Roland®

Fantom XR

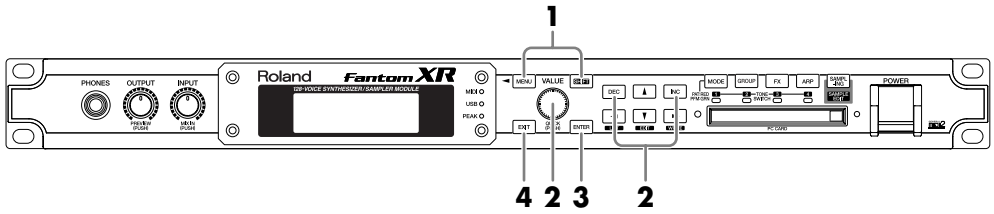
128-VOICE SYNTHESIZER/SAMPLER MODULE

Owner's Manual

Thank you, and congratulations on your choice of the Roland Fantom-XR.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3–4), and "IMPORTANT NOTES" (p. 4–5). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Listening to the Demo Songs



1. **While holding down [SHIFT], press [MENU].**
   The Demo Menu screen will appear.
2. **Turn the VALUE dial or press [INC][DEC] to select the demo song.**
   If you select "ALL", the songs will playback successively, beginning from the first.
3. **Press [ENTER] to start the demo play.**
   Playback will stop automatically when the song ends.
   During playback, you can press [EXIT] to return to the Demo Menu screen.
4. **Press [EXIT] to return to the previous screen.**

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

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. If 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. Use only with the cart, stand, tripod, bracket, or table 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.
- Connect mains plug of this model to a mains socket outlet with a protective earthing connection.
- 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. 166, p. 168, p. 170, p. 172.)
- Do not attempt to repair the unit, or replace parts within it (except when this manual provides specific instructions directing you to do so). Refer all servicing to your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.
- Never use or store the unit in places that are:
  - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are
  - Damp (e.g., baths, washrooms, on wet floors); or are
  - Humid; or are
  - Exposed to rain; or are
  - Dusty; or are
  - Subject to high levels of vibration.
- This unit should be used only with a rack that is recommended by Roland.
- When using the unit with a rack recommended by Roland, the rack must be carefully placed so it is level and sure to remain stable. If not using a rack, 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.
- 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. Also, the supplied power cord must not be used with any other device.
- 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!

⚠WARNING

- 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.
- Immediately turn the power off, remove the power cord from the outlet, and request servicing by your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page when:
  - The power-supply cord, or the plug has been damaged; or
  - If smoke or unusual odor occurs
  - Objects have fallen into, or liquid has been spilled onto the unit; or
  - The unit has been exposed to rain (or otherwise has become wet); or
  - The unit does not appear to operate normally or exhibits a marked change in performance.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
- Protect the unit from strong impact.
  (Do not drop it!)
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.
- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠WARNING

- Always turn the unit off and unplug the power cord before attempting installation of the circuit board (SRX series; p. 166, p. 168, DIMM; p. 170, p. 172).

- 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.

- Do not put anything that contains water (e.g., flower vases) on this unit. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.

⚠ CAUTION

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

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

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

⚠ CAUTION

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

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

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

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

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

- 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, DIMM). Remove only the specified screws (p. 166, p. 168, p. 170, p. 172).

- Should you remove screws from the top panel, make sure to put them in a safe place out of children's reach, so there is no chance of them being swallowed accidentally (p. 166, p. 168, p. 170, p. 172).

- Make sure to put the attached screws in a safe place out of children's reach, so there is no chance of them being swallowed accidentally (p. 174).

IMPORTANT NOTES

In addition to the items listed under "IMPORTANT SAFETY INSTRUCTIONS" and "USING THE UNIT SAFELY" on pages 2–4, please read and observe the following:

Power Supply

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- 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.
- Although the LCD and LEDs are switched off when the POWER switch is switched off, this does not mean that the unit has been completely disconnected from the source of power. If you need to turn off the power completely, first turn off the POWER switch, then unplug the power cord from the power outlet. For this reason, the outlet into which you choose to connect the power cord's plug should be one that is within easy reach and readily accessible.

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.

Maintenance

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

Repairs and Data

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

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory on a memory card, or other device.
- Unfortunately, it may be impossible to restore the contents of data that was stored on a memory card, unit's memory, or other device once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- A small amount of noise may be heard from the display during normal operation.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- 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

Using Memory 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.
- This unit's memory card slot accepts CompactFlash memory cards.
- CompactFlash cards are constructed using precision components; handle the cards carefully, paying particular note to the following.
  - To prevent damage to the cards from static electricity, be sure to discharge any static electricity from your own body before handling the cards.
  - Do not touch or allow metal to come into contact with the contact portion of the cards.
  - Do not bend, drop, or subject cards to strong shock or vibration.
  - Do not keep cards in direct sunlight, in closed vehicles, or other such locations (storage temperature: -25 to 85° C).
  - Do not allow cards to become wet.
  - Do not disassemble or modify the cards.

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.
- When exchanging audio signals through a digital connection with an external instrument, this unit can perform recording without being subject to the restrictions of the Serial Copy Management System (SCMS). This is because the unit is intended solely for musical production, and is designed not to be subject to restrictions as long as it is used to record works (such as your own compositions) that do not infringe on the copyrights of others. (SCMS is a feature that prohibits second-generation and later copying through a digital connection. It is built into MD recorders and other consumer digital-audio equipment as a copyright-protection feature.)
- 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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* MacOS is a trademark of Apple Computer, Inc.
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Main Features

Cutting-edge sound engine that unifies audio and MIDI

The Fantom-XR inherits the same sound engine that was acclaimed on the Fantom-X6/X7/X8, unifying synthesizer and sampler into a single sound generator. Sampled waveforms and waveforms imported from a PC or other external source can also be used as synthesizer waveforms.

In addition to the internal sounds and sampled waveforms, you can install up to six SRX-series wave expansion boards for instant access to an even broader range of sounds.

Top-class 128-voice polyphony

An ample 128 voices of polyphony guarantees stress-free music production or live performance.

Highest quality 88-note multisampled piano waveforms

The Fantom-XR features an 88-note multisampled piano painstakingly recorded by professional engineers. Every note has been sampled in stereo with four velocity-switched layers, meaning that a lavish 704 samples are used to create this piano sound. It boasts not only tonal quality but also a high level of presence, making it closer than ever to the "real thing."

The internal waveform memory is the same 128 MB as in the Fantom-X6/X7/X8. It adds a wide range of sounds created with an emphasis on quality, including strings, nylon string guitar, drums, and bass, as well as piano.

* *88-note multisampling is used only for the piano waveform.*

Full-fledged sampler

In addition to sampling and resampling functionality, waveform editing is also provided, delivering functionality that rivals dedicated samplers. There's also an Auto Sync function that can automatically match the length of a measure to the current tempo.

16 MB of sampling memory is provided as standard, and you can install expansion DIMM modules to expand this to as much as 528 MB.

A full complement of interfaces

USB connector for connection to your computer

USB-MIDI support allows data to be exchanged with your computer, and also makes it easy to connect with PC tools.

For connection to audio devices, both analog and digital input and output are provided as standard. When sampling, you can select either analog or digital as the source.

There's also a PC card slot for backing up your data. This allows you a broad choice of media including SmartMedia and Compact Flash, and since media capacities up to 1 GB are supported (when using Compact Flash), you have great flexibility in data transfer.

Mastering functionality

78 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.

160 x 48 pixel graphic LCD

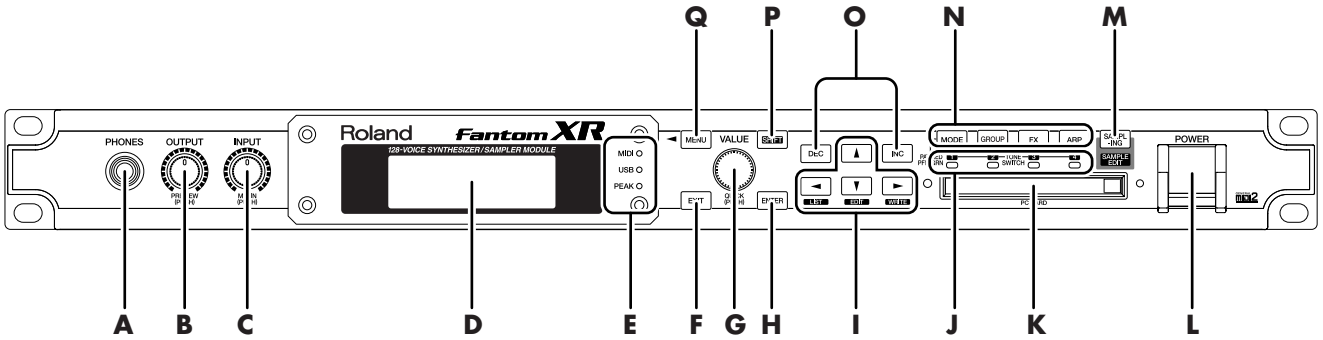
The Fantom-XR's compact chassis features a large screen that allows detailed graphic display, ensuring excellent visibility. Whether selecting sounds or editing waveforms, the built-in screen lets you work comfortably.

Fantom-X Editor/Librarian included

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

Panel Descriptions

Front Panel



A

PHONES Jack

This is the jack for connecting headphones (sold separately). -> (p. 16)

B

OUTPUT knob

Adjusts the overall volume that is output from the rear panel OUTPUT A (MIX) jacks and PHONES jack. -> (p. 17)

You can press this knob to audition the sound without using an external keyboard or other device (PREVIEW).

C

INPUT/MIX IN knob

Controls the volume of the external input.

Press this knob to switch the external input on/off. -> (p. 115)

* *Press [SHIFT], then press this button to access the external source setting screen.*

D

Display

This displays information regarding the operation you are performing.

E

MIDI MESSAGE indicator

This will light when a MIDI message is received via MIDI connector.

USB MESSAGE indicator

This will light when a MIDI message is received via USB connector.

This will light when a MIDI message is received via the USB connector, or while a file transfer is occurring in Storage mode (p. 148).

PEAK indicator

This will light when the volume of the external input is too high.

F

[EXIT]

Return to the previous screen. In some screens, this causes the currently executing function to be aborted.

G

VALUE/QUICK dial

This is used to modify values. To change the value more rapidly, turn this dial while pressing it.

H

[ENTER]

Use this button to execute an operation.

I

[◀ / ▲ / ▼ / ▶] (CURSOR) button

Moves the cursor location up/down/left/right.

[LIST] button

To view a list of sounds or samples, hold down [SHIFT] and press this button. ->(p. 42, p. 120)

[EDIT] button

You can hold down [SHIFT] and press this button to edit a variety of parameters.

[WRITE] button

To save your edited settings in internal memory or a memory card, hold down [SHIFT] and press this button. -> (p. 69, p. 83, p. 96, p. 103, p. 106, p. 131, p. 155)

J

TONE SWITCH indicator

Indicates the tone on/off status (p. 47).

K

PC CARD Slot

A memory card can be inserted here. -> (p. 170, p. 172)

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

L

POWER Switch

Press to turn the power on/off. -> (p. 17, p. 19)

M

[SAMPLING]

View the Sampling Menu screen. -> (p. 117)

[SAMPLE EDIT]

To edit a sample, hold down [SHIFT] and press this button. -> (p. 122)

N

[MODE]
Switches between Patch mode and Performance mode.

[GROUP]
Switches the patch group or other group. To switch the group, hold down this button and turn the VALUE dial, or use [INC][DEC].

[FX]
Make effect-related settings. Here you can also make mastering settings. -> (p. 132)

[ARP]
Make settings for arpeggios, chord memory, and rhythm. -> (p. 97. p. 104, p. 107)

Tone switches [1]–[4]
To switch Tones 1–4 on/off, hold down [SHIFT] and press these buttons. -> (p. 47)

O

[DEC], [INC]
This is used to modify values. If you keep on holding down one button while pressing the other, the value change accelerates.

P

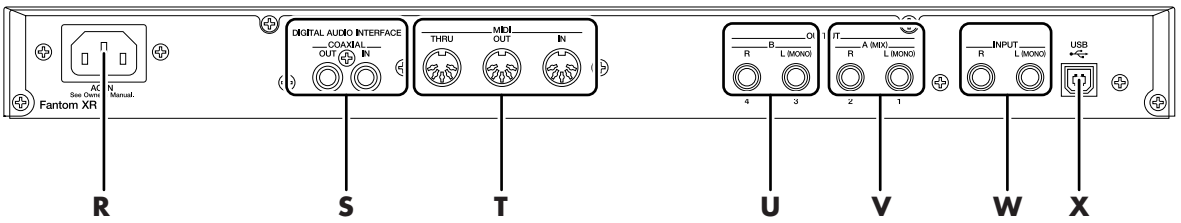
[SHIFT]
This button is used in conjunction with other buttons to execute various functions.

When you press [SHIFT], the button will light, and other buttons will then offer an alternate set of functions. To return to the original functions, press this button once again and extinguish the indicator.

Q

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

Rear Panel



R

AC Inlet
Connect the included power cord to this inlet. -> (p. 17)

* *For details on the power consumption, refer to p. 272.*

The unit should be connected to a power source only of the type marked on the bottom of the unit.

S

DIGITAL IN/OUT Connectors
These are coaxial-type digital in/out connectors.

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

T

MIDI Connectors (IN, OUT, THRU)
These connectors can be connected to other MIDI devices to receive and transmit MIDI messages.

U

OUTPUT B Jacks (L, R)
These jacks output the audio signal to the connected mixer/amplifier system in stereo.

V

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. -> (p. 16)

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. 134, p. 140).*

W

INPUT (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. 115) to "MICROPHONE."

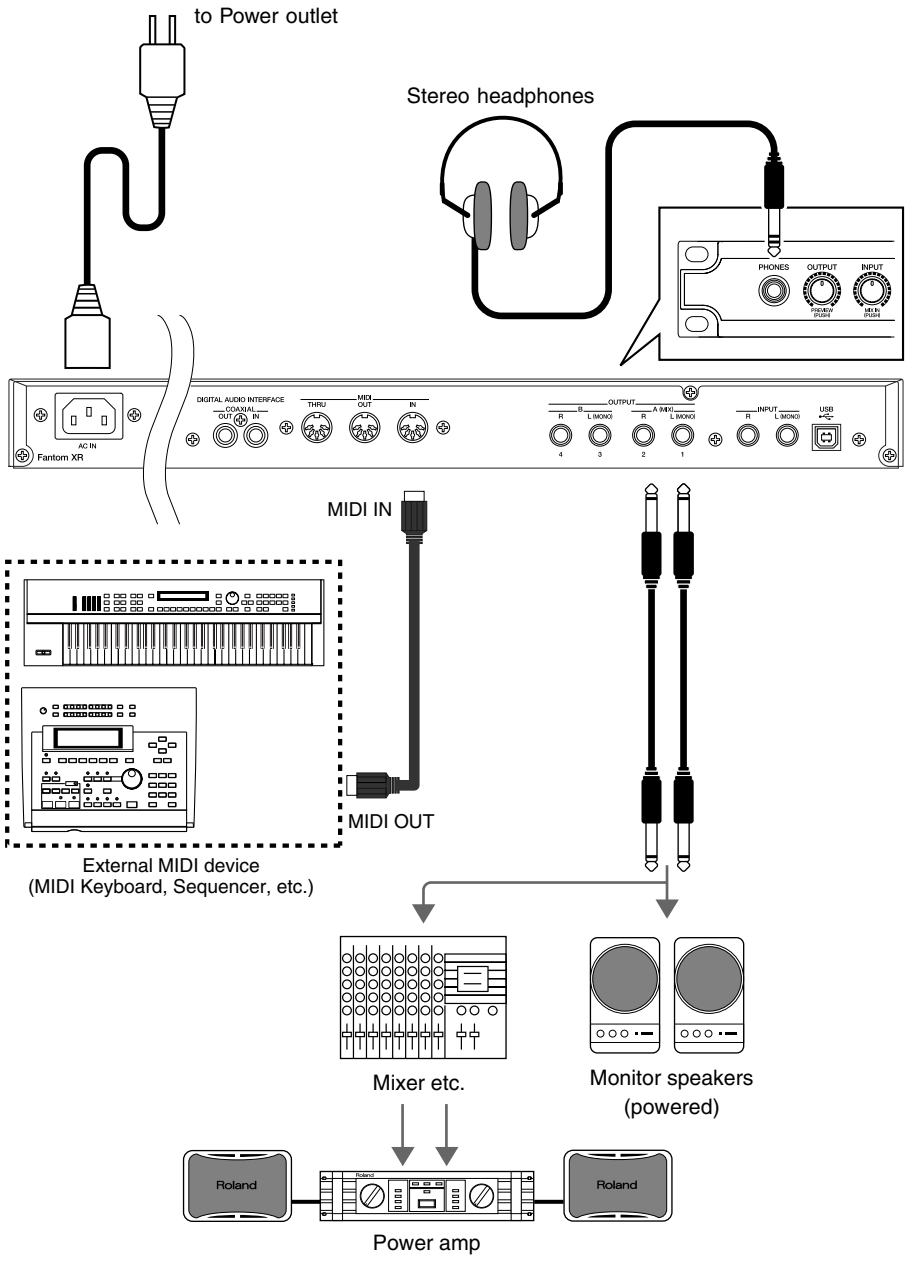
X

USB Connector
This connector lets you use a USB cable to connect your computer to the Fantom-XR. -> (p. 148)

Connecting an Amp and Speaker System

Since the Fantom-XR contains no amplifier or speakers, you'll need to connect it to audio equipment such as a keyboard amplifier, monitor speaker system or home stereo, or use headphones to hear its sound.

1. **Before hooking anything up, make sure that the power on all of your gear is turned OFF.**
2. **Connect one end of the supplied power cable to the Fantom-XR, and the other end to a power outlet.**
3. **Connect the Fantom-XR to your amp/speaker system as shown in the diagram.**



NOTE

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

HINT

In order to fully experience the Fantom-XR's sound, we recommend using a stereo amp/speaker system. If you're using a mono system, however, make your connections to the Fantom-XR's OUTPUT A (MIX) jack L (MONO).

NOTE

Audio cables are not included with the Fantom-XR. You'll need to provide them.

For details on how to install a Wave Expansion Board (sold separately), refer to **"Installing the Wave Expansion Board"** (p. 166).

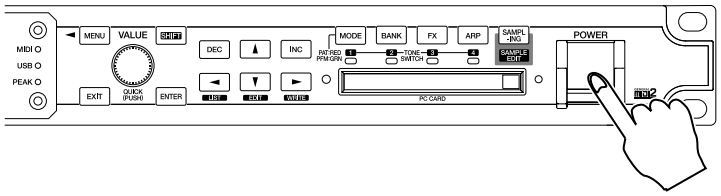
Turning On the Power

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

1. Before turning on the Fantom's power, consider these two questions:

- Are all peripheral devices connected correctly?
- Have the volume controls of the Fantom-XR and all connected audio devices been turned to their lowest settings?

2. Turn on the POWER switch located on the front panel of the Fantom-XR.



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

3. Turn on the power for any connected amplifiers or speakers.

NOTE

Be careful not to set your listening volume too high to avoid damage to your amp/speaker system or your hearing.

Adjusting the Display Contrast (LCD Contrast)

The characters in the display may be difficult to view immediately after turning on the Fantom-XR's power or after extended use. Your viewing angle or the current lighting conditions can also affect the appearance of the display. In such situations, adjust the display contrast as follows.

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.
2. **Press ▲ or ▼ to select "System."**
3. **Press [ENTER].**
   The System Setup screen will appear.
4. **The parameters are organized into several edit groups. Use ◀ or ▶ to select "System Startup."**
5. **Press ▲ or ▼ to move the cursor to "LCD Contrast."**

6. **Turn the VALUE dial or use [INC][DEC] to set the value.**
   Higher values will make the characters darker.
   Value: 1–20
7. **To save the modified setting, press [SHIFT] so it lights, and then press ▶ to save the System settings.**
   If you do not want to save, press [EXIT] to return to the previous screen.

☞ **"Saving the System Settings (Write)"** (p. 155)

Turning Off the Power

1. **Before you turn off the power, consider these two questions:**
   - Have the volume controls for the Fantom-XR and all connected audio devices been turned to their lowest settings?
   - Have you saved your Fantom-XR sounds or other data you've created?
2. **Turn off the power for all connected audio devices.**
3. **Turn off the POWER switch of the Fantom-XR.**

NOTE

If you need to turn off the power completely, first turn off the POWER switch, then unplug the power cord from the power outlet. Refer to **"Power Supply"** (p. 4).

Reset to Default Factory Settings (Factory Reset)

This restores all data in the Fantom-XR to the factory-set condition (**Factory Reset**).

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU] to open the Top Menu screen.**
2. **Press ▲ or ▼ to select "Utility," and then press [ENTER].**
3. **Press ▲ or ▼ to select "Factory Reset," and then press [ENTER].**
   A message will ask you for confirmation.
4. **Press [ENTER] to execute the Factory Reset.**
   * *To cancel, press [EXIT].*
5. **When the display indicates "Power Off," turn the power off, then on again.**

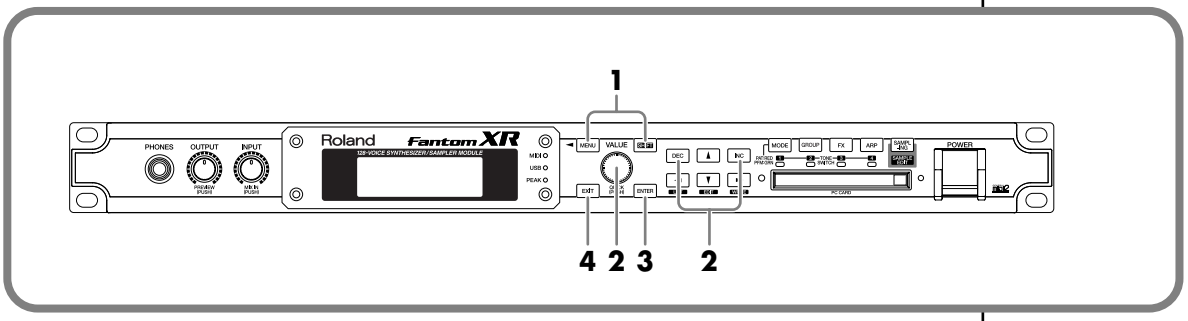
NOTE

If there is important data you've created that's stored in the Fantom-XR'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 memory card (p. 162) or save it on via USB to your computer (p. 149).

