally omitted for locations in which no sequencer data is recorded.

For an explanation of each type of sequencer data, refer to **"Sequencer Data Handled by a Phrase Track/Pattern,"** below.

5. **Move to the cursor to "MIDI Channel," and select the MIDI channel of the sequencer data that you want to view.**

6. **Press [8 (Close)] to close the screen.**

7. Press ▲ or ▼ to select the performance data that you want to edit.

8. Press ◀ or ▶ to select the parameter that you want to edit.

9. Turn the VALUE dial or press [INC]/[DEC] to set the value.

HINT

When editing the Note Number of note or polyphonic aftertouch data, or the On Velocity or Off Velocity of a note, you can also specify the value by playing a key on the keyboard.

- When you press [ENTER], the sequencer data currently shown at the " ▶ " will be transmitted from the MIDI OUT connector. In the case of a note message, the note will sound when you press [ENTER].

If you want to edit a system exclusive message, refer to **"Editing a System Exclusive Message,"** below.

10. Repeat steps 3.–6. to continue editing.

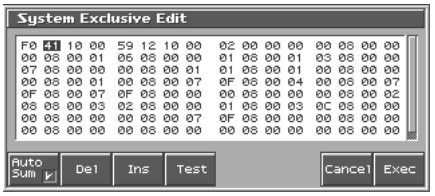
11. To close the Microscope screen, press [EXIT].

Editing a System Exclusive Message

1. Use ▲ or ▼ to move the cursor to the location of the system exclusive message that you want to edit.

2. Press ▶ .

The System Exclusive Edit window appears.



3. Press ◀ or ▶ to move the cursor to the data that you want to edit.

4. Turn the VALUE dial or press [INC]/[DEC] to edit the value.

If you want to add data between "F0:" and ":F7," move the cursor to that location and press [3 (Insert)]. A value of "00" will be inserted. Change this to the desired value.

To delete data, move the cursor to the relevant location and press [2 (Delete)].

5. When you are finished editing, press [8 (Exec)] to finalize the values of the system exclusive message.

To cancel, press [7 (Cancel)].

HINT

- If you decide to discard the changes you made to the system exclusive message and return to the Microscope screen, press [EXIT].
- In the case of a Roland type IV system exclusive message, the checksum can be calculated automatically when you finalize the values. If you do not want to calculate the checksum automatically, press [1 (Auto Sum)] to remove the check mark (✔).
- When you press [4 (Test)], the system exclusive message you are editing will be transmitted from the MIDI OUT connector.

Sequencer Data Handled by a Phrase Track/Pattern

Phrase tracks or patterns can record the following nine types of sequencer data. The recorded location (measure-beat-clock) is displayed at the far left of each data item, and the MIDI channel number is displayed beside it.

Note

These MIDI messages represent notes. From the left, the parameters are Note Number, which indicates the name of the note; On Velocity, which specifies the force with which the key is pressed; Duration, which specifies the duration of the note; and Off Velocity, which determines the speed with which the key is released.

Program Change

This MIDI message switches sounds. The program number (PC#) selects the sound.

Control Change

This MIDI message applies various effects such as modulation or expression. The controller number (CC#) selects the function, and Value specifies the depth of the effect.

For the function corresponding to each controller number, refer to **"MIDI Implementation"** (Parameter List).

Pitch Bend

This MIDI message changes the pitch. The value specifies the amount of pitch change.

Polyphonic Aftertouch

This MIDI messages applies aftertouch to an individual note. From the left, the parameters are Note Number which specifies the key, and Value which specifies the depth of the aftertouch.

Channel Aftertouch

This MIDI message applies aftertouch to an entire MIDI channel. Value specifies the depth of the aftertouch.

System Exclusive messages

These are MIDI messages used to make settings unique to the Fantom-S, such as sound settings. Input the data between "F0" and "F7."

For details on system exclusive messages, refer to **"MIDI Implementation"** (Parameter List).

Tune Request

This MIDI message causes an analog synthesizer to tune itself.

Ptn (Pattern Call message)

This is data that causes a pattern to play back. Use the Number parameter to select the pattern number. The pattern name is shown in parentheses ( ), and the location at which the pattern will finish playing is shown at the right of the "→" symbol.

NOTE

- If the pattern called by the Pattern Call message extends beyond the last measure of the song, the pattern playback will be interrupted at that point.
- Only one pattern can be played at a time by Pattern Call messages in a given phrase track. This means that if a Pattern Call message is recorded at a location before the previous pattern has finished playing, the pattern that was playing will be interrupted, and the next pattern will begin playing. If more than one Pattern Call message is recorded at the same location, the message that is displayed last in the Microscope screen will be played.
- Although it is possible to record Pattern Call messages in a pattern, they will not be played. If you want to place the data of another pattern into a pattern, use Track Edit to copy the data.

Data Handled by the Tempo Track

The Tempo track records tempo data for the song.

Tempo Change

This data specifies the tempo. The song will play back according to the "Value" of the tempo change.

The value displayed in " ♩ =***" is the tempo at which the song will actually play (the playback tempo), and can be changed only in the PLAY screen of each mode.

If the tempo change value differs from the playback tempo, this means that the playback tempo has been changed temporarily. In other words, since the tempo change value has not been rewritten, this setting will be lost if you select another song or turn off the power. If you want to play back at this tempo the next time as well, you must re-save the song to disk. This will rewrite the tempo change value so that it matches the playback tempo.

Data Handled by the Beat Track

The Beat track records time signature data.

Beat Change

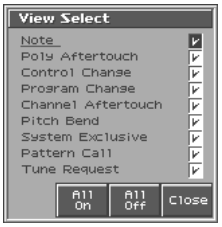
This specifies the time signature (Beat).

Viewing Sequencer Data (View)

Since a phrase track or pattern contains a large amount of sequencer data, the display may be cluttered and difficult to read. For this reason, the Fantom-S lets you specify the type(s) of sequencer data that will be displayed in the screen. This is convenient when you want to check or edit only a specific type of sequencer data.

1. **Access the Microscope screen.**
2. **Press [8 (View)].**

   The View Select window appears.



3. **Use ▲ or ▼ to select the sequencer data that will be displayed.**

   Note: Note messages. These MIDI messages represent notes.

   Poly Aftertouch: Polyphonic aftertouch. These MIDI messages apply aftertouch to individual keys.

   Control Change: Control change messages. These MIDI messages apply various effects such as modulation or expression.

   Program Change: Program change messages. These MIDI messages select sounds.

   Channel Aftertouch: Channel aftertouch messages. These MIDI messages apply aftertouch to an entire MIDI channel.

   Pitch Bend: Pitch bend messages. These MIDI messages change the pitch.

   System Exclusive: System exclusive messages. These MIDI messages are used to make settings unique to the Fantom-S, such as those for the sound parameters.

   Pattern Call: Pattern Call messages. This data causes a pattern to play back.

   Tune Request: This MIDI Message cause an analog synthesizer to tune it self.

4. **Press [INC] or [DEC] to switch.**

   The message will be displayed if the check mark (✔) is assigned, and will not be displayed if the check mark is removed.

   If you press [7 (ALL OFF)], none of the sequencer data will be displayed.

   If you press [8 (ALL ON)], all of the sequencer data will be displayed.

5. **Press [8 (Close)] to close the View Select window.**

Inserting Sequencer Data (Create)

You can insert new sequencer data into a desired location of a phrase track or pattern.

For details on the sequencer data that can be inserted, refer to **"Sequencer Data Handled by a Phrase Track/Pattern"** (p. 163).

1. **Access the Microscope screen for the track or pattern into which you want to insert sequencer data (p. 162).**
2. **Press [1 (CREATE)].**
   The Create Event window appears.

3. **Press ▲ or ▼ to select the sequencer data that will be inserted.**
4. **Press [8 (Exec)] to insert the performance data.**
5. **The sequencer data that was inserted will have the default parameter values, so edit them as necessary.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Erasing Sequencer Data (Erase)

If desired, you can erase just an individual event of sequencer data. You can also use the same operation to erase individual items of data from the tempo track or beat track.

NOTE

It is not possible to erase the tempo change located at the beginning of the tempo track, the beat change located at the beginning of the beat track, or the pattern beat.

1. **Access the Microscope screen for the track or pattern from which you want to erase sequencer data (p. 162).**
2. **Press ▲ or ▼ to move the cursor to the sequencer data that you want to erase.**

HINT

To erase a multiple consecutive data, hold down [SHIFT] and press ▲ or ▼ to select the sequencer data.

3. **Press [2 (Erase)] to erase the sequencer data.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Moving Sequencer Data (Move)

You can move an individual item of sequencer data to a different location. Data recorded in the tempo track or beat track can also be moved in the same way.

NOTE

It is not possible to move the tempo change located at the beginning of the tempo track, the beat change and key signature located at the beginning of the beat track, or the pattern beat.

1. **Access the Microscope screen for the track or pattern whose data you want to move (p. 162).**
2. **Press ▲ or ▼ to move the cursor to the sequencer data that you want to move.**

HINT

To move a multiple consecutive data, hold down [SHIFT] and press ▲ or ▼ to select the sequencer data.

3. **Press [3 (Move)].**
   The Move Event window appears.

4. **Press ▲ or ▼ to move the cursor to the "measure," "beat," and "clock" fields.**
5. **Turn the VALUE dial or Press [INC]/[DEC] to specify the location to which the data will be moved.**
6. **Press [8 (Exec)] to move the sequencer data.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Copying Sequencer Data (Copy)

Sequencer data can be copied to the desired location. This is convenient when you want to use the same sequencer data at multiple locations. Data recorded in the tempo track or beat track can also be copied in this way.

1. **Access the Microscope screen for the track or pattern whose sequencer data you want to copy (p. 162).**
2. **Press ▲ or ▼ to move the cursor to the sequencer data that you want to copy**
3. **Press [3 (COPY)].**
4. **Press [4 (PLACE)].**
   The Place Event window appears.

5. **Press ▲ or ▼ to move the cursor to the "measure," "beat," and "clock" fields.**
6. **Turn the VALUE dial or Press [INC]/[DEC] to specify the location to which the data will be copied.**
7. **Press [8 (Exec)] to paste the data.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Changing the Tempo Midway Through the Song

If you want to change the tempo midway through the song, insert a new Tempo Change into the tempo track. The song will play back at that tempo following the location at which the tempo change was inserted. However, if you want to create gradual tempo changes such as ritardando or accelerando, it is more convenient to use Tempo Recording (p. 143).

HINT

If you want to make the entire song faster or slower, modify the playback tempo in one of the PLAY screens.

1. **Access the Microscope screen (p. 162).**
   Press [7 (Trk/Ch Select)], select "TEMPO" to "Track."
2. **Press [1 (Create)].**
   The Create Event window appears.

3. **Press [8 (Exec)].**
   The Create Position window will appear.
4. **Use ◀ or ▶ to move the cursor to the "measure," "beat," and "clock" fields,**
5. **Turn the VALUE dial or Press [INC]/[DEC] to specify the location at which the data will be inserted.**
6. **Press [8 (Exec)] to insert the tempo change data.**
7. **The inserted tempo change will have the default value, so modify it as necessary.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Changing the Time Signature Midway Through the Song

If you want to change the time signature midway through the song, insert a new Beat Change. The song will play back using that time signature for measures following the inserted beat change.

NOTE

- It is not possible to change the time signature in the middle of a measure. You must change the time signature at the beginning of a measure.
- If the time signature of the beat track differs from the pattern beat (p. 142) setting, the setting of the beat track will be used. For example, if a pattern with a 3/4 time signature is assigned in the middle of a 4/4 song, the pattern will not be aligned correctly with the other phrase tracks. To make this play back correctly, insert a 3/4 beat change into the beat track. To return the time signature to 4/4, insert a 4/4 beat change into the measure that follows the last measure of the pattern.

HINT

If you want to change the time signature from a measure that is later than the end of the song, or if it is ok to change the length of the song, you will find it more convenient to use the track edit Insert Measure function (p. 156).

1. **Access the Microscope screen (p. 162).**
   Press [7 (Trk/Ch Select)], select "BEAT" to "Track."
2. **Press [1 (Create)].**
   The Create Event window appears.

3. **Press [8 (Exec)].**
   The Create Position window will appear.
4. **Use ◀ or ▶ to move the cursor to the "measure," "beat," and "clock" fields,**
5. **Turn the VALUE dial or Press [INC]/[DEC] to specify the location at which the data will be inserted.**
6. **Press [8 (OK)] to insert the beat change data.**
7. **The inserted beat change will have the default values, so edit it as necessary.**

HINT

If you are not satisfied with the results of executing this operation, from the Song Play screen, press [MENU], and from the Menu window that appears, select "Undo/Redo" to return to the state prior to execution (Undo/Redo).
After executing Undo, you can use Redo to revert to the previous state. After executing Undo, you can execute Redo by performing the above procedure the above procedure once again.

Assigning a Name to a Song (Song Name)

You can assign a song name to a song, or edit the song name. This song name is independent of the file name assigned when saving a song to user memory or memory card. Although you are not required to assign a song name, you can assign one using up to 15 characters, and you may find it a convenient way to store a title or memo that will help you organize your songs.

NOTE

Some commercially available Standard MIDI Files contain copyright data. It is not possible to assign or modify the song name for such songs.

1. **Access the Song Edit screen, and then load the song whose song name you want to assign (p. 170).**
2. **Press [7 (Song Name)].**
   The Song Name screen appears.

3. **Assign a song name to the song. (up to 15 characters).**
   - [1 (Change Type)]: Selects the type of character. Each time you press this, you will alternately select the first character of the uppercase letters (A), lowercase letters (a), numerals and symbols (0).
   - [2 (Delete)]: Deletes the character at the cursor, and shifts the subsequent characters forward by one.
   - [3 (Insert)]: Inserts a space (blank) at the cursor location.
   - ◀, ▶: Move the cursor.
   - VALUE dial, [INC][DEC]: Select characters.
4. **After you have assigned a name, press [Write].**
   If you decide to cancel, press [7 (Cancel)].

* *You can use the pads to specify characters (p. 25).*

Saving/Loading a song (SAVE/LOAD)

Songs you record are initially held in internal memory. A song in internal memory will be lost when you turn off the power or when you load a different song. If you want to keep the song, you must save it to user memory or a memory card.

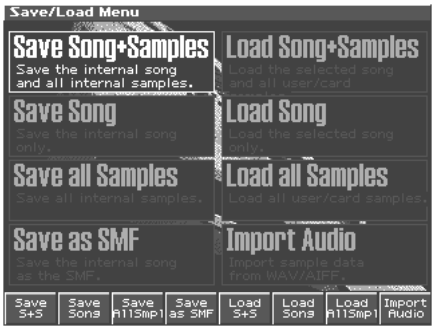
Conversely in order to edit a song (p. 149), you must first load it into internal memory.

Saving a Song (Save)

Basic Procedure

1. Press [SAVE/LOAD].

The Save/Load Menu screen will appear.



2. Press [1 (Save S+S)]–[3 (Save AllSmpl)] to select the format in which you want to save the song.

Save Song+Samples: The internal song will be saved in MRC Pro song format. A file name extension of ".SVQ" will automatically be added to the song. The song will include the data of the temporary area. All samples in sample memory will be saved.

Save Song: The internal song will be saved in MRC Pro song format. A filename extension of ".SVQ" will automatically be added. The song will include the data of the temporary area.

Save all Samples: All samples in sample memory will be saved.

Parameter	Function key	Song	Samples
Save Song+Samples	[1]	✔	✔
Save Song	[2]	✔	–
Save all Samples	[3]	–	✔

✔: Saving is possible

Saving a Song with Samples (Save Song+Samples)

Here's how to save the internal song along with all samples in sample memory and the current sound generator settings.

1. From the Save/Load Menu screen, press [1 (Save S+S)].

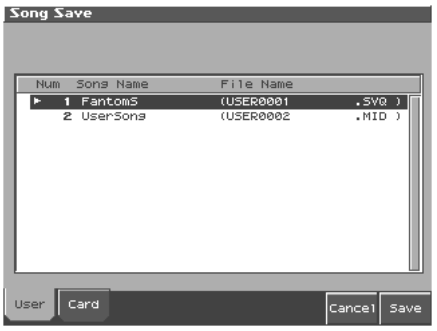
The Song File Name screen will appear.

2. Assign a file name to the song (up to 8 characters). A file name extension of ".SVQ" will automatically be added to the song.

- [2 (Delete)]: Deletes the character at the cursor, and shifts the subsequent characters forward by one.
- [3 (Insert)]: Inserts a space (blank) at the cursor location.
- ◀ ▶ : Move the cursor.
- VALUE dial, [INC][DEC]: Select characters.

* *You can use the pads to specify characters (p. 25).*

3. After you have assigned a name, press [8 (Write)].



4. Press [1 (User)] (User memory) or [2 (Card)] (Memory card) to select the location where you want to save the song.

If you decide to cancel, press [7 (Cancel)].

5. Press [8 (Save)].

A screen will ask you for confirmation.

6. Press [8 (Exec)] to execute.

* *When samples are saved, they will automatically be overwritten onto the same numbers of the same bank in the sample list. The samples will be saved with a file name of "smpl****.wav (aif)" in the "Roland/Smpl folder" of user memory or memory card. The number of the file name will correspond to the number in the sample list.*

File Name and Song Name

MRC Pro songs and Standard MIDI Files have a song name in addition to a file name. The file name is used to distinguish between files, and must be assigned when you save a file. It will help you manage songs if you use the file name to distinguish between types of song, and use the song name to assign a title. Use the Song Name screen to assign a song name (p. 167).

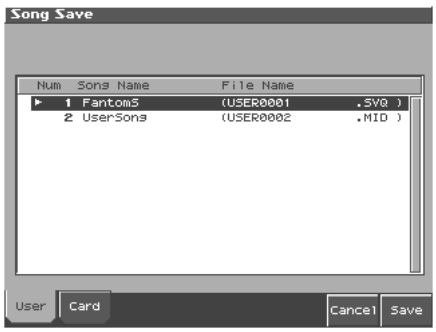
If you assign a file name that is identical to a file name already existing in the user area or memory card, and attempt to save, a message of "File "****" Already Exists! Over Write OK?" will appear, asking you for confirmation. If it is OK to overwrite the existing file, press [8 (OK)]. If you decide to cancel the Save operation, press [7 (Cancel)].

If you attempt to save data on a memory that was not formatted by the Fantom-S, a message of "Unformatted!" (memory card has not been formatted) will appear. Please format the memory card on the Fantom-S (p. 187).

Saving a Song (Save Song)

Here's how to save the internal song with the current sound generator settings.

1. **From the Save/Load Menu screen, press [2 (Save Song)].**
   The Song File Name screen will appear.
2. **Assign a file name to the song (up to 8 characters). A file name extension of ".SVQ" will automatically be added to the song.**
3. **After you have assigned a name, press [Write].**



4. **Press [1 (User)] (User memory) or [2 (Card)] (Memory card) to select the location where you want to save the song.**
   If you decide to cancel, press [7 (Cancel)].
5. **Press [8 (Save)].**
   A screen will ask you for confirmation.
   If you decide to cancel, press [7 (Cancel)].
6. **Press [8 (Exec)] to execute.**

Even if you save your song using "Save," it cannot be played back by a sequencer other than the Fantom-S's own sequencer. If you want to play back your song on a sequencer other than the Fantom-S's sequencer, you must save the song as an SMF file. Also at this time, you must record the appropriate bank selects and program numbers so that the correct sounds will be played.

The performance settings will be saved in the state they were in when you executed Save. This means that if the performance changed during the song, and you saved the song in that state when you finished recording, the state in which recording began will not be saved. In other words when you play back the song from the beginning, it will begin with the performance sounds that were being used at the point where you saved. If you change the performance during the song, you must use the Microscope screen etc. to insert the appropriate bank select and program number at the beginning of the song to specify the performance with which you began recording it (p. 162).

Saving Samples (Save All Samples)

Here's how to save all samples from sample memory into user memory or a memory card.

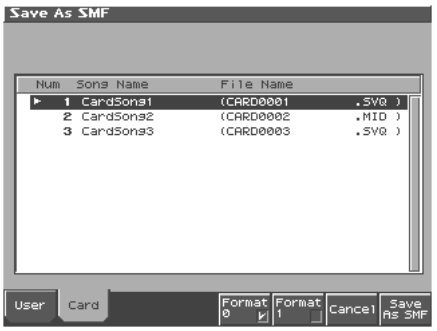
1. **From the Save/Load Menu screen, press [3 (Save AllSmpl)].**
   A screen will ask you for confirmation.
   If you decide to cancel, press [7(Cancel)].
2. **Press [8 (Exec)] to execute.**

* *When samples are saved, they will automatically be overwritten onto the same number of the same bank in the sample list.*

Saving a Song as an SMF File (Save as SMF)

Here's how to convert and save an internal song as an SMF file.

1. **From the Save/Load Menu screen, press [4 (Save as SMF)].**
   The Song File Name screen will appear.
2. **Assign a file name to the song.**
3. **After you have assigned a name, press [Write].**
4. **Press either [1 (User)] (user memory) or [2 (Card)] (memory card) to select the save-destination.**



5. **Press either [5 (Format 0)] or [6 (Format 1)] to select the format for saving.**
   Format 0: Convert the song to a Format 0 Standard MIDI File (all performance data is saved in one phrase track) and save it to disk. An extension of ".MID" will be added automatically.
   Format 1: Convert the song to a Format 1 Standard MIDI File (performance data is saved in more than one phrase track) and save it to disk. An extension of ".MID" will be added automatically.
6. **Press [8 (Save As SMF)].**
   A screen will ask for confirmation.
7. **Press [8 (Exec)] to execute.**

* *The filename extension will be ".MID" whether you select "Save SMF (Format 0)" or "Save SMF (Format 1)." The two cannot be distinguished in this way.*

When you save data in SMF format, the sound setup data will not be saved. In order to ensure that the correct sounds are played, you must record the appropriate bank select and program numbers (p. 162).