Quick Start

Listening to the Demo Songs

The Fantom-XR contains a demonstration ("demo") song that you can listen to using the Fantom-XR's Demo Play feature. The demo will introduce you to the Fantom-XR's exceptional sounds and effects.



1. While holding down [SHIFT], press [MENU].
The Demo Menu screen will appear.

2. Turn the VALUE dial or use [INC][DEC] to select the demo song.
If you select [ALL], the songs will playback successively, beginning from the first.

3. Press [ENTER] to start the demo play.
Playback will stop automatically when the song ends.
If you press [EXIT] during playback, you will return to the Demo Menu screen.

	Demo Song Title	Composer	Copyright
1	Holla If Ya Hear Me	Scott Tibbs	© 2004 Roland Corporation
2	The Escape	David Ahlund	© 2004 Roland Corporation
3	Moon Cluster	Tatsuya Nishiwaki	© 2004 Roland Corporation
4	Still Solace	Scott Tibbs	© 2004 Roland Corporation
5	Nu-Ages	Christian Sales	© 2004 Roland Corporation
6	Cellular Tissue	Hisashi Saito	© 2004 Roland Corporation
7	AKEBONO	Satoshi Mishiba	© 2004 Roland Corporation

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

MEMO

Alternatively, you can access the Demo Menu screen from the Patch Play screen (p. 40) or from the Performance Play screen (p. 84) by pressing [MENU] to get the Top Menu screen.

NOTE

When you perform demo playback, any patch or performance you may have been editing will be lost.

NOTE

NOTE

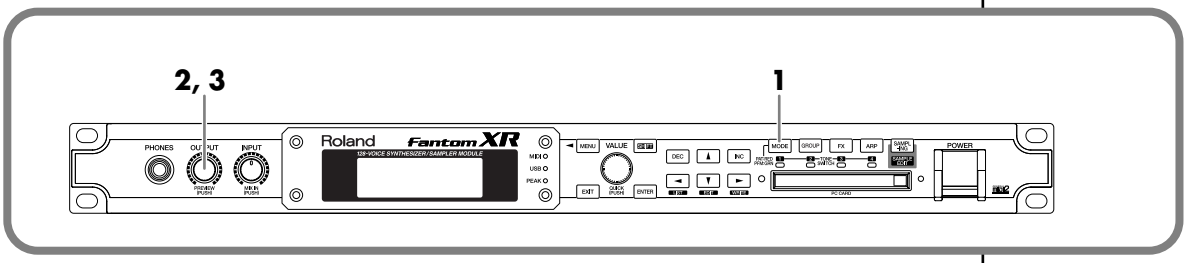
No data for the music that is played will be output from MIDI OUT.

Playing Sounds

The Fantom-XR comes with a rich palette of onboard sounds, called "Patches." Let's listen to some Patches in **Patch mode**.

Playing Patches (Phrase Preview)

Even when there's no MIDI keyboard or sequencer connected, the Fantom-XR allows you to audition sounds using a number of prepared phrases that are perfectly matched to each Patch (**category**).



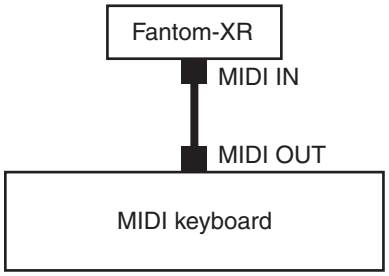
1. **Press [MODE] so the button lights in red.**
   You will enter Patch mode, and the Patch Play screen will appear.
2. **Press OUTPUT knob.**
   The phrase using the selected patch will start playing.
3. **Press OUTPUT knob again, and the phrase will stop playing.**

Playing a Patch on the Fantom-XR from an External MIDI Device (MIDI Keyboard)

The Fantom-XR produces sound in response to MIDI messages it receives from an external MIDI device such as a MIDI keyboard or sequencer.
Try connecting your MIDI keyboard and playing sounds on the Fantom-XR.

Connecting the MIDI Keyboard

Connect the MIDI keyboard as shown in the following.



Matching MIDI Channels

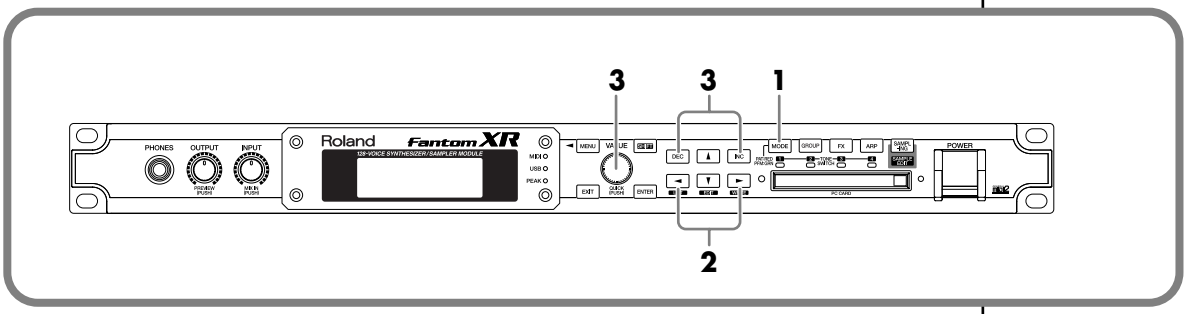
In order for the Fantom-XR to respond to MIDI data sent by an external MIDI device, both devices must be set to use the same MIDI channel or channels.
Here, in Patch mode, let's set both devices so that they use MIDI Channel 1.

MEMO

Executing a Factory Reset sets the Fantom-XR's reception channel in Patch mode to "1."

Choosing a Patch

Basic Procedure for Choosing a Patch



1. **Press [MODE] so the button lights in red.**
   You will enter Patch mode, and the Patch Play screen will appear.
2. **Press ◀ or ▶ to move the cursor to the patch number.**

3. **Turn the VALUE dial or use [INC][DEC] to select the patch.**

HINT

The value will change more rapidly if you turn the dial while holding down [VALUE].

Choosing a Group

1. **Press [MODE] so the button lights in red.**
   You will enter Patch mode, and the Patch Play screen will appear.
2. **Press [GROUP] to select the patch group.**
   The group changes as shown below.
   USER (User) -> PR-A (Preset A) -> . . . -> PR-H (Preset H) -> GM (General MIDI) -> Card (Memory Card) -> XP-A (Expansion A) -> . . . -> XP-F (Expansion F)

Alternatively, press [CURSOR] to move the cursor to the patch group, and turn the VALUE dial or use [INC][DEC] to select the patch group.

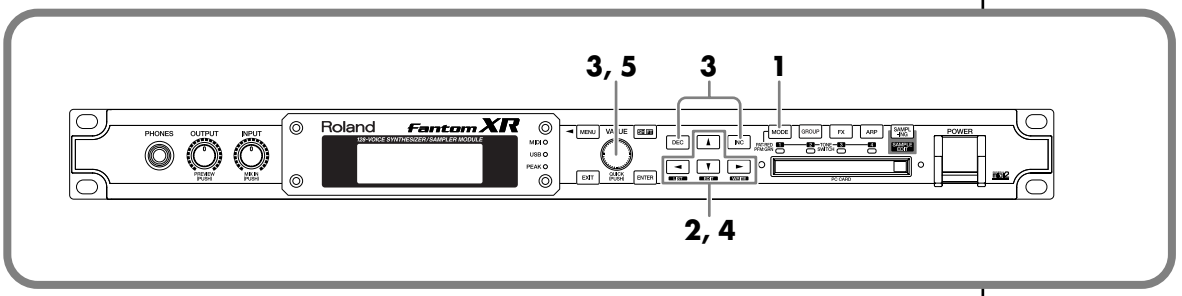
NOTE

XP-A through XP-F appear only if the corresponding expansion board is installed.

"Bank Select and Program Change Correspondence Chart" (p. 270)

Choosing a Patch by Category

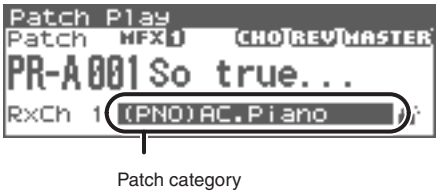
The patches of the Fantom-XR are organized by category. Searching for a patch by category is a quick way to find the patch you're looking for.



1. Press [MODE] so the button lights in red.

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

2. Press [CURSOR] to move the cursor to the patch category.



3. Turn the VALUE dial or use [INC][DEC] to select the patch group.

You can select the following categories.

Category		Contents	Category		Contents
- - -	No Assign	No assign	SBR	Synth Brass	Synth Brass
PNO	AC.Piano	Acoustic Piano	SAX	Sax	Sax
EP	EL.Piano	Electric Piano	HLD	Hard Lead	Hard Synth Lead
KEY	Keyboards	Other Keyboards (Clav, Harpsichord etc.)	SLD	Soft Lead	Soft Synth Lead
BEL	Bell	Bell, Bell Pad	TEK	Techno Synth	Techno Synth
MLT	Mallet	Mallet	PLS	Pulsating	Pulsating Synth
ORG	Organ	Electric and Church Organ	FX	Synth FX	Synth FX (Noise etc.)
ACD	Accordion	Accordion	SYN	Other Synth	Poly Synth
HRM	Harmonica	Harmonica, Blues Harp	BPD	Bright Pad	Bright Pad Synth
AGT	AC.Guitar	Acoustic Guitar	SPD	Soft Pad	Soft Pad Synth
EGT	EL.Guitar	Electric Guitar	VOX	Vox	Vox, Choir
DGT	DIST.Guitar	Distortion Guitar	PLK	Plucked	Plucked (Harp etc.)
BS	Bass	Acoustic & Electric Bass	ETH	Ethnic	Other Ethnic
SBS	Synth Bass	Synth Bass	FRT	Fretted	Fretted Inst (Mandolin etc.)
STR	Strings	Strings	PRC	Percussion	Percussion
ORC	Orchestra	Orchestra Ensemble	SFX	Sound FX	Sound FX
HIT	Hit&Stab	Orchestra Hit, Hit	BTS	Beat&Groove	Beat and Groove
WND	Wind	Winds (Oboe, Clarinet etc.)	DRM	Drums	Drum Set
FLT	Flute	Flute, Piccolo	CMB	Combination	Other patches which use Split and Layer
BRS	AC.Brass	Acoustic Brass			

4. Press [CURSOR] to move the cursor to the Lock icon.

Lock icon: unlocked

5. Turn the VALUE dial or use [INC] to lock the category.

You can lock the category so that only the patches within that category will appear when selecting a patch. If you are successively selecting patches with the category unlocked, you may unknowingly begin selecting patches from the next category. Locking the category will prevent this.

Lock icon: locked

6. Press e ▲ to move the cursor to the patch number.

7. Turn the VALUE dial or use [INC][DEC] to select the patch.

You can select sounds within a category regardless of the patch group.

In Patch mode, you can also use a variety of other methods to find a desired patch.
For details, refer to **"Selecting a Patch"** (p. 40).

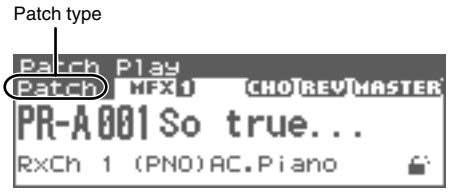
MEMO

To unlock the category, turn the VALUE dial or use [DEC].

Choosing a Rhythm Set

Basic Procedure for Choosing a Rhythm Set

1. **Press [MODE] so the button lights in red.**
   You will enter Patch mode, and the Patch Play screen will appear.
2. **Press [CURSOR] to move the cursor to the patch type.**



3. **Turn the VALUE dial or use [INC][DEC] to set the patch type to "Rhythm."**

The rest of the procedure is the same as when choosing a Patch.

HINT

The value will change in larger steps if you turn the VALUE dial while holding down [VALUE].

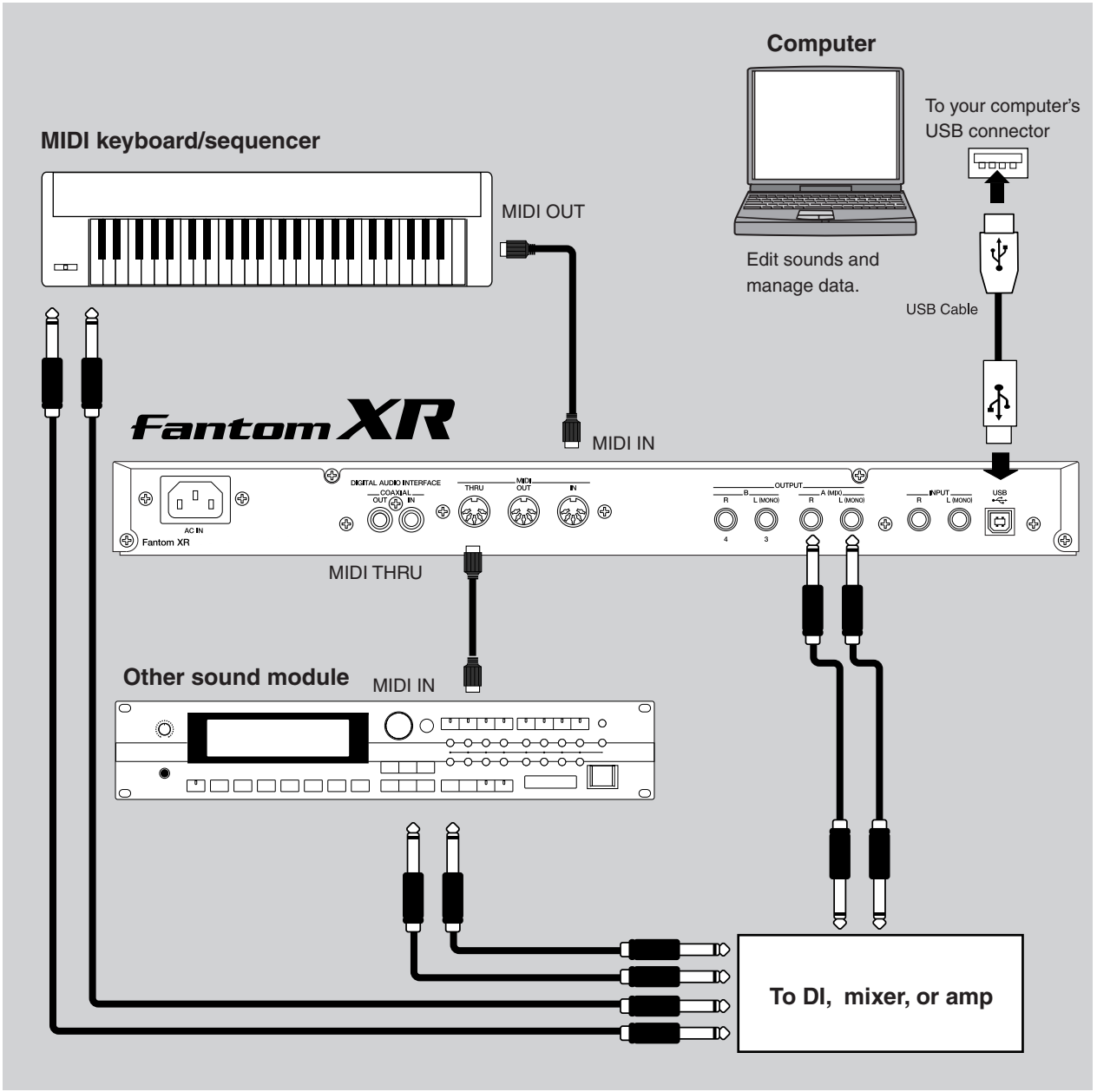
NOTE

There are no categories for rhythm sets, so you can't choose them by category.

Various connection examples

Connection example 1: Using the Fantom-XR as a sound module for live performance

Here's an example of using the Fantom-XR in your live performance setup.
Use the MIDI connectors to connect the Fantom-XR to your keyboard and your other sound modules, and use the USB connector for connections to the Fantom-X Editor or librarian. Since you can edit sounds or manage data via the USB connector, you'll be able to make last-minute changes at the gig.



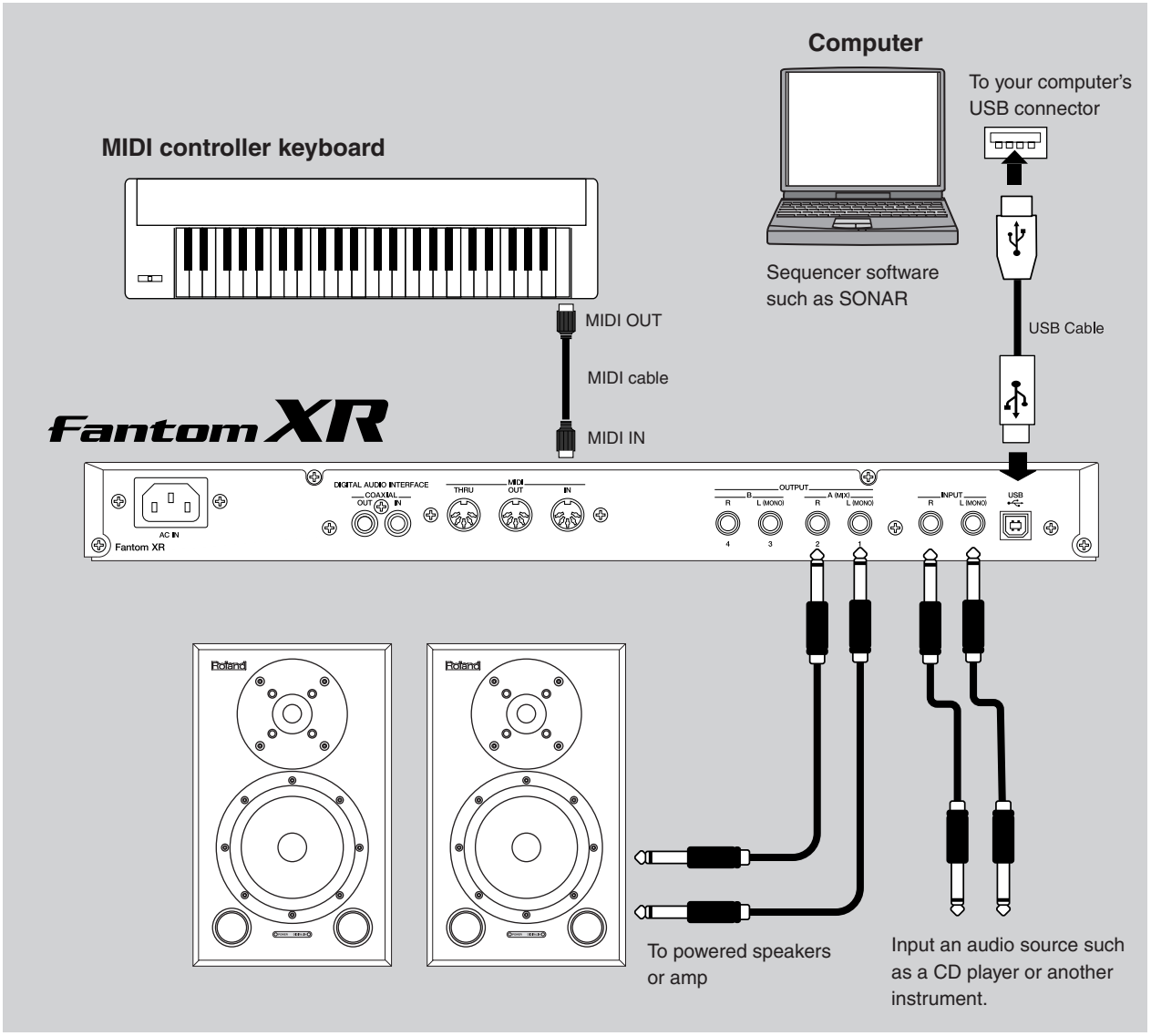
Parameter settings on the Fantom-XR:

USB Mode: MIDI (if using USB MIDI)/STORAGE (if transferring files)
-> Set this to MIDI mode so you can use the USB connector for the Fantom-X Editor.

Connection example 2: A compact production setup

Here's an example of using the Fantom-XR in a high-quality music production setup that doesn't occupy much space.

With the Fantom-XR functioning as a sound module and sampler, and your computer functioning as a hard disk recorder, you have a very compact setup that covers all the bases.



Parameter settings on the Fantom-XR:

USB Mode: MIDI (if using USB MIDI)/STORAGE (if transferring files)

-> Select the way in which you want to use the USB connector.

USB MIDI Thru: ON

-> Messages from MIDI IN will be sent without change to your computer via USB MIDI. Use this setting if you're using sequencer software.

Settings for the sequencer software on your computer:

Turn on the parameter named "MIDI Thru" or "Thru."

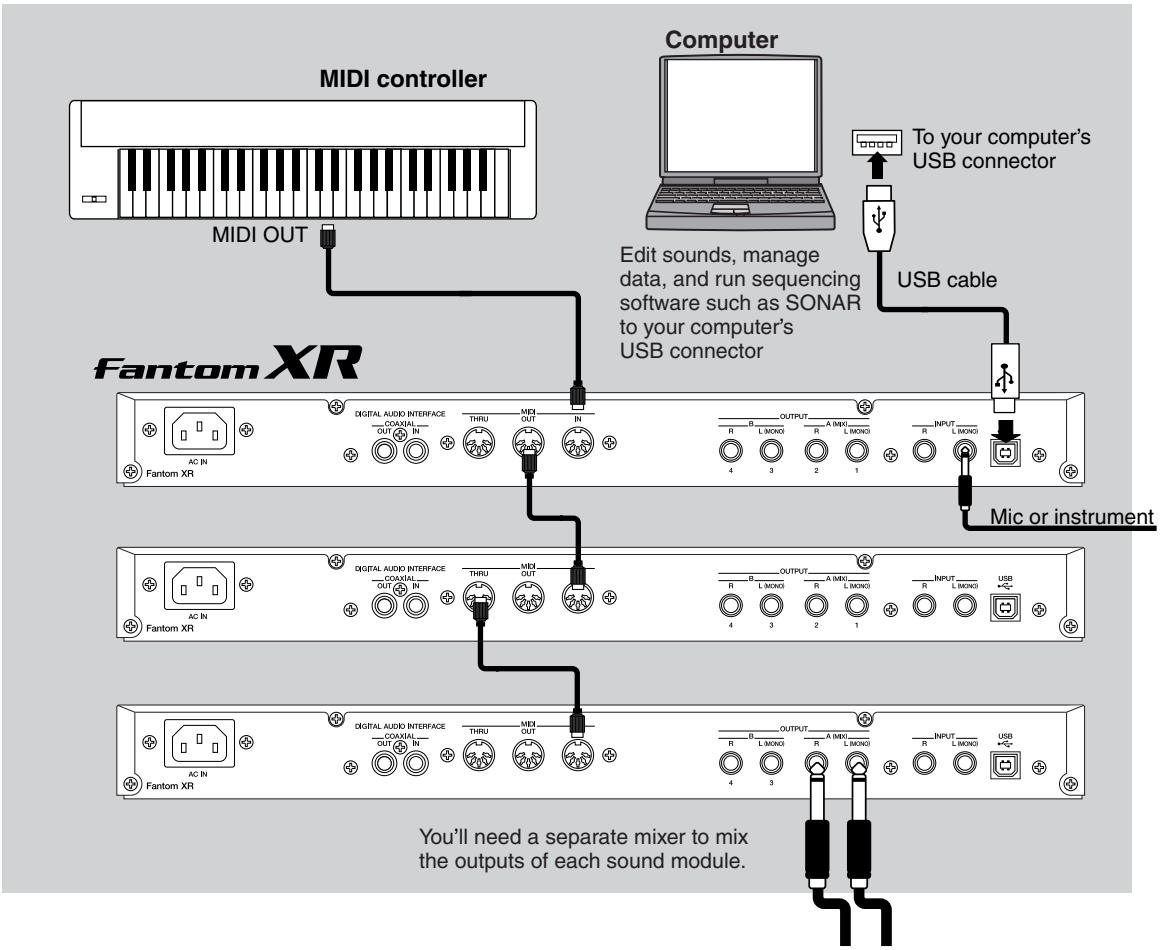
-> MIDI messages received by your sequencer software will be sent without change to the Fantom-XR via USB MIDI. This lets you listen to your sound module while recording in your sequencer software.

Connection example 3: Music production using more than one Fantom-XR

By using three Fantom-XR units as shown in the diagram below, you can assemble a powerful 384-voice music production environment in just three rack spaces.

Connect the first Fantom-XR via USB. This Fantom-XR will function as a MIDI interface, providing MIDI data to the second and third Fantom-XR.

To transfer data between Fantom-XR units, it's convenient to use CompactFlash or SmartMedia with a PC card adaptor. In particular, most notebook computers have a PC card slot, making this method very convenient.



Parameter settings on the Fantom-XR:

Unit 1 USB Mode: MIDI

-> In this example, we use the USB connector in MIDI mode.

USB MIDI Thru: ON

-> With this setting, data received at the Fantom-XR's MIDI IN is sent to your computer without change.

Units 2 and 3 No particular settings are necessary.

The same MIDI data will be sent to all sound modules. Use the Part Receive Switch (p. 92) settings on each sound module to make the module play only the data you intend.

Settings for the sequencer software on your computer:

Turn on the parameter named "MIDI Thru" or "Thru."

-> MIDI messages received by your sequencer software will be sent without change to the Fantom-XR via USB MIDI. This lets you listen to your sound modules while recording in your sequencer software.

Advanced Use

Overview of the Fantom-XR

Patch mode and Performance mode

The Fantom-XR has two modes; Patch mode and Performance mode. Use the mode that's most appropriate for the way you're playing.

Patch mode—playing or creating an individual sound

In Patch mode you can use a connected keyboard or other device to play a single Patch (p. 33) on the Fantom-XR. Since Patch mode lets you use a variety of effects on a single patch, you can play very rich textures.

In Patch mode it's also easy to edit the selected sound, so this is the mode to use when editing or creating your own sounds.

Performance mode—playing multiple sounds/creating songs

In Performance mode you can use multiple patches or rhythm sets simultaneously. A performance (p. 33) contains sixteen "Parts." You can assign a patch or rhythm set to each part, and use them as an ensemble, or layer sounds to create rich textures.

Since in Performance mode you can use an external MIDI device or sequencer software to independently control each of the Fantom-XR's sixteen parts, this is the mode to use when you're creating a song.

* *When the Fantom-XR is shipped from the factory, Patch mode is selected. If you leave the Fantom-XR in Patch mode and play back song data from an external MIDI device or sequencer software, you will hear only one Part of the song. In such cases, you'll need to switch the Fantom-XR to Performance mode.*

cf.

For details on switching between Patch mode and Performance mode, refer to p. 37.

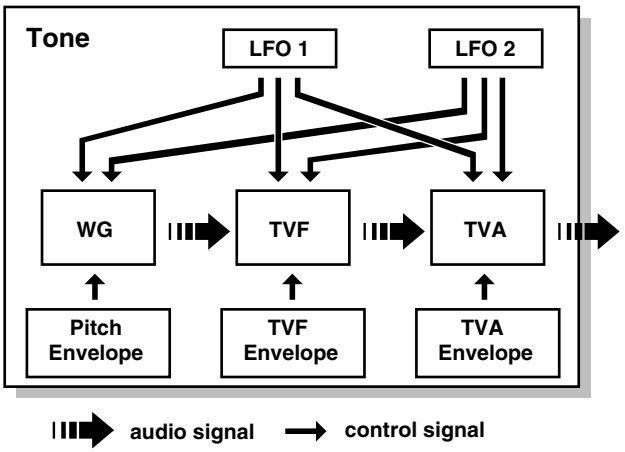
How the Fantom-XR Is Organized

Classification of Fantom-XR Sound Types

When using the Fantom-XR, 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-XR, 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-XR has 1,480 different waveforms. All patches built into the Fantom-XR 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)

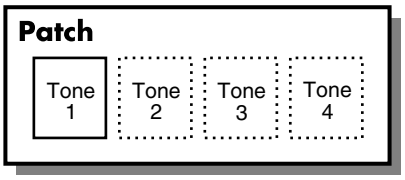
Use the LFO to create cyclic changes (modulation) in a sound. The Fantom-XR has two LFOs. Either one or both can be applied to effect the WG (pitch), TVF (filter) and/or TVA (volume). When an LFO is applied to the WG pitch, a vibrato effect is produced. When an LFO is applied to the TVF cutoff frequency,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

NOTE

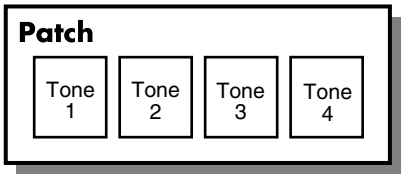
LFO is not included in the rhythm tones (percussion instrument sounds).

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. 51).



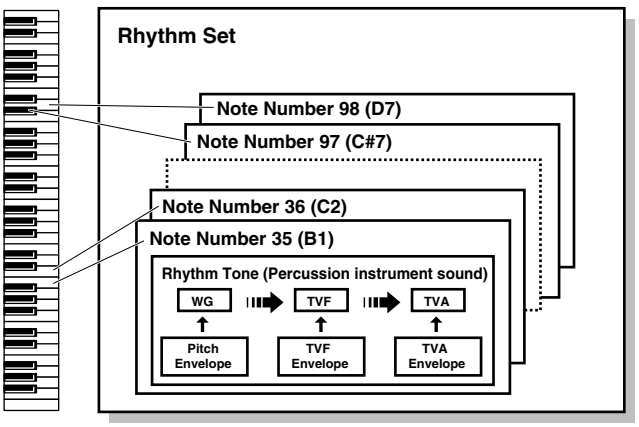
Example 1:A Patch consisting of only one Tone (Tones 2–4 are turned off).



Example 2: A Patch consisting of four Tones.

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)

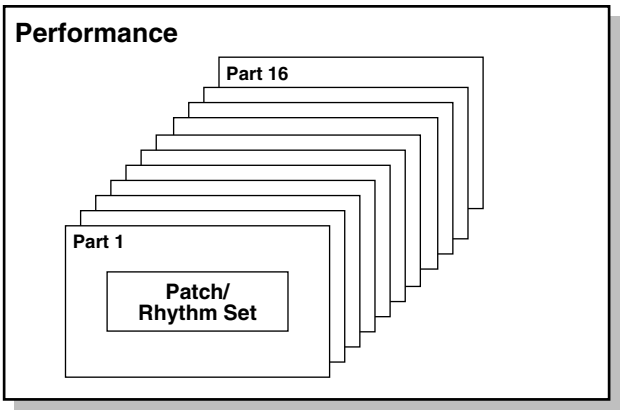
TVA (Time Variant Amplifier)

Envelope

Performances

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

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



Part

On the Fantom-XR, a "part" is something to which you assign a patch or rhythm set. 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-XR can play a maximum of 128 sounds simultaneously. The following paragraphs discuss what this means, and what will happen when more than 128 simultaneous voices are requested from the Fantom-XR.

Calculating the Number of Voices Being Used

The Fantom-XR is able to play up to 128 notes simultaneously. The polyphony, or the number of voices (sounds) does not refer only to the number of patches 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 patches being played) x (Number of tones used by patches being played) x (Number of waves used in the tones)

For example, a patch that combines four tones, each of which use two waves, will use eight notes of polyphony at once. 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-XR is requested to play more than 128 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 Patch Priority setting (p. 49).

Patch Priority can be set either to "LAST" or "LOUDEST." When "LAST" is selected, a newly requested note that exceeds the 128 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. 92). When a note within a patch needs to be turned off to make room for a new note, the Patch Priority setting of the patch will apply (p. 49).

Voice Reserve

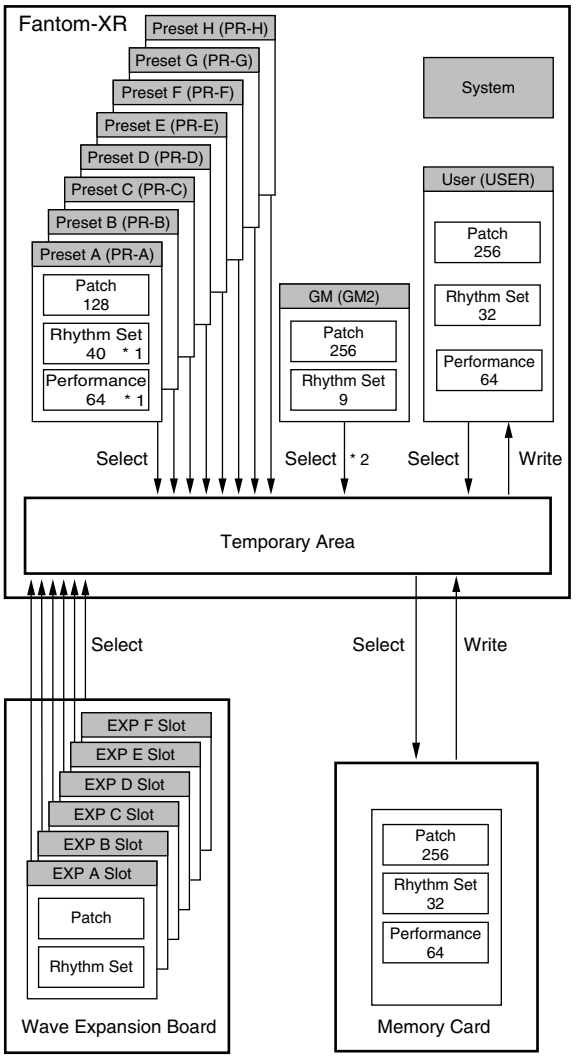
The Fantom-XR has a Voice Reserve function that lets you reserve a minimum number of notes that will always be available for each part. For example if Voice Reserve is set to "10" for part 16, part 16 will always have 10 notes of sound-producing capacity available to it even if a total of more than 128 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. 92).

MEMO

It is not possible to make Voice Reserve settings that would cause the total of all parts to be greater than 128 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 Fantom-XR, 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-XR functions.

User Memory

User memory is where you normally store the data you need.

Memory Card

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-XR can be equipped with up to six Wave Expansion Boards (optional: 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-XR 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 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, you can use one multi-effect.

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-XR. 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.

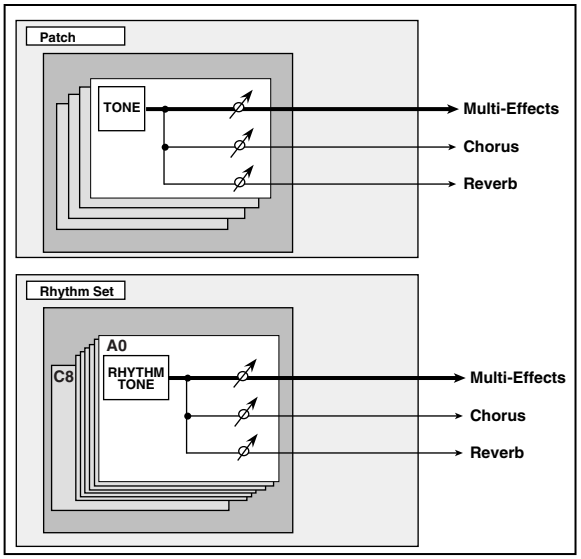
Input Effect

This is an effect dedicated to external input. It provides effects that are especially suitable for use when sampling sounds from an external audio source.

How Effects Units Work in Different Modes

In Patch Mode

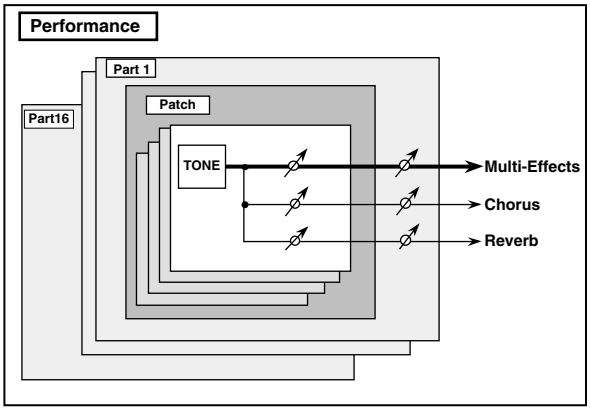
The multi-effects, chorus and reverb effects can be set up individually for each patch/rhythm set. Adjusting the signal level to be sent to each effects unit (Send Level) provides control over the effect intensity that's applied to each tone.



* *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.

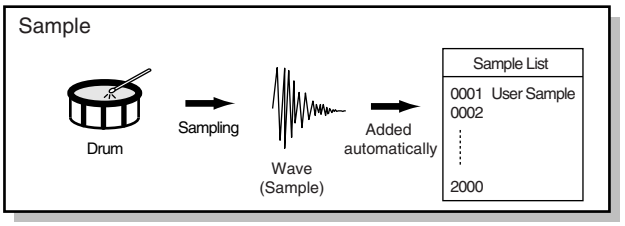


About the Sampling Section

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

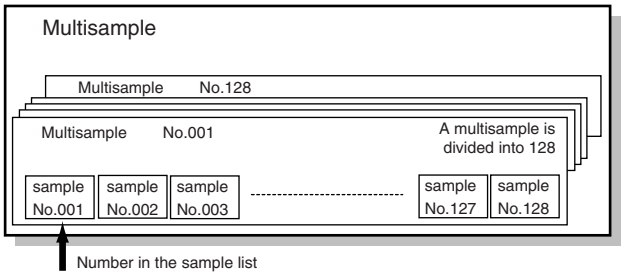
A **sample** contains the waveform data sampled by the Fantom-XR. In addition to the actual waveform data itself, a sample also contains parameters such as start point, loop start, and loop end. The Fantom-XR can hold 9,000 samples.



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.

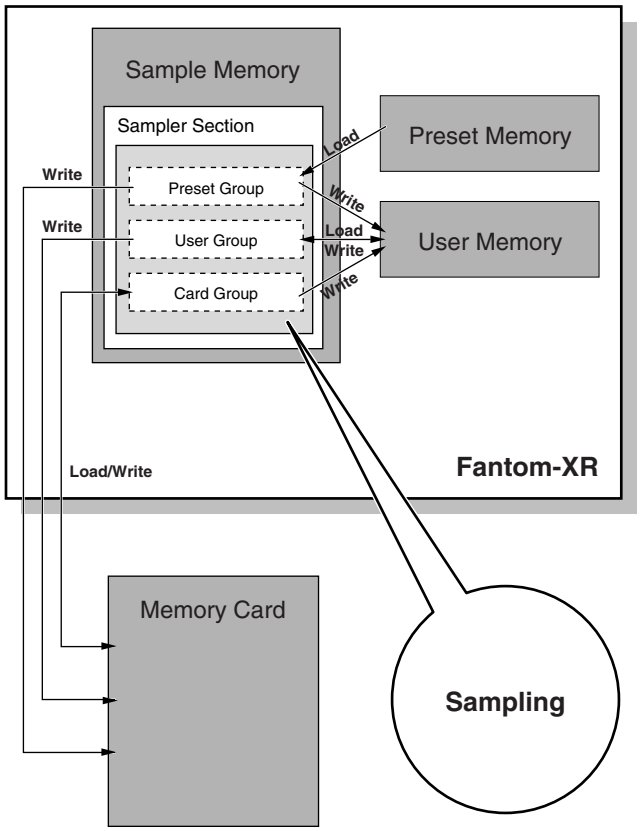
The Fantom-XR has 128 internal samples (preset samples), and in addition can store up to 128 user samples in a separately sold memory card.



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-XR

Switching the Sound Generator Mode

The Fantom-XR 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-XR. Use the following procedure to switch between these modes.

Patch mode

This mode allows you to play individual sounds (patches/rhythm sets).

To select Patch mode

1. Press [MODE] so the button lights in red.

Performance mode

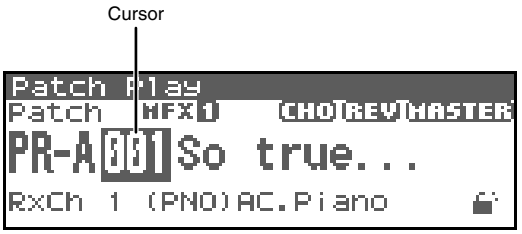
To select Performance Mode

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

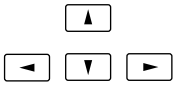
1. Press [MODE] so the button lights in green.

Moving the Cursor

A single screen 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.

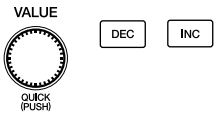
▶ : moves the cursor to the right.

TIP

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.



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

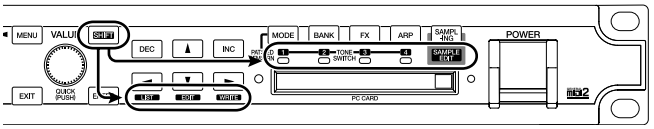
Rotating the VALUE dial clockwise increases the value, counterclockwise decreases the value. If you push in on the VALUE dial while you turn it, the value will change in larger steps.

[INC] and [DEC]

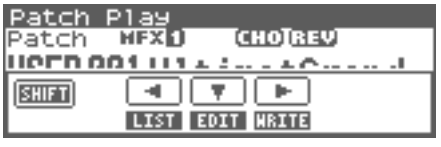
Pressing [INC] increases the value, and [DEC] decreases it. Keep the button pressed for continuous adjustment. For faster value increases, keep [INC] pressed down and press [DEC]. For decreasing value faster, keep [DEC] pressed down and press [INC].

About the [SHIFT] button

The Fantom-XR's [SHIFT] button works only in conjunction with other buttons. In general, you use the [SHIFT] button together with buttons that have a function printed on the panel in white characters (on a dark background).



When you press [SHIFT] a screen will appear, informing you which buttons you can press next to perform various functions. This lets you perform the desired operation with confidence, regardless of the screen in which you are. For example, if you press [SHIFT] in the Patch Play screen, the following screen will appear.



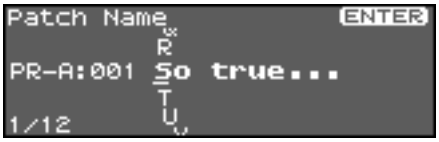
This screen means that you can now press [◀] [▼] [▶] to perform the "LIST" (view a list), "EDIT" (edit settings), or "WRITE" (write settings) operations, respectively.