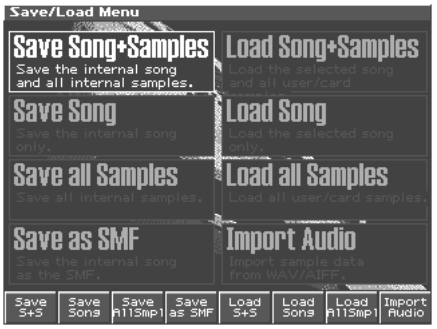
If you assign a file name that is identical to one already existing in the user area or the memory card, a message of "File "****" Already Exists! Over Write OK?" will ask you for confirmation when you attempt to save the file. If it is OK to overwrite the existing file, press [8(OK)]. If you decide not to save the file, press [7(Cancel)].

If you attempt to save data to a memory card that was not formatted on the Fantom-S, a message of "Unformatted!" (the memory card has not been formatted) will appear. Please format the memory card on the Fantom-S (p. 187).

Loading a Song (Load)

Basic Procedure

1. **Press [SAVE/LOAD].**
   The Save/Load Menu screen will appear.



2. **Press [5 (Load S+S)]–[7 (Load AllSmpl)] to select the format in which you want to load the song.**
   Load Song+Samples: Loads a song into internal memory. All samples will be loaded into sample memory.
   Load Song: Loads a song into internal memory.
   Load all Samples: Loads all samples into sample memory.

Parameter	Function key	Song	Samples
Load Song+Samples	[5]	✔	✔
Load Song	[6]	✔	–
Load all Samples	[7]	–	✔

✔: Loading is possible

* *A song saved on the Fantom-S (.SVQ) also includes the data for the sound generator's temporary area.*

Loading a Song with Samples (Load Song+Samples)

Here's how you can load a song into internal memory and all samples into sample memory.

1. **From the Save /Load Menu screen, press [5 (Load S+S)].**

2. **Press either [1 (User)] or [2 (Card)] to select the load-destination, and use ▲ ▼ to select a song.**
   If you decide to cancel, press [7 (Cancel)].
3. **Press [8 (Load)].**
   A screen will ask you for confirmation.
4. **Press [8 (Exec)] to execute.**

Loading a song (Load Song)

Here's how you can load a song into internal memory.

1. **From the Save/Load Menu screen, press [6 (Load Song)].**

2. **Press either [1(User)] or [2(Card)] to select the load-destination, and use ▲ ▼ to select a song.**
   If you decide to cancel, press [7 (Cancel)].
3. **Press [8 (Load)].**
   A screen will ask you for confirmation.
4. **Press [8 (Exec)] to execute.**

Loading Samples (Load All Samples)

Here's how you can load all samples from user memory or memory card into sample memory.

1. **From the Save/Load Menu screen, press [7 (Load AllSmpl)].**
   A screen will ask you for confirmation.
   If you decide to cancel, press [7 (Cancel)].
2. **Press [8 (Exec)] to execute.**

Importing a WAV/AIFF File (Import Audio)

Here's how you can load an audio file (WAV/AIFF) into sample memory as a sample.

In order to import a file, it must be located in the following folder on your computer.

- **Windows Me/2000/XP users**
  Removable disk/TMP/AUDIO_IMPORT folder
- **Macintosh users**
  FANS USER/TMP/AUDIO_IMPORT folder

* *"/" indicates a directory level.*

1. **Press [Save/Load].**
2. **Press [8 (Import Audio)].**
3. **Press [1 (User)] or [2 (Card)] to select the import-destination area.**
   [1 (User)]: Import from user memory.
   [2 (CARD)]: Import from a memory card.
4. **Press ▲ or ▼, then select the file that you want to import.**
   If you want to select two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the files that you want to select. To remove the check mark, press [4 (Mark Clear)].
   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all files of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected files.
5. **Press [8 (Import)].**
   A message will ask you for confirmation.

* *To cancel, press [7 (Cancel)].*

6. **Press [8 (Exec)].**
   The file will be imported, and the Sample List screen will appear.

* *To cancel, press [7 (Cancel)].*

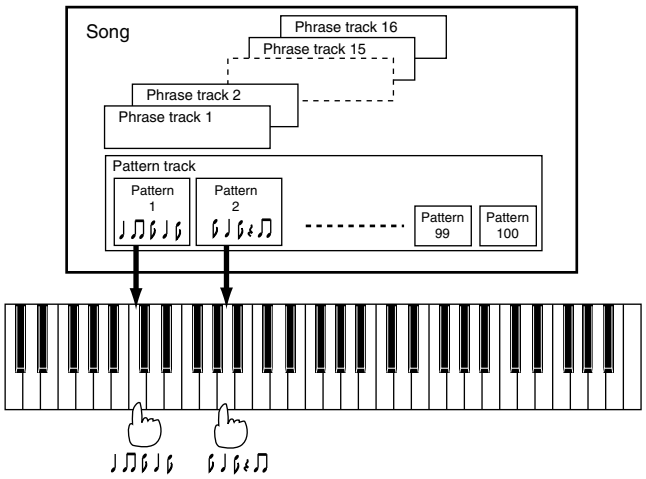
MEMO

The imported file will be added to the sample list as a sample. This sample is temporary, and will be lost when you turn off the power. If you want to keep it, press [WRITE] to save the data.

Playing a Phrase at the Touch of a Finger (RPS Function)

The **RPS (Realtime Phrase Sequence)** function lets you assign patterns to the keyboard, and play a pattern by pressing a single note. For example, a complex phrase that would be difficult to play live can be assigned to a note of the keyboard, and played with one finger at the appropriate moment.

Since up to eight patterns can be playing at once, you can create patterns for separate instruments such as drums, bass, and keyboard, and combine them to create a new song. This performance can also be recorded, allowing you to use it in a way similar to phrase sampling.



Before You Use the RPS Function

Record a Pattern

Before you use the RPS function, you must record the desired phrase in a pattern. For details on recording, refer to **"Recording Your Performance as You Play It (Realtime Recording)"** (p. 142) or **"Inputting Data One Step at a Time (Step Recording)"** (p. 146).

NOTE

Only note messages should be recorded in a pattern. If a large amount of MIDI data is recorded in a pattern, using RPS to play back the pattern can cause notes to be delayed. MIDI messages other than note messages should be recorded in a phrase track.

Settings for the RPS Function

You can assign a pattern to each note of the keyboard, and specify how the pattern will be played. These settings are made independently for each song, and will be saved when you save the song in MRC Pro song format.

NOTE

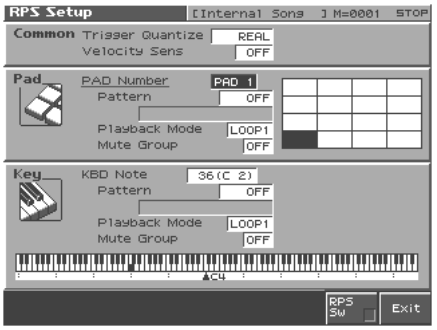
In order to make RPS settings, you must first load a song into internal memory.

1. **Press [SEQUENCER].**

   The Song Play screen appears.

2. **Press [5 (RPS)].**

   The RPS Setup screen appears.



   In this screen you can set various parameters related to the RPS function.

3. **Use [CURSOR] to move the cursor to each parameter, and turn the VALUE dial or press [INC]/[DEC] to make the setting.**

MEMO

Pattern parameter, Playback Mode parameter, and Mute Group parameter are set for each key. Although the Fantom has a 61-note keyboard, you can also make settings for all keys in the range of E0 to G9. Settings for the Trigger Quantize parameter and Velocity Sens parameter are for the entire song.

- **Trigger Quantize**

  This parameter specifies how pattern playback is to begin when a key is pressed during song playback or recording.

  Value

  REAL: The pattern will begin playing at the moment you press the key.

  BEAT: If the song is being played or recorded, the pattern will begin playing at the beginning of the next beat if you press the key in the middle of the beat.

  MEASURE: If the song is being played or recorded, the pattern will begin playing at the beginning of the next measure if you press the key in the middle of the measure.

- **Velocity Sens (Velocity Sensitivity)**
  Turn this "OFF" if you want the pattern to play back at the volume at which it was recorded.
  If you want to vary the pattern playback volume according to the strength with which you pressed the key, select either "LOW," "MID," or "HIGH."
  Value: OFF, LOW, MID, HIGH
- **Keyboard Note**
  Specify the key to which the pattern will be assigned. You can also specify this by pressing a key on the keyboard.
- **PAD Number**
  Specify the pad number to which the pattern is to be assigned.
- **KBD/PAD Pattern**
  Select the pattern number that will be assigned to the key/pad. The name of the selected pattern will be displayed below the pattern number.
  Select "OFF" for keys to which you do not want to assign a pattern. If you select "STOP," that key will be a Stop Trigger key/pad that stops the currently playing patterns.
  When assigning a number to a pad, simply press PAD and the cursor will move to "Pattern."
  Valid Settings: STOP, OFF, PTN001–PTN100

MEMO

The state of settings is shown graphically in the display. The key being set is indicated by "■," keys to which a pattern is assigned are indicated by "▮", and keys set to "STOP" are indicated by "✚". Keys for which nothing is displayed are turned "OFF."

- **KBD/PAD Playback Mode**
  Specify how the pattern will be played.
  Value
  LOOP1: The pattern will play back repeatedly as long as the key is held down.
  LOOP2: The pattern will play back repeatedly. To stop playback, press a Stop Trigger key or press the same key once again.
  ONCE: The pattern will play back once.
- **KBD/PAD Mute Group**
  This function lets you prevent patterns of the same group from sounding together. For example, a fill-in and bridge should never be played at the same time, and to ensure that this does not occur, you can set the fill-in and bridge to the same mute group number.
  Thirty-one mute groups can be specified. Select "OFF" if you do not want to use a mute group for a pattern.
  Value: OFF, 1–31

4. When you press [7 (RPS SW)] to assign a check mark (✔), the RPS function will be turned on.

5. When you are finished making settings, press [8 (Exit)] to return to the Song Edit screen.

Using the RPS Function While You Perform

Normally, when playing patterns individually, the song containing the patterns must be loaded into internal memory. However, when using the RPS function to play back patterns, you can use Quick Play.

1. Make sure that the preparations for using the RPS function have been made correctly.

2. Access the PLAY screen for the mode in which you want to perform.

3. Press [RPS] so the button is lit.
The RPS function will be turned on, and you will be able to perform using RPS.

MEMO

If you save the song in MRC Pro song format when the RPS function is turned on, this state will also be saved. This means that you will always be able to perform using RPS simply by selecting that song.

4. Press [PLAY] to play back the song.

HINT

- You must play back the song if you want patterns to play back in synchronization with the song, or if you want multiple patterns to play in synchronization.
- If the song is not playing, the pattern will begin playing the instant you press the key, regardless of the Trigger Quantize parameter setting.
- The pattern will be played back according to the time signature of the song (beat track). This means that if the phrase track contains no sequencer data, the song will not play, and it will not be possible to play back patterns in synchronization. In such cases, you can insert several blank measures into a phrase track, and play them as a loop.

5. Press a key or pad to which a pattern is assigned, making the pattern play.
If you want to stop playback midway through the pattern, press the Stop Trigger key. Alternatively if the Playback Mode parameter is set to "LOOP2," you can stop the pattern playback by pressing the same key once again.

MEMO

Up to eight patterns can play back simultaneously.

Recording a Performance Using the RPS Function

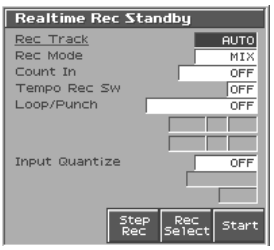
A performance that uses the RPS function can be recorded in real time in the same way as a conventional performance. This provides an easy way to remix patterns and create a song.

MEMO

If you use the RPS function during realtime recording, the pattern performance will be recorded just as it occurs.

1. **Make sure that preparations for the RPS function have been made correctly.**
2. **Access the PLAY screen for the mode in which you want to perform.**
3. **Press [RPS] to turn on the RPS function (p. 173).**
4. **Press [REC].**

   The [REC] indicator will blink, and the Realtime Rec Standby window appears. In this window you can make various settings for realtime recording.



5. **Specify how recording is to take place.**

☞ For details on these settings, refer to **"Recording Your Performance as You Play It (Realtime Recording)"** (p. 142).

6. **Press [PLAY].**

   The Recording Standby window will close, the [REC] indicator will change from blinking to lit, and recording will begin.

7. **Press a key or pad to which a pattern is assigned.**

   The assigned patterns will be played back according to the keys or pads you press, and their performances will be recorded.

NOTE

If the Count In parameter is set to "WAIT NOTE" in the Recording Standby window, recording will not begin even if you press a key that is assigned to a pattern, or a key that is assigned as a Stop Trigger key.

8. **When you are finished recording, press [STOP].**

   The [REC] indicator will go dark.

Adding Effects

This section explains the procedures and settings for applying effects in each mode.

For details of the Fantom-S's onboard effects, refer to **"About the Onboard Effects"** (p. 20).

Turning Effects On and Off

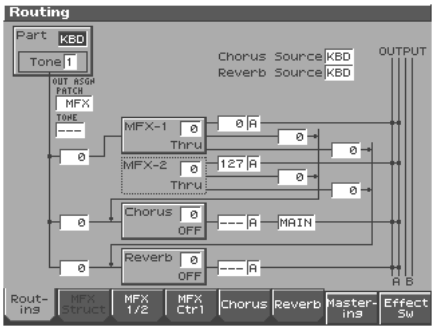
The Fantom-S's onboard effects can be turned on/off as a whole. Turn these settings OFF when you wish to listen to the unprocessed sound as you create a sound, or when you wish to use external effects processors instead of the built-in effects.

NOTE

Effect ON/OFF settings are global Fantom-S settings. These settings cannot be made for each Patch or Performance individually.

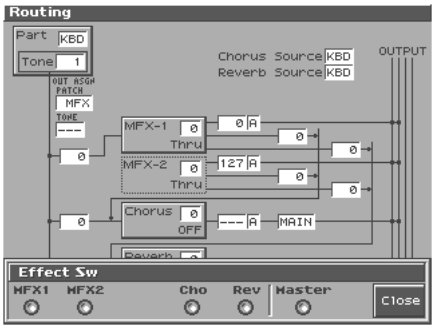
The PLAY screen for each mode provides effect switches that allow you to turn the three effects on/off. Use [CURSOR] to move the cursor to the effect switches located in the upper part of the screen, and turn the VALUE dial or press [INC] or [DEC] to turn the switch on/off.

1. **Press [EFFECTS] to access the Effects screen.**



2. **Press [8 (Effect Sw)].**

   The Effect Sw window appears.



3. **Use [1 (MFX1)]–[6 (MASTER)] to turn each effect switch on/off. The switch will turn on/off each time you press the button.**

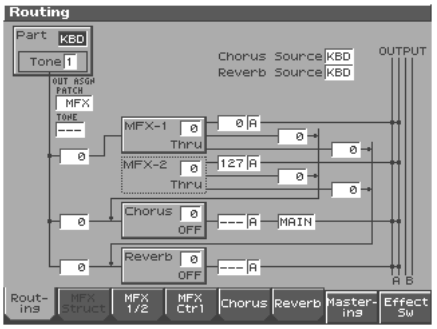
4. **Press [8 (Close)] to return to the previous screen.**

   When you return to the Play screen, the settings will be displayed in the following area.

Making Effect Settings

1. **In the appropriate mode, select the sound to which you want to apply effects.**
2. **Press [EFFECTS] to access the Effects screen.**
3. **Press one of the [1 (Routing)]–[7 (Mastering)] tabs to select the effect that you want to edit.**

   * *You can also do this by pressing [MENU] from the Effect screen.*



   In Performance mode, each time you press the [3 (MFX1/2/3)] button, it will alternate between 1, 2, and 3. In Patch mode, each time you press the [3 (MFX1/2)] button, it will alternate between 1 and 2.

4. **Use [CURSOR] to move the cursor to the parameter you wish to modify.**
5. **Turn the VALUE dial or press [INC]/[DEC] to get the value you want.**
6. **Press [EXIT] to return to the previous screen.**

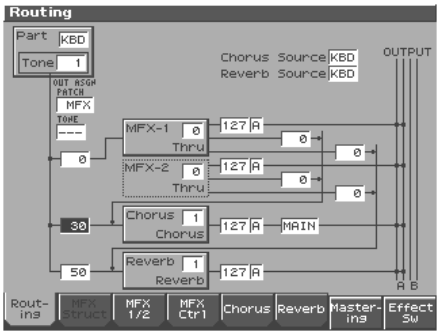
   * *You cannot edit the effect settings for patches of the GM group.*

Applying Effects in Patch Mode

In Patch mode you can use two multi-effects (MFX1, MFX2), one chorus, and one reverb. Multi-effect 1 (MFX1) will operate according to the effect settings of the patch or rhythm set assigned to the Keyboard part. Multi-effect 2 (MFX2) will operate according to the effect settings of the patch or rhythm set assigned to the Pad part. Chorus and reverb will both operate according to the settings of the patch or rhythm set assigned to either the Keyboard part or the Pad part.

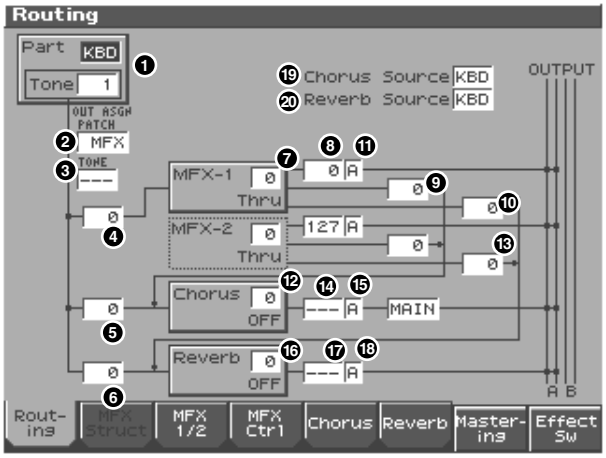
Specifying How the Sound Will Be Output (Routing)

Here you can make overall settings for effects, and the output destination and level of each signal.



For details on the setting, refer to **"Making Effect Settings"** (p. 175).

Signal Flow Diagram and Parameters



❶ Part Select

Select the part for which you want to make settings.

Value: KBD, PAD

❶ Tone Select

Select the tone for which you want to make settings.

Value: 1–4

* *This parameter is **Rhythm Key Select** when a rhythm set is being selected. You can select the rhythm tone (A0–C8) for which you want to make settings.*

❷ Patch Output Assign

Specifies for each patch how the direct sound will be output.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

TONE: Outputs according to the settings for each tone.

MEMO

- When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.
- This parameter is **Rhythm Output Assign** when a rhythm set is being selected. You can specifies for each rhythm set how the direct sound will be output.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

❸ Tone Output Assign

Sets the direct sound's output method for each tone.

Value:

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

NOTE

- If the Patch Output Assign (❷) is set to anything other than "TONE," these settings will be ignored.
- When the Structure Type parameter has a setting of Type "2"–"10," the outputs of tones 1 and 2 will be combined with tone 2, and the outputs of tones 3 and 4 will be combined with tone 4. For this reason, tone 1 will follow the settings of tone 2, and tone 3 will follow the settings of tone 4 (p. 46).
- When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

HINT

- When setting the "MFX," set the output destination with the MFX Output Assign (⓫) for the sound after it has passed through the multi-effects.
- Chorus and reverb are output in mono at all times.
- The output destination of the signal after passing through the chorus is set with the Chorus Output Select (⓭) and the Chorus Output Assign (⓯).
- The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (⓲).

❹ Tone Output Level

Set the level of the signal that is sent to the output destination specified by Output Assign (❷, ❸).

Value: 0–127

❺ Tone Chorus Send Level

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

Value: 0–127

❻ Tone Reverb Send Level

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

Value: 0–127

❼ MFX Type (Multi-Effects Type)

Use this parameter to select from among the 77 (Fantom-S88; 78) available multi-effects. For details on multi-effects parameters, refer to **"Multi-Effects Parameters"** (Parameter List).

Value: 0 (Through)–77 (Fantom-S88; 78)

❽ MFX Output Level (Multi-Effects Output Level)

Adjusts the volume of the sound that has passed through the multi-effects.

Value: 0–127

❾ MFX Chorus Send Level (Multi-Effects Chorus Send Level)

Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to "0."

Value: 0–127

❿ MFX Reverb Send Level (Multi-Effects Reverb Send Level)

Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to "0."

Value: 0–127

⓫ MFX Output Assign (Multi-Effects Output Assign)

Adjusts the output destination of the sound that has passed through the multi-effects.

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

⓬ Chorus Type

Selects either chorus or delay.

Value

0 (Off): Neither chorus or delay is used.

1 (Chorus): Chorus is used.

2 (Delay): Delay is used.

3 (GM2 Chorus): General MIDI 2 chorus

⓭ Chorus Output Select

Specifies how the sound routed through chorus will be output.

Value

MAIN: Output to the OUTPUT jacks in stereo.

REV: Output to reverb in mono.

M+R: Output to the OUTPUT jacks in stereo, and to reverb in mono.

HINT

When set to "MAIN" or "M+R," the OUTPUT jack from which the sound is output is set in Chorus Output Assign (⓯).

⓮ Chorus Level

Adjusts the volume of the sound that has passed through chorus.

Value: 0–127

⓯ Chorus Output Assign

Selects the pair of OUTPUT jacks to which the chorus sound is routed when Chorus Output Select (⓭) is set to "MAIN" or "M+R."

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

NOTE

When Chorus Output Select (⓭) is set to "REV," this setting will have no effect.

⓰ Reverb Type

Selects the type of reverb.

Value

0 (Off): Reverb is not used.

1 (Reverb): Normal reverb

2 (SRV Room): This reverb simulates typical room acoustic reflections.

3 (SRV Hall): This reverb simulates typical concert hall acoustic reflections.

4 (SRV Plate): This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using "SRV Plate."

5 (GM2 Reverb): General MIDI 2 reverb

⓱ Reverb Level

Adjusts the volume of the sound that has passed through reverb.

Value: 0–127

⓲ Reverb Output Assign

Specifies how the sound routed through reverb will be output.

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

⓳ Chorus Source

Selects chorus parameter settings. If you want to use the settings of the patch or rhythm set assigned to the Keyboard part, select "KBD." If you want to use the settings of the patch or rhythm set assigned to the Pad part, select "PAD."