* *The window that appears when you press [SHIFT] will depend on the screen that you've selected.*

Assigning a Name

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

1. Press ◀ or ▶ to move the cursor to the location where you wish to input a character.



2. Turn the VALUE dial, or use [INC][DEC] to specify the character.

- Press [SHIFT] so it lights, and then press [DEC].
  Deletes the character at the cursor location, and moves the subsequent characters one space forward.
- Press [SHIFT] so it lights, and then press [DEC].
  Inserts a space at the cursor location.
- ◀ or ▶
  Move the cursor.
- ▲, ▼
  Switch between uppercase and lowercase letters.

* *If you decide to discard your input, press [EXIT].*

Available characters/symbols are:

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

Using keywords to input a name

You can also select and input individual words (keywords) frequently used in a patch name. For example, this is a quick way to input names of instruments such as "Piano" or "Guitar," or related terms such as "Control" or "Dance."

1. In the screen of step 1, move the cursor to the location at which you want to input the keyword.

2. Press the VALUE dial.
The indication "KEYWORD" will appear at the bottom of the screen.

3. Turn the VALUE dial to select a keyword.

4. Press [ENTER].
The keyword will be input at the cursor location.

Playing in Patch Mode

Patch mode is used to play a single sound (patch/rhythm set).

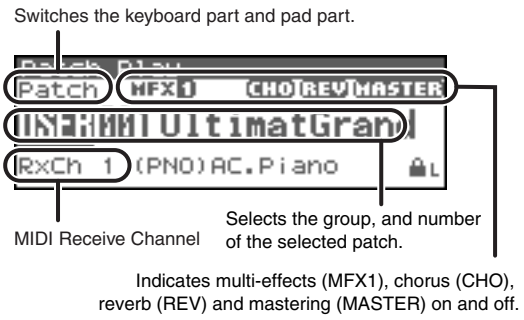
About the Patch Play Screen

Displaying Patch Play Screen

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

1. **Press [MODE] so the button lights in red.**
   You will enter Patch mode, and the Patch Play screen will appear.

Functions in the Patch Play screen



Auditioning Patches (Phrase Preview)

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

1. **Press OUTPUT knob.**
   The patch selected in the Patch List screen will be sounded.

2. **Press OUTPUT knob again, and the phrase will stop playing.**

   cf.

   If you wish to change how the phrase is played by Phrase Preview, you can edit the Preview Mode parameter (p. 160).

Selecting a Patch

The Fantom-XR has eight patch groups, including the User group and Preset groups A–H 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 six optional Wave Expansion Boards (optional: SRX series), enabling you to select from a huge assortment of available patches.

USER

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

PR-A–H (Preset A–H)

This is the group inside the Fantom-XR which cannot be rewritten. However you may modify the settings of the currently selected patch, and then store the modified patch in User memory. Groups A–H already contain 128 prepared patches each, for a total of 1024 patches.

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-XR includes 256 preset patches.

CARD (Memory Card)

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

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

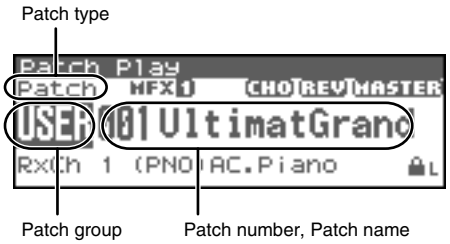
These are groups used when using patches from Wave Expansion Boards installed in the EXP A–F slots, and cannot be rewritten. However you may modify the settings of the currently selected patch, and then store the modified patch in User memory and Memory card. The number of onboard patches depends on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

NOTE

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

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

1. In the Patch Play screen, press [CURSOR] to move the cursor to the patch group.



2. Turn the VALUE dial or use [INC][DEC] to select the patch group.

* *You can also use [GROUP] to select a performance group.*

USER: User
PR-A–H: Preset A–H
CARD: Memory card
GM: Preset GM (GM2)
XP-A–F: Wave Expansion Boards installed in EXP-A–F Slots

3. Press ◀ or ▶ to move the cursor to the patch number.

4. Turn the VALUE dial or use [INC][DEC] to select the patch.

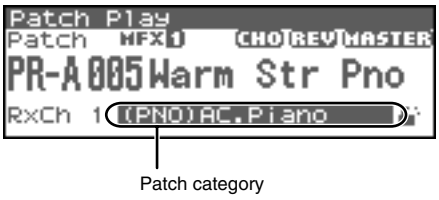
Selecting Patches by Category

The Fantom-XR provides a "Patch Search function" which allows you to specify a type (category) of patch so that you can quickly find the desired patch.

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

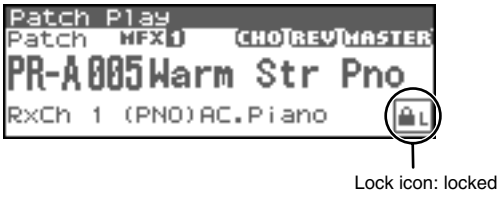
1. **In the Patch Play screen, press [CURSOR] to move the cursor to the patch category.**



2. **Turn the VALUE dial or use [INC][DEC] to switch the patch category.**

3. **Press [CURSOR] to move the cursor to the Lock icon.**

4. **Turn the VALUE dial or use [INC] to lock the category.**
You can lock the category so that only the patches within that category will appear when selecting a patch. If you are successively selecting patches with the category unlocked, you may unknowingly begin selecting patches from the next category. Locking the category will prevent this.



MEMO

To unlock the category, turn the VALUE dial or use [DEC].

5. **Press ▲ to move the cursor to the patch number.**

6. **Turn the VALUE dial or use [INC][DEC] to select the patch.**
You can select sounds within a category regardless of the patch group.

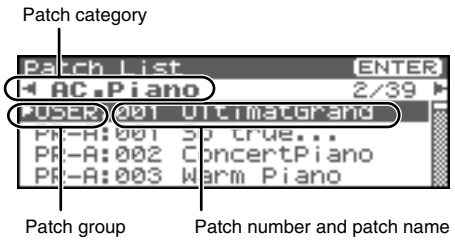
Selecting Patches from the List

You can display a list of patches and select a patch from that list. You can use any of the following methods to select a patch.

- Selecting Patches by Category (p. 42)
- Selecting Patches by Group (p. 43)
- Selecting Favorite Patches (Favorite Patch) (p. 43)
- Selecting Patches by keywords (p. 44)
- Selecting Rhythm sets by Group (p. 43)

Selecting Patches by Category

1. **In the Patch Play screen, press [SHIFT] so it lights, and then press ◀.**
The Patch List screen will appear.



2. **Press ◀ or ▶ to switch the patch category, and turn the VALUE dial or use [INC][DEC] to select the patch.**

3. **Press [ENTER] to confirm your choice of patch.**
To cancel, press [EXIT].

MEMO

You can select patches in the same way by choosing "Patch List (Categ)" in step 3 of **"Selecting Patches/Rhythm sets by Group"** (p. 43).

Selecting Patches/Rhythm sets by Group

1. **In the Patch Play screen, press [SHIFT] so it lights, and then press ◀.**
   The Patch List screen will appear.

2. **Press [MENU].**
   The Patch List Menu screen will appear.

3. **Use ▲ or ▼ to select "Patch List (Group)."**
   If you select a rhythm set, select "Rhythm Set List."

4. **Press [ENTER].**
   The Patch List Menu or Rhythm Set List screen will appear.

5. **Press ◀ or ▶ to switch the patch group, and turn the VALUE dial or use [INC][DEC] to select the patch.**

6. **Press [ENTER] to confirm your choice of patch.**
   To cancel, press [EXIT].

Selecting Favorite Patches

You can bring together your favorite and most frequently used patches in one place by registering them in the Favorite Patch. 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 Patch, it cannot be selected unless the corresponding wave expansion board is installed.

1. **In step 3 of "Selecting Patches/Rhythm sets by Group" (p. 43), choose "Favorite Patch."**

2. **Press [ENTER].**
   The Favorite Patch screen will appear.

3. **Press ◀ or ▶ to switch the bank, and turn the VALUE dial or use [INC][DEC] to choose the patch.**

4. **Press [ENTER] to confirm your choice of patch.**
   To cancel, press [EXIT].

Registering a Favorite Patch/ Rhythm Sets

You can register a total of 64 sounds (8 sounds x 8 banks) as favorite patches.

1. **Select the patch or rhythm set that you want to register (p. 40).**
2. **In step 3 of "Selecting Patches/Rhythm sets by Group" (p. 43), choose "Favorite Patch."**
3. **Press [ENTER].**
   The Favorite Patch screen will appear.
4. **Press ◀ or ▶ to select the Bank.**
5. **Press ▲ or ▼ to select a number.**
6. **Press [MENU].**
   The Favorite Patch Utility screen will appear.
7. **Use ▲ or ▼ to select "Regist," then press [ENTER].**
   The selected patch or rhythm set will be registered in the Favorite Patch.

* *To cancel, press [EXIT].*

TIP

By pressing OUTPUT knob you can audition the sound of the registered patch (Phrase Preview).

Canceling a patch registration

By selecting "Remove" in the above step 7., you can cancel the patch registration that is selected in the Favorite Patch screen.

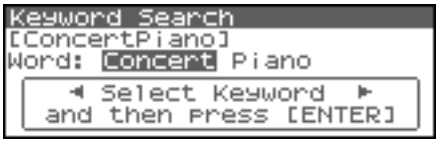
Selecting Patches by Keywords (Keyword Search)

The Fantom-XR lets you search for patches by keywords within the patch name. For example, if you search for piano sounds using the keyword "Piano," you'll see a list of sounds containing the characters "Piano."

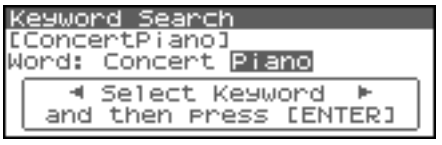
1. **In the [Patch Play] screen, select a sound that contains a keyword.**

* *As an example, we'll use the keyword "Piano."*

2. **In step 3 of "Selecting Patches/Rhythm sets by Group" (p. 43), choose "Keyword Search."**
3. **Press [ENTER].**
   The Keyword Search screen will appear.



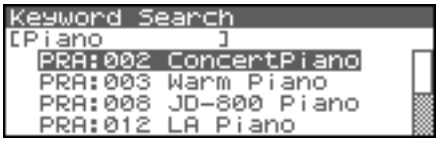
4. **Press ◀ or ▶ to select a keyword.**
   Press ▶ to select "Piano."



TIP

You can press ▲ or ▼ to search for keywords within the Fantom-XR in alphabetical order. This lets you find keywords that are similar to the currently selected keyword.

5. **Press [ENTER].**
   Sound names containing the characters "Piano" will be listed.



If the list doesn't contain the sound you want, you can press ◀ to return to the previous list and re-select a different keyword.

6. **Either turn the VALUE dial or use [INC][DEC] to select a patch.**
7. **Press [ENTER] to confirm your choice of patch.**
   If you decide to cancel, press [EXIT].

Playing Percussion Instruments

In Patch mode, you can play percussion instruments. Each rhythm set contains many different instrumental sounds, allowing you to play a wide range of percussion instruments.

Selecting a Rhythm Set

The Fantom-XR has four rhythm set groups, including the User group, Preset group and GM group, with 32 rhythm sets in the User group, 40 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 (optional: SRX series), enabling you to select from a large selection of rhythm sets.

USER

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

PRST (Preset)

This is the group inside the Fantom-XR 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-XR contains 40 preset rhythm sets.

CARD (Memory Card)

This group lets you use patches stored on a memory card inserted in the front 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-XR includes nine preset rhythm sets.

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

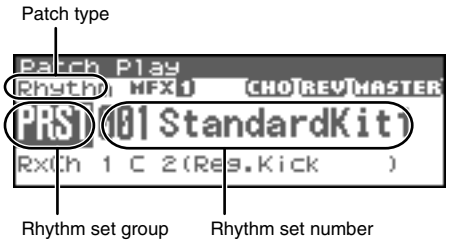
These groups are for when using rhythm sets from a Wave Expansion Board installed in slots EXP A–F, and cannot be rewritten. However, you can modify the settings of the currently selected rhythm set, and then save the modified settings in User memory and Memory card. The number of onboard rhythm sets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

NOTE

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

* *Make sure that the Patch Type is set to "Rhythm." If this is set to "Patch," use [CURSOR] to move the cursor to "Patch," and turn the VALUE dial or press [INC] to select "Rhythm."*

1. In the Patch Play screen, press ◀ or ▶ to move the cursor to the rhythm set group.



2. Turn the VALUE dial or use [INC][DEC] to select the rhythm set group.

* *You can also use [GROUP] to select a performance group.*

USER: User
PRST: Preset
CARD: Memory card
GM: Preset GM (GM2)
XP-A–F: Wave Expansion Boards installed in EXP-A–F Slots

3. Press ◀ or ▶ to move the cursor to the rhythm set number.

4. Turn the VALUE dial or use [INC][DEC] to select the rhythm set.

TIP

You can select favorite rhythm sets in the same way as when selecting patches. For details on the procedure, refer to **"Selecting Favorite Patches"** (p. 43).

Creating a Patch

With the Fantom-XR, you have total control over a wide variety of settings. Each item that can be set is known as a **parameter**. This chapter explains the procedures used in creating patches, and the functions of the patch parameters.

MEMO

The included Fantom-X editor lets you edit the Fantom-XR's settings from your computer in a convenient graphical environment (p. 163).

How to Make Patch Settings

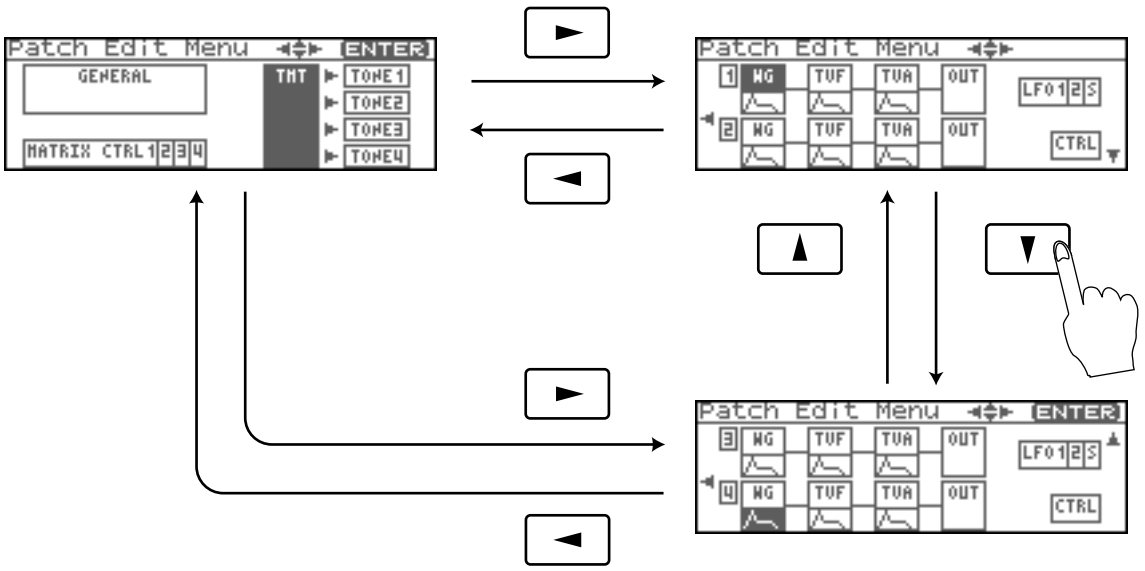
Start with an existing patch and edit it to create a new patch. Since a patch is a combination of up to any four tones, you should listen to how the individual tones sound before you edit.

Four Tips for Editing Patches

- **Select a patch that is similar to the sound you wish to create (**p. 40**).**
  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. 47**).**
  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. 51**).**
  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. 132**).**
  Since the Fantom-XR 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.

Patch Edit Menu screen structure

Patch editing is done in the Patch Edit Menu screen (p. 46). The Patch Edit Menu screen is organized as follows.



How to Make Patch Settings

1. Select the patch in the Patch Play screen (p. 40).

NOTE

You cannot edit the patches in the GM2 group.

TIP

If you want to create a patch from scratch (rather than starting from an existing patch), execute the **Initialize** operation (p. 69).

2. Press [SHIFT] so it lights, and then press ▼.

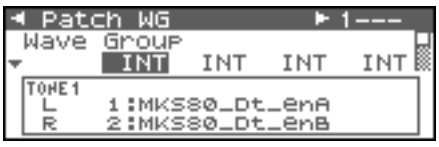
The Patch Edit Menu screen will appear.

3. Refer to "Patch Edit Menu screen structure" (p. 46), and turn the VALUE dial or use [CURSOR] to select the edit group containing the patch parameter you want to adjust.

4. Press the VALUE dial or [ENTER].

The Patch Edit screen will appear.

The screen that you see will depend on the edit group of the selected parameter.



cf.

"Functions of Patch Parameters" (p. 49)

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

TIP

You can also press ◀ or ▶ to move to an edit group of another parameter.

6. If you want to edit a parameter for a specific tone, press ◀ or ▶ to select the tone that you want to edit.

MEMO

You can press [SHIFT] so it lights, and then press [INC] to successively turn on the tone located at the right of the selected tone. Pressing [DEC] will turn off the tone.

cf.

If you want to select one or more tones, use the Tone Select screen (p. 47).

7. Turn the VALUE dial or use [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 3 (or 5) -7 to set each parameter you want to edit.

9. Save the changes you've made (p. 69).

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, the indication "E" is displayed in the upper right of the Patch Play screen. This "E" indication disappears when you save the patch to the Fantom-XR's internal user memory or to the memory card.

NOTE

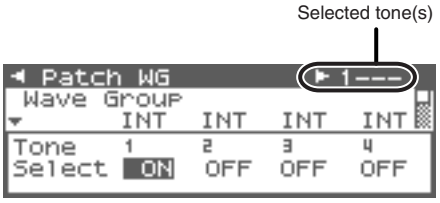
If you turn off the power or select a different sound while the display indicates "E," your edited patch will be lost.

Selecting the Tone to edit (Tone Select)

When editing parameters that apply to a specific tone, here's how to specify the tone you want to edit.

1. In the Patch Edit screen, press [ENTER].

The Tone Select screen will appear.



MEMO

Another way to access the Tone Select screen is to press [MENU] in the Patch Edit screen to access the Patch Utility screen, then choose "Tone Select" and press [ENTER].

2. Press ◀ or ▶ to select a tone, and turn the VALUE dial or use [INC][DEC] to switch the tone you're editing on/off.

* *You can't switch all tones off.*

3. When you have made your selection, press [EXIT] to close the Tone Select screen.

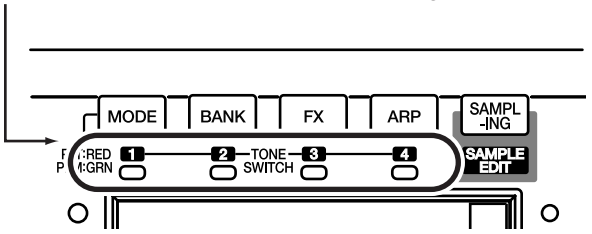
Selecting the Tones That Will Sound (Tone Switch)

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. Select the patch in the Patch Play screen (p. 40).

2. Press [SHIFT] so it lights, and press [MODE] (Tone 1), [GROUP] (Tone 2), [FX] (Tone 3), or [ARP] (Tone 4) to switch the corresponding tone on/off.

If a tone is switched on, its indicator will light.



TIP

If you don't need a tone, save the patch with that tone switched off. This will conserve polyphony.

Cautions When Selecting a Waveform

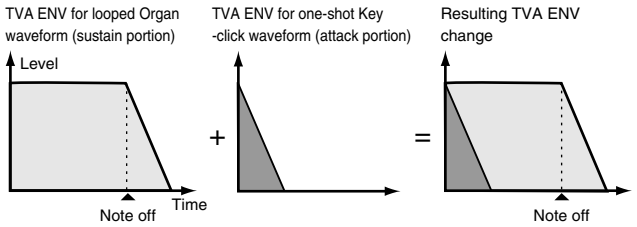
The sounds of the Fantom-XR are based on complex PCM waveforms, and if you attempt to make settings that are contrary to the type of the original waveform, the results will not be as you expect.

The internal waveforms of the Fantom-XR 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-XR's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The Fantom-XR 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-XR'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.

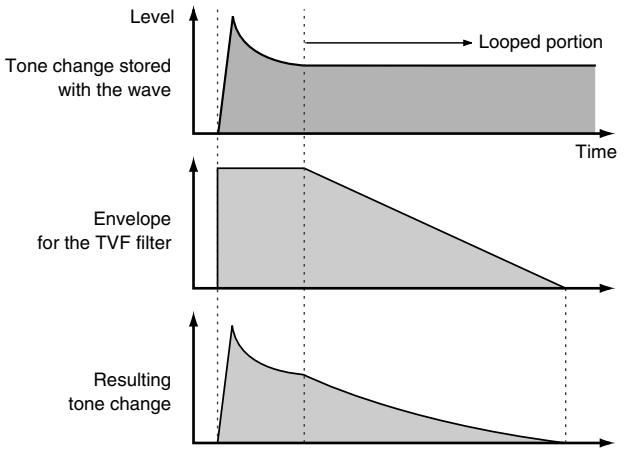


Cautions When Using a One-shot Waveform

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.



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. 66).

Settings Common to the Entire Patch (GENERAL)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch General

Patch Category

Specifies the type (category) of the patch.

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

cf.

For details on the possible category names, refer to p. 41.

Patch Level

Specifies the volume of the patch.