Value: KBD, PAD

⓴ Reverb Source

Selects reverb parameter settings. If you want to use the settings of the patch or rhythm set assigned to the Keyboard part, select "KBD." If you want to use the settings of the patch or rhythm set assigned to the Pad part, select "PAD."

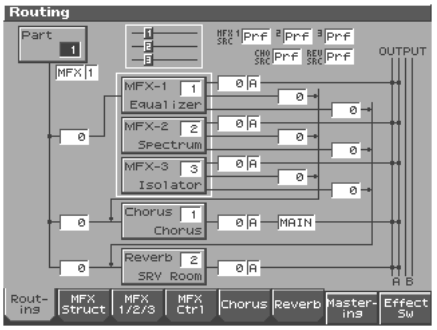
Value: KBD, PAD

Applying Effects in Performance Mode

In Performance mode you can use three multi-effects (MFX1, MFX2, MFX3), one chorus, and one reverb. For each of the three multi-effects, the chorus, and the reverb, you can specify whether it will operate according to the effect settings of the performance, or according to the effect settings of the patch or rhythm set assigned to the part you specify. The three multi-effects can be used independently, or you can connect two or three of them in series.

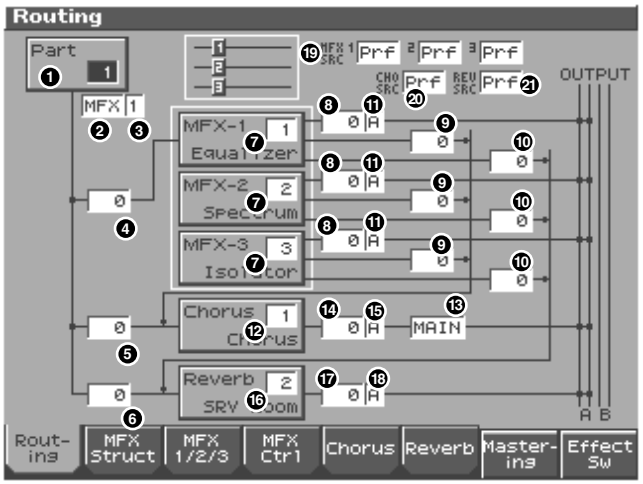
Specifying How the Sound Will Be Output (Routing)

Here you can make overall settings for effects, and the output destination and level of each signal.



For details on the setting, refer to **"Making Effect Settings"** (p. 175).

Signal Flow Diagram and Parameters



❶ Part Select

Select the part for which you want to make settings.

Value: 1–16

❷ Part Output Assign

Specifies for each part how the direct sound will be output.

Value

MFX: Output in stereo through multi-effects. You can also apply chorus or reverb to the sound that passes through multi-effects.

A, B: Output to the OUTPUT A (MIX) jack or OUTPUT B jack in stereo without passing through multi-effects.

1–4: Output to the INDIVIDUAL 1–4 jacks in mono without passing through multi-effects.

PAT: The part's output destination is determined by the settings of the patch or rhythm set assigned to the part.

NOTE

When the settings are such that signals are split and output from the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, and no plug is inserted in the INDIVIDUAL 2 jack, the sounds from INDIVIDUAL 1 and INDIVIDUAL 2 are mixed together, then output from the INDIVIDUAL 1 jack. This sound comprises the sounds from the INDIVIDUAL 1 and 2 jacks.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

HINT

- When setting the "MFX," set the output destination with the MFX Output Assign (⓫) for the sound after it has passed through the multi-effects.
- Chorus and reverb are output in mono at all times.
- The output destination of the signal after passing through the chorus is set with the Chorus Output Select (⓭) and the Chorus Output Assign (⓯).
- The output destination of the signal after passing through the reverb is set with the reverb Output Assign (⓲).

❸ Part Output MFX Select (Part Output Multi-Effects Select)

Of the three systems of multi-effects that can be used simultaneously, specify which multi-effects will be used.

Value: 1–3(MFX-1–MFX-3)

❹ Part Output Level

Set the level of the signal that is sent to the output destination specified by Part Output Assign (❷).

Value: 0–127

❺ Part Chorus Send Level

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

Value: 0–127

❻ Part Reverb Send Level

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

Value: 0–127

MEMO

For the following parameters ❼–⓫, settings can be made individually for three systems multi-effects (MFX1–MFX3).

❼ MFX Type (Multi-Effects Type)

Use this parameter to select from among the 77 (Fantom-S88; 78) available multi-effects. For details on multi-effects parameters, refer to **"Multi-Effects Parameters"** (Parameter List).

Value: 0 (Through)–77 (Fantom-S88; 78)

❽ MFX Output Level (Multi-Effects Output Level)

Adjusts the volume of the sound that has passed through the multi-effects.

Value: 0–127

❾ MFX Chorus Send Level (Multi-Effects Chorus Send Level)

Adjusts the amount of chorus for the sound that passes through multi-effects. If you don't want to add the Chorus effect, set it to "0."

Value: 0–127

❿ MFX Reverb Send Level (Multi-Effects Reverb Send Level)

Adjusts the amount of reverb for the sound that passes through multi-effects. If you don't want to add the Reverb effect, set it to "0."

Value: 0–127

⓫ MFX Output Assign (Multi-Effects Output Assign)

Adjusts the output destination of the sound that has passed through the multi-effects.

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

MEMO

For some settings of MFX Structure, the sound that passes through the multi-effect will be sent to a different multi-effect, and the MFX Output Assign setting will be ignored.

⓬ Chorus Type

Selects either chorus or delay.

Value

0 (Off):	Neither chorus or delay is used.
1 (Chorus):	Chorus is used.
2 (Delay):	Delay is used.
3 (GM2 Chorus):	General MIDI 2 chorus

⓭ Chorus Output Select

Specifies how the sound routed through chorus will be output.

Value

MAIN: Output to the OUTPUT jacks in stereo.

REV: Output to reverb in mono.

M+R: Output to the OUTPUT jacks in stereo, and to reverb in mono.

HINT

When set to "MAIN" or "M+R," the OUTPUT jack from which the sound is output is set in Chorus Output Assign (⓯).

⓮ Chorus Level

Adjusts the volume of the sound that has passed through chorus.

Value: 0–127

⓯ Chorus Output Assign

Selects the pair of OUTPUT jacks to which the chorus sound is routed when Chorus Output Select (⓭) is set to "MAIN" or "M+R."

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

NOTE

When Chorus Output Select (⓭) is set to "REV," this setting will have no effect.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 193).

⓰ Reverb Type

Selects the type of reverb.

Value

0 (Off):	Reverb is not used.
1 (Reverb):	Normal reverb
2 (SRV Room):	This reverb simulates typical room acoustic reflections.
3 (SRV Hall):	This reverb simulates typical concert hall acoustic reflections.
4 (SRV Plate):	This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using "SRV Plate."
5 (GM2 Reverb):	General MIDI 2 reverb

⓱ Reverb Level

Adjusts the volume of the sound that has passed through reverb.

Value: 0–127

⓲ Reverb Output Assign

Specifies how the sound routed through reverb will be output.

Value

A: Output to the OUTPUT A (MIX) jacks in stereo.

B: Output to the OUTPUT B jacks in stereo.

⓳ MFX-1–3 Source (Multi-Effects 1 Source)

● When a performance is selected

Selects the multi-effects parameter settings that will be used by the performance. If you wish to use the performance settings, select "PRF." If you wish to use the settings of the patch/rhythm set

assigned to one of the parts, select the part number.
Value: PRF, P1–P16

When Patch or Rhythm Set Settings Are Selected

When the patch or rhythm set's multi-effects settings are selected, those settings are shown in each of the performance's multi-effects setting screens, and the settings can be then be changed as well. Changes to patch or rhythm set multi-effects parameter settings are lost when another patch or rhythm set is selected. To keep the modified settings, save the patch/rhythm set settings (p. 42, p. 66).

⑳ Chorus Source

Selects the chorus parameter settings that will be used by the performance. If you wish to use the performance settings, select "PRF." If you wish to use the settings of the patch/rhythm set assigned to one of the parts, select the part number.
Value: PRF, P1–P16

When Patch or Rhythm Set Settings Are Selected

When the patch or rhythm set's chorus settings are selected, those settings are shown in each of the performance's chorus setting screens, and the settings can be then be changed as well. Changes to patch or rhythm set chorus parameter settings are lost when another patch or rhythm set is selected. To keep the modified settings, save the patch/rhythm set settings (p. 42, p. 66).

㉑ Reverb Source

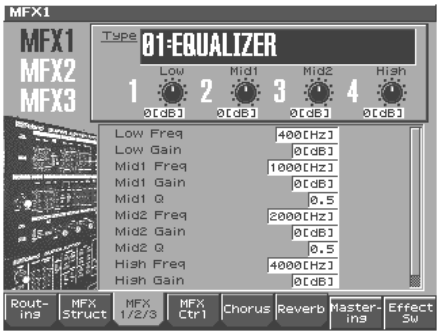
Selects the reverb parameter settings that will be used by the performance. If you wish to use the performance settings, select "PRF." If you wish to use the settings of the patch/rhythm set assigned to one of the parts, select the part number.
Value: PRF, P1–P16

When Patch or Rhythm Set Settings Are Selected

When the patch or rhythm set's reverb settings are selected, those settings are shown in each of the performance's reverb setting screens, and the settings can be then be changed as well. Changes to patch or rhythm set reverb parameter settings are lost when another patch or rhythm set is selected. To keep the modified settings, save the patch/rhythm set settings (p. 42, p. 66).

Making Multi-Effects Settings (MFX1–3)

Here we will explain how to make multi-effects settings in Performance mode.



Each time you press the [3 (MFX1/2/3)] button, it will alternate between 1, 2, and 3.

For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Type (Multi-Effects Type)

Use this parameter to select from among the 77 (Fantom-S88; 78) available multi-effects. For details on multi-effects parameters, refer to **"Multi-Effects Parameters"** (Parameter List).
Value: 00 THROUGH–77 CHORUS →FLANGER (Fantom-S), 78 SYNPATHETHIC RESONANCE (Fantom-S88)
In this setting screen, you can edit the parameters of the multi-effects that is selected by the Multi-effects Type setting. For details on the parameters that can be edited, refer to **"Multi-Effects Parameters"** (Parameter List).

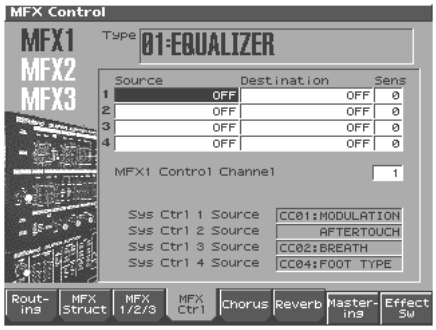
HINT

You can use the REALTIME CONTROL knobs to edit up to four of the most important parameters, which have been pre-selected for each type of multi-effect. When you enter the MFX 1–3 screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the MFX parameters. If you once again press the button located at the right of the Realtime Control knobs so the indicator is lit, the knobs will control their original functions. When you exit the MFX 1–3 screen, the indicator will automatically return to its previous lit state.

MEMO

In Patch mode, the Keyboard part can use MFX1 and the Pad part can use MFX2.

Making Multi-Effects Settings (MFX Control)



For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Source 1–4 (Multi-Effects Control Source 1–4)

Sets the MIDI message used to change the multi-effects parameter with the multi-effects control.

Value

OFF: Multi-effects control will not be used.

CC01–31, 33–95: Controller numbers 1–31, 33–95

For more information about Control Change messages, please refer to **"MIDI Implementation"** (Parameter List).

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.

HINT

If you want to use common controllers for the entire Fantom-S, select "SYS CTRL 1"–"SYS CTRL 4." MIDI messages used as System Control 1–4 are set with the Sys Ctrl 1–4 Source parameters (p. 190).

NOTE

- In patch/rhythm set mode, there are parameters that determine, for each tone/rhythm tone, whether or not Pitch Bend, Controller Number 11 (Expression) and Controller Number 64 (Hold 1) are received (p. 61). When these settings are "ON," and the MIDI messages are received, then when any change is made in the settings of the desired parameter, the Pitch Bend, Expression, and Hold1 settings also change simultaneously. If you want to change the targeted parameters only, then set these to "OFF."
- There are parameters that determine whether or not specific MIDI messages are received for each MIDI channel (p. 90). When using the multi-effects control, confirm that any MIDI messages used for the multi-effects control will be received. If the Fantom-S is set up such that reception of MIDI messages is disabled, then the multi-effects control will not function.

Destination 1–4 (Multi-Effects Control Destination 1–4)

Sets the multi-effects parameters to be controlled with the multi-effects control. The multi-effects parameters available for control will depend on the multi-effects type. For details, refer to **"Multi-Effects Parameters"** (Parameter List).

Sens 1–4 (Multi-Effects Control Sensitivity 1–4)

Sets the amount of the multi-effects control's effect that is applied. To make an increase in the currently selected value (to get higher values, move to the right, increase rates, and so on), select a positive value; to make a decrease in the currently selected value (to get lower values, move to the left, decrease rates, and so on), select a negative value. When both positive and negative are selected, the changes are greater as the value increases. To have no effect applied, select "0."

Value: -63–+63

MFX Control Channel (Multi-Effects Control Channel)

This determines the channel that will be used for reception when using the Multi-effects Control to modify multi-effects parameters in real time, when the MFX1–3 Source parameter (p. 179) is set to "PRF." Set this to "OFF" when the Multi-effects Control is not being used.

Value: 1–16, OFF

* *This parameter is not found in Patch mode.*

Multi-Effects Control

If you wanted to change the volume of multi-effects sounds, the delay time of Delay, and the like, using an external MIDI device, you would need to send System Exclusive messages-MIDI messages designed exclusively for the Fantom-S. However, System Exclusive messages tend to be complicated, and the amount of data that needs to be transmitted can get quite large.

For that reason, a number of the more typical of the Fantom-S's multi-effects parameters have been designed so they accept the use of Control Change (or other) MIDI messages for the purpose of making changes in their values. For example, you can use the Pitch Bend lever to change the amount of distortion, or use the keyboard's touch to change the delay time of Delay. The parameters that can be changed are predetermined for each type of multi-effect; among the parameters described in **"Multi-Effects Parameters"** (Parameter List), these are indicated by a "#."

In the multi-effect setting screen, a "c" symbol will be shown at the left of the parameter.

The function that allows you use MIDI messages to make these changes in realtime to the multi-effects parameters is called the **Multi-effects Control**. Up to four multi-effects controls can be used in a single patch/rhythm set/performance.

When the multi-effects control is used, you can select the amount of control (Sens parameter) applied, the parameter selected (Destination parameter), and the MIDI message used (Source parameter).

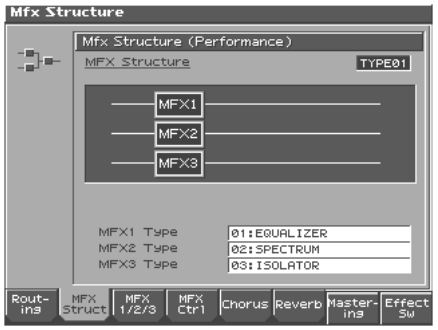
HINT

By using the Matrix Control instead of the Multi-effects Control, you can also change the parameters of some popular multi-effects in realtime (p. 63).

Specifying the multi-effect structure (MFX Structure)

Here's how to specify how MFX 1–3 will be connected.

* *This parameter is not found in Patch mode.*



For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Structure Type

Specify how MFX1–3 will be connected.

Value: Type 01–Type 16

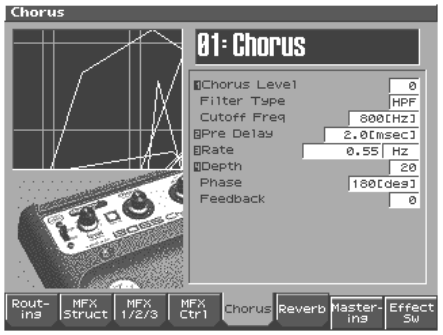
MFX1–3 TYPE

Selects the multi-effect type of MFX1–3.

Value: 0 (Through)–77 (Fantom-S88; 78)

Making Chorus Settings (Chorus)

Here we will explain how to make chorus settings in Performance mode. The procedure is the same when making settings in Patch mode.



For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Type (Chorus Type)

Selects either chorus or delay.

Value

0 OFF: Neither chorus or delay is used.

1 CHORUS: Chorus is used.

2 DELAY: Delay is used.

3 GM2 CHORUS: General MIDI 2 chorus

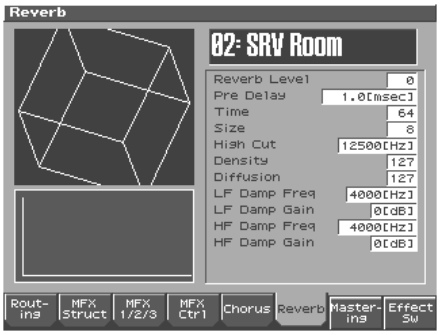
* *In this setting screen, you can edit the parameters of the chorus/delay that is selected by the Chorus Type setting. For details on the parameters that can be edited, refer to* ***"Chorus Parameters"*** *(Parameter List).*

HINT

You can use the REALTIME CONTROL knobs to edit up to four of the most important parameters, which have been pre-selected for each type of chorus. When you enter the MFX 1–3 screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the MFX parameters. If you once again press the button located at the right of the Realtime Control knobs so the indicator is lit, the knobs will control their original functions. When you exit the MFX 1–3 screen, the indicator will automatically return to its previous lit state.

Making Reverb Settings (Reverb)

Here we will explain how to make reverb settings in Performance mode. The procedure is the same when making settings in Patch mode.



For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Type (Reverb Type)

Selects the type of Reverb.

Value

0 OFF: Reverb is not used.

1 REVERB: Normal Reverb

2 SRV ROOM: This reverb simulates typical room acoustic reflections.

3 SRV HALL: This reverb simulates typical concert hall acoustic reflections.

4 SRV PLATE: This reverb simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. You can also achieve unusual metallic-sounding reverbs using "SRV PLATE."

5 GM2 REVERB: General MIDI 2 reverb

In this setting screen, you can edit the parameters of the reverb that is selected by the Reverb Type setting. For details on the parameters that can be edited, refer to **"Reverb Parameters"** (Parameter List).

* *In this setting screen, you can edit the parameters of the reverb that is selected by the Reverb Type setting. For details on the parameters that can be edited, refer to* ***"REVERB Parameters"*** *(Parameter List).*

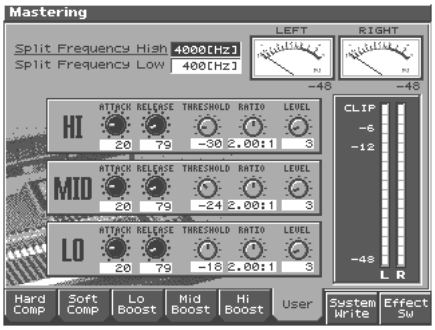
HINT

You can use the REALTIME CONTROL knobs to edit up to four of the most important parameters, which have been pre-selected for each type of Reverb. When you enter the MFX 1–3 screen, the indicator at the right of the Realtime Control knobs will go out, and the Realtime Control knobs can be used to edit the MFX parameters. If you once again press the button located at the right of the Realtime Control knobs so the indicator is lit, the knobs will control their original functions. When you exit the MFX 1–3 screen, the indicator will automatically return to its previous lit state.

Mastering Effect

This is a stereo compressor (limiter) that is applied to the final output of the Fantom-S. It has independent high, mid, and low ranges. Independently for the high-frequency, mid-frequency, and low-frequency regions, this compresses any sounds that exceed the specified level, making the volume more consistent. When mixing down to MD, or DAT, or when you procedure your own original audio CD, this lets you master at an optimized level.

* *Mastering effect settings apply to the entire Fantom-S. These settings are not for individual patches or performances.*
* *The mastering effect is applied to the sound that is output from the OUTPUT A (MIX) jacks. It will not be applied to the sound that is output from the OUTPUT B jacks.*



For details on the setting, refer to **"Making Effect Settings"** (p. 175)

Function Button	Explanation
[1]–[5]	Recall preset settings for each type.
[6 (User)]	Recall saved user settings.
[7 (System Write)]	Save the current settings as user settings. Only one set of user settings can be saved.
[8 (Effect Sw]	You can press this to open the Effect Sw window and turn each effect on/off. Turn [6 (Mastering Sw)] on/off to hear the result of the mastering effect.

ATTACK

Time from when the volume goes up the threshold level until the compressor effect applies

Value: 0-100 ms

RELEASE

Time from when the volume falls below the threshold level until the compressor effect no longer applies

Value: 50-5000 ms

THRESHOLD

Volume level at which compression begins

Value: -36-0 dB

RATIO

Compression ratio

Value: 1.00:1-INF:1 (INF: infinity)

LEVEL

Output volume

Value: 0-24 dB

Split Frequency High

Frequency at which the high-frequency (HI) and mid-frequency (MID) bands are split

Value: 2000-8000 Hz

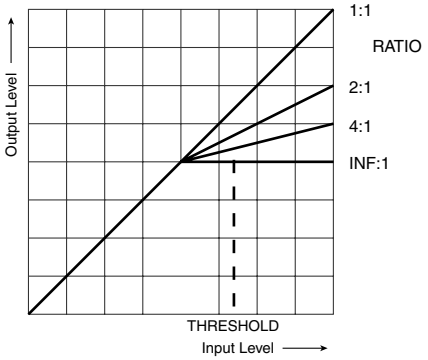
Split Frequency Low

Frequency at which the low-frequency (LO) and mid-frequency (MID) bands are split

Value: 200-800 Hz

About THRESHOLD and RATIO

As shown in the diagram below, these parameters determine how the volume is to be compressed.



Transferring Data to/from Your Computer via USB

The Fantom-S allows a USB-connected computer to handle files stored in the internal user memory or a memory card. Conversely, WAV/AIFF files can be imported into the Fantom-S and used as samples. Bitmap data can also be loaded into the Fantom-S.

NOTE

USB communication with the Fantom-S is possible only for Windows Me/2000/XP or later (Windows users), or Mac OS 9.04 or later (Macintosh users). Also, this may not work correctly with some types of computer.