Value: 0–127

Patch Pan

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 (128 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

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

Value: -50– +50

MEMO

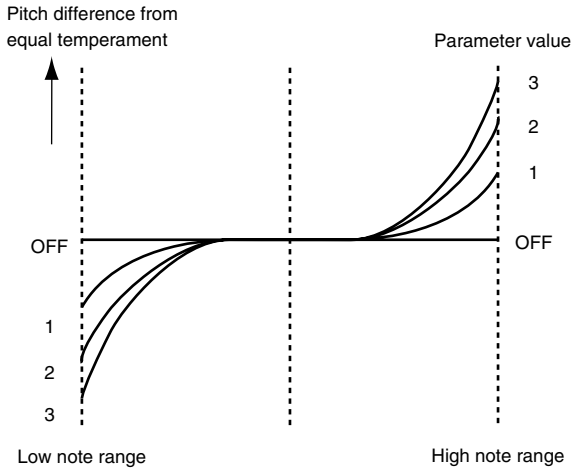
One cent is 1/100th of a semitone.

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)

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. 58).

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. 58).

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. 62), F-Env Time 1 parameters (p. 60).

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. 62), F-Env Time 4 parameters (p. 60).

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. 59)

Level V-Sens parameter (p. 60)

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.

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 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.

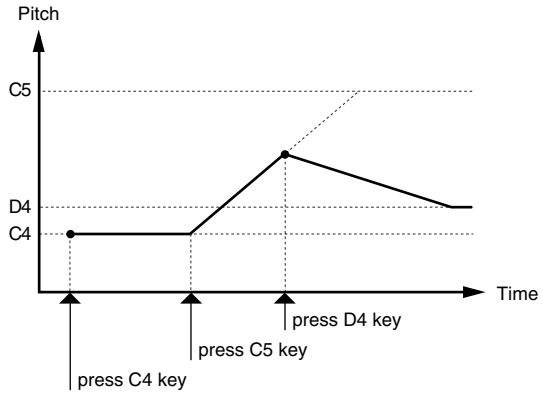
TIME: The time it takes will be constant, regardless of how far apart in pitch the notes are.

Portamento Start

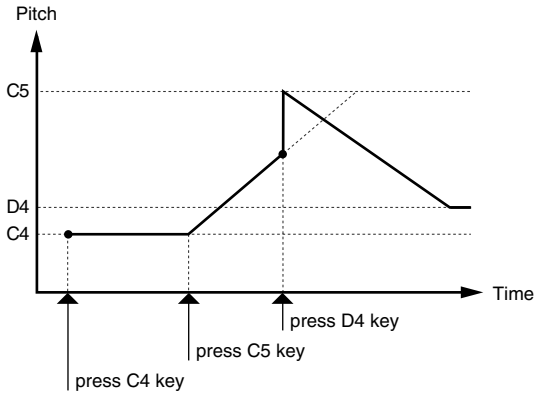
When another key is pressed during a pitch change produced by portamento, a new pitch change will begin. This setting specifies the pitch at which the change will begin.

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

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).

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

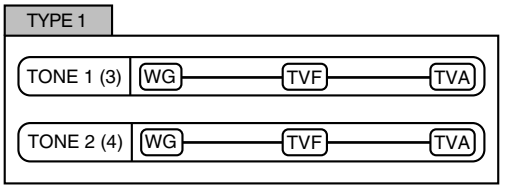
Patch TMT

Structure Type 1 & 2, 3 & 4

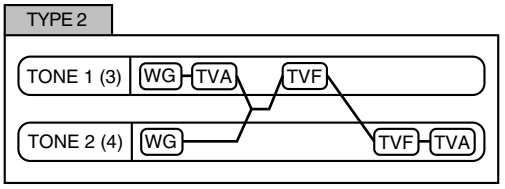
Determines how tone 1 and 2, or tone 3 and 4 are connected.

Value: 1–10

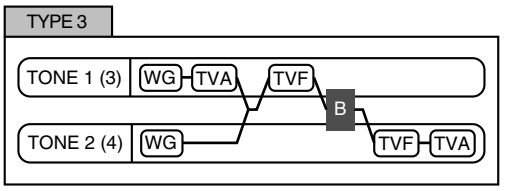
The following 10 different Types of combination are available.



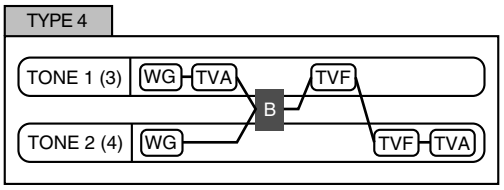
With this type, tones 1 and 2 (or 3 and 4) are independent. Use this type when you want to preserve PCM sounds or create and combine sounds for each tone.



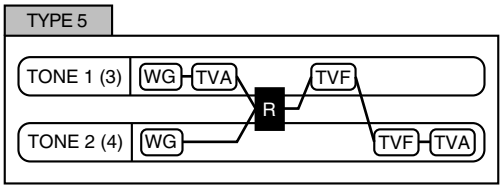
This type stacks the two filters together to intensify the characteristics of the filters. The TVA for tone 1 (or 3) controls the volume balance between the two tones.



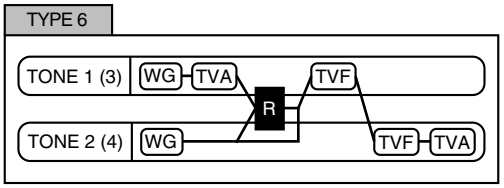
This type mixes the sound of tone 1 (3) and tone 2 (4), applies a filter, and then applies a booster to distort the waveform.



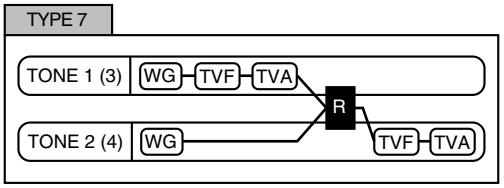
This type applies a booster to distort the waveform, and then combines the two filters. The TVA for tone 1 (or 3) controls the volume balance between the two tones and adjusts booster level.



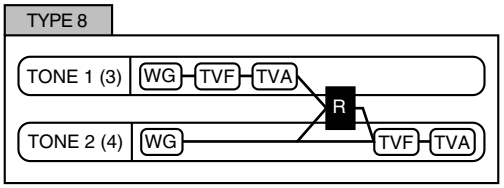
This type uses a ring modulator to create new overtones, and combines the two filters. The tone 1 (3) TVA will control the volume balance of the two tones, adjusting the depth of ring modulator.



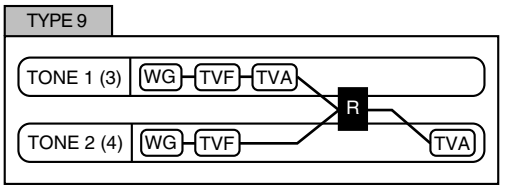
This type uses a ring modulator to create new overtones, and in addition mixes in the sound of tone 2 (4) and stacks the two filters. Since the ring-modulated sound can be mixed with tone 2 (4), tone 1 (3) TVA can adjust the amount of the ring-modulated sound.



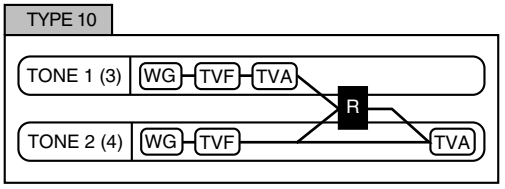
This type applies a filter to tone 1 (3) and ring-modulates it with tone 2 (4) to create new overtones.



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.



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.

- 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. 53) or limit the range of velocities for which it will sound (Velocity Range p. 54), 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.

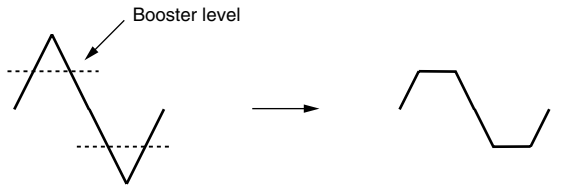
Booster 1&2, 3&4 (Booster Gain)

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.

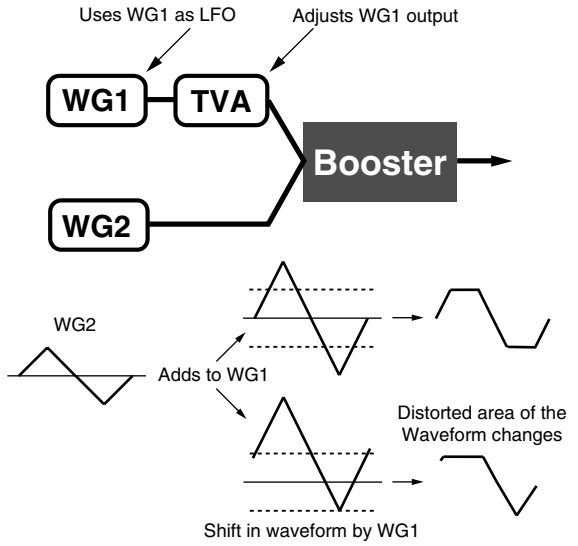
Value: 0, +6, +12, +18

Booster

The Booster is used to distort the incoming signal.



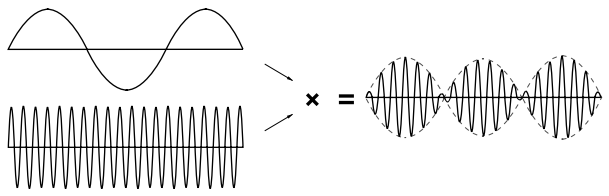
In addition to using this to create distortion, you can use the waveform (WG1) of one of the tones as an LFO which shifts the other waveform (WG2) upward or downward to create modulation similar to PWM (pulse width modulation). This parameter works best when you use it in conjunction with the Wave Gain parameter (p. 54).



Ring Modulator

A ring modulator multiplies the waveforms of two tones with each other, generating many new overtones (in harmonic 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)

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

Value: C-1–UPPER

Key Range Upper (Keyboard Range Upper)

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

Value: LOWER–G9

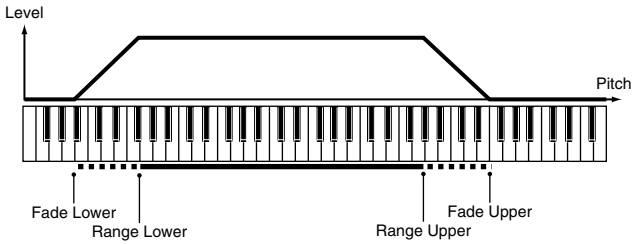
NOTE

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. 54). 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)

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)

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.

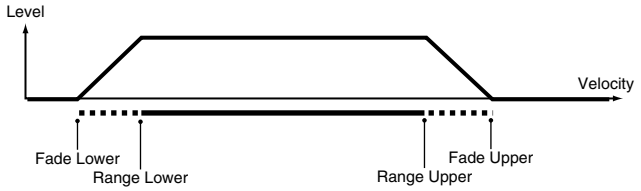
MEMO

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. 53). 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. 53) to "OFF."

Modifying Waveforms (WG)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch WG

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 INT: A, B

When the wave group is EXP: A–F

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 will appear 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.)

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

Wave Gain

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. 53).

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 and FXM-related settings 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. 56) 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

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

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 ★

Specifies the depth of the modulation produced by FXM.

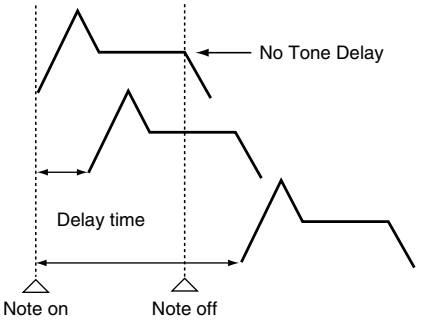
Value: 0–16

Tone Delay Mode

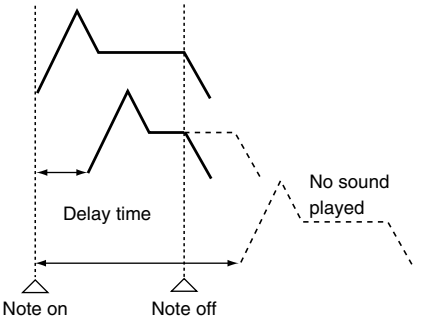
Selects the type of tone delay.

Value

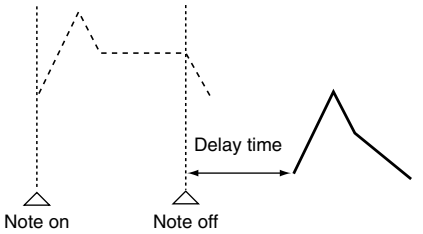
NORM: The tone begins to play after the time specified in the Delay Time parameter has elapsed.



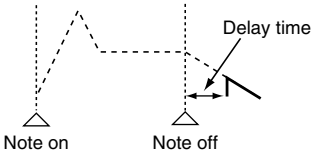
HOLD: Although the tone begins to play after the time specified in the Delay Time parameter has elapsed, if the key is released before the time specified in the Delay Time parameter has elapsed, the tone is not played.



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 external MIDI 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. 51).

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 an external MIDI 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 Coarse Tune ★

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

Value: -48– +48

Tone Fine Tune ★

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

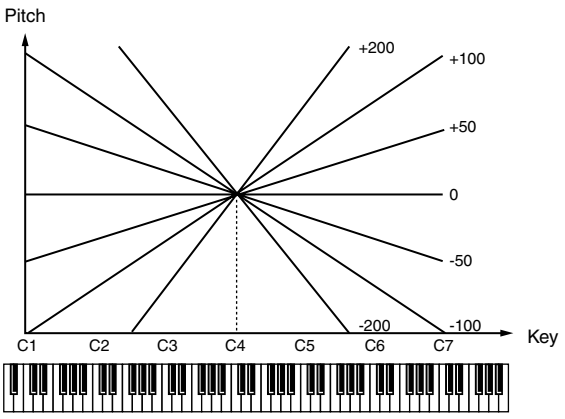
This specifies the width of random pitch deviation that will occur each time a key is pressed. If you do not want the pitch to change randomly, set this to "0." These values are in units of cents (1/100th of a semitone).

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 Keyfollow

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

Patch Pitch Env (Patch Pitch Envelope)

P-Env Depth (Pitch 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)

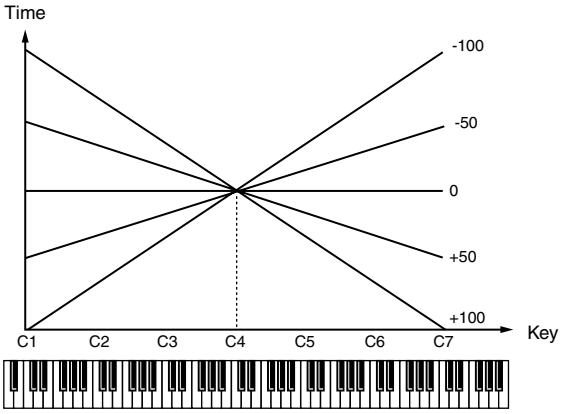
Use this parameter when you want key release speed to affect the Time 4 value of the pitch envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

P-Env Time KF (Pitch Envelope Time Keyfollow)

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.

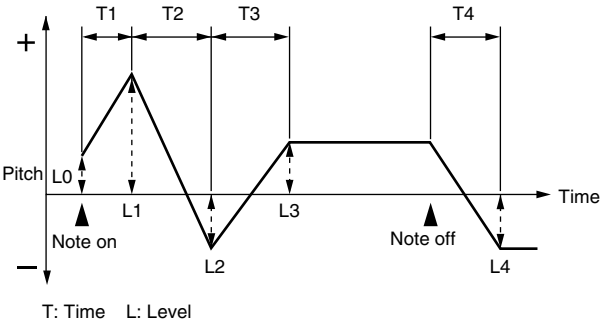
Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



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

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)

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)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch TVF

Filter Type

Selects the type of filter. A filter cuts or boosts a specific frequency region to change a sound's brightness, thickness, or 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 tones.

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. 58).

Cutoff Frequency ★

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.

TIP

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. 49).

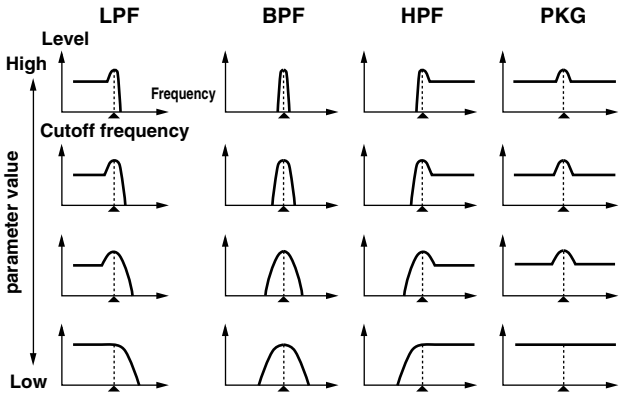
Resonance ★

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

TIP

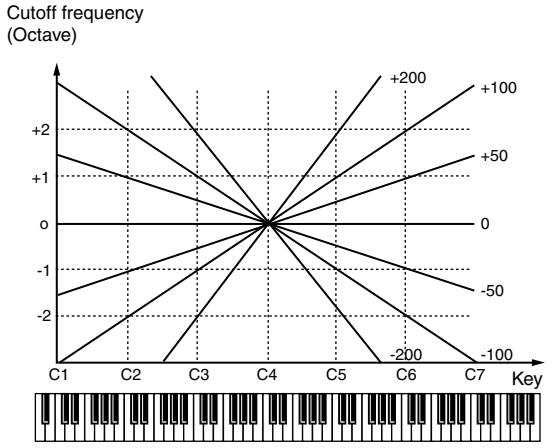
To edit the overall patch while preserving the relative differences in the Resonance values set for each tone, set the Resonance Offset parameter (p. 50).



Cutoff Keyfollow

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" if you don't want the Cutoff frequency to be affected by the keyboard velocity.

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

TIP

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. 50). However, this setting is shared by the Level V-Sens parameter (p. 60).

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

Patch TVF Env (Patch TVF Envelope)

F-Env Depth (TVF Envelope Depth)

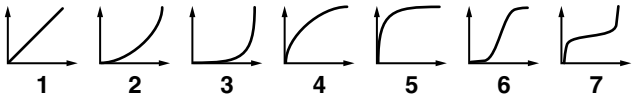
Specifies the depth of the TVF envelope. Higher settings will cause the TVF envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.

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 "FIX" if you don't want the TVF Envelope to be affected by the keyboard velocity.

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)

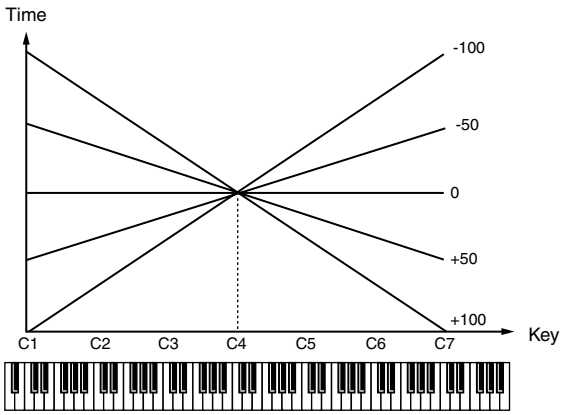
The parameter to use when you want key release speed to control the Time 4 value of the TVF envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

F-Env Time KF (TVF Envelope Time Keyfollow)

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.

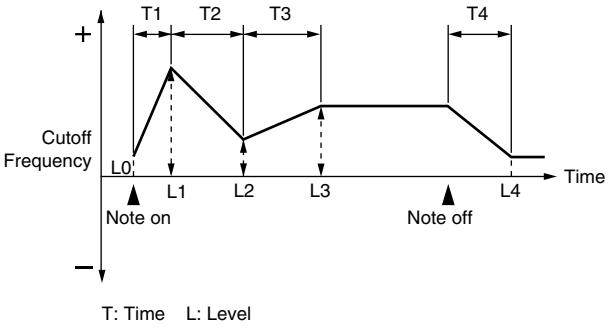
Value: -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100



F-Env Time 1–4 (TVF Envelope Time 1–4) ★

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

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

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)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch TVA

Tone Level ★

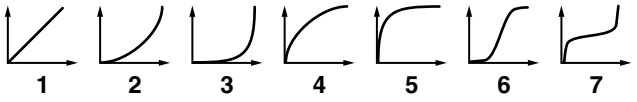
Sets the volume of the tone. This setting is useful primarily for adjusting the volume balance between tones.

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.

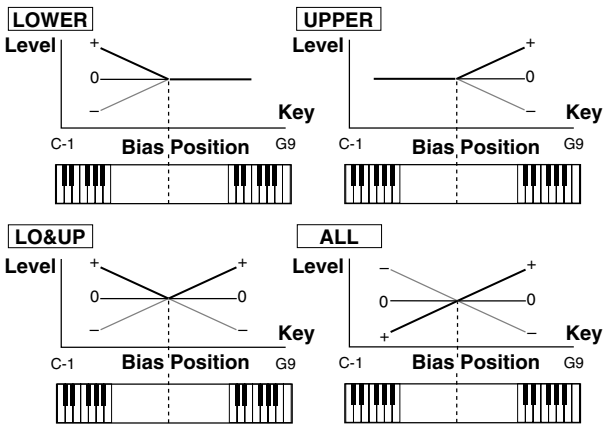
Value: -63– +63

TIP

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. 50). However, this setting is shared by the Cutoff V-Sens parameter (p. 59).