NOTE

Connect or disconnect the USB cable only when the Fantom-S is powered-off. Never connect or disconnect the USB cable or turn off the power while in USB mode or while data is being transferred.

Before You Use USB Connection

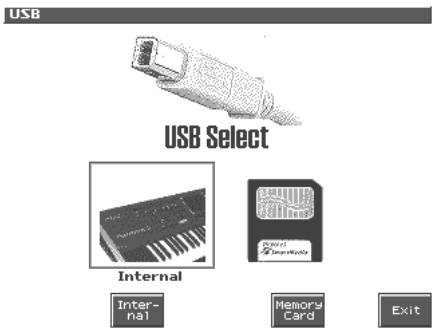
Connections

1. **With the Fantom-S not connected, start up your computer.**
2. **Use a USB cable to connect the Fantom-S to your computer.**
3. **Turn on the power (POWER switch) of the Fantom-S.**

Specify the Connection-Destination Area (USB)

When the Fantom-S is connected to your computer, you can select the area on the Fantom-S to which a connection is to be made; either the internal user memory or the memory card.

1. **Press [MENU].**
2. **▲ or ▼ to select "USB", and then press [ENTER].**
   The USB screen will appear.



3. **Press [3 (Internal)] or [6 (Memory Card)] to establish the connection with your computer.**
   [4 (Internal)]: Connect to the user memory
   [5 (Memory Card)]: Connect to the memory card

* *To cancel the connection, press [7 (Exit)].*

- **Windows Me/2000/XP users**
  A drive named "Removable disk" will be displayed within My Computer.
  Below that drive there will be folders named "ROLAND" and "TMP."
- **Macintosh users**
  A drive icon named "FANS USER" will appear on the desktop.
  If a memory card is connected, the volume name of the memory card will be displayed.
  Below it will be folders named "ROLAND" and "TMP."

Cautions Regarding Folders and Files

- Do not move or delete any folders on the computer that is connected via USB to the Fantom-S.
- On the USB-connected computer, do not perform operations such as Format, Optimize, or Scan Disk on the user memory or memory card.
- The Fantom-S can only handle filenames consisting of single-byte alphanumeric characters.
- Only the following types of files can be transferred between the Fantom-S and your computer.
  Song files (.SVQ) (MRC PRO songs)
  Standard MIDI Files
  Audio files (.WAV/AIFF)
  Bitmap files (.BMP) (320 x 240 pixels)

- To handle these files, use the appropriate method described below.
  <Song files, Standard MIDI Files>
  ROLAND/SEQ/SNG Perform operations inside the folder.
  <Audio files>
  When placing these files from your computer, place them in the following location.
  TMP/AUDIO_IMPORT folder
  Then import the audio files.

  If you want your computer to read samples that were written by the Fantom-S, perform operations within the ROLAND/SMPL folder.

  <BMP files>
  When placing these files from your computer, place them in the following location.
  TMP/BMP folder
- Do not use your USB-connected computer to delete or rewrite any files placed in the ROLAND/SND/FANS.SVD folder.

Importing Audio file (Import Audio)

Here's how to import an audio file (WAV/AIFF).

In order to import a file, it must be located in the following folder on your computer.

- **Windows Me/2000/XP users**
  Removable disk/TMP/AUDIO_IMPORT folder
- **Macintosh users**
  FANS USER/TMP/AUDIO_IMPORT folder

* *"/" indicates a directory level.*

1. **Press [Save/Load].**
2. **Press [8 (Import Audio)].**
3. **Press [1 (User)] or [2 (Card)] to select the import-destination area.**
   [1 (User)]: Import from user memory.
   [2 (CARD)]: Import from a memory card.
4. **Press ▲ or ▼, then select the file that you want to import.**
   If you want to select two or more samples, press [5 (Mark Set)] to add a check mark (✔) to the files that you want to select. To remove the check mark, press [4 (Mark Clear)].
   If you hold down [SHIFT] and press [5 (Mark Set All)], a check mark will be added to all files of the selected bank. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected files.
5. **Press [8 (Import)].**
   A message will ask you for confirmation.

* *To cancel, press [7 (Cancel)].*

6. **Press [8 (Exec)].**
   The file will be imported, and the Sample List screen will appear.

* *To cancel, press [7 (Cancel)].*

MEMO

The imported file will be added to the sample list as a sample. This sample is temporary, and will be lost when you turn off the power. If you want to keep it, press [WRITE] to save the data.

Using a Bitmap File as a Background in the Display

For example, you can import a favorite bitmap file into the Fantom-S, and use it as a background in the display screen.

* *The only files that can be transferred between the Fantom-S and your computer are* ***bitmaps (320 x 240 pixels)****.*

In order to import a file, it must be located in the following folder on your computer.

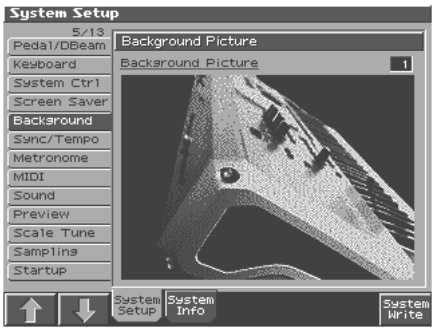
- **Windows Me/2000/XP users**
  Removable disk/TMP/BMP folder
- **Macintosh users**
  FANS USER/TMP/BMP folder

* *"/" indicates a directory level.*

Importing a Bitmap File (Import BMP)

Here's how to import a copied file and use it as the background in the Fantom-S's display.

1. **Press [MENU].**
2. **Press ▲ or ▼ to select "System", and then press [ENTER].**
3. **Press [1 (⇑)] or [2 (⇓)] to select "Background."**



The Fantom-S has ten screens in which a background is displayed. The imported file will be overwritten onto the currently selected screen.

4. **Press [7 (Import BMP)].**
5. **Press [1 (User)] or [2 (Card)] to select the import-destination area (user memory or card).**
6. **Press ▲ or ▼, then select the file that you want to import.**
7. **Press [8 (Import BMP)].**
   The file you want to import will be displayed.

* *To cancel, press [7 (Cancel)].*

8. **Press [8 (Exec)].**
   The file will be imported.

* *To cancel, press [7 (Cancel)].*

9. **Press [EXIT].**

* *The imported file is temporary, and will be lost when you turn off the power. If you want to keep it, press [8 (System Write)] to save the data.*

Canceling USB Communication

Windows Me/2000/XP Users

1. Use the device eject button shown in the taskbar at the lower right of the screen to cancel the connection with the Fantom-S.
2. Then press [8 (Exit)] on the Fantom-S.

Macintosh Users

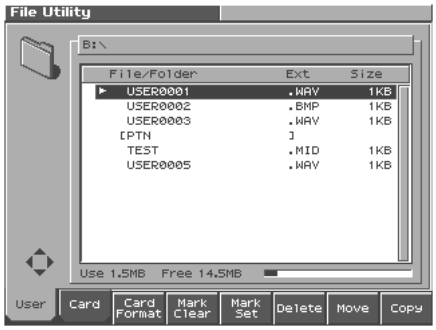
1. Drag the Fantom-S drive icon into the trash.
2. Then press [8 (Exit)] on the Fantom-S.

File-Related Functions (File Utility)

Here you can perform a variety of operations related to the files stored in the Fantom-S's user memory, and on memory cards. You can copy, delete, or move files, as well as format memory cards.

Basic Procedure

1. **Press [MENU].**
2. **Press ▲ or ▼ to select "File Utility", and then press [ENTER].**
   The File Utility screen will appear.



3. **Press the function buttons to select the operation you want to carry out.**

[1 (User)]:	Select a file in user memory.
[2 (Card)]:	Select a file on the memory card.
[3 (Card Format)]:	Format (initialize) a memory card.
[4 (Mark Clear)]:	Remove a check mark to the files. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected files.
[5 (Mark Set)]:	Add a check mark (✔) to the files. If you hold down [SHIFT] and press [4 (Mark Clr All)], check marks will be removed from all selected files.
[6 (Delete)]:	Delete a file.
[7 (Move)]:	Move a file to a different folder.
[8 (Copy)]:	Copy a file to a different folder.
▲, ▼:	Select the folder.
◀, ▶:	Move between folder levels.

Copying a File (COPY)

Here's how you can copy a file to a different folder.

1. **As described in the basic procedure, select the file that you want to copy.**
2. **Press [8 (Copy)].**
   A screen will appear, allowing you to select the folder to which the file is to be copied.
3. **View the contents of the copy-destination folder.**
   [1 (User)] [2 (Card)]: Select the memory
   ▲, ▼: Select the folder
   ◀, ▶: Move between folder levels
4. **To copy the file, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

Deleting a File (DELETE)

Here's how you can delete an unwanted file from a folder.

1. **As described in the basic procedure, select the file that you want to delete.**
   [1 (User)] [2 (Card)]: Select the memory
   ▲, ▼: Select the folder
   ◀, ▶: Move between folder levels
2. **Press [6 (Delete)].**
   A message will ask you for confirmation.
3. **To delete the file, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

Moving a File (MOVE)

Here's how you can move a file to a different folder.

1. **As described in the basic procedure, select the file that you want to move.**
   [1 (User)] [2 (Card)]: Select the memory
   ▲, ▼: Select the folder
   ◀, ▶: Move between folder levels
2. **Press [7 (Move)].**
   A screen will appear, allowing you to select the folder to which the file is to be moved.
3. **View the contents of the move-destination folder.**
   [1 (User)] [2 (Card)]: Select the copy destination
   ▲, ▼: Select the folder
   ◀, ▶: Move between folder levels
4. **To move the file, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

Initializing a Memory Card (Format)

Here's how to initialize a memory card. When you execute the Format operation, the contents of the memory card will be completely erased.

1. **From the file Utility screen, press [3 (Card Format)].**
   A message will ask you for confirmation.
2. **To format the card, press [8 (Exec)].**

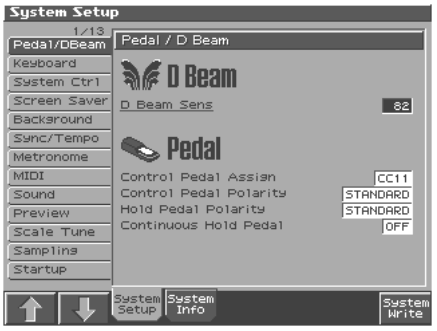
* *To cancel, press [7 (Cancel)].*

Settings Common to All Modes (System Function)

Settings that affect the entire operating environment of the Fantom-S, 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.

How to Make the System Function Settings

1. **Press [MENU] to open the Menu window.**
2. **Press ▲ or ▼ to select "System," and then press [ENTER].**
   The System Setup screen appears.



3. **Press Function button [3], [4] to select the tab of the edit group that contains the parameter you want to set.**
   - **[3 (System Setup)]**
     Set system parameters (p. 189).
   - **[4 (System Info)]**
     View system information (p. 195).
4. **The parameters are organized into several edit groups. Use [1 (⇑)][2 (⇓)] to switch tabs.**
5. **Use [CURSOR] to move the cursor to the parameter you wish to modify.**

MEMO

- When the cursor is located at a parameter value, you can press [ENTER] to access a window for setting the value.
- When all the parameters cannot be shown within a single settings screen, a scroll bar will be displayed at the right side of the screen. In such cases, press ▼ to scroll the screen downward.

6. **Turn the VALUE dial or press [INC]/[DEC] to get the value you want.**
7. **Repeat steps 4–6 to make the settings for the System function.**
8. **To save the settings you modified, press [8 (System Write)] and perform the Write operation. If you do not want to save, press [EXIT] to return to the previous screen.**

Saving the System Settings (Write)

Changes you make to the System function settings are only temporary—they will be discarded as soon as the power is turned off. If you want to keep any changes you've made in the system settings, you must save them in internal system memory.

NOTE

When you perform the save procedure, the data that previously occupied the save destination will be lost. However, the factory setting data can be recovered by performing the Factory Reset procedure.

1. **Change the system function settings, and press [8 (System Write)].**

The display will indicate "System Write Completed!" The data will be saved, and you're returned to the System Setup screen.

Functions of System Parameters

This section explains what the different System parameters do, and also how these parameters are organized.

☞ For details on the setting, refer to **"How to Make the System Function Settings"** (p. 188).

Pedal/D Beam

D Beam Sens (D Beam Sensitivity)

This sets the D Beam controller's sensitivity. The higher the value set, the more readily the D Beam Controller goes to into errect.

Value: 0–127

Control Pedal Assign

This specifies the function of each pedal connected to the PEDAL CONTROL jacks.

Value

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For details on control change messages, refer to **"MIDI Implementation"** (Parameter List).

BEND UP: The pitch will rise in semitone steps (maximum 4 octaves) each time you press the pedal.

BEND DOWN: The pitch will fall in semitone steps (maximum 4 octaves) each time you press the pedal.

AFTERTOUCH: Aftertouch

OCT UP: Each pedal press raises the key range in octave steps (up to 3 octaves higher).

OCT DOWN: Each pedal press lowers the key range in octave steps (up to 3 octaves lower).

START/STOP: The sequencer will start/stop.

PUNCH IN/OUT: Manual punch-in/out recording will start/stop.

TAP TEMPO: Tap tempo (a tempo specified by the interval at which you press the pedal).

PROG UP: The next sound number will be selected.

PROG DOWN: The previous sound number will be selected.

FAVORITE UP: The favorite sound of the next number or bank will be selected.

FAVORITE DOWN: The favorite sound of the previous number or bank will be selected.

ARP/RHY SW: Switches the Arpeggio/Rhythm function on/off.

RHY START/STOP: Switch Rhythm pattern playback on/off.

CHORD SW: Chord function on/off.

Control Pedal Polarity

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

Value: STANDARD, REVERSE

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."

Range: STANDARD, REVERSE

Continuous Hold Pedal

This setting determines whether the HOLD PEDAL jack will provide support for half-pedaling (ON), or not (OFF). When this is set to support use of half-pedaling techniques, you can then connect an optional expression pedal (DP-8, etc.), and employ pedal work to achieve even finer control in performances in which piano tones are used.

Value: OFF, ON

Keyboard

Keyboard Velocity

Specifies the velocity value that will be transmitted when you play the keyboard. If you want actual keyboard velocity to be transmitted, set this to "REAL." If you want a fixed velocity value to be transmitted regardless of how you play, specify the desired value (1–127).

Value: REAL, 1–127

Keyboard Sens (Keyboard Sensitivity)

Adjusts the keyboard's touch.

Value

LIGHT: Light weight synthesizer keyboard like

MEDIUM: Standard

HEAVY: Acoustic piano simulation

Aftertouch Sens (Aftertouch Sensitivity)

Specifies the Aftertouch sensitivity. Higher values will allow Aftertouch to be applied more easily. Normally you will leave this at "100."

Value: 0–100%

System Ctrl

Sys Ctrl 1–4 Source

System Control Assign selects the MIDI message used as the System Control.

System Control

This function, which departs from previously used methods, and instead allows you to use MIDI messages to change tone settings in realtime, is called the **Matrix Control** (p. 61). Similarly, the function allowing you to use MIDI messages to change multi-effects settings in realtime is called the **Multi-effects Control** (p. 181).

Normally, the Matrix Control is used for making patch settings, and the Multi-effects Control for making settings to patches, rhythm sets, and performances. However, if you do not need to change the MIDI messages used for matrix control or multi-effects control by each patch/rhythm set/performance, or if you want to use a specific MIDI message for matrix control or multi-effects control, you will want to make use of **System Control**. In other words, you could call the System Controls global Matrix Control/Multi-effects Control for the entire Fantom-S.

You can use up to four System Controls.

Value

OFF: The system control knob will not be used.

CC01–31, 33–95: Controller numbers 1–31, 33–95

☞ For details on control change messages, refer to **"MIDI Implementation"** (Parameter List).

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

Screen Saver

Screen Saver Type

Select the type of screen saver.

Value: 1–10

Screen Saver Time

Set the time (minutes) until the screen saver begins working.

If this is OFF, the screen saver will not appear.

Value: OFF, 5–60 min.

Background

Background Picture

Select the file that is to be displayed as the screen background.

Value:1–10

Sync/Temp

Sync Mode

Specify the synchronization message that the Fantom-S's sequencer will use for operation.

Value

MASTER: The Fantom-S will be the master. Choose this setting when using the Fantom-S by itself without synchronizing to another device, or when you want other MIDI devices to synchronize to the Fantom-S.

SLAVE-MIDI: The Fantom-S will be the slave. Choose this setting when you want the Fantom-S to synchronize to MIDI Clock messages received from another MIDI device.

SLAVE-MTC: The Fantom-S will be the slave. Choose this setting when you want the Fantom-S to synchronize to MTC (MIDI Time Code) received from an external device.

REMOTE: Use this setting when you wish an external MIDI device to have remote start/stop control. The tempo will be in accord with what has been set on the Fantom-S.

MIDI Clock and MTC

MIDI Clock and MTC (MIDI Time Code) are both messages used for synchronization. Select either of them depending on the application.

MIDI Clock transmits and synchronizes operations to a sequencer's performance tempo, whereas MTC synchronizes operations between devices based on an absolute time. Since Roland VS Series workstations are hard disk recorders, they cannot send MIDI Clock. Therefore, using a MTC is convenient for synchronization of the hard disk recorder and the Fantom-S. However, VS Series devices also feature specialized tracks for recording MIDI Clock, so with the Fantom-S's MIDI Clock recorded in this manner, we have another synchronizing technique in which the VS device appears to be sending MIDI Clock (although it is actually playing back tracks to which MIDI Clock has been recorded). However, since the tempo must be recorded to the VS sync track beforehand, MTC is only convenient in synchronizing with songs that do not contain great amounts of tempo data.

Sync Output (Sync Output Switch)

Set this parameter 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 OFF.

Value: OFF, ON

Tempo Override

Specify whether the sequencer tempo will change (ON), or will not change (OFF) when you switch performance.

Value: ON, OFF

Arpeggio/Rhythm Sync Switch

Specifies whether the arpeggio or rhythm pattern will start/stop in synchronization with the sequencer. This parameter does nothing if the sequencer is stopped.

Value

OFF: Start/stop will not synchronize to the synthesizer.

ON: While the sequencer is running, the arpeggiator will start at the beginning of the next measure. When you stop the sequencer, the arpeggios will also stop.

MMC Mode

When synchronizing the Fantom-S with a hard disk recorder, such as one from the Roland VS series, specify which synchronization signal the Fantom-S's sequencer will use for operation.

Value

MASTER: The Fantom-S will be the master. Use this setting when you want other devices to follow the operation of the Fantom-S.

SLAVE: The Fantom-S will be the slave. Use this setting when you want the Fantom-S to receive MMC (MIDI Machine Control) from an external device and operate accordingly.

MEMO

MMC (MIDI Machine Control) is a specification that allows MIDI messages to be used to control devices such as tape recorders, VTR's, and digital recording systems. Thirty-seven MMC commands are available, including Stop and Play.

MMC Output (MMC Output Switch)

Turn this "ON" if you want to synchronize with a hard disk recorder, such as one from the Roland VS series. When set "ON," MMC (MIDI Machine Control) related commands (Play, Stop and Locate) will be transmitted.

Value: OFF, ON

MTC Sync Output (MTC Sync Output Switch)

Set this parameter ON when you want MTC (MIDI Time Code) to be transmitted to an external MIDI device. If not, set it OFF.

Value: OFF, ON

MTC Frame Rate

Specify the MTC frame rate. Make sure that the same mode is set in both master and slave devices.

Value

24: 24 frames per second

25: 25 frames per second

29N: 29 frames per second

29D: 29 frames per second

30: 30 frames per second

HINT

When synchronizing with a hard disk recorder such as the Roland VS series, any frame rate is all right—as long as the setting matches that of the Fantom-S. However, when synchronizing operation with video devices such as video decks, the video device's frame rate is fixed, so the Fantom-S's setting must correspond to that frame rate.

Types of MTC

The types of MTC that can be selected by the Fantom-S are shown below. Select the same frame rate as that set for the external device. When not using a video device, then any frame rate may be selected as long as the rates are the same on both devices being synchronized.

30: This is 30 frames per second, non-drop format. This is used by audio devices such as analog tape recorders, and for NTSC format black and white video (used in Japan and the U.S.).

29N: This is 29.97 frames per second, non-drop format. This is used for NTSC format color video (used in Japan and the U.S.).

29D: 29.97 frames per second drop format. This is used for NTSC format color video (used in Japan and the U.S.).

25: 25 frame per second frame rate. This is used for SECAM or PAL format video, audio equipment, and film (used in Europe and elsewhere).

24: 24 frame per second frame rate. This is used for video, audio devices, and film in the US.

Non-Drop Format and Drop Format

There are two types of format used by NTSC video cassette recorders, non-drop and drop. Non-drop format features continuous time code, whereas in drop format, which is used for NTSC color video format, the first two frames of every minute are dropped, except for those at ten-minute intervals. In most video and audio production, since formats with continuous frames are easier to deal with, non-drop is generally used. In contrast, in situations such as in broadcast, where the time code must match actual clock time, drop is used.

MTC Offset Time Hour

Coordinates the playback timing of the Fantom-S and the external device in an hour units.

Value: 00–23 hours

MTC Offset Time Minute

Coordinates the playback timing of the Fantom-S and the external device in a minute units.

Value: 00–59 minutes

MTC Offset Time Second

Coordinates the playback timing of the Fantom-S and the external device in a second units.

Value: 00–59 seconds

MTC Offset Time Frame

Coordinates the playback timing of the Fantom-S and the external device in a frame units.

Value: 00–29 frames

MTC Error Level

Determines how often the reception status is checked when MTC is being received from an external device. Stop synchronization if a problem becomes apparent with the check.

Value: 0–10 (the checking interval will be longer for larger values)

NOTE

In strict terms, the lower the numerical value set, the more accurate the check is. However, playback may be stopped overly frequently if too rigorous a check is made, and this soon becomes inconvenient. By raising the Error Level setting, then even if problems with the reception of MTC do occur, synchronization can then continue as long as such problems remain at a level that does not cause undue problems.

Metronome

Metronome Mode

Specifies when you want the metronome to sound.