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 ★

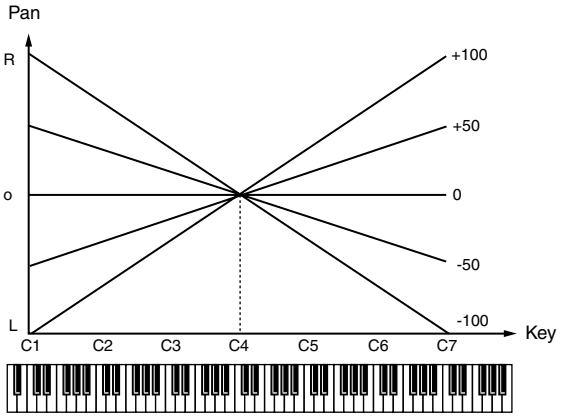
Sets the pan of the tone. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

Pan Keyfollow

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

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

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. 51).

Patch 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)

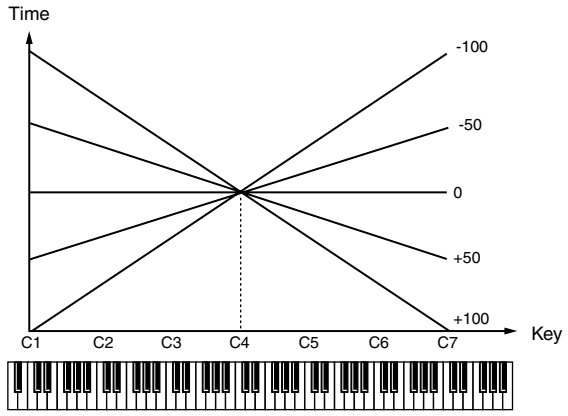
The parameter to use when you want key release speed to control the Time 4 value of the TVA envelope. If you want Time 4 to be speeded up for quickly released notes, set this parameter to a positive (+) value. If you want it to be slowed down, set this to a negative (-) value.

Value: -63– +63

A-Env Time KF (TVA Envelope Time Keyfollow)

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) ★

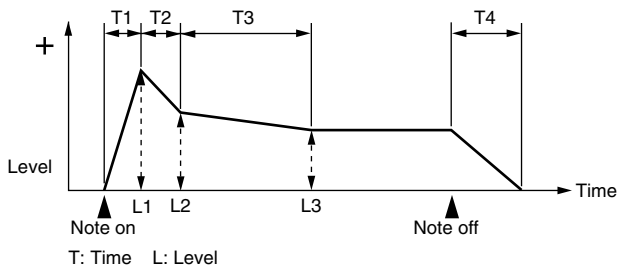
Specify the TVA envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

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

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 Settings

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch Output

Patch Out Assign

Specifies how the direct sound of each patch 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.

* *If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.*

* *If the Mix/Parallel parameter (p. 158) is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo.*

Tone Out Assign

Specifies how the direct sound of each tone 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.

* *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. 51).*

* *If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.*
* *If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).*
* *If you've set Tone Out Assign to "MFX," set the MFX Output Assign parameter (p. 135) to specify the output destination of the sound that has passed through the multi-effects.*
* *Sounds are output to chorus and reverb in mono at all times.*
* *The output destination of the signal after passing through the chorus is set with the Chorus Output Select (p. 136) and the Chorus Output Assign (p. 136).*
* *The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (p. 137).*

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))

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))

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))

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))

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 (LFO1/2/Step LFO)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

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.

Patch 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
VSIN:	Modified sine wave. The amplitude of the sine wave is randomly varied once each cycle of the waveform.
STEP:	A waveform generated by the data specified in LFO Step 1–16. This produces a fixed pattern of stepwise change, like that created by a step modulator.

NOTE

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

LFO Rate (LFO1/LFO2 Rate) ★

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 an external MIDI 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 (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)

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

cf.

After referring to **"How to Apply the LFO"** (p. 65), change the setting until the desired effect is achieved.

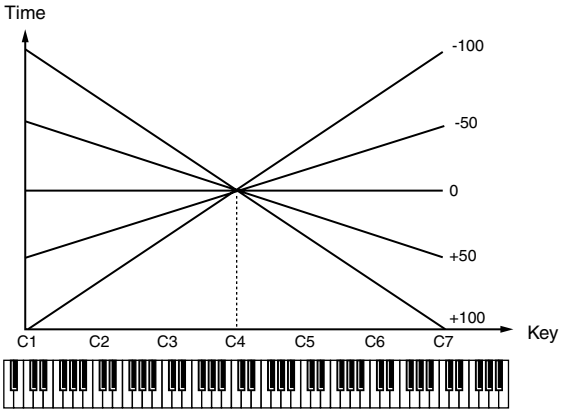
TIP

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 Keyfollow)

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 >

cf.

After referring to **"How to Apply the LFO"** (p. 65), change the setting until the desired effect is achieved.

Fade Time (LFO1/LFO2 Fade Time)

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

Value: 0–127

cf.

After referring to **"How to Apply the LFO"** (p. 65), 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) ★

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

TIP

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. 51).

Patch Step 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)

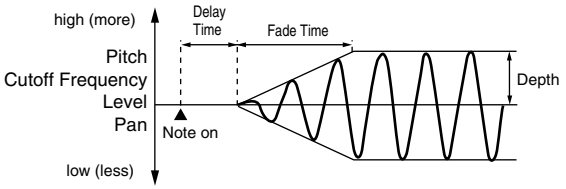
Step 1–16 (LFO Step 1–16)

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

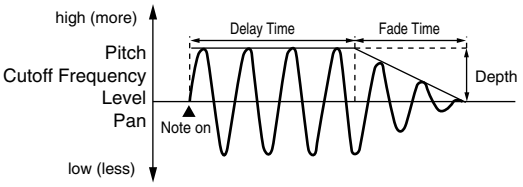


Fade Mode: ON <

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

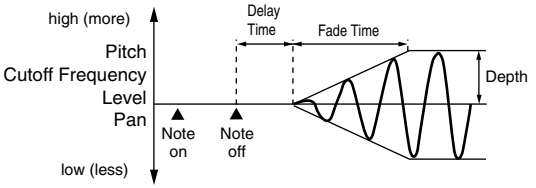


Fade Mode: ON >

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

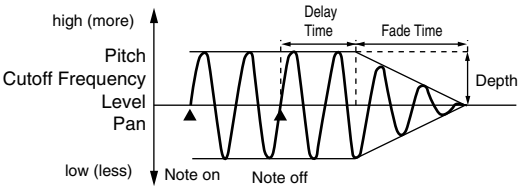


Fade Mode: OFF <

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.

Controller-related settings (CTRL)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

Patch Ctrl

Tone Env Mode (Tone Envelope Mode)

When a loop waveform (p. 48) 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, SUST

NOTE

If a one-shot type Wave (p. 48) 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 (Tone Receive 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 (Matrix Ctrl1–4)

cf.

For details on these settings, refer to **"How to Make Patch Settings"** (p. 46).

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-XR. 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-XR'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).

Patch Mtrx Control 1–4 Source (Patch Matrix Control 1–4)

Control 1–4 Source (Matrix Control Source 1–4)

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

cf.

For more information about Control Change messages, please refer to **"MIDI Implementation"** (p. 245).

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)

KEYFOLLOW: Keyfollow (keyboard position with C4 as 0)

TEMPO: The system tempo (p. 156) 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

MEMO

Velocity and Keyfollow correspond to Note messages.

TIP

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-XR, select "SYS CTRL1"–"SYS CTRL4." MIDI messages used as System Control 1–4 are set with the System Ctrl 1–4 Source parameters (p. 159).

NOTE

There are parameters that determine whether or not Pitch Bend, Controller Number 11 (Expression) and Controller Number 64 (Hold 1) are received (p. 66). 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. 92). 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-XR 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.

MEMO

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

TIP

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. 53, p. 54).

- 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. 54). 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. 55) 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

If you have not made the necessary settings for using the multi-effect, the multi-effect will not be applied even if you attempt to control it as a Matrix Control destination.

● If you're not using Matrix Control

OFF: Matrix Control will not be used.

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. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to "0" if you don't want to apply the 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.

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-XR's settings to their factory values, perform a Factory Reset (p. 162).

1. **In the Patch Edit Menu screen, press [MENU].**
   The Patch Utility screen will appear.

2. **Use ▲ or ▼ to select "Initialize."**

3. **Press [ENTER].**
   A message will ask you for confirmation.

4. **Press [ENTER].**
   The initialization will be carried out, and you'll be returned to the previous screen.
   To cancel, press [EXIT].

Copying Patch (Tone) Settings (Copy)

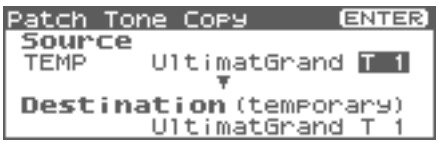
This operation copies the settings of any desired patch to the currently selected patch. You can use this feature to make the editing process faster and easier.

1. **In the Patch Play screen, select the copy-destination patch (p. 40).**

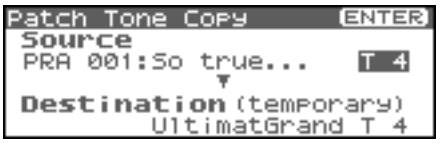
2. **In the Patch Edit Menu screen, press [MENU].**
   The Patch Utility screen will appear.

3. **Use ▲ or ▼ to select "Tone Copy."**

4. **Press [ENTER].**
   The Patch Tone Copy screen will appear.



5. **Press [CURSOR] to move the cursor, select the "Source (copy-source)" group and number, and patch tone.**



TIP

At this time you can press the OUTPUT knob to audition the copy-source patch for comparison (the Compare function).

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

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

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

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

9. **Press [ENTER].**
   A message will ask you for confirmation.

10. **Press [ENTER].**
    You'll be returned to the Patch Edit Menu screen.
    To cancel, press [EXIT].

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) or the memory card.
If you edit the settings of a patch, the indication "E" is displayed in the upper right of the Patch Play screen. This "E" indication disappears when you save the patch to the Fantom-XR's internal user memory or to the memory card.

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.**

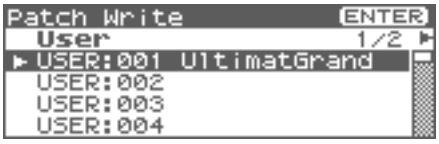
2. **Press [SHIFT] so it lights, and then press ▶.**
   The Patch Name screen will appear.

3. **Assign a name to the patch.**

cf.

For details on assigning names, refer to **"Assigning a Name"** (p. 39)

4. When you have finished inputting the name, press [ENTER].
A screen will appear, allowing you to select the write-destination patch.



5. Press ◀ or ▶ to select the write destination.
The write destination can be either the Fantom-XR's internal user area (User), or a memory card (Card).

* *You can also use [GROUP] to select the write destination.*

6. Turn the VALUE dial or use [INC][DEC] to select the patch number.

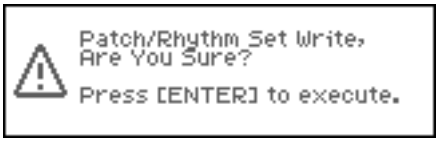
TIP

At this time you can press the OUTPUT knob to audition the write-destination patch (the Compare function). Before saving a patch, you can use this function to verify that you're not accidentally overwriting a patch you really want to keep.

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

7. If you want to change the write destination, turn the VALUE dial or use [INC][DEC] to re-specify the write-destination patch.

8. Press [ENTER].
A message will ask you for confirmation.



9. Press [ENTER] to execute the save operation.
To cancel the operation, press [EXIT].

NOTE

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

Creating a Rhythm Set

With the Fantom-XR, you have total control over a wide variety of settings. Each item that can be set is known as a **parameter**. This chapter explains the procedures used in creating rhythm sets, and the functions of the rhythm set parameters.

MEMO

The included Fantom-X editor lets you edit the Fantom-XR's settings from your computer in a convenient graphical environment (p. 163).

How to Make 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.

Rhythm Edit Menu screen structure

Rhythm Set editing is done in the Rhythm Edit Menu screen. The Rhythm Edit Menu screen is organized as follows.

How to Make Rhythm Set Settings

1. Select the rhythm set in the Patch Play screen (p. 45).

NOTE

You cannot edit the rhythm sets in the GM group.

TIP

If you want to create a rhythm set from scratch (rather than starting from an existing rhythm set), execute the **Initialize** operation (p. 82).

2. Press [SHIFT] so it lights, and then press ▼.

The Rhythm Edit Menu screen will appear.

3. Refer to "Rhythm Edit Menu screen structure" (p. 71), and turn the VALUE dial or use [CURSOR] to select the edit group containing the rhythm set parameter you want to adjust.

4. Press the VALUE dial or [ENTER].

The screen that you see will depend on the edit group of the selected parameter.

cf.

"Functions of Rhythm Set Parameters" (p. 73)

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

TIP

You can also press ◀ or ▶ to move to an edit group of another parameter.

6. If you want to edit a parameter for a specific wave, press ◀ or ▶ to select the wave that you want to edit.

MEMO

You can press [SHIFT] so it lights, and then press [INC] to successively turn on the wave located at the right of the selected wave. Pressing [DEC] will turn off the wave.

cf.

If you want to select one or more tones, use the Wave Select screen (p. 72).

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

8. Repeat steps 3 (or 5) -7 to set each parameter you want to edit.

9. Save the changes you've made (p. 83).

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, the indication "E" is displayed in the upper right of the Patch Play screen. This "E" indication disappears when you save the patch to the Fantom-XR's internal user memory or to the memory card.

NOTE

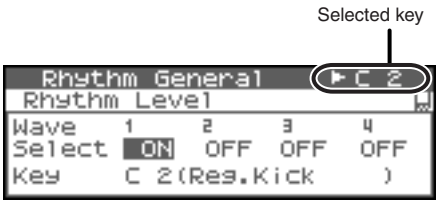
If you turn off the power or select a different sound while the display indicates "E," your edited patch will be lost.

Selecting the Wave/Key to edit

When editing parameters that apply to a specific wave, here's how to specify the wave or key you want to edit.

1. **In the Rhythm Edit Menu screen, press [ENTER].**

2. **Press [ENTER].**
   The Wave Select screen will appear.



MEMO

Another way to access the Wave Select screen is to press [MENU] in the Rhythm Edit Menu screen to access the Rhythm Utility screen, then choose "Wave/Key Select" and press [ENTER].

3. **Press ◀ or ▶ to select a wave, and turn the VALUE dial or use [INC][DEC] to switch the wave you're editing on/off.**

* *You can't switch all waves off.*

4. **You can select Key, and choose a specific key of the rhythm set.**

MEMO

You can also specify the key by playing a note on your external MIDI keyboard.

5. **When you have made your selection, press [EXIT] to close the Wave Select screen.**

Cautions When Selecting a Waveform

The sounds of the Fantom-XR 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-XR 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-XR's one-shot waveforms are sounds that are complete in themselves, such as percussive instrument sounds. The Fantom-XR 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.

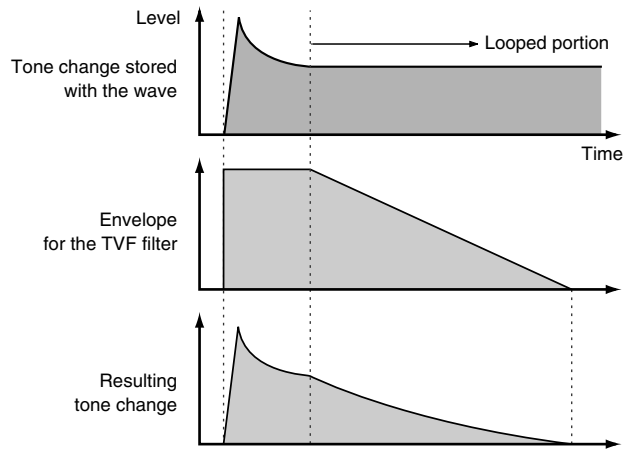
Looped: These waveforms include sounds with long decays as well as sustained sounds. Loop waveforms repeatedly play back (loop) the portion of the waveform after the sound has reached a relatively steady state. The Fantom-XR's looped waveforms also include components of other sounds, such as piano-string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



Functions of Rhythm Set Parameters

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

Making Settings Common to the Entire Rhythm Set (GENERAL)

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

NOTE

Rhythm Level applies to the entire rhythm set; the other parameters are set individually for each rhythm tone.

Rhythm General

Rhythm Level (Rhythm Set Level)

Sets the volume of the rhythm set.

Value: 0–127

TIP

The volume levels of the tones from which the rhythm set is composed is set with the Tone Level parameter (p. 80). The volume levels of the Waves from which the rhythm tone is composed is set with the Wave Level parameter (p. 76).

Rhythm Tone Name

You can assign a name of up to 12 characters to the rhythm tone.

Use [◀][▶] to move the cursor, and use the VALUE dial to select a character.

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

cf.

For details on assigning names, refer to **"Assigning a Name"** (p. 39)

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. 73) 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 the One Shot Mode (p. 74) is ON, 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).

Value: OFF, ON

NOTE

If "NO SUS" is selected for Env Mode parameter (p. 74), 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. 74) is set to NO-SUS. If you have set Wave Group (p. 75) to Sample, the loop setting will be forced to ONE SHOT.

Value: OFF, ON

Aft Time Ctrl Sens (Aftertouch Time Control Sensitivity)

If Wave Group is set to SAMPLE and Wave Tempo Sync (P.75) 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 (WG)

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

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.

Rhythm Wave

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 INT: A, B

When the wave group is EXP: A-F

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 will appear 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 Gain

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

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 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. 77) and FXM-related settings (p. 75) 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.

FXM Switch

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

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

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. 77) and FXM (p. 75) are disabled.

Wave Coarse Tune

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

Value: -48– +48

TIP

The Coarse Tune of the entire rhythm tone is set by the Tone Coarse parameter (p. 77).

Wave Fine Tune

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.

TIP

The Fine Tune of the entire rhythm tone is set by the Tone Fine Tune parameter (p. 77).

Wave Level

You can set the volume of the waveform.

Value: 0–127

TIP

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. 73).

Wave Pan

This specifies the pan of the waveform. "L64" is far left, "0" is center, and "63R" is far right.

Value: L63–0–63R

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. 80).*

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. 80) 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."

Value: OFF, ON, REV

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.

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

Rhythm WMT

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

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 (PCH/PCH Env)

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

Rhythm Pitch

Tone Coarse Tune (Rhythm Tone Coarse Tune)

Selects the pitch at which a rhythm tone sounds.

Value: C-1– G9

TIP

Set the coarse tuning for Waves comprising the rhythm tones with the Wave Coarse Tune parameter (p. 75).

Tone Fine Tune (Rhythm Tone Fine Tune)

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.

TIP

Set the fine tuning for Waves comprising the rhythm tones with the Wave Fine Tune parameter (p. 76).

Tone Random Pitch Depth

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

Rhythm 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 affect the 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)

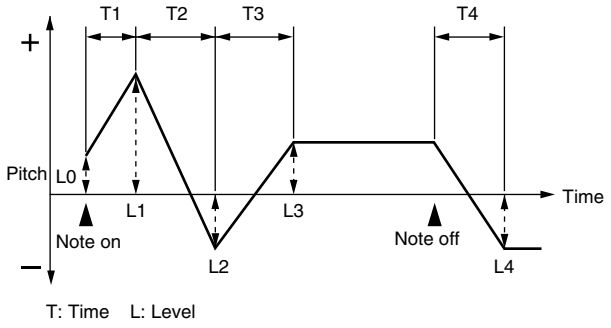
Specify the pitch envelope times (Time 1–Time 4). Higher settings will result in a longer time until the next pitch is reached. (For example, Time 2 is the time over which the pitch changes from Level 1 to Level 2.)

Value: 0–127

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

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)

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

Rhythm TVF

Filter Type

Selects the type of filter. A filter cuts or boosts a specific frequency region to change a sound's brightness, thickness, or 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 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 tones.

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

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.

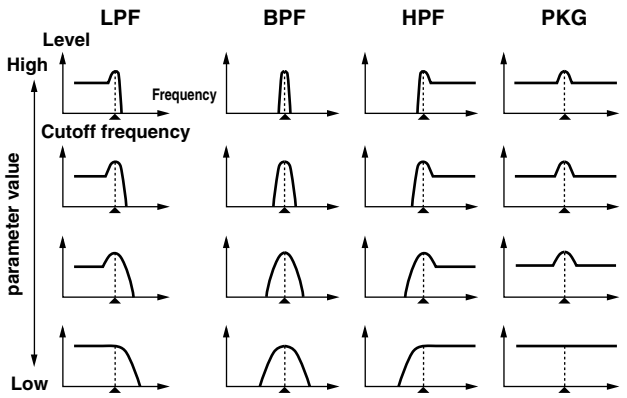
With "HPF" selected, higher Cutoff Frequency settings will reduce lower harmonics to emphasize just the brighter components of the sound.

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

Resonance

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" if you don't want the Cutoff frequency to be affected by the keyboard velocity.

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

Rhythm 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" if you don't want the TVF Envelope to be affected by the keyboard velocity.

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 Time 1–4 (TVF Envelope Time 1–4)

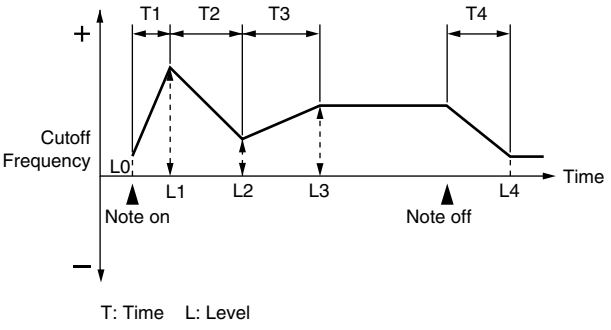
Specify the TVF envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next cutoff frequency level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

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

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)

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

Rhythm TVA

Tone Level (Rhythm Tone level)

Sets the volume of the rhythm tone. Use this parameter to adjust the volume balance between rhythm tones.