* *If there is a check mark next to [7 (Click)] in the Tempo window, which appears when you press [TEMPO], the metronome will always sound.*

Value

OFF: Will not sound.

PLAY ONLY: Will sound only during playback.

REC ONLY: Metronome will sound only for recording.

PLAY&REC: Metronome will sound for playback and recording.

ALWAYS: Metronome will always sound.

Metronome Level

You can adjust the volume of the metronome.

Value: 0–10

Metronome Sound

Selects the metronome sound.

Value

TYPE 1: A conventional metronome sound will be heard. A bell will sound on the first beat.

TYPE 2: Clicks will sound.

TYPE 3: Beeps will sound.

TYPE 4: Cowbell will sound.

MIDI

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

Performance Control Channel

Performance Ctrl Ch selects the MIDI receive channel used during switching of performances when MIDI messages (Program Change/ Bank Select) are sent from an external MIDI device. Set this to "OFF" if performances are not to be switched from an external MIDI device.

Value: 1–16, OFF

NOTE

If only a program change is received, and if the Performance Ctrl Ch parameter setting coincides with the MIDI receive channel of a part, priority will be given to switching the performance.

Kbd Patch Rx/Tx Ch (Keyboard Patch Receive/Transmit Channel)

Specifies the channel used to transmit and receive MIDI messages for the Keyboard part in Patch mode.

Value: 1–16

Pad Patch Rx/Tx Ch (Pad Patch Receive/Transmit Channel)

Specifies the channel used to transmit and receive MIDI messages for the Pad part in Patch mode.

Value: 1–16

Transmit Program Change (Transmit Program Change Switch)

Specifies whether Program Change messages will be transmitted (ON) or not (OFF).

Value: OFF, ON

Transmit Bank Select (Transmit Bank Select Switch)

Specifies whether Bank Select messages will be transmitted (ON) or not (OFF).

Value: OFF, ON

Transmit Active Sensing (Transmit Active Sensing Switch)

Specifies whether Active Sensing messages will be transmitted (ON) or not (OFF).

Value: OFF, ON

Transmit Edit Data (Transmit Edit Data Switch)

Specify whether changes you make in the settings of a patch, performance will be transmitted as system exclusive messages (ON), or will not be transmitted (OFF).

Value: OFF, ON

Soft Through (Soft Through Switch)

Thru function re-transmits all messages received at the MIDI IN connector to the MIDI OUT connector without modifying them in any way. Normally you'll leave this "OFF," but when using an external sequencer, you should set it "ON."

Value: OFF, ON

Remote Keyboard Sw (Remote Keyboard Switch)

Set this parameter "ON" when you want to use an external MIDI keyboard instead of the Fantom-S's keyboard. In this case, the MIDI transmit channel of the external MIDI keyboard can be set to any channel. Normally you will leave this parameter "OFF."

Value: OFF, ON

HINT

Turn this "ON" when you want to control the Fantom-S from an external MIDI device when performing with the Arpeggio or RPS function (p. 104, p. 172).

Receive Program Change (Receive Program Change Switch)

Specifies whether Program Change messages will be received (ON) or not (OFF).

Value: OFF, ON

Receive Bank Select (Receive Bank Select Switch)

Specifies whether Bank Select messages will be received (ON) or not (OFF).

Value: OFF, ON

Receive Exclusive (Receive System Exclusive Switch)

Specifies whether System Exclusive messages will be received (ON) or not (OFF).

Value: OFF, ON

Receive GM System On (Receive GM System On Switch)

Specifies whether General MIDI System On messages will be received (ON) or not (OFF).

Value: OFF, ON

Receive GM2 System On (Receive GM2 System On Switch)

Specifies whether General MIDI 2 System On messages will be received (ON) or not (OFF).

Value: OFF, ON

Receive GS Reset (Receive GS Reset Switch)

Specifies whether GS Reset messages will be received (ON) or not (OFF).

Value: OFF, ON

Sound

Local Switch

The Local Switch determines whether the internal sound generator is disconnected (OFF) from the controller section (keyboard, Pad, 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 Fantom-S's keyboard and controllers to control only external sound modules, set it to "OFF."

Value: OFF, ON

Master Tune

Adjusts the overall tuning of the Fantom-S. The display shows the frequency of the A4 note (center A).

Value: 415.3–466.2 Hz

Master Level

Adjusts the volume of the entire Fantom-S.

Value: 0–127

* *You can also perform this operation by pressing [MENU]. Press [MENU] to select "Digital Level."*

Output Gain

This adjusts the output gain from the Fantom-S's Analog Out and Digital Out. When, for example, there are relatively few voices being sounded, boosting the output gain can let you attain the most suitable output level for recording and other purposes.

Value: -12–+12

Mix/Parallel

Specifies how the sound of the entire Fantom-S will be output.

Value

MIX: Set this to have the collective output of all sounds output from the OUTPUT A (MIX) jacks. When you want to check the final overall sound being output, set to MIX.

MEMO

Sounds which are set in the respective Output Assign to be output from the INDIVIDUAL 3 jack are output from the left OUTPUT A (MIX) jack; sounds which are set to be output from the INDIVIDUAL 4 jack are output from the right OUTPUT A (MIX) jack.

HINT

Sounds output from the PHONES jack are the same as those output from the OUTPUT A (MIX) jacks. Therefore, any sounds set with Output Assign to be output from the OUTPUT B jacks is not output from the PHONES jack. Be sure to have any sound you want to hear through the headphones set to "MIX."

PARALLEL: Output according to each Output Assign settings.

Master Key Shift

Shifts the overall pitch of the Fantom-S in semitone steps.

Value: -24– +24

Patch Remain (Patch Remain Switch)

Specifies whether currently sounding notes will continue sounding when another patch or rhythm set is selected (ON), or not (OFF). Also, when this is "ON," changes produced by incoming MIDI messages such as Volume or Pan (CC 5, 7, 10, 65, 68, 71–74, RPN 0, 1, 2, MONO ON, POLY ON), as well as tonal quality and volume changes produced by the various controllers will be inherited.

Value: OFF, ON

NOTE

Effects settings change as soon as you switch to a new patch or rhythm set, without being influenced by the Patch Remain setting. Because of this, certain effects settings can cause notes that were until then sounding to no longer be heard, even though Patch Remain has been set to on.

Preview

Preview Mode

SINGLE: The notes specified by Note Number 1–4 parameter will sound successively one by one.

CHORD: The notes specified by Note Number 1–4 parameter will sound simultaneously.

PHRASE: The Phrase associated with the patch's type/category is played.

Preview 1–4 Note Number

Specify the pitch of the four notes that will sound when the Preview Mode parameter is set to "SINGLE" or "CHORD."

Value: C-1–G9

NOTE

If "PHRASE" is selected for the Preview Mode parameter, these settings will have no effect.

Preview 1–4 Velocity

Specify the velocity of the four notes that will sound when the Preview Mode parameter is set to "SINGLE" or "CHORD."

Value: 0–127

NOTE

If "PHRASE" is selected for the Preview Mode parameter, these settings will have no effect.

Scale Tune

Scale Tune Switch

Turn this on when you wish to use a tuning scale other than equal temperament.

Value: OFF, ON

One set of Scale Tune settings can be created in Patch mode. In Performance mode, this can be set for each part of the performance (p. 88).

In Patch mode, this is valid only for the keyboard part.

The Fantom-S allows you to play the keyboard using temperaments other than equal temperament. The pitch is specified in one-cent units relative to the equal tempered pitch.

MEMO

- One-cent is 1/100th of a semitone.
- The selected scale applies to MIDI messages received from an external MIDI device.

Equal Temperament

This tuning divides the octave into 12 equal parts, and is the most widely used method of temperament used in Western music. The Fantom-S employs equal temperament when the Scale Tune Switch is set to "OFF."

Just Temperament (Tonic of C)

Compared with equal temperament, the principle triads sound pure in this tuning. However, this effect is achieved only in one key, and the triads will become ambiguous if you transpose.

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. On the Fantom-S, you can use Arabian temperament in the three keys of G, C and F.

<Example>

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

Patch Scale Tune for C–B

Make scale tune settings for Patch mode.

Value: -64– +63

For details on the setting, refer to **"How to Make the System Function Settings"** (p. 188).

Sampling

Default File Type
Specifies the file format used when saving a sample.

Value: WAV, AIFF

Pre Sample Time
0–1000 ms

Value: OFF, ON

The length of sound preceding the moment at which sampling was manually or automatically initiated that will be captured in the sample. This lets you prevent the attack portion of the sound from being omitted from the sample.

Trigger Level
Volume level at which sampling will begin when Auto Trig is ON

A setting of 0 is the minimum.

Value: 0–7

Gap Time
Length of silence at which the sample will be divided

Whenever there is a silent region longer than the specified time, the sample will be divided at that point, and the next sample number will be assigned to the sound that follows. This parameter is valid only when you are using Auto Divide Sampling.

Value: 500, 1000, 1500, 2000 ms

External Source Select
Input source of the external input sound

Value

LINE-L-R: INPUT jacks L/R (stereo)

LINE-L: INPUT jack L (mono)

MIC: INPUT jack (mono, mic level)

Trimming Switch
If this is turned on, the Start point and End point settings will be automatically adjusted after sampling is performed, so any silent portions at the beginning or end of the sampled sound are excluded.

Value: OFF, ON

Skip Back Time
Specifies how much earlier in time that you want sampling to take place when you use Skip Back Sampling. If "OFF" selected, skip-back sampling cannot be performed.

Value: OFF, 5s–40s

Start up

Preset Default Load
Specifies whether the preset samples will be loaded into memory at power-on (ON) or not (OFF).

Value: OFF, ON

Sample Default Load
Specifies whether the samples of the user area and memory card will be loaded into memory at power-on (ON) or not (OFF).

Value: OFF, ON

Power Up Mode
This setting allows you to choose the mode that you want the Fantom-S to be in when it is powered up.

Value

PATCH: The Fantom-S will be in Patch mode when you turn on the power.

PERFORMANCE: The Fantom-S will be in Performance mode when you turn on the power.

SRX/RAM Mode
The Fantom-S provides four slots (A–D) for SRX series expansion boards. This setting specifies whether all of these slots will be available (x4) or only slots A and B will be available (x2). If you have installed a 256 MB DIMM module, setting this to "2 SRX/288MB Max" will change the amount of memory that will be available as sample memory.

* *If a 512 MB DIMM is installed, the result will be the same as if a 256 MB DIMM were installed.*

Range

2 SRX/288MB Max: Only EXP slots A and B will be available.

Installed DIMM	Amount of available sample memory
512 MB	288 MB
256 MB	288 MB
128 MB	160 MB
64 MB	96 MB
0 MB	32 MB

4 SRX/192MB Max: EXP slots A–D will all be available.

Installed DIMM	Amount of available sample memory
512 MB	192 MB
256 MB	192 MB
128 MB	160 MB
64 MB	96 MB
0 MB	32 MB

* *The settings of this switch takes effect when the power is turned on.*

System Information

☞ For details on the indicating, refer to **"How to Make the System Function Settings"** (p. 188).

Features
Displays the main features of the Fantom-S.

Memory Info (Memory Information)
Displays the amount of memory installed.

SRX Info (SRX Information)
Displays the name of the wave expansion board that is installed.

Version Info (Version Information)
Displays the version of the Fantom-S.

Data Management Functions
Reset to Default Factory Settings (Factory Reset)

Basic Procedure

1. **Press [MENU].**
2. **Press ▲ or ▼ to select "Utility."**
3. **Press [ENTER].**

The Utility menu screen will appear.

4. **Press [1]–[3] to select the operation that you want to execute.**

- [1 (User Backup)] Save user data to a memory card.
- [2 (User Restre)] Load user data from a memory card.
- [3 (Factry Reset)] Restore the factory settings.

Backing Up User Data (User Backup)

Here's how all user data in the user area can be saved on a memory card.

The following user data will be saved.

- Performances
- Patches
- Rhythm sets
- Rhythm Patterns
- Rhythm Groups
- Multisamples
- Songs
- Samples
- Pattern sets
- RPS sets
- Arpeggio styles
- Chord forms
- System settings

* *In order to execute User Backup, the memory card must have approximately 16 MB or more free area.*

1. **Insert a memory card into the slot.**
2. **In the Utility screen, press [1 (User Backup)].**
   A message will ask you for confirmation.
3. **To execute the backup, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

Restoring User Data that You Backed Up (User Restore)

Here's how user data saved on a memory card by the User Backup operation can be reloaded back into the user memory of the Fantom-s.

When you execute User Restore, the current contents of the user area will be completely erased.

1. **Into the slot, insert the memory card on which user data has been saved.**
2. **In the Utility screen, press [2 (User Restre)].**
   A message will ask you for confirmation.
3. **To proceed with the restoration, press [8 (Exec)].**

* *To cancel, press [7 (Cancel)].*

4. **When the display indicates "Please Power Off," turn the power off, then on again.**

Factory Reset

This restores all data in the Fantom-S to the factory-set condition (**Factory Reset**).

NOTE

If there is important data you've created that's stored in the Fantom-As's internal memory, all such data is discarded when a Factory Reset is performed (**the data of the internal user memory will be lost**). If you want to keep the existing data, save it on a SmartMedia (p. 168) or save it on via USB to your computer (p. 184).

1. **Press [MENU] to open the Menu window.**
2. **Press ▲ or ▼ to select "Utility," and then press [ENTER].**
3. **Press [3 (Factry Reset)].**
   A message will ask confirmation.
4. **Press [8 (Exec)] to execute the Factory Reset.**

* *To cancel, press [7 (Cancel)].*

5. **When the display indicates "Please Power Off," turn the power off, then on again.**

Playing in Piano Mode

The Fantom-S88 has a Piano mode that use the instrument as a dedicated piano. This chapter explains the procedures used in piano mode, and the functions of the parameters.

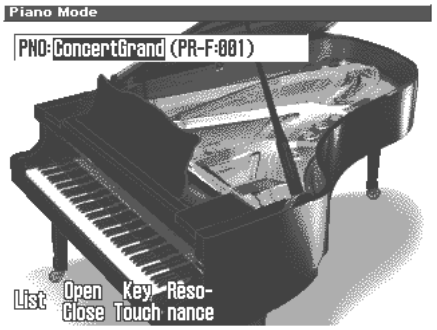
Cautions for Piano mode

- When you select Piano mode, the multi-effect setting will be "78:SYMPATHETIC RESONANCE."
- Patch editing will not be possible.
- If you use a Hold pedal, we recommend that you use a Roland DP-8. If the DP-8 is used, you can control the amount of resonance by the depth to which you press the pedal.
- If no operation is performed for a certain length of time (2–3 seconds) the window will close automatically.

Selecting Piano Mode

1. Press [PIANO MODE].

The Piano Mode screen appears.



Selecting a Patch

In Piano mode you can select piano-type sounds.

1. Press ◀ or ▶ to move the cursor to the patch name.

2. Turn the VALUE dial or press [INC]/[DEC] to select the patch.

NOTE

In Piano mode you cannot select patches from the GM group.

Selecting Patches by Category

The Fantom-S provides a "Patch Search function" (Patch Finder) which allows you to specify a type (category) of patch so that you can quickly find the desired patch.

1. Press ◀ or ▶ to move the cursor to the patch category.

2. Turn VALUE dial of press [INC]/[DEC] to select the patch category.

You can choose from two categories: "PNO" (acoustic piano) and "EP" (electric piano).

Selecting from the Patch List Screen

You can display a list of piano patches and select a patch from that list.

1. In the Piano Mode screen, press [1 (List)].

2. Press ▲ or ▼ to select the patch.

3. Press [1 (⇑)] or [2 (⇓)] to select the desired category.

4. Turn the VALUE dial or press [INC]/[DEC] , and then press [8 (Select)] to select the patch.

HINT

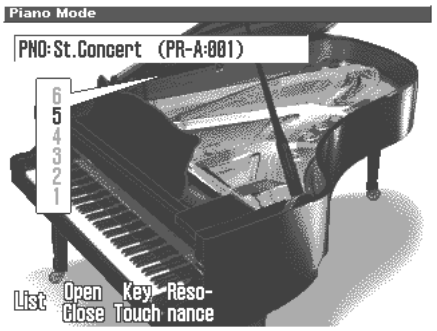
By Pressing [7 (Preview)] you can audition the sound of the patch, by means of a phrase preselected as being suitable for that particular type (category) of patch (Phrase Preview).

MEMO

By pressing [5 (System Write)] you can register the currently selected patch as the one that will be first selected the next time you press [PIANO MODE] to enter Piano mode.

Changing the Piano Sound (Open/Close)

1. In the Piano Mode screen, press [2 (Open/Close)].



2. The window will open when you press [2 (Open/Close)], and the value will change each time you press [2 (Open/Close)].

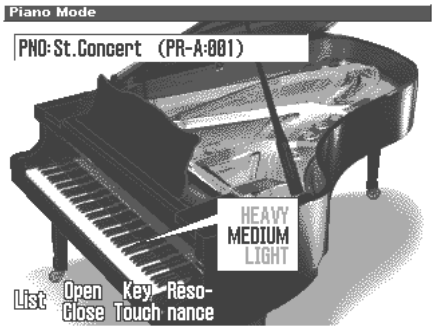
This simulates the actual changes in sound that occur when the lid of a grand piano is set at different heights.

Value: 1–6

Adjusting the Keyboard Touch (Key Touch)

You can vary the touch of the keyboard when you play the keys.

1. **In the Piano Mode screen press [3 (Key Touch)].**

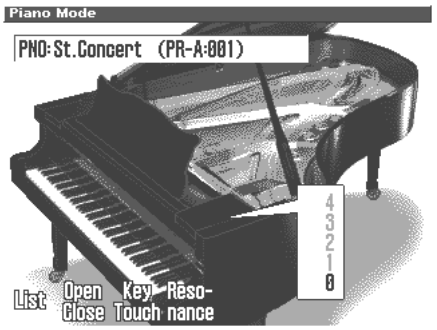


2. **The window will open when you press [3 (Key Touch)], and the value will change each time you press [3 (Key Touch)].**
   - **Light:** This sets the keyboard to a light touch. You can achieve fortissimo (ff) play with a less forceful touch than usual, so the keyboard feels lighter. This setting makes it easier for children, whose hands have less strength.
   - **Medium:** This sets the keyboard to the standard touch. You can play with the most natural touch. This setting is closest to the response of an acoustic piano.
   - **Heavy:** This sets the keyboard to a heavy touch. You have to play the keyboard more forcefully than usual in order to play fortissimo (ff), so the keyboard touch feels heavier. This setting allows you to add more expression when playing dynamically.

Adjusting the Depth of Resonance (Resonance)

When you hold down the damper pedal on an acoustic piano, the strings (notes) you play will cause the other strings to resonate sympathetically, creating a rich and spacious resonance. You can adjust the depth of this resonance.

1. **From the Piano Mode screen, press [4 (Resonance)].**



2. **Either turn the VALUE dial or use [INC] [DEC] to set the value.**

   Adjusts the depth of resonance (0–127). Set this to 0 if you do not want to apply resonance.

Saving a Sound (Patch)

Changes you make to sound settings are temporary, and will be lost if you turn off the power or select another sound. If you want to keep the modified sound, you must save it in the internal USER group (user memory). Refer to **"Saving Patches You've Created (Write)"** (p. 42).

Using Fantom-S Editor

To help you take even greater advantage of its functionality, the Fantom-S comes with Fantom-S Editor software. Fantom-S Editor assigns parameters to sliders and knobs in the computer screen, allowing you to work efficiently in a graphical editing environment.

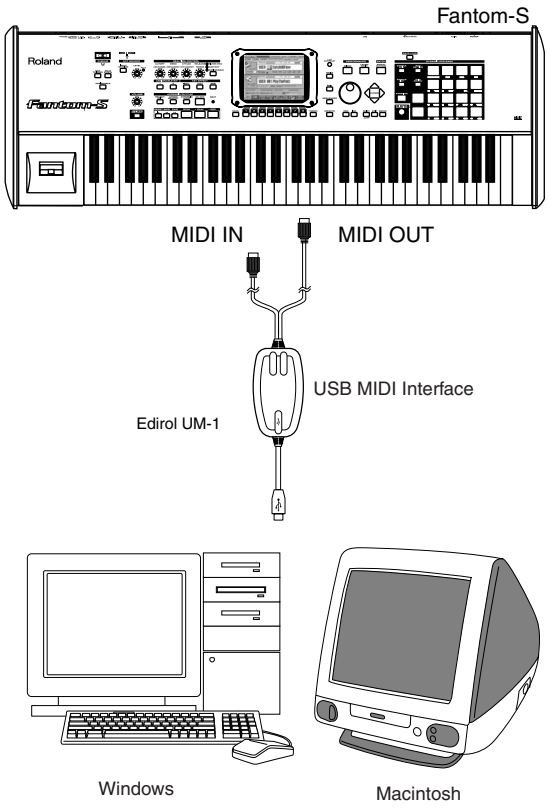
Installing Fantom-S Editor into Your Computer

Detailed instructions on installing the software can be found in the online manual contained on the Fantom-S Editor CD-ROM.

- **Windows users**
  In the Fantom-S Editor CD-ROM, open the Readme_E.txt.
- **Macintosh users**
  In the Fantom-S Editor CD-ROM, open the Readme(English).txt.

Making Connections

In order to use Fantom-S Editor, you will need a separately sold MIDI interface.



Using Fantom-S Librarian

Fantom-S Librarian is software that lets you manage libraries of Fantom-S parameter data on your computer. It provides an efficient way to manage patch, rhythm set, and performance data.
In order to use the librarian included on the "Fantom-S Editor CD-ROM," you will need to put the Fantom-S in Librarian mode.

* *The same is true when you want to use a separately sold librarian.*

1. **Press [MENU].**
2. **Use ▲ or ▼ to select "Librarian" and then press [ENTER].**

Librarian mode will be selected. In Librarian mode, system exclusive messages sent from an external MIDI device can overwrite the settings in user memory. You will be unable to operate the panel of the Fantom-S.

3. **Press [EXIT] to exit Librarian mode and return to the normal state.**

Fantom-S Editor System Requirements

System Requirements (Windows)

- Operating System:
  Microsoft® Windows® XP
  Microsoft® Windows® Me
  Microsoft® Windows® 2000Professional
  Microsoft® Windows® 98/98SE
- CPU/Clock:
  Pentium®/Celeron™ processor 400MHz or higher
  Pentium® III 500 MHz or higher (recommended)
- Memory (RAM):
  128 M bytes or more
  256 M bytes or more (recommended)
- Display/Colors:
  800 x 600 or higher/65,536 colors (16 bit High Color) or more
  1024 x 768 or higher (recommended)
- Hard Disk: 80 M bytes or more

* *Microsoft and Windows are registered trademarks of Microsoft Corporation.*

* *Windows® is known officially as: "Microsoft® Windows® operating system."*

* *Pentium is a registered trademark of Intel Corporation.*

System Requirements (Mac OS)

- Operating System:
  Mac OS 8.6 and 9.x
- CPU/Clock:
  PowerPC G3 / 233 MHz or higher
- Memory (RAM):
  128 M bytes or more
  256 M bytes or more (recommended)
- Display/Colors:
  800 x 600 or higher/32,000 colors or more
  1024 x 768 or higher (recommended)
- Hard Disk:
  80 M bytes or more
- Others
  OMS 2.0 or more

* *Apple and Macintosh are registered trademark of Apple Computer, Inc.*

* *MacOS is a trademark of Apple Computer, Inc.*

* *OMS is a registered trademark of Opcode Systems, Inc.*

About 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 Fantom-S and Edirol DV-7PR together, you can:

- Make Edirol DV-7PR playback settings remotely from the Fantom-S.
- Use the Fantom-S's sequencer to enjoy synchronized music and video.
- Use the Fantom-S's velocity pads to switch the Edirol DV-7PR's images (clips/palettes).
- Use the Fantom-S's knobs to adjust the brightness or color of the image.

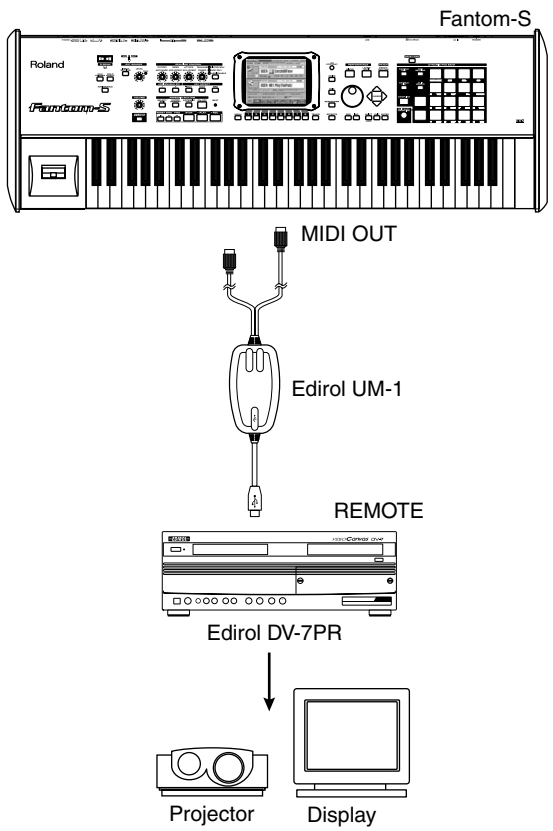
* *In order to use V-LINK with the Fantom-S and Edirol DV-7PR, you will need to make connections using an Edirol UM1/UM-1S (sold separately).*

Connection Examples

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.

Use a UM-1 to connect the Fantom-S's MIDI OUT connector to the DV-7PR's remote jack.



Turning the V-LINK ON/OFF

1. In the left of the panel, press [V-LINK] so the indicator is lighted.

The V-LINK button will light, and the V-LINK setting will be on.

In this state, you can operate the velocity pads and turntable emulation slider to manipulate images in sync with the playback of the Fantom-S.

If you press [EXIT], you will return to the previous screen while leaving the V-LINK setting on.

MEMO

Each mode will function as usual even if V-LINK is on.

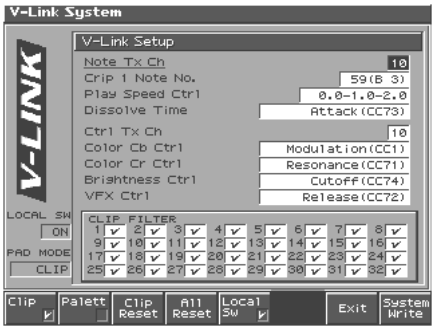
2. Press [V-LINK] again.

The V-LINK button will go out, and the V-LINK setting will be off.

V-LINK Settings

1. Holding down [SHIFT] and pressing [V-LINK] to access the V-LINK SETUP screen.

2. Press [CURSOR] to move the cursor to a parameter, and turn the VALUE dial or use [INC][DEC] to set the value.



* *Specify the Pad Mode by pressing [1 (Clip)] or [2 (Palett)].*

3. If you want to keep your settings, press [8 (System Write)].

4. Press [7 (Exit)] or [EXIT].

You're returned to the previous screen.

V-LINK Parameters

Note Tx Ch

Value: 1-16

MIDI channel that will switch Edirol DV-7PR clips/palettes and will control dissolve time.

Clip 1 Note No.

Pads 1–16 correspond to Edirol DV-7PR clips (or palettes). We recommend that you press [PAD SETTING] to access the Pad setting screen, and set "Pad Set" to "Note," and set Clip1 Note No. to the same value as the "Pad Base Note" setting.

Value: 0(C-1)-127(G9)

Play Speed Ctrl

Range of video playback speed The three values are the playback speeds (multiples of normal speed) at the left, center, and right positions of the pitch bend.

Value: 0.0-1.0-2.0, 0.5-1.0-2.0, 0.0-1.0-4.0, 0.5-1.0-4.0, 0.0-1.0-8.0, 0.5-1.0-8.0, 0.0-1.0-16.0, 0.5-1.0-16.0, 0.0-1.0-32.0, 0.5-1.0-32.0,0.0-2.0-4.0, 0.0-4.0-8.0, 0.0-8.0-16.0, 0.0-16.0-32.0, -2.0-1.0-4.0, -6.0-1.0-8.0

Dissolve Time

Control change number that controls the dissolve time (time over which the image switches)

Value: OFF, CC1, CC5, CC7, CC10, CC11, CC71-74, CC91-93, Channel Aftertouch

Ctrl Tx Ch

MIDI channel that will control the Edirol DV-7PR color Cb/Cr, brightness, and video effect switching

Value: 1-16

Color Cb Ctrl

Control change number that controls the Cb color of the image

Color Cr Ctrl

Control change number that controls the Cr color of the image

Brightness Ctrl

Control change number that controls the brightness of the image

VFX Ctrl

Control change number that controls the video effect

Value: OFF, CC1, CC5, CC7,CC10, CC11, CC71-74, CC91-93, Channel Aftertouch

PAD MODE

Selects whether the pads will switch clips or palettes.

Value: CLIP, PALETT

Press [1 (Clip)]: switch clips

Press [2 (Palett)]: switch palettes

Local Sw

Specifies whether the internal sound generator is disconnected (OFF) from the pads, or not (OFF).

Procedure: Press [5 (Local Sw)].

Value: OFF, ON

Clip filter

(check boxes 1-32)

Clips that are checked can be switched. Enable/disable switching for each clip

Value: OFF, ON

Using the Clip Filter

For example, suppose that of the rhythm set you input in the part used for V-LINK (i.e., the part of the same number as the Note Tx Channel), you want only the kick and snare to switch clips. In this case, check only the clips that correspond to the note numbers of the kick and snare. The clips will switch when the kick or snare plays.

Resetting the Image

Clip Reset

Turn off the image (solid black).

Procedure: [3 (Clip Reset)]

All Reset

The effect applied to the image will be reset, and brightness, color difference, etc. will all return to the default value.

Procedure: [F4 (All Reset)]

* *For details on clips/palettes, dissolve time, color difference signals (Cb/Cr), refer to the Edirol DV-7PR manual.*

NOTE

The Fantom-S does not support the Edirol DV-7PR's dual stream mode.

Installing the Wave Expansion Board

Up to three optional Wave Expansion Boards (one SR-JV80 series, two SRX series) can be installed in the Fantom.

Wave Expansion Boards store Wave data, patches, and rhythm sets, and by equipping the Fantom-S/Fantom-S88 with these boards, you can greatly expand your sound palette.

Cautions When Installing an Wave Expansion Board

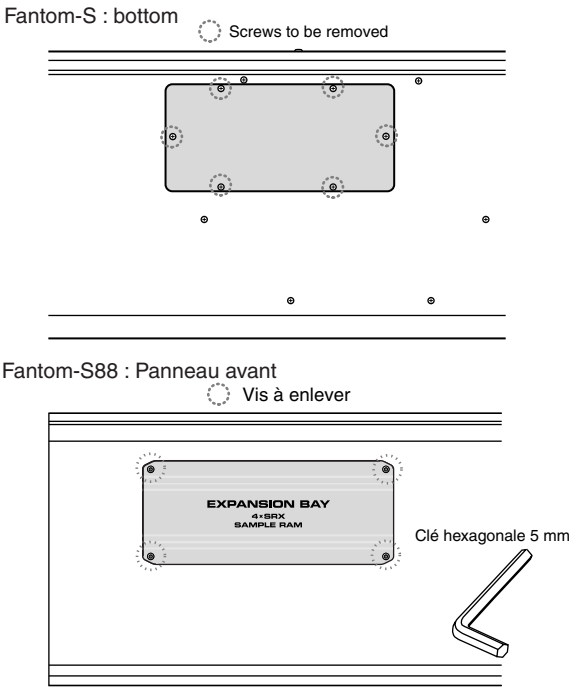
- To avoid the risk of damage to internal components that can be caused by static electricity, please carefully observe the following whenever you handle the board.
  - Before you touch the board, always first grasp a metal object (such as a water pipe), so you are sure that any static electricity you might have been carrying has been discharged.
  - When handling the board, grasp it only by its edges. Avoid touching any of the electronic components or connectors.
  - Save the bag in which the board was originally shipped, and put the board back into it whenever you need to store or transport it.
- Use a Philips screwdriver that is suitable for the size of the screw (a number 2 screwdriver, Fantom-s only). If an unsuitable screwdriver is used, the head of the screw may be stripped.
- To remove a screw, rotate the screwdriver counter-clockwise. To tighten the screws, rotate the screwdriver clockwise.

- When installing Wave Expansion Boards, remove only the specified screws.
- Be careful that the screws you remove do not drop into the interior of the Fantom-S/S88.
- Do not leave the bottom cover removed. After installation of the Wave Expansion Boards is complete, be sure to replace the cover.
- Be careful not to cut your hand on the opening for installing the board.
- Do not touch any of the printed circuit pathways or connection terminals.
- Never use excessive force when installing a circuit board. If it doesn't fit properly on the first attempt, remove the board and try again.
- When circuit board installation is complete, double-check your work.
- Always turn the unit off and unplug the power cord before attempting installation of the circuit board (SRX series).
- Install only the specified circuit board(s) (SRX series). Remove only the specified screws (p. 203).

How to Install a Wave Expansion Board

Install the Wave Expansion Boards after removing the panel cover. Boards can be installed in the EXP A–EXP D slots. These slots correspond with the Wave Expansion Board groups (XP-A–XP-D) when the expansion Wave, patches, and rhythm sets are used.

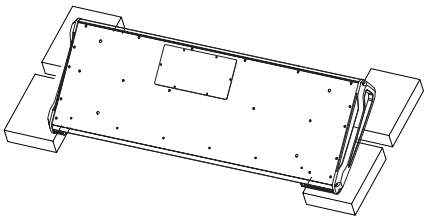
1. **Before installing the Wave Expansion Board, turn off the power of the Fantom-S/S88 and all connected devices, and disconnect all cables, including the Power cable, from the Fantom-S/S88.**
2. **From the Fantom-S/Fantom-S88, remove only the screws shown in the following diagram, and detach the cover. On the Fantom-S, the cover is located on the bottom panel. On the Fantom-S88, it is located on the front panel.**



NOTE

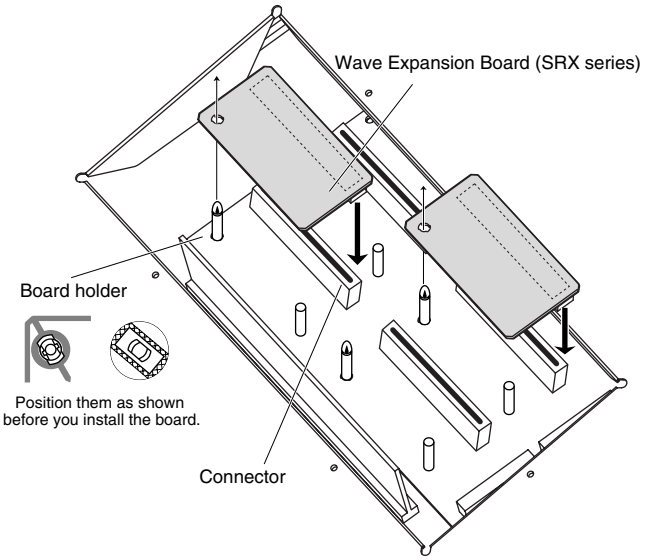
When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.

When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.



A hex wrench is included with the Fantom-S88. When removing screws, you must use this hex wrench.

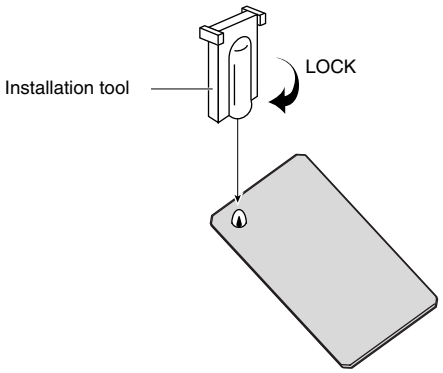
3. There are four slots inside. As shown in the following illustration, plug the connector of the Wave Expansion Board into the connector of the relevant slot, and at the same time insert the board holder through the hole of the Wave Expansion Board.



NOTE

If you install expansion boards of the same type, only one board will be detected.

4. Use the Installation Tool supplied with the Wave Expansion Board to turn the holders in the LOCK direction, so the board will be fastened in place.



5. Use the screws that you removed in step 2 to fasten the cover back in place.

Checking the Installed Wave Expansion Boards

After installation of the Wave Expansion Boards has been completed, check to confirm that the installed boards are being recognized correctly.

1. Turn on the power, as described in "Turning On the Power" (Quick Start; p. 4).

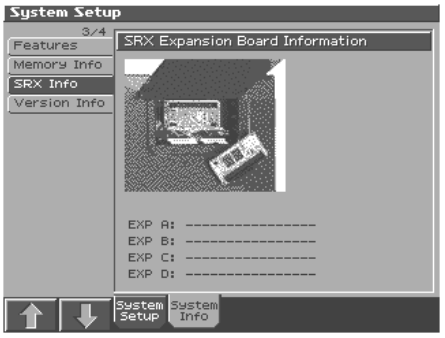
2. Press [MENU] to open the Menu window.

3. Press ▼ or ▲ to select "System," and then press [ENTER].

4. Press [4 (System Info)].

5. Press [1(⇑)] or [2(⇓)] to select "SRX Info."

The System screen appears. Verify that the name of the installed Wave Expansion Board is displayed.



NOTE

If "----------" appears next to the installed slot name, it's possible that the installed Wave Expansion Board is not being recognized correctly. Re-install the Wave Expansion Board correctly.

6. Press [EXIT] to exit the System Menu screen

NOTE

If the model number of the board does not appear, it is possible that the wave expansion board is not being recognized properly. Turn off the power as described in "Turning On/Off the Power" (Quick Start), and re-install the wave expansion board correctly.

NOTE

If the SRX/RAM Mode parameter (p. 195) is set to "2 SRX/288MB Max," only the two slots EXP-A and B can be used.

Installation de la carte d'expansion Wave

(French language for Canadian Safety Standard)

French language
for Canadian Safety Standard

Un maximum de trois cartes d'expansion Wave (quatre cartes SRX) peuvent être installées dans le Fantom-S/Fantom-S88.

Les cartes d'expansion Wave emmagasinent des données Wave, correctifs et rythmes, et en ajoutant ces cartes au Fantom-S/Fantom-S88, il est possible d'élargir considérablement la palette de sons.

Précautions à prendre lors de l'installation d'une carte d'expansion Wave

- Veuillez suivre attentivement les instructions suivantes quand vous manipulez la carte afin d'éviter tout risque d'endommagement des pièces internes par l'électricité statique.
  - Toujours toucher un objet métallique relié à la terre (comme un tuyau par exemple) avant de manipuler la carte pour vous décharger de l'électricité statique que vous auriez pu accumuler.
  - Lorsque vous manipulez la carte, la tenir par les côtés. Évitez de toucher aux composants ou aux connecteurs.
  - Conservez le sachet d'origine dans lequel était la carte lors de l'envoi et remettez la carte dedans si vous devez la ranger ou la transporter.
- Utilisez un tournevis de type Philips de la taille adaptée à celle des vis (tournevis numéro 2, Fantom-s only). Un tournevis inadéquat peut endommager la tête de la vis.
- Pour retirer une vis, tourner le tournevis dans le sens contraire des aiguilles d'une montre. Pour serrer les vis, tourner le tournevis dans le sens des aiguilles d'une montre.

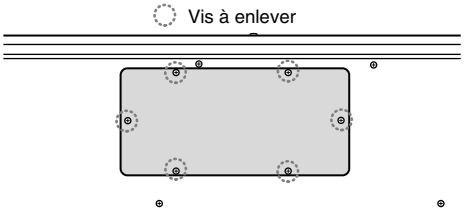
- Pour installer les cartes d'expansion Wave, retirer uniquement les vis mentionnées.
- Assurez-vous que les vis retirées ne tombent pas dans le Fantom-S/S88.
- Ne pas laisser le panneau de protection avant detache. S'assurer de l'avoir rattacher apres avoir installe le disque dur.
- Faites attention de ne pas vous couper sur l'ouverture d'installation de la carte.
- Ne pas toucher aux circuits imprimés ou aux connecteurs.
- Ne jamais forcer lors de l'installation de la carte de circuits imprimés. Si la carte s'ajuste mal au premier essai, enlevez la carte et recommencez l'installation.
- Quand l'installation de la carte de circuits imprimés est terminée, revérifiez si tout est bien installé.
- Toujours éteindre et débrancher l'appareil avant de commencer l'installation de la carte. (SRX series).
- N'installez que les cartes de circuits imprimes spécifiées (SRX series). Enlevez seulement les vis indiquées.

Installation d'une carte d'expansion Wave

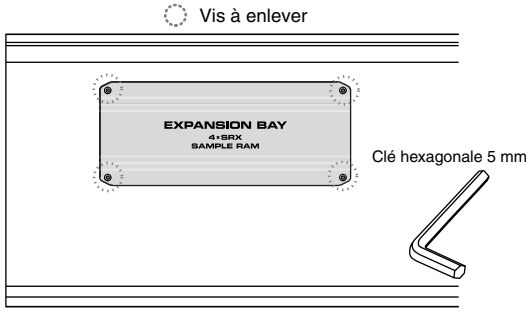
Avant d'installer la carte d'expansion Wave, retirez le panneau inférieur. Les cartes peuvent être installées dans les emplacements SRX-A– SRX-D. Ces fentes correspondent aux groupes de cartes d'expansion Wave (XP-A– XP-D) lorsque l'expansion Wave, les correctifs et rythmes sont utilisés.

1. **Avant d'installer la carte d'expansion Wave, coupez l'alimentation du Fantom-S/S88 et de tous les appareils branchés, et débranchez tous les câbles du Fantom-S/S88, y compris le câble d'alimentation.**
2. **Sur les modèles Fantom-S/S88, retirer uniquement les vis illustrées dans le schéma ci-dessous et retirer le couvercle. Sur le modèle Fantom-S, le couvercle est situé sur le panneau inférieur. Sur le modèle Fantom-S88, il est placé sur le panneau avant. Une clé hexagonale est fournie avec le Fantom-S88. Il faut utiliser cette clé pour retirer les vis.**

Fantom-S : Panneau inférieur



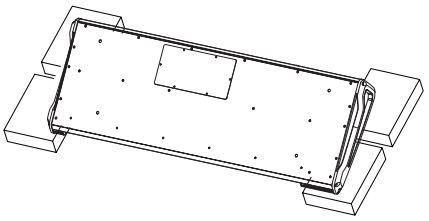
Fantom-S88 : Panneau avant



NOTE

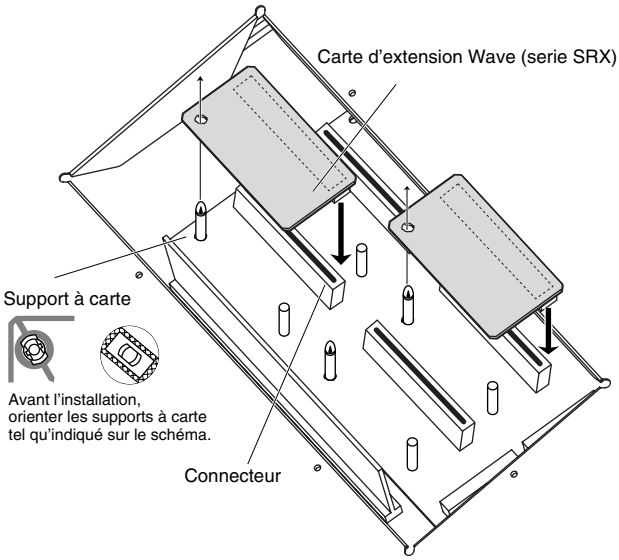
Lorsque vous déposez le Fantom-S face vers le bas, placez des piles de journaux ou de magazines sous les quatre coins (ou des deux côtés) pour le soutenir. Ainsi, les boutons, manettes et autres pièces ne seront pas endommagés.

En plaçant l'appareil sens dessus dessous, manipulez-le avec soin pour éviter de l'échapper, de le laisser tomber ou de se renverser.