Value: 0–127

TIP

The volume levels of the Waves from which the rhythm tone is composed is set with the WMT1–4 Wave Level parameter (p. 76).

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)

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

Value: L64–0–63R

TIP

Set the Pan for Waves comprising the rhythm tones with the Wave Pan parameter (p. 76).

Random Pan Depth

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. 76) is ON.

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 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. 76) is ON or REV.

Rhythm 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)

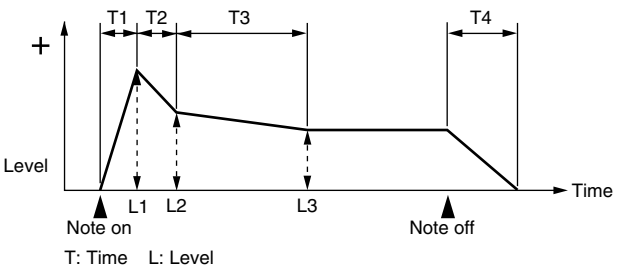
Specify the TVA envelope times (Time 1– Time 4). Higher settings will lengthen the time until the next volume level is reached. (For example, Time 2 is the time over which Level 1 will change to Level 2.)

Value: 0–127

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

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

cf.

For details on these settings, refer to **"How to Make Rhythm Set Settings"** (p. 71).

Rhythm Output

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

If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

Tone Out Assign

Specifies how the direct sound of each tone 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.

* *If the Rhythm Output Assign is set to anything other than "TONE," these settings will be ignored.*
* *If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.*
* *If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).*
* *If you've set Tone Out Assign to "MFX," set the MFX Output Assign parameter (p. 135) to specify the output destination of the sound that 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. 136) and the Chorus Output Assign (p. 142).*
* *The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (p. 137).*

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))

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))

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))

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))

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

Value: 0–127

Initializing Rhythm Set Settings (Init)

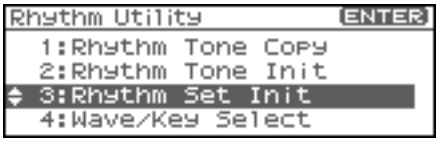
"Initialize" means to return the settings of the currently selected sound to a standard set of values or to the factory settings.

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-XR's settings to their factory values, perform a Factory Reset (p. 162).

1. **In the Rhythm Edit Menu screen, press [MENU].**
   The Rhythm Utility screen will appear.

2. **Use ▲ or ▼ to select "Initialize."**



3. **Press [ENTER].**
   A message will ask you for confirmation.

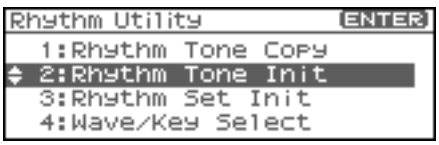
4. **Press [ENTER].**
   The initialization will be carried out, and you'll be returned to the previous screen.
   To cancel, press [EXIT].

Initializing only a specific key

Here's how to initialize only a specific key of a Rhythm Set.

1. **In the Rhythm Edit Menu screen, press [MENU].**
   The Rhythm Utility screen will appear.

2. **Use ▲ or ▼ to select "Rhythm Tone Init."**



3. **Press [ENTER].**
   Turn the VALUE dial or use [INC][DEC] to specify the key (A0–C8) that is to be initialized.

   MEMO

   You can also specify the key by playing a note on your external MIDI keyboard.

4. **Press [ENTER].**
   A message will ask you for confirmation.

5. **Press [ENTER].**
   The initialization will be carried out, and you'll be returned to the previous screen.
   To cancel, press [EXIT].

Copying Rhythm Tone Settings (Copy)

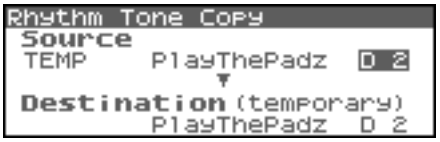
This operation copies the settings of any desired rhythm set to the currently selected rhythm set. You can use this feature to make the editing process faster and easier.

1. **In the Patch Play screen, select the copy-destination rhythm set (p. 45).**

2. **In the Rhythm Edit Menu screen, press [MENU].**
   The Rhythm Utility screen will appear.

3. **Use ▲ or ▼ to select "Rhythm Tone Copy."**

4. **Press [ENTER].**
   The Rhythm Tone Copy screen will appear.



5. **Using [CURSOR] to move the cursor, select the "Source (copy-source)" group and number, and the rhythm tone.**

   TIP

   At this time, you can press the OUTPUT knob to audition the copy-source rhythm set (the Compare function).

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

6. **Turn the VALUE dial or use [INC][DEC] to make the setting.**

7. **Using [CURSOR] to move the cursor, select the "Destination (copy-destination)" rhythm tone number.**

8. **Turn the VALUE dial or use [INC][DEC] to make the setting.**

9. **Press [ENTER].**
   A message will ask for confirmation.

10. **Press [ENTER].**
    You'll be returned to the Rhythm Edit Menu screen.
    To cancel, press [EXIT].

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.

If you've edited a rhythm set, the indication "E" is displayed in the upper right of the Patch Play screen. The "E" indication disappears when you save the rhythm set to the Fantom-XR's internal user memory or to the memory card.

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 [SHIFT] so it lights, and then press ▶.

The Rhythm Set Name screen will appear.

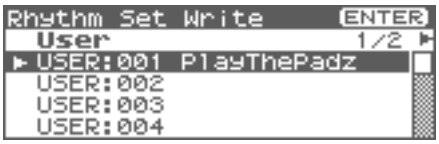
3. Assign a name to the rhythm set.

cf.

For details on assigning names, refer to **"Assigning a Name"** (p. 39)

4. When you have finished inputting the name, press [ENTER].

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



5. Press ◀ or ▶ to select the write destination.

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

* *You can also use [GROUP] to select the write destination.*

6. Turn the VALUE dial or use [INC][DEC] to select the patch number.

TIP

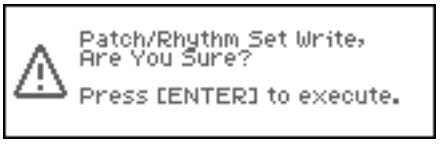
At this time, you can press the OUTPUT knob to audition the write-destination rhythm set (the Compare function). Before saving a rhythm set, you can use this function to verify that you're not accidentally overwriting a rhythm set you really want to keep.

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

7. If you want to change the write destination, turn the VALUE dial or use [INC][DEC] to re-specify the write-destination rhythm set.

8. Press [ENTER].

A message will ask you for confirmation.



9. Press [ENTER] to execute the save operation.

To cancel the operation, press [EXIT].

NOTE

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

Playing in Performance Mode

Performance mode is ideal when you want to use the external MIDI sequencer to create a song, or when you want to play song data. When creating songs or playing song data, a different MIDI channel is assigned for each patch or rhythm set used in a part. Such a set of sounds selected for each part to play is called a **performance**.

In addition to the settings of each part, the following settings can also be stored for each performance.

- Arpeggio and chord memory number or settings
- Rhythm group number or settings

About the Performance Play Screen

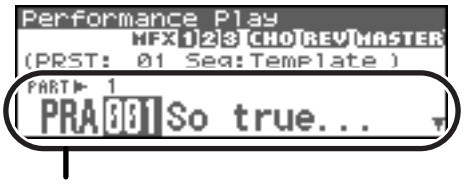
Displaying Performance Play Screen

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

1. **Press [MODE] so the button lights in green.**
   You will enter Performance mode, and the Performance Play screen will appear.

Selecting a performance

2. **In the Performance Play screen, use ▲ or ▼ to select the part.**

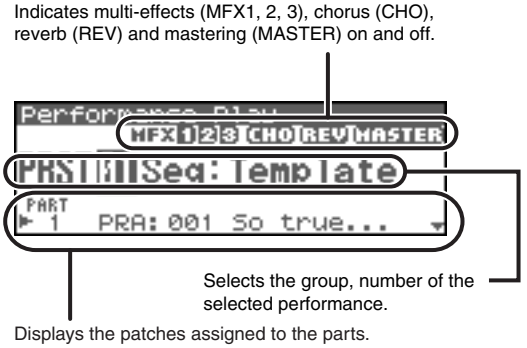


Selecting a performance part

TIP

In the Performance Play screen, you can press [SHIFT] so it lights, then press ▲ to move the cursor to the performance number.

Functions in the Performance Play Screen



Selecting a Performance

The Fantom-XR has three performance groups, including the User group, Preset groups and Card group. Each of the User group and Preset groups stores 64 performances, for a total of 128 performances.

USER

This is the group inside the Fantom-XR which can be rewritten. Performances you yourself create can be stored in this group. The Fantom-XR contains 64 preset performances.

PRST (Preset)

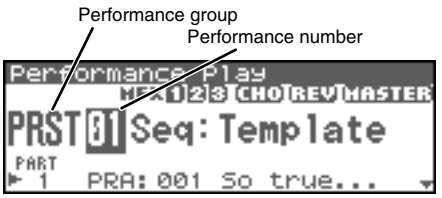
This is the group inside the Fantom-XR which cannot be rewritten. However you may modify the settings of the currently selected performance, and then store the modified performance in User memory. The Fantom-XR contains 64 preset performances.

CARD (Memory Card)

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

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

2. **Press ◀ or ▶ to move the cursor to the performance group.**



3. **Turn the VALUE dial, or use [INC][DEC] to select a performance group.**

* *You can also use [GROUP] to select a performance group.*

USER: User
PRST: Preset
CARD: Memory Card

4. **Press ◀ or ▶ to move the cursor to the performance number.**

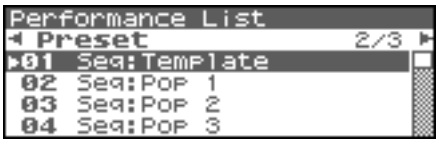
5. **Turn the VALUE dial or use [INC][DEC] to select the performance number.**

Selecting Performances from the List

You can display a list of performances and select a performance from that list.

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

2. **Press [SHIFT] so it lights, and then press ◀.**
   The Performance List screen will appear.



3. **Press ◀ or ▶ to switch the performance group, and turn the VALUE dial, or use [INC][DEC] to select the performance.**
   * *You can also use [GROUP] to select a performance group.*

4. **Press [ENTER] to confirm your choice of performance.**

Selecting Favorite Performances (Favorite Performance)

You can bring together your favorite and most frequently used performances in one place by registering them in the Favorite performance. By using this function you can quickly select your favorite performances from internal memory.

cf.
For instructions on how to register to the Favorite Performance, refer to **"Registering a Favorite Performance"** (p. 85).

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

2. **Press [SHIFT] so it lights, and then press ◀.**
   The Performance List screen will appear.

3. **Press [MENU].**
   The Performance List Menu screen will appear.

4. **Turn the VALUE dial, or use [INC][DEC] to select "Favorite Performance."**

5. **Press [ENTER].**
   The Favorite Performance screen will appear.

6. **Press ◀ or ▶ to switch the performance group, and press ▲ or ▼ to select the performance.**

7. **Press [ENTER] to confirm your choice of performance.**

Registering a Favorite Performance

You can register a total of 64 Performances (8 sounds x 8 banks) as Favorite Performance.

1. **Select the performance that you want to register (p. 84).**

2. **In step 4 of "Selecting Favorite Performances (Favorite Performance)" (p. 85), choose "Favorite Performance."**

3. **Press [ENTER].**
   The Favorite Performance screen will appear.

4. **Press ◀ or ▶ to select the Bank.**

5. **Press ▲ or ▼ to select a number.**

6. **Press [MENU].**
   The Favorite Perform Utility screen will appear.

7. **Use ▲ or ▼ to select "Regist," then press [ENTER].**
   The selected performance will be registered as a Favorite Performance.
   * *To cancel, press [EXIT].*

Canceling a patch registration

By selecting "Remove" in the above step 7., you can cancel the patch registration that is selected in the Favorite Performance screen.

Selecting a Part

The currently selected part is called the "current part."

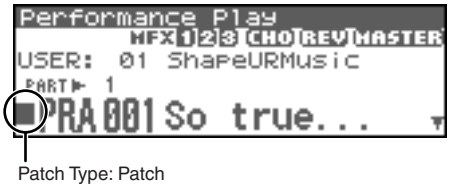
1. **In the Performance Play screen, use ▲ or ▼ to select the part.**

Selecting the Sound for a Part

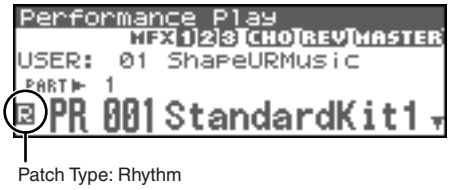
If you don't like the patch that is assigned to a part, it's easy to switch the patch.

1. **Select the part whose sound you want to switch.**

2. **Press ◀ or ▶ to move the cursor to the patch type.**



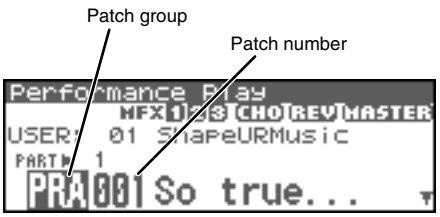
Patch Type: Patch



Patch Type: Rhythm

3. **Turn the VALUE dial or use [INC][DEC] to specify whether the type of sound assigned to the part will be Patch or Rhythm.**

4. **Press ◀ or ▶ to move the cursor to the patch group or patch number.**



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

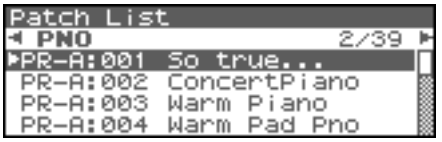
* *You can also use [GROUP] to select a patch group.*

cf.
"Selecting a Patch" (p. 40)

Selecting from a list display

1. **Select the part whose sound you want to switch.**

2. **Press [SHIFT] so it lights, and then press ◀.**
The Patch List screen will appear.



* *To cancel, press [EXIT].*

3. **Press ◀ or ▶ to switch the patch group, and press ▲ or ▼ to select the patch.**
By pressing the OUTPUT knob you can audition a patch using a preselected phrase appropriate for that type (category) of patch (Phrase Preview).

4. **Press [ENTER] to close the Patch List screen.**

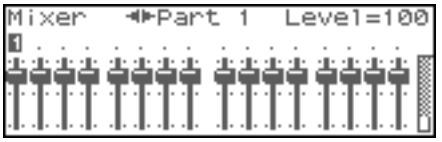
cf.
"Selecting Patches from the List" (p. 42)

About the Performance Mixer Screen

The Fantom-XR provides a mixer screen that lets you view and edit settings such as level and pan for a performance's sixteen parts.
To access the Performance Mixer screen, use the following procedure.

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

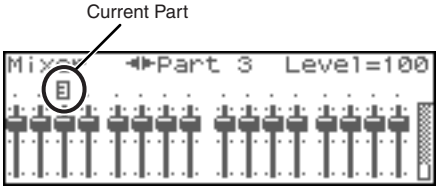
2. **Press [SHIFT] so it lights, and then press ▼.**
The Performance Mixer screen will appear.



Selecting a Part

The currently selected part is called the "current part."

1. **In the Performance Mixer screen, use ◀ or ▶ to select the part.**

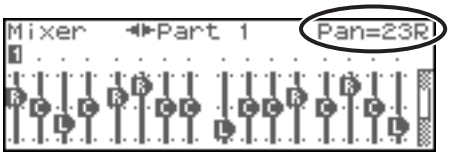


Editing the Part Settings

The following Part parameters can be edited from the Performance Mixer screen:

- Level (p. 88)
- Pan (p. 88)
- Chorus Send Level (p. 89)
- Reverb Send Level (p. 89)

1. In the Performance Mixer screen, use ▲ or ▼ to select the parameter.



2. Turn the VALUE dial or use [INC][DEC] to set the value.

Level: Level
Pan: Pan
Chorus: Chorus Send Level
Reverb: Reverb Send Level

Performing with the Arpeggio/Rhythm function

For details on using the Arpeggio and Rhythm functions, refer to **"Playing Arpeggios"** (p. 97)," and **"Playing Rhythms"** (p. 107).

Viewing MIDI Messages for Each Part (Part Information)

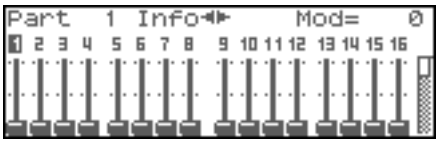
In Performance mode, the reception status of MIDI messages that control various things can be viewed for each part. This is useful when you want to check whether the sound generator is responding correctly to the operations from an external MIDI controller.

1. Access the Performance Play screen (p. 84).

2. Press [MENU].
The Top Menu screen will appear.

3. Turn VALUE dial or press [INC][DEC] to select "Part Information."

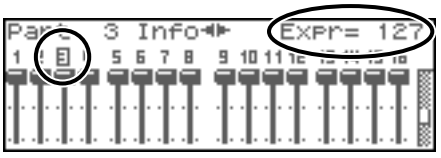
4. Press [ENTER].
The Part Information screen will appear.



5. Use ▲ or ▼ to select the message that you want to check.

Mod: Modulation messages
Breath: Breath messages
Foot Type: Foot type messages
Volume: Volume messages
Panpot: Panpot messages
Expression: Expression messages
Hold 1: Hold 1 messages
Pitch Bend: Pitch Bend messages
Aftertouch: Aftertouch messages
Voices: Voice messages (The number of voices used)

6. Use ▲ or ▼ to select the part.
The parameter values for the selected part are displayed.



7. Press [EXIT] to close the screen.

Creating a Performance

With the Fantom-XR, you have total control over a wide variety of settings. Each item that can be set is known as a **parameter**. This chapter explains the procedures used in creating Performances, and the functions of the Performance parameters.

MEMO

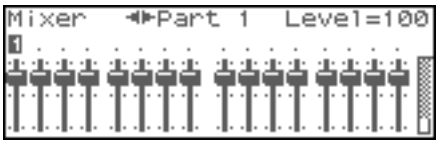
The included Fantom-X editor lets you edit the Fantom-XR's settings from your computer in a convenient graphical environment (p. 163).

Viewing the Part Settings as a List (Performance Part View)

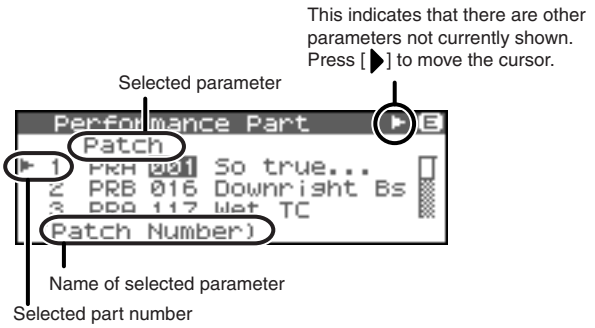
In Performance mode you can view the part settings as a list. This is called the "Part View" screen. In this screen you can view and change the patch assigned to each part, and edit settings such as volume and pan for each part.

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

2. **Press [SHIFT] so it lights, and then press ▼.**
   The Performance Mixer screen will appear.



3. **Press [SHIFT] so it lights, and then press ▼.**
   The Performance Part screen will appear.



* *The name of the parameter at the cursor location is displayed in the bottom line of the Performance Part screen.*

TIP

If you're in the Performance Mixer screen, you can access the Performance Part screen by pressing [MENU] and choosing "Part" from the menu that appears.

4. **When you have finished making settings, press [EXIT] to return to the Mixer screen.**

TIP

When the cursor is at a patch group or patch number, you can press [SHIFT] so it lights, and then press ◀ to open the Patch List screen and choose a patch from the list (p. 42).

TIP

When the cursor is at a patch group or patch number, you can press [SHIFT] so it lights, and then press ▼ to open the Patch Edit screen and edit a patch (p. 95).

TIP

When the cursor is located at the patch group or patch number, you can press [GROUP] to switch the group of the selected patch.

Adjusting the Parameters of Each Part

1. **In the Performance Part screen, use ▲ or ▼ to select the part.**

2. **Press ◀ or ▶ to move the cursor to the parameter you want to change.**

3. **Turn the VALUE dial or use [INC][DEC] to set the value.**

Parameter List

Patch Type

Sets the assignment of a patch (Patch) or rhythm set (Rhythm) to each of the parts.

Patch Group

Selects the group to which the desired patch or rhythm set belongs.

Value

USR:	User
PRA–H:	Preset A–H
GM:	GM (GM2)
CRD:	Memory card
XPA–F:	Wave Expansion Boards installed in EXP-A–F Slots

Patch Number

Selects the desired patch or rhythm set by its number.

Value: 001–

Level

Adjust the volume of each part. This setting's main purpose is to adjust the volume balance between parts.

Value: 0–127

Pan

Adjust the pan of each part. "L64" is far left, "0" is center, and "63R" is far right.

Value: L64–0–63R

Solo Switch

Select one part whose sound you want to play. Turn it "SOLO" to the part that you want to solo. Parts other than the part you select here will not sound.

Value: –, SOLO

Mute Switch

Mutes (MUTE) or un-mutes (OFF) each part.

Value: OFF, MUTE

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.

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, you cannot modify the Octave Shift parameter.

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.

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.

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

If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

TIP

If you've set Tone Out Assign to "MFX," set the MFX Output Assign parameter to specify the output destination of the sound that 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.