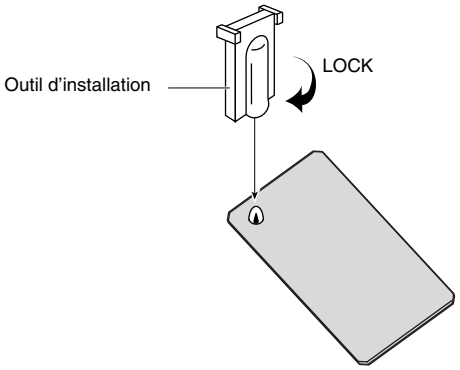
French language
for Canadian Safety Standard

3. Il y a quatre emplacements à l'intérieur. Comme le montre l'illustration ci-dessous, branchez le connecteur de la carte d'expansion Wave dans la fente appropriée et, en même temps, insérez le support de carte de circuits imprimés dans l'ouverture de la carte d'expansion Wave.



NOTE
Si plusieurs cartes d'expansion du même type sont installées, une seule sera détectée.

4. Utilisez l'outil d'installation fourni avec la carte d'expansion Wave pour tourner les supports en position LOCK (verrouillé) afin de retenir la carte en place.



5. Remettez le couvercle en place à l'aide des vis retirées à l'étape 2.

Vérification des cartes d'extension audio aprés installation

Lorsque l'installation des cartes d'extension audio est terminée, procéder à une vérification pour s'assurer que l'ordinateur les identifie correctement.

1. Mettre sous tension de la façon décrite sous "Turning On the Power" (Quick Start; p. 4).

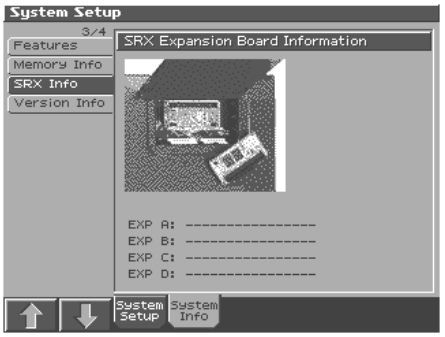
2. Appuyez sur la touche [MENU] pour ouvrir la fenêtre Menu.

3. Press ▼ or ▲ to select "System, " and then press [ENTER].

4. Appuyer sur [ENTER].

5. Appuyer sur [4 (System Info)].

6. Press [1(⇑)] or [2(⇓)] to select "SRX Info."
L'écran System Edit s'affiche. Vérifiez que le nom de la carte d'expansion Wave installeé s'est affiché.



NOTE
Si "----------" est affiché à côté du nom de la fente dans laquelle la carte est installée, il est possible que la carte d'extension audio installée ne soit pas reconnue correctement. Réinstaller correctement la carte d'extension audio.

7. Appuyer sur [EXIT] pour quitter la fenêtre du menu du système.

Expanding the Memory

The Fantom-S/Fantom-S88 comes with 32 MB of memory into which audio samples can be loaded. However, in some cases, 32 MB of memory will be insufficient for loading large amounts of data. In such a case, you will have to add separately sold memory (DIMM). Memory can be expanded up to 64/128/256/512 MB.

Before expanding the memory, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor.

* *If a 512 MB DIMM is installed, the result will be the same as if a 256 MB DIMM were installed (p. 195 SRX/RAM Mode).*

Precautions for Expanding Memory

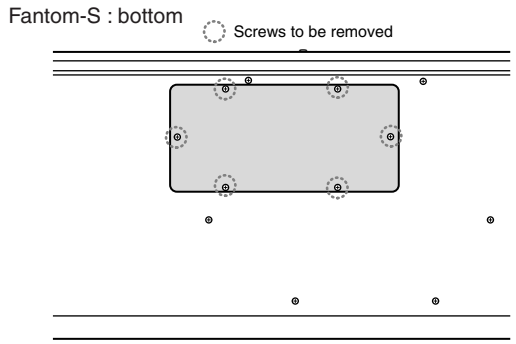
- To avoid the risk of damage to internal components that can be caused by static electricity, please carefully observe the following whenever you handle the board.
  - Before you touch the board, always first grasp a metal object (such as a water pipe), so you are sure that any static electricity you might have been carrying has been discharged.
  - When handling the board, grasp it only by its edges. Avoid touching any of the electronic components or connectors.
  - Save the bag in which the board was originally shipped, and put the board back into it whenever you need to store or transport it.
- Use a Philips screwdriver that is suitable for the size of the screw (a number 2 screwdriver, Fantom-S only). If an unsuitable screwdriver is used, the head of the screw may be stripped.
- To remove a screw, rotate the screwdriver counter-clockwise. To tighten the screws, rotate the screwdriver clockwise.

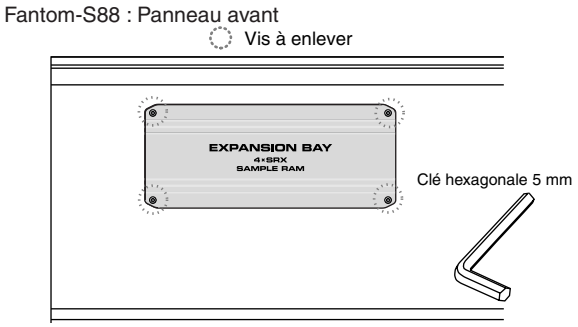
- Be careful that the screws you remove do not drop into the interior of the Fantom-S/S88.
- Be careful not to cut your hand on the edge of the cover or the opening edge while removing the cover.
- Do not touch any of the printed circuit pathways or connection terminals.
- Never use excessive force when installing a circuit board. If it doesn't fit properly on the first attempt, remove the board and try again.
- When circuit board installation is complete, double-check your work.
- Always turn the unit off and unplug the power cord before attempting installation of the memory DIMM board.
- Install only the specified memory DIMM board. Remove only the specified screws (p. 207).
- When turning the unit upside-down, get a bunch of newspapers or magazines, and place them under the four corners or at both ends to prevent damage to the buttons and controls. Also, you should try to orient the unit so no buttons or controls get damaged.
- When turning the unit upside-down, handle with care to avoid dropping it, or allowing it to fall or tip over.
- Do not leave the bottom cover removed. After installation of the memory module is complete, be sure to replace the cover.

How to Expand the Memory

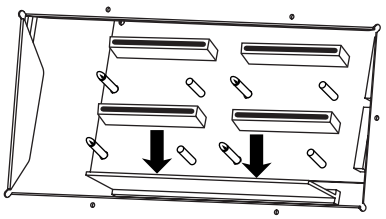
Install the memory module after removing the bottom panel cover.

1. **Before expanding the memory, turn off the power of the Fantom-S/S88 and all connected devices, and disconnect all cables, including the Power cable, from the Fantom-S/S88.**
2. **From the Fantom-S/S88, remove only the screws shown in the following diagram, and detach the cover. On the Fantom-S, the cover is located on the bottom panel. On the Fantom-S88, it is located on the front panel. From the Fantom-S/S88, remove only the screws shown in the following diagram, and detach the cover.**

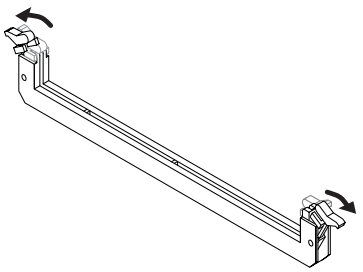




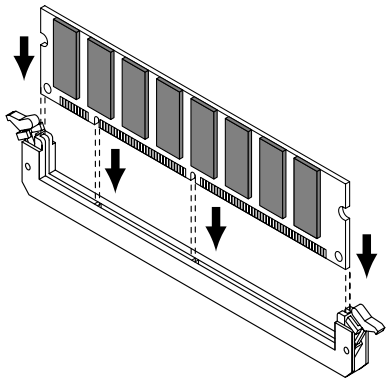
* *A hex wrench is included with the Fantom-S88. When removing screws, you must use this hex wrench.*



3. **Press outward the white clips at either end of the socket should be in the downward position.**



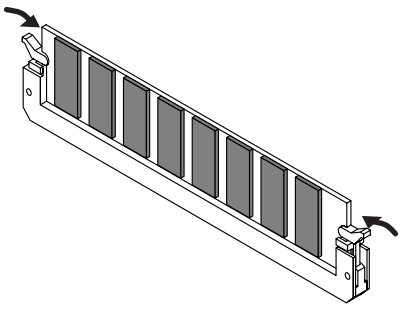
4. Paying attention to the location of the notch on the memory module and the orientation, insert it vertically within the guides at either side of the socket.



HINT

If you have difficulty inserting the memory module, try tilting it a bit and inserting one end at a time.

5. Move the white clips upward, and press them until the memory module is locked in place.

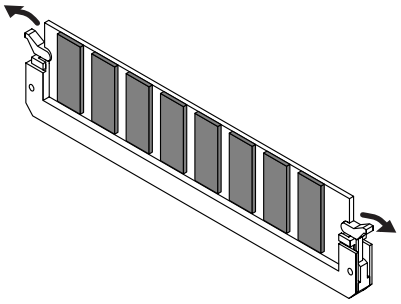


6. Use the screws that you removed in step 2 to fasten the cover back in place.

Removing the Memory

To remove the memory module, reverse the installation procedure.

1. Simultaneously press outward the white clips located at either end of the socket.



2. Remove the memory module from the socket.

Checking that memory is installed correctly

1. Turn on the power, as described in "Turning On the Power" (Quick Start; p. 4).

2. Press [MENU] to open the Menu window.

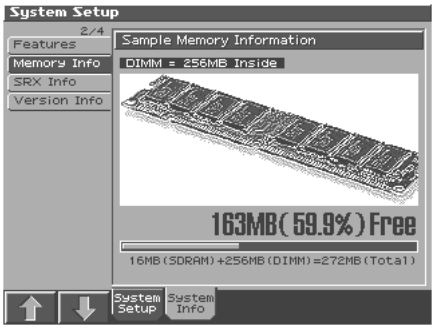
3. Press ▼ or ▲ to select "System," and then press [ENTER].

4. Press [ENTER].

5. Press [4 (System Info)].

6. Press [1(⇑)] or [2(⇓)] to select "SRX Info."

Verify that the screen correctly shows the amount of memory you installed.



7. Press [EXIT] to exit the System screen.

* *If the correct amount of memory is not shown, it is possible that the memory is not being recognized properly. Turn off the power as described in "Turning On/Off the Power" (Quick Start), and re-install the memory correctly.*

Specifications of the expansion memory (DIMM) that can be used

Number of pins:	168-pin
Speed:	100 MHz (PC100 CL=2)
	133 MHz (PC133 CL=3)
Voltage:	3.3 V
Capacity:	64/128/256/512 MB
Board height:	38 mm or less

* *If a 512 MB DIMM is installed, the result will be the same as if a 256 MB DIMM were installed (p. 195 SRX/RAM Mode).*

* *The Fantom-S/Fantom-S88 has been confirmed to work with standard memory that meets the above specifications. However, we cannot guarantee that all memory of these specifications will work correctly. Please be aware that even with identical specifications, differences in the design of the memory module or the conditions of use may mean that a memory module may not be usable.*

* *For details on the sizes of memory that will be recognized if the SRX/RAM Mode parameter is set to "4 SRX/192MB," refer to p. 195.*

Ajouter de la mémoire

French language
for Canadian Safety Standard

(French Language for Canadian Safety Standard)

Précautions à prendre lors de l'ajout de mémoire

- Veuillez suivre attentivement les instructions suivantes quand vous manipulez la carte afin d'éviter tout risque d'endommagement des pièces internes par l'électricité statique.
  - Toujours toucher un objet métallique relié à la terre (comme un tuyau par exemple) avant de manipuler la carte pour vous décharger de l'électricité statique que vous auriez pu accumuler.
  - Lorsque vous manipulez la carte, la tenir par les côtés. Évitez de toucher aux composants ou aux connecteurs.
  - Conservez le sachet d'origine dans lequel était la carte lors de l'envoi et remettez la carte dedans si vous devez la ranger ou la transporter.
- Utilisez un tournevis de type Philips de la taille adaptée à celle des vis (tournevis numéro 2, Fantom-S Only). Un tournevis inadéquat peut endommager la tête de la vis.
- Pour retirer une vis, tourner le tournevis dans le sens contraire des aiguilles d'une montre. Pour serrer les vis, tourner le tournevis dans le sens des aiguilles d'une montre.

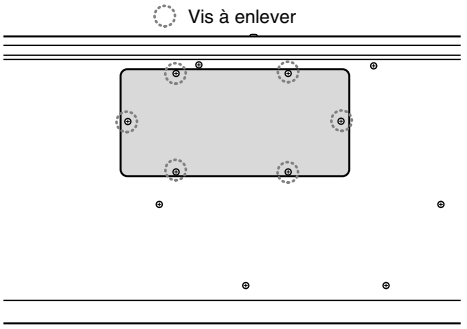
- Assurez-vous que les vis que vous retirez ne tombent pas à l'intérieur du Fantom-S/S88.
- Faites attention de ne pas vous couper sur le bord du couvercle ou de l'ouverture lorsque vous retirez le couvercle.
- Ne pas toucher aux circuits imprimés ou aux connecteurs.
- Ne jamais forcer lors de l'installation de la carte de circuits imprimés. Si la carte s'ajuste mal au premier essai, enlevez la carte et recommencez l'installation.
- Quand l'installation de la carte de circuits imprimés est terminée, revérifiez si tout est bien installé.
- Avant de procéder à l'installation d'un module DIMM, il faut toujours mettre l'unité hors tension et débrancher le câble d'alimentation.
- Installez uniquement le module DIMM spécifié. Retirez uniquement les vis spécifiées (p. 209).
- Lorsque vous déposez le Fantom-S/Fantom-S88 face vers le bas, placez des piles de journaux ou de magazines sous les quatre coins (ou des deux côtés) pour le soutenir. Ainsi, les boutons, manettes et autres pièces ne seront pas endommagés.
- En plaçant l'appareil sens dessus dessous, manipulez-le avec soin pour éviter de l'échapper, de le laisser tomber ou de se renverser.
- Une fois l'installation du module terminée, remettez le couvercle en place.

Installation du module de mémoire

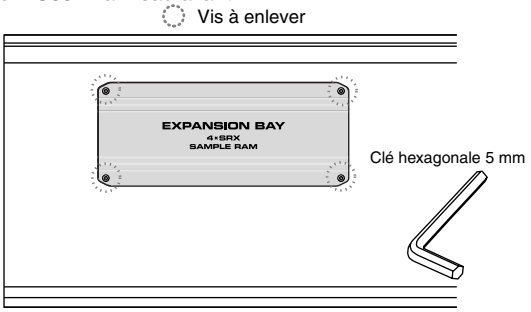
Installez le module de mémoire après avoir retiré le couvercle inférieur.

1. **Avant d'installer la mémoire additionnelle, mettez hors tension le Fantom-S/S88 et tous les périphériques connectés et débranchez tous les câbles, y compris le câble d'alimentation du Fantom-S/S88.**
2. **Sur les modèles Fantom-S/S88, retirer uniquement les vis illustrées dans le schéma ci-dessous et retirer le couvercle. Sur le modèle Fantom-S, le couvercle est situé sur le panneau inférieur. Sur le modèle Fantom-S88, il est placé sur le panneau avant. Une clé hexagonale est fournie avec le Fantom-S88. Il faut utiliser cette clé pour retirer les vis.**

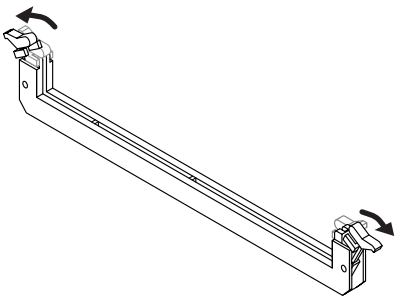
Fantom-S : Panneau inférieur



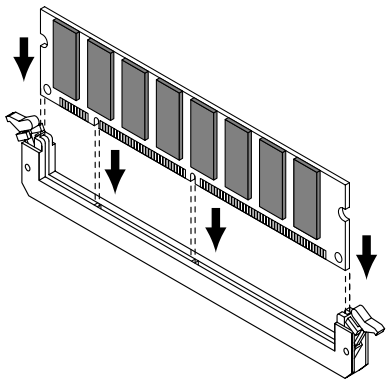
Fantom-S88 : Panneau avant



3. **Appuyez sur les clips blancs à l'extrémité de la prise qui devraient être orientés vers le bas.**

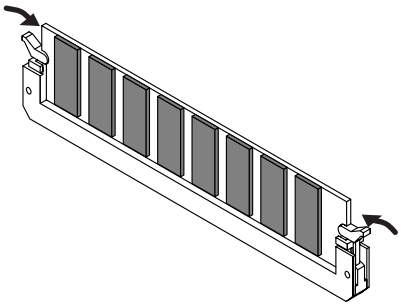


4. **Prenez bien note de l'emplacement et de l'orientation de l'encoche du module de mémoire et insérez-le verticalement à l'intérieur des guides qui se trouvent de chaque côté de la prise.**



* *Si vous éprouvez de la difficulté à insérer le module de mémoire, inclinez-le légèrement et insérez une extrémité à la fois.*

5. **Ramenez les clips blancs vers le haut et appuyez dessus jusqu'à ce que le module de mémoire soit verrouillé en place.**

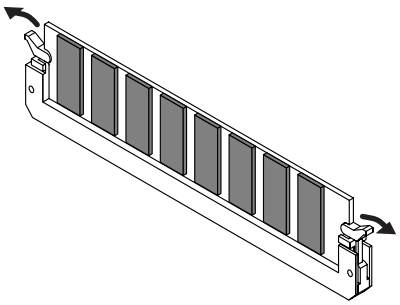


6. **À l'aide des vis retirées à l'étape 2, remettez le couvercle en place.**

Retrait du module de mémoire

Pour retirer le module de mémoire, procédez à l'inverse de la procédure d'installation.

1. **Appuyez simultanément, vers l'extérieur, sur les clips blancs situés aux extrémités de la prise.**

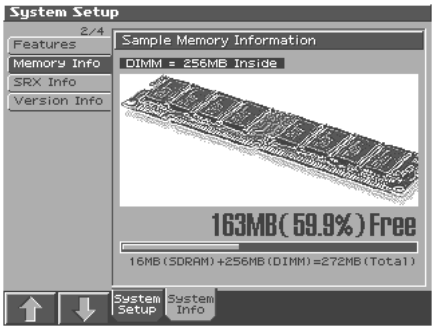


2. **Retirez le module de mémoire de la prise.**

Vérifier que la mémoire est installée correctement

1. **Mettre sous tension de la façon décrite sous "Turning On the Power" (Quick Start; p. 4).**
2. **Appuyez sur la touche [MENU] pour ouvrir la fenêtre Menu.**
3. **Press ▼ or ▲ to select "System, " and then press [ENTER].**
4. **Appuyer sur [ENTER].**
5. **Appuyer sur [4 (System Info)].**
6. **Press [1(⇑)] or [2(⇓)] to select "SRX Info."**

   S'assurer de lire dans la fenêtre la taille de la mémoire que vous avez installée.



7. **Appuyer sur [EXIT] pour quitter la fenêtre du menu du système.**

NOTE

Si la taille de la mémoire dans la fenêtre n'est pas exacte, il est possible que la mémoire n'ait pas été détectée correctement. Éteindre tel que décrit sous « Ouverture/fermeture » (Quick Start), et réinstaller la mémoire conformément aux instructions.

NOTE

Pour obtenir des renseignements sur les tailles de mémoire qui seront reconnues si le paramètre SRX/RAM Mode est défini à "4 SRX/192 MB," reportez-vous à la p. 195.

NOTE

Si une DIMM de 512 Mo est installée, le résultat sera le même que si une DIMM de 256 Mo est installée.

Troubleshooting

If the Fantom-S does not function in the way you expect, first check the following points. If this does not resolve the problem, consult your dealer or a nearby Roland Service Station.

* *If any sort of message is being displayed on the screen during an operation, refer to* ***"Error Messages"*** *(Parameter List).*

Problems Concerning the Entire Fantom-S

Q The power does not turn on.

A Make sure that the Fantom-S's AC cord is connected correctly to its power inlet and to the AC outlet (Quick Start; p. 3).

Issues Related to Sound

Q There is no sound.

A Check the following points.

- Is the power for connected amps and speakers turned on? Is the volume turned all the way down?
- Is the VOLUME knob turned all the way down?
- Have connections been made correctly?
- Can you hear sound through headphones?
  If there is sound in the headphones, it is possible that the connection cables are broken, or that your amp/mixer has malfunctioned. Check your cables and amp/mixer system once again.
- If you do not hear sound when you play the keyboard, check whether the Local Switch is turned OFF.
  Make sure that the Local Switch parameter is turned on (p. 193).
- Have all tones in the patch been turned off?
  Assign a check mark to "Tone Switch." (p. 32)
- The Part level settings may be too low.
  Access the Level parameter, and check the level of each part (p. 95).
- Are the Effect settings correct?
  Check the Effect settings ON or OFF (p. 175), in the Effect Balance or Level.→[EFFECTS]
- Are the settings for the output destination correct?
  Check the various output assign settings (p. 95).
- Is the Wave Expansion Board properly installed?
  When selecting the settings that stipulate the use of EXP-A–D waves, Patches, or Rhythm Sets, check that the specified Wave Expansion Board is installed properly in the specified slot (p. 203).
- Has the volume been lowered by pedal operations or by MIDI messages (volume messages or expression messages) received from an external MIDI device?
- Have the samples been loaded correctly? (p. 170)

HINT

In the case of Performance mode, the value of volume messages (Volume) and expression messages (Expression) can be viewed in the Part Information window (p. 83).

Q A specific Part does not sound

A Check the following points.

- Has the volume level of the part been lowered?
  Adjust the Level parameter to raise the volume of the part that is not heard (p. 85).
- Is the part being muted?
  Set the Mute Switch parameter to "OFF" (p. 85).

Q Specific pitch ranges do not sound

A Has a restricted range of notes been set?
If a specific range of notes does not sound, check the Key Range settings for the Patch Tone, the Performance Part.

- **Tone Key Range**
  Key Range Lower/Upper parameter (p. 48)
- **Part Key Range**
  Key Range Lower/Upper parameter (p. 87)

Q The sound is distorted.

A Check the following points.

- Is an effect which distorts the sound being applied?
  If the sound for a specific patch or part is distorted, lower the volume level on that part.
- If all sounds are distorted, use the VOLUME knob to lower the volume level.

Q Pitch is incorrect.

A Check the following points.

- Is the tuning of the Fantom-S incorrect?
  Check the Master Tune parameter setting (p. 193).
- Has the pitch been changed by pedal operations or by Pitch Bend messages received from an external MIDI device?

HINT

- In the case of Performance mode, the value of Pitch Bend messages (Pitch Bend) can be viewed in the Part Information window (p. 83).
- Have the Coarse Tune or Fine Tune parameters been set for specific Parts?
  Check the Coarse Tune parameter and Fine Tune parameter settings (p. 43, p. 43).

Q The sound is interrupted.

A Sounds will be interrupted if more than 64 voices are used simultaneously.

- Reduce the number of Tones that you are using.
- Increase the Voice Reserve setting for parts that must not drop out. (p. 88)

Q When I play the keyboard, notes do not stop.

A Is the pedal polarity of the Hold Pedal reversed?
Check the Hold Pedal Polarity parameter setting (p. 189).

Q When I press a pad, the sound does not stop sounding.

A Could the [HOLD] pad be lit?
Press the [HOLD] pad once again so the light goes out.

Q The sound cuts off when I switch Patches in Patch mode...

A Although you can apply a wide variety of multi-effects with the Fantom-S's multi-effects, switching the Patch also switches the type of multi-effects used.
In such instances, discrepancies between the sound being produced and the multi-effects type can arise, which may result in sounds being different than intended, so sounds produced when Patches are switched may be muted when factory settings are in effect. In certain situations, such as when not using multi-effects that have a great influence on the sound, remembering to set Patch Remain parameter (p. 193) to "ON" allows you to switch Patches without sounds being muted.

Q When switching Patches in Patch mode, the volume and other parameters set with Control Changes end up being reset.

A Set Patch Remain parameter (p. 193) to "ON." Even once they have switched Patches, Control Change messages that have been received are carried forward, so even when switching a Patch whose level is turned all the way down by a Control Change volume message, the level remains unchanged.

Q If the Tone Delay time value is set to the note, then does the delay time not change beyond a fixed length when the tempo is slowed down?

A There is a maximum permissible value for the Delay Time parameter (p. 56). 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.

Q Even when I set the Pan for a Patch completely to one side, sound still comes from the other channel...

A The Fantom-S's internal effects are in stereo, so if you have effects applied to a Patch, even if the Pan is set all the way to one side, you will still be able to hear sounds of the effect component from the other channel.

Q Sometimes, when playing legato, the pitch won't rise. Why is this?

A When the Legato Switch parameter (p. 58) is "ON," and the Legato Retrigger parameter (p. 58) is "OFF," and you hold down keys in the high register to play legato, the upper pitch limit of the wave may be exceeded, so that the pitch does not rise as far as you expect, but will stop rising at a certain point. Additionally, if differing upper pitch limits are used for the waves of a Patch that uses multiple tones, it may stop being heard in MONO. When making large pitch changes, set the Legato Retrigger parameter to "ON."

Q The notes sound strange in the upper registers of the keyboard.

A Sometimes when playing the keys in the upper part of the Fantom-S's keyboard, the sound may stop, or the pitch may stop rising; or with certain keys, there may be intermittent noise. This occurs mainly when the Fantom-S's upper pitch limit is exceeded, so this issue doesn't arise in the ranges normally used. But, in any case, it does not indicate a malfunction.

Q Although the same Patch is selected, it sounds different when I listen to it in the Performance.

A In Performance mode, the parameters of each part of the performance can apply further modification to parameters such as pan, octave, and filter, relative to the settings specified by the patch. Thus, Patches in a Performance may sound different than they do when heard in Patch mode. To return these settings to their initial conditions, select the Patch after execute Factory Reset Temporary for the Performance. (p. 196)
Additionally, although a Patch may comprise tones created with the use of the multi-effects, the multi-effects used in the Performance may differ from the multi-effects selected by the Patch. Check the multi-effect settings of the performance. Also do the same for the Chorus and Reverb settings.

Q The volume level of the instrument connected to Fantom-S is too low.

A Could you be using a connection cable that contains a resistor? Use a connection cable that does not contain a resistor

Issues Related to Effects

Q Effects not applied.

A Check the following points.

- The "MFX," "CHO," "REV" or "MASTER" effect switches located in the upper part of the PLAY screen may have been turned off.
  Press [EFFECTS]/[8 (Effect Sw)] to turn them on.
- Are the various effect settings correct? (p. 175)
  - If the send level of each effect is set to 0, the effect will not be applied. Check the settings.
  - Even with send levels to each effect set at 0, effects are not applied if the Multi-effects Output Level, the Chorus Level, or the Reverb Level is set to 0. Check each setting.
  - If Output Assign is set to other than "MFX," the Multi-effects sound will not be output.
  - If Output Assign is set to "PATCH" for each Part of the Performance, the sound will be output according to the Output Assign settings of the Patch (for each Tone) which is assigned to those Parts. This means that if Output Assign for the Patch (each Tone) is set to other than "MFX," the Multi-effects sound will not be output.

Q The Modulation or other controller is always on.

A Check the Matrix Controller settings. (p. 61)
The Fantom-S allows you to use the Matrix Control to control Patches in real time. The Matrix Control functions as the control source for the Control Change and other MIDI messages received by the Fantom-S, and makes changes to the various Patch parameters based on these messages.
Depending on these settings, the Fantom-S may be responding to MIDI messages sent from external MIDI devices, and may result the Patches sounding different than intended.

Q Raising the chorus or reverb send level for each part of a performance still does not cause the effect to be applied sufficiently.

A Although you can make Send level settings to the Chorus and Reverb for each individual Part in a Performance, these values only set the upper limit of the Chorus and Reverb Send levels for the Patch used. Accordingly, even when the value is set to the maximum of 127, if the Send level is lowered in the Patch being used, there will be no effect. In addition, different Patch Chorus and Reverb Send level settings can be used according to whether or not the multi-effects are used.

Q Using the Matrix Control or other such means to control the LFO results in noise when the Pan is changed suddenly.

A Lower the change in speed (LFO Rate).
Due to the specialized processing used for the Pan, which alters the volume level in each of the left and right sides, sudden Pan movements causing rapid changes in these levels creates large changes in volume, and noise from this may be audible as a result.

Q Multi-effect 43: TAP DELAY or other delay time value is set to the note, and then the tempo is slowed down, does the delay time not change beyond a fixed length?

A Such Delay time settings have an upper limit, so if the upper limit of a value set to the note is exceeded when the tempo is retarded, that upper value cannot rise any further. The upper time limit for each is the maximum value that can be set other than the numerical value for the beat.

Issues Related to Saving Data

Q The Performance sounds different than when it was written.

A If you have modified the settings of a patch used by a performance, or if the temporary patch of the performance has been modified by an external MIDI device, these patches must also be saved.
If patches used by a performance have been edited when you write that performance, the Fantom-S will display a message asking whether you want to discard these patches. In such cases, first save the patch (p. 42) or rhythm set (p. 66), and then save the performance (p. 96) again.

Q Patches sound different than when written.

A The write operation cannot be used to save Patches as changed in Patch mode using Control Change messages from an external MIDI device.

☞ Refer to **"MIDI Implementation"** (Sound /Parameter List) for more on the Control Change messages that are received.

Q The Arpeggio and D Beam controller settings in the Performance are different than those for the Patch.

A Since the Fantom-S stores arpeggio and D Beam controller settings for each performance, it will operate according to the arpeggio and D Beam controller settings that were specified for each performance.

Issues Related to Sequencer

Q Song data does not play back correctly

A Check the following points.

- Has the Receive General MIDI/General MIDI 2 System On Switch been turned ON?
  Set the Rx GM System ON/Rx GM2 System ON parameter (SYSTEM/MIDI) to "ON" (p. 193).
- Are you trying to start playback from midway through the song?
  The beginning of a GM score song contains a General MIDI/General MIDI 2 System On message. In some cases, a GM Score cannot be played back correctly unless this message is received.
- Are you trying to play song data designed for the GS Format?
  When the Fantom-S receives a GS Reset message, the Fantom-S is enabled for the GS format. This permits playback of music data bearing the GS logo (GS music data). However, data created exclusively for the Sound Canvas Series may not play back properly on the RD-700.

Q After recording, the song does not sound when I play it back.

A Have the tracks been muted?
Defeat muting (p. 85).

Q The tempo is different than the last time I played back the song.

A If a song is played back after the tempo is changed, then the new tempo is not saved unless the song is saved to the user memory or memory card. Conversely, the previous tempo will be erased when you save the song. When saving songs, carefully check the current tempo.

Q Locate Positions set in song have disappeared.

A Check the following points.

- Was the disk saved in a format other than MRC-Pro format (SMF 0 or 1)? Locate positions will be saved with the song data only when saving in MRC-Pro format.
- Are you using Quick Play? In order to use locate positions, the song must be loaded into the Fantom-S.

Q Sound Device Tones Are Switched Arbitrarily

A Use the Microscope (p. 162) to check the following points.

- Has an unneeded program change been input? Or are there duplicate program changes?
- Were any mistakes made in setting the data MIDI channels when Program Change messages were input?

Q Data supposed to be present does not appear in microscope.

A Check the following points.

- Are the wrong tracks selected?
- In View Select (p. 164), is any data set not to be displayed?

Q After using a MIDI sequencer to play a song, sounds stopped playing, and no sound is played even when Program Changes are sent.

A It could be that a Bank Select in the song data that is not specified by the Fantom-S was encountered in the song. No sound is played if the tone group is not one designated by the Fantom-S with Bank Select MSB/LSB. Note that if you omit the Bank Select, and send only the Program Change, the tone in the currently selected group that has the specified Program Change number will play. Try reselecting the tone using the panel controls. Furthermore, when selecting tones from an external MIDI device, be sure to send the Bank Select MSB/LSB and the Program Change as a single set for reliable reproduction. First sending the MSB and LSB (the order in which these are sent does not matter), followed by the Program Change.

☞ For more about the relationship between the Bank Select MSB/LSB and corresponding tone groups, refer to **<Bank Select and Program Change Correspondence Chart>** (Parameter List).

In some cases, you may be unable to hear any sound after playing the last song that was faded-out. This may be because the volume has been lowered by volume messages or expression messages. Check the value of these messages, and set them to appropriate values.

Q Performances are sluggish, or have interruptions.

A Problems of sluggish and interrupted performances can crop up very easily when the sequencer or sound generator used for the performance has to handle heavy data loads.

Main causes and possible corrective measures are considered below.

- Are more than 64 voices playing simultaneously?
  Reduce the number of voices. The composition of Fantom-S Patches is such that up to eight Waves may be used for one Patch. When using such Patches, even though only one sound may be heard, it is actually eight sounds that are being played simultaneously. In addition, with certain sounds like continuous sounds with long releases, even though the actual sound may not be audible to you, processing for playing the sound is still underway, so in these cases as well, the performance data can differ from the actual number of voices being played.

HINT

- In the Part Information window you can check the number of notes for which sound is actually being processed (p. 43).
- Are you using a Patch that uses a lot of LFO?
  Try changing to a different Patch. LFO processing invariably places a big load on the machine, so heavy use of the LFO slows down processing for the Fantom-S overall, which can end up having affecting the expression of sounds themselves.
- Is the data concentrated at the beginning of the beats in the

sequence data?
Avoid overlapping data with the same timing by setting an offset of 1–2 clocks instead. Data may easily become concentrated at the beginning of the beats in the song data when, for example, the song data is input using Step Recording, or if the data is quantized after being input with a keyboard in real time. Because of this, large amounts of data are sent to the Fantom-S, and the processing for expressing sounds becomes bogged down.

- Is there a Program Change at the point where the song performance is sluggish?
  Change the position of the Program Change. When Program Changes are inserted in songs, processing time for switching patches increases, which may then cause the performance to become sluggish.
- Is there a System Exclusive message at the point where the song performance is sluggish?
  Move the location of the data. System Exclusive messages contain large amounts of data, thus placing a heavy burden on sequencers and sound modules. Try repositioning data and changing System Exclusive messages to Control Changes for any data for which Control Changes can be substituted.
- Is there an Aftertouch or other such large Control Change at the point where the song performance is sluggish?
  Move the location of the data. If the data is no longer needed, delete the data. In some cases, when using a keyboard that features aftertouch to input data, you may end up inputting huge amounts of data before realizing this is happening. Such large amounts of data can place an excessive load on your sequencer and sound module.

HINT

You can use the Track Edit operation Data Thin (p. 161) to thin out unwanted messages.

Issues Related to MIDI and External Devices

Q No Sound from connected MIDI device.

A Check the following points.

- Is the instrument set to transmit MIDI messages?
  - **In Patch Mode**
    Kbd Patch Rx/Tx Channel parameter (Keyboard part) (p. 192)
    Pad Patch Rx/Tx Channel (Pad part) (p. 192)
  - **In Performance Mode**
    KBD switch → Performance Layer, Mixer screen/KBD

Q Exclusive messages are not received.

A Check the following points.

- Is the instrument set to receive Exclusive messages?
  Set the Rx Exclusive parameter to "ON" (p. 193).
- Does the Device ID number of the transmitting device match the Device ID number of the Fantom-S?
  Check the Device ID parameter (p. 192).
- Are you attempting to write to the User area? Data can be written to the User area only in Librarian mode.

Q I connected an external sequencer or MIDI keyboard to the MIDI IN connector, and attempted to play a Fantom-S rhythm set, but there was no sound. Why?

A Check to make sure that the MIDI Transmit channel of the external MIDI device and the Fantom-S's MIDI Receive channel are matched. The MIDI Receive channel used by the Fantom-S in Patch or Rhythm Set mode is set with the Patch/Rhythm Rx Ch parameter. Rhythm Set performance data is generally received on MIDI Channel 10.

Q When using sequencing software, operating the knobs or other controls does not affect the sound.

A For some sequencing programs, System Exclusive messages are not transmitted by the Thru function. If you are using such sequencer software and want to record system exclusive messages, turn on the following parameters.

- **In Patch Mode**
  Kbd Patch Rx/Tx channel parameter (p. 193).
- **In Performance Mode**
  KBD switch (p. 81).

Q When the Bend Range for a Patch is increased (48), the pitch does not rise sufficiently, even when a MIDI Pitch Bend message is received.

A While Patch Bend Ranges can be set anywhere between 0 and 48, when certain Waves in which the pitch is raised (in the + direction) are used, the pitch may stop rising at a fixed point, rather than continuing to go up. Although a value of 12 is ensured for the upper limit of raised pitches, use caution when setting the Bend Range above this figure.

Issues Related to Sampling

Q External input sound cannot be heard/volume is too low

A Check the following points.

- Could the Mix In parameter be set to "Off"?
  Press [INPUT SETTING], and set it to "On."
- The level of the external input may be lowered.
  When you sample, use the EXT SOURCE "VOLUME" knob to adjust the level appropriately.
- Check [INPUT SETTING] Level setting.
- The volume of the device connected to AUDIO INPUT may be lowered.
  Adjust it to an appropriate level.
- Are the audio cables connected correctly?
  Check the connections.
- An audio cable may be broken.
- Could you be using an audio cable with a built-in resistor?
  Use a connection cable that does not contain a resistor (e.g., Roland PCS series).

Q External input sound is not stereo/is not monaural

A Check the following points.

- Stereo Switch parameter (p. 120) may be set to monaural (stereo).
- Could the Input Select parameter be set to "LINE IN L," or "Microphone"?
  Press [INPUT SETTING], and set it to "LINE IN L/R."

Q Mic sound is not output/is too weak

A Check the following points.

- Is the mic cable connected correctly?
  Check the connection.
- The mic cable may be broken.
- The input source may be set to something other than mic.
  Press EXT SOURCE [INPUT SETTING] to select "Microphone."
- The mic level may have been lowered.
  When sampling, use the EXT SOURCE "LEVEL" knob to adjust the level appropriately.

Q Can't record a sample

A Check the following points.

- Is there enough memory capacity?
  If there is insufficient sample memory, a message of "Sample Memory Full!" will appear when you attempt to sample. (p. 123)
  Erase unneeded samples to increase the amount of free space.
  If there is still not enough, install additional memory (DIMM modules). (p. 207)

Q Sampled sound contains excessive noise or distortion

A Check the following points.

- Is the input level appropriate? If the input level is too high, the sampled sound will be distorted. If it is too low, noise will be heard. When sampling, turn the LEVEL knob in the Sampling Standby screen (p. 120) to adjust the level while watching the level meter displayed in the upper part of the display. Adjust the level so that the "CLIP" indication in the upper right of the display does not appear.
- Are the effect settings appropriate?
  Some types of effect may increase the level louder than the original sample, or may intentionally distort the sound. Some effects will also cause noise to be emphasized.
  Temporarily turn off effects, and check whether the sample itself contains noise or distortion. Then adjust the effect settings appropriately.
- Are multiple samples being played simultaneously?
  Even if the level of each individual sample is appropriate, simultaneously playing multiple samples may cause the overall level to be excessively high, causing distortion. Lower the level of each sample so that the sound is not distorted.

Issues Related to a Memory Card

Q Can't select data from a memory card

A Check the following points.

- Is the memory card inserted correctly?
  Turn off the power, remove the memory card, then re-insert the memory card correctly.
- Is the memory card an appropriate type?
  The Fantom-S can use 8 MB–128 MB (3.3V) SmartMedia memory cards. Other types cannot be used. (p. 187)

Q I can't use a memory card

A Is the memory card formatted?
An unformatted floppy disk cannot be used. Perform the Format procedure.

Q I can only use EXP slots A and B.

A Could the SRX/RAM Mode parameter (p. 195) be set to "2 SRX/288MB Max"? Set it to "4 SRX/192MB Max."

Specifications

Fantom-S/S88: Synthesizer Keyboard (Conforms to General MIDI 2 System)

Keyboard

[S] 61 keys (with velocity and channel aftertouch)
[S88] 88 keys (Progressive Hammer action mechanism and channel aftertouch)

■Sound Generator Section

Maximum Polyphony

64 voices (shared with the sampling section)

Parts

16 parts

Wave Memory

64 M bytes (16-bit linear equivalent)
Waveforms: 1,228

Preset Memory

Patches: [S] 640 + 256 (GM2), [S88] 648 + 256 (GM2)
Rhythm Sets: 32 + 9 (GM2)
Performances: 64

User Memory

Patches: 256, Rhythm Sets: 32, Performances: 64

Card Memory (SmartMedia)

Patches: 256, Rhythm Sets: 32, Performances: 64

Sampling Section

Data Format

16-bit linear (File Type: .WAV/.AIFF)

Sampling Frequency

44.1 kHz (fixed)

Maximum Sampling Time

When DIMM has not been expanded (32 MB)
mono: 360 sec. approx., stereo: 180 sec. approx.
with DIMM (288 MB) *1
mono: 54 min. approx., stereo: 27 min. approx.

Number of Samples

User memory: 2,000 (maximum total approximately 16 M bytes)
Card memory: 7,000 (128 M bytes SmartMedia)

■Sequencer Section

Tracks

Phrase tracks (16 MIDI channels per track): 16
Pattern track (16 MIDI channels per track): 1
Tempo track: 1
Beat track: 1

* *The Pattern Track can hold up to 100 patterns.*

Resolution

480 TPQN

Tempo

5–300

Note Capacity

approx. 400,000 notes

Song Length

9,998 measures

Recording Method

Realtime recording, Step recording

Effects

Multi-Effects: 3 systems, [S] 77 types / [S88] 78 types
Chorus: 3 types
Reverb: 5 types
Input Effect: 6 types
Mastering Effect: 3-bands Compressor

Expansion Slot

Internal sound generator expansion waveforms, Patch expansion/SRX expansion boards: 4 slots *1
Sampling memory expansion
DIMM: 1 slot (128 MB or 256 MB [3.3 V] recommended)
Memory card expansion
SmartMedia card: 1 slot (supports 8 M bytes/16M bytes/32M bytes/64M bytes/128M bytes (3.3V))

■Others

Arpeggio

Preset: 128, User: 128

Rhythm Pattern

Preset: 256 (32 groups), User: 256 (32 groups)

Chord Memory

Preset: 64, User: 64

Display

320 x 240 dots, four-shade graphic LCD (QVGA)

Pads

16 pads, Velocity and Aftertouch sensitive

Controllers

Pitch Bend/Modulation Lever
Control Knobs x 4
Assignable Switch x 2
D Beam Controller

Connectors

Headphones Jack
A (MIX) Output Jacks (L (MONO), R) (1/4 inch TRS phone type)
B Output Jacks (L, R) (1/4 inch phone type)
Input Jacks (L (MONO)/MIC, R) (1/4 inch phone type)
Hold Pedal Jack (Half Pedal possible)
Control Pedal Jack (assignable)
MIDI Connectors (IN, OUT, THRU)
USB Connector (supports file transfer (mass storage class))
Digital Audio Interface (COAXIAL/OPTICAL OUTPUT only)
AC Inlet

Power Supply

AC 117 V, AC 230 V, AC 240 V

Power Consumption

17 W

Dimensions

[S] 1,050 (W) x 358 (D) x 109 (H) mm
41-3/8 (W) x 14-1/8 (D) x 4-5/16 (H) inches
[S88] 1,408 (W) 455 (D) x 151 (H) mm
55-7/16 (W) x 17-15/16 (D) x 6 (H) inches

Weight

[S] 12.5 kg / 27 lbs 9 oz
[S88] 29.5 kg / 65 lbs 1 oz

Accessories

Quick Start, Owner's Manual, Sound/Parameter List
Sample Data (Audio) CD
CD-ROM (Editor)
Power Cord

Options

Wave Expansion Board: SRX Series
Keyboard Stand: [S] KS-12/[S88] KS-17
Pedal Switch: DP series
Foot Switch: BOSS FS-5U
Expression Pedal: EV-5

**1 If the maximum DIMM expansion is installed, only two SRX slots will be available.*

* *SmartMedia is a trademark of Toshiba Corp.*

* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

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For EU Countries

CE

This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/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.

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As of July 1, 2003 (Roland)