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)

Output Level (Part Output Level)

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

Value: 0–127

Chorus Send Level (Part Chorus Send Level)

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

Value: 0–127

Reverb Send Level (Part Reverb Send Level)

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

Value: 0–127

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. 49). 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.

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. 50). 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.

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. 50). 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.

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. 50). 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.

Decay Time Offset

Adjusts the TVA/TVF Envelope Decay Time for the patch or rhythm set assigned to a part.

Value: -64– +63

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. If you want to use the Mono/Poly setting of the patch assigned to the part (p. 50), set this to "PAT."

Value: MONO, POLY, PAT

NOTE

This setting is ignored for parts to which a rhythm set is assigned.

Legato Switch

You can add legato when performing monophonically. The term "legato" refers to a playing style in which notes are smoothly connected to create a flowing feel. 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. If you want to use the Legato Switch setting of the patch assigned to the part (p. 50), set this to "PAT."

Value: OFF, ON, PAT

NOTE

This setting is ignored for parts to which a rhythm set is assigned.

Portamento Switch

Specify whether portamento will be applied. Turn this parameter "ON" when you want to apply Portamento and "OFF" when you don't. If you want to use the Portamento Switch setting of the patch assigned to the part (p. 50), set this to "PAT."

Value: OFF, ON, PAT

NOTE

This setting is ignored for parts to which a rhythm set is assigned.

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. If you want to use the Portamento Time setting of the patch assigned to the part (p. 51), set this to "PAT."

Value: 0–127, PAT

NOTE

This setting is ignored for parts to which a rhythm set is assigned.

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

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

Vibrato Delay

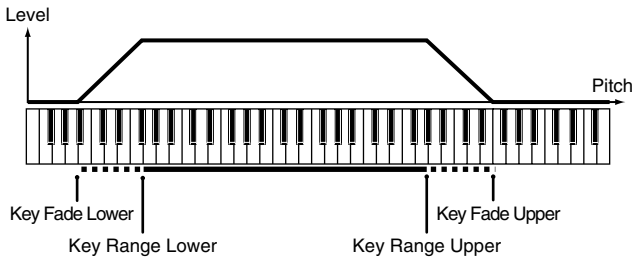
For each part, this adjusts the time delay until the vibrato (pitch modulation) effect begins. Higher settings will produce a longer delay time before vibrato begins, while lower settings produce a shorter time.

Value: -64– +63

Key Fade Lower (Part Keyboard Fade Width Lower)

Determines what will happen to the Part's level when a note that's lower than its 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 (Part Keyboard Range Lower)

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

Value: C-1–UPPER

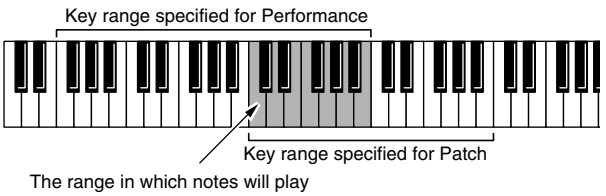
Key Range Upper (Part Keyboard Range Upper)

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

Value: LOWER–G9

NOTE

When the Key Range (p. 53) 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.

Key Fade Upper (Part Keyboard Fade Width Upper)

This determines what will happen to the Part's level when a note that's higher than its 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 above the keyboard range is played, set this parameter to 0.

Value: 0–127

Receive Channel (Part Receive Channel)

Specifies the MIDI receive channel for each part

Value: 1–16

Voice Reserve

This setting specifies the number of voices that will be reserved for each part when more than 128 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 Voice Reserve settings.

Calculating the Number of Voices Being Used

The Fantom-XR is able to play up to 128 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.

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. 50). 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 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. If you want to use the Pitch Bend Range setting of the patch assigned to the part (p. 56), set this to "PAT."

Value: 0–24, PAT

Receive Switch (Part 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.

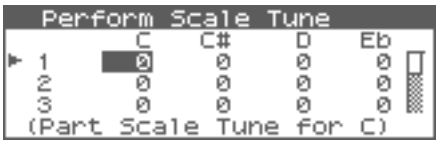
Value: OFF, ON

Scale Tune settings

The Fantom-XR allows you to use temperaments other than equal temperament. Scale Tune settings can be saved independently for each performance.

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**
2. **Press [SHIFT] so it lights, and then press ▼.**
   The Performance Mixer screen will appear.
3. **Press [MENU].**
   The Performance Edit Menu screen will appear.
4. **Use ▲ or ▼ to select "Scale Tune."**

5. **Press [ENTER].**
   The Perform Scale Tune screen will appear.



6. **Use ▲ or ▼ to select the part.**
7. **Press ◀ or ▶ to move the cursor to the temperament you want to change.**
8. **Turn the VALUE dial or use [INC][DEC] to set the value.**

Parameter List

Part Scale Tune C–B

Make scale tune settings for each part.

Value: -64– +63

cf.

Scale Tune is switched on/off by means of the Scale Tune Switch parameter (p. 160).

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-XR 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-XR, you can use Arabian temperament in the three keys of G, C and F.

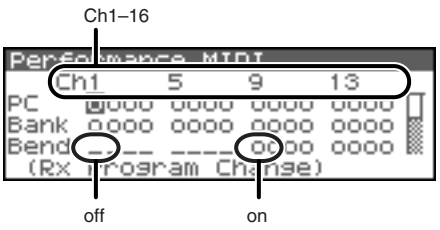
<Example>

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

MIDI-related settings

1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**
2. **Press [SHIFT] so it lights, and then press ▼.**
   The Performance Mixer screen will appear.
3. **Press [MENU].**
   The Performance Edit Menu screen will appear.
4. **Use ▲ or ▼ to select "MIDI."**

5. **Press [ENTER].**
   The Performance MIDI screen will appear.



* *The name of the parameter at the cursor location is displayed in the bottom line of the Performance MIDI screen.*

6. **Press ◀ or ▶ to select the channel.**
7. **Use ▲ or ▼ to move the cursor to the parameter you want to change.**
8. **Turn the VALUE dial or use [INC][DEC] to set the value.**

Parameter List

Rx Program Change (Receive Program Change Switch)

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

Rx Bank Select (Receive Bank Select Switch)

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

Rx Pitch Bend (Receive Pitch Bend Switch)

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

Rx Poly 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).

Rx Channel Pressure (Receive Channel Pressure Switch)

For each MIDI channel, specify whether MIDI Channel Pressure messages will be received (ON), or not (OFF).

Rx Modulation (Receive Modulation Switch)

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

Rx Volume (Receive Volume Switch)

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

Rx Pan (Receive Pan Switch)

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

Rx Expression (Receive Expression Switch)

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

Rx Hold-1 (Receive Hold 1 Switch)

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

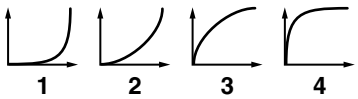
NOTE

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 Type

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



Other settings (General)

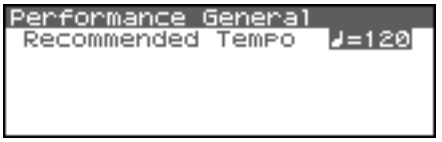
1. **In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.**

2. **Press [SHIFT] so it lights, and then press ▼.**
   The Performance Mixer screen will appear.

3. **Press [MENU].**
   The Performance Edit Menu screen will appear.

4. **Use ▲ or ▼ to select "General."**

5. **Press [ENTER].**
   The Performance General screen will appear.



6. **Turn the VALUE dial or use [INC][DEC] to set the value.**

Parameter List

Recommended Tempo

If you want the system 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. 156).

Value: 20–250

Changing the Settings of the Patch Assigned to a Part

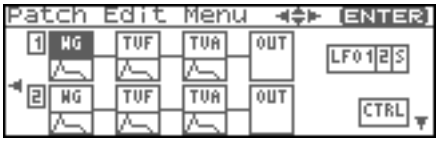
When using patches in Performance mode, some settings such as effects settings will be affected by Performance settings. If you wish to edit a patch while hearing how it will sound in the Performance, use this procedure:

* *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. In the Performance Play screen, press ▲ or ▼ to select the part whose patch setting you want to change.

Alternatively, in the Performance Part screen (p. 88) selects the screen so that the patch name will be displayed, then press ▲ or ▼ to select the part whose patch setting you want to change.

2. Press [SHIFT] so it lights, and then press ▼.
The Patch Edit screen will appear.



3. The rest of the procedure is the same as when making changes in Patch mode (p. 46).

TIP

From the Patch Utility screen that appears when you press [MENU] in the screen of step 2, you can choose "Part Select" and re-select the part.

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-XR's settings to their factory values, perform a Factory Reset (p. 162).

1. In the Performance Play screen, make sure that the cursor is located at the performance group or performance number.

2. Press [MENU].
The Top Menu screen will appear.

3. Use ▲ or ▼ to select "Sound Ctrl Init" or "Performance Init."

- **Sound Ctrl Init:** 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
- **Performance Init:** 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.

4. Press [ENTER].
A message will ask you for confirmation.

5. Press [ENTER].
The initialization will be carried out, and you'll be returned to the previous screen.
To cancel, press [EXIT].

TIP

You can also choose Init by pressing [MENU] from the Performance Mixer screen (p. 86), the Performance Part screen (p. 88), the Perform Scale Tune screen (p. 92), the Performance MIDI screen (p. 93), or the Performance General screen (p. 94).

Saving a 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 or a memory card.

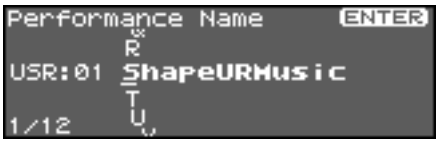
When you edit the settings of a Performance, the indication "E" appears in the Performance Play screen. The "E" indication disappears when you save the performance to the Fantom-XR's internal user memory.

NOTE

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

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

2. **Press [SHIFT] so it lights, and then press ▶.**
   The Performance Name screen will appear.

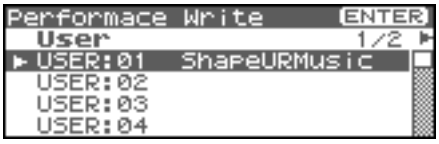


3. **Assign a name to the performance.**

   cf.

   For details on assigning names, refer to **"Assigning a Name"** (p. 39)

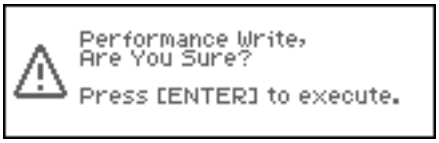
4. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination performance.



5. **Press ◀ or ▶ to select the write destination.**
   The write destination can be either the Fantom-XR's internal user area (User), or a memory card (Card).

6. **Turn the VALUE dial or use [INC][DEC] to select the performance number.**

7. **Press [ENTER].**
   A message will ask you for confirmation.



8. **Press [ENTER] to execute the save operation.**

* *To cancel the operation, press [EXIT].*

NOTE

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

When Changing the Settings for the Patch or Rhythm Set Assigned to a Part in a Performance

If you've edited a patch or rhythm set assigned to a part in a performance and then try to save the performance without first saving the edited patch or rhythm set, the following message will appear.

In such cases, first save the patches and rhythm sets, and then save the performance.

* *A message like the above will also appear if you haven't saved the arpeggio, chord, rhythm pattern, or rhythm group.*

Playing Arpeggios

About Arpeggio

The Fantom-XR contains an arpeggio function that automatically generates arpeggios. By using the arpeggio, you can produce an arpeggio simply by holding down one or more keys.
The way in which the arpeggio is generated is determined by the "Arpeggio Style." When the Fantom-XR is shipped from the factory, it contains 128 "preset" arpeggio styles, and 128 "user" arpeggio styles in which you can store your own creations.

TIP

Arpeggio Styles are not part of a patch or performance; they are handled as separate data. This means that a certain arpeggio style can be used with more than one patch or performance.

In Performance mode, you can easily create ensemble backings by using the arpeggio in conjunction with Rhythm Patterns (p. 107).

Playing Arpeggios

Turning Arpeggio On and Off

1. Press [ARP].

If you're in Patch mode

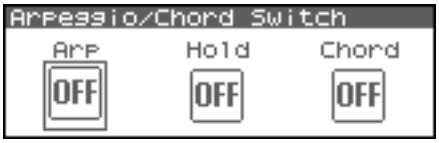
* *In Patch mode, select a patch before you proceed.*

The Arpeggio/Chord Switch screen will appear.

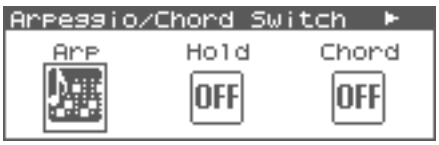
If you're in Performance mode

The Arp/Chd/Rhy Switch screen will appear.

2. Turn the VALUE dial or press ◀ or ▶ to select "Arp."



3. Press the VALUE dial or use [INC][DEC] to turn arpeggio on/off.



If this is on, an arpeggio will be produced according to the notes you hold down on an external MIDI keyboard.

TIP

In arpeggio settings, the **Style (Arpeggio Style)** (p. 98) is particularly important. The playback pattern of the arpeggio is determined mainly by this selection.

cf.

For details regarding each parameter, refer to**"Arpeggio Settings"** (p. 98).

Using in Combination with the Chord Memory Function

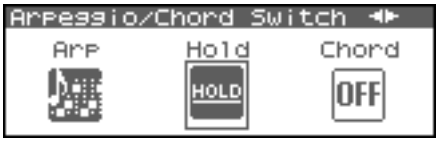
When performing with the Arpeggio, you can also use it along with the Chord Memory function (p. 104). After first storing complex Chord Forms in memory, you can then call them up when Arpeggio function is on, and you can easily play complex arpeggio sounds just by pressing a single key.

Holding an Arpeggio

By using the following procedure, you can produce arpeggios even without continuing to press the keyboard.

1. Press [ARP].

The Arpeggio/Chord Switch screen (in Performance mode, the Arp/Chd/Rhy Switch screen) will appear.



2. Turn the VALUE dial or press ◀ or ▶ to select "Hold."

3. Press the VALUE dial or use [INC][DEC] to turn hold on/off.

4. Play a chord on your keyboard.

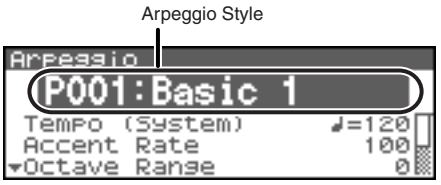
MEMO

If you play a different chord or notes while the arpeggio is being held, the arpeggio will change accordingly.

Arpeggio Settings

1. **In the Arpeggio/Chord Switch screen (in Performance mode, the Arp/Chd/Rhy Switch screen), use ◀ or ▶ to select "Arp."**

2. **Press [SHIFT] so it lights, and then press ▼.**
   Or, press [ENTER].
   The Arpeggio screen will appear.



TIP

While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the arpeggio styles.

MEMO

Another way to access the Arpeggio screen is to press [MENU] to access the Arpeggio/Chord Menu screen (in Performance mode, the Arp/Chd/Rhy Menu screen), then choose "Arpeggio" and press [ENTER].

3. **Use ▲ or ▼ to move the cursor to each parameter, and turn the VALUE dial or use [INC][DEC] to make the setting.**

4. **When you have made the setting, press [EXIT].**

TIP

In the Arpeggio screen, you can press [SHIFT] so it lights, then press ▲ to move the cursor to the arpeggio style.

TIP

By pressing OUTPUT knob, you can audition the sound of the arpeggio style.

TIP

When you save a performance, the arpeggio on/off status and the settings of the Arpeggio screen will also be saved. If you want to create a specific combination of sounds and arpeggio settings, make your settings in Performance mode and save them.

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)

TIP

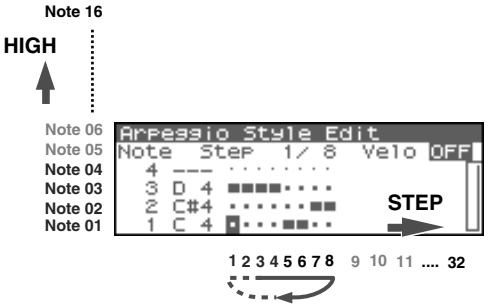
You can press [GROUP] to switch between User and Preset memory.

cf.

For more on the prepared Arpeggio Styles already programmed in the Fantom-XR, refer to **"Arpeggio Style List"** (p. 239).

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.

Determining the Tempo for Arpeggio Performances

This sets the arpeggio tempo.

* *Editing the Tempo setting will change the System setting "Tempo" (p. 156). The tempo setting cannot be saved as part of the Arpeggio Style.*

Value: 5–300

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.

Value: 0-100%

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).

Value: -3–0–+3

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 rhythm pattern.*

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 rhythm pattern.*

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.

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.

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 (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).

Value: REAL, 1–127

Specifying the channel that will play Arpeggios in Performance Mode (Arpeggio Channel)

Here's how to specify the channel that will use the arpeggio in Performance mode. You can specify only one channel for playing arpeggios.

The channel you select here functions for both the arpeggio and the chord memory functions.

Value: 1–16

MEMO

If the Arpeggio Channel and the Rhy Ptn Channel (p. 111) are both set to the same channel, the Rhythm function will not operate if the Arpeggio function or Chord Memory function are on.

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.

TIP

By pressing OUTPUT knob, you can audition the sound of the arpeggio style.

Creating a new Arpeggio Style (Arpeggio Style Recording)

Step Recording is the method of using an external MIDI keyboard to input notes one by one.

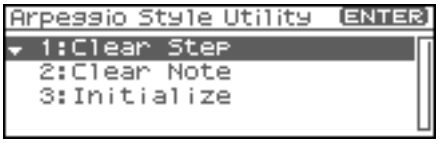
NOTE

In order to perform Arpeggio Step Recording, you'll need an external MIDI keyboard. You can't create an arpeggio style in this way using the Fantom-XR alone.

1. **Press [MENU] in the Arpeggio screen.**
   The Arpeggio/Chord Menu screen will appear.
2. **Use ▲ or ▼ to select "Arpeggio Step Rec."**
3. **Press [ENTER].**
   The Arpeggio Step Rec screen will appear.

1. Initialize the Arpeggio Style.

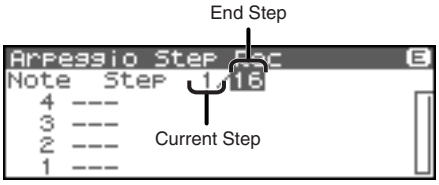
1. **In the Arpeggio Step Rec screen, press [MENU].**
   The Arpeggio Style Utility screen will appear.



2. **Use ▲ or ▼ to select "Initialize."**
3. **Press [ENTER].**
   A message will ask you for confirmation.
4. **Press [ENTER].**
   The initialization will be carried out, and you'll be returned to the previous screen.
   To cancel, press [EXIT].

2. Changing the Length of an Arpeggio Style

1. Move the cursor to the End Step (length of the arpeggio style).



2. Turn the VALUE dial or use [INC][DEC] to change the length of the arpeggio style.

Value

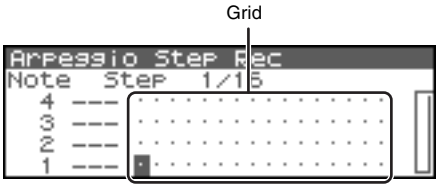
End Step: 1–32

MEMO

When you initialize an arpeggio style, the End Step will be set to "16."

3. Use your external MIDI keyboard to input data.

1. Press ▲ or ▼ to move the cursor to the grid display.



2. Use ◀ or ▶ to specify the step that you want to input.

To view the 17th and subsequent steps, press ▶ to switch the display.

3. Play your external MIDI keyboard.

The notes will be input at the specified step, and you will proceed to the next step.

To input a rest, press ▶ to advance the step.

MEMO

- To input a chord, press more than one key before you take your hand off the keyboard.
- The force (velocity) with which you strike the key is also recorded. This lets you add expressive dynamics to the arpeggio you create.
- A maximum of sixteen note numbers (specified pitches) can be used in one Arpeggio Style.

cf.

To save the Arpeggio Style you created, refer to p. 103.

Deleting all data at the cursor location step (Clear Step)

If you input unwanted data by mistake, here's how to delete all data at that step.

1. Press [MENU] in the Arpeggio Step Rec screen.

The Arpeggio Style Utility screen will appear.

2. Use ▲ or ▼ to select "Clear Step."

3. Press [ENTER].

A message will ask you for confirmation.

4. Press [ENTER].

The clear step will be carried out, and you'll be returned to the previous screen.

To cancel, press [EXIT].

Deleting all notes at the cursor location (Clear Note)

If you input unwanted data by mistake, here's how to delete all notes at that pitch.

1. Press [MENU] in the Arpeggio Step Rec screen.

The Arpeggio Style Utility screen will appear.

2. Use ▲ or ▼ to select "Clear Note."

3. Press [ENTER].

A message will ask you for confirmation.

4. Press [ENTER].

The clear note will be carried out, and you'll be returned to the previous screen.

To cancel, press [EXIT].

Editing an Arpeggio Style you created (Arpeggio Style Edit)

You can edit the built-in styles or styles you created by step-recording.

MEMO

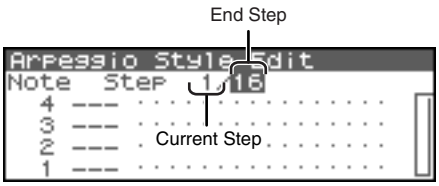
By editing an existing arpeggio style, you can create a new arpeggio style even if you don't have an external MIDI keyboard.

Changing the Length of an Arpeggio Style

1. **Select the Arpeggio Style you wish to edit.**
2. **Press [SHIFT] so it lights, and then press ▼.**
   Arpeggio Style Edit screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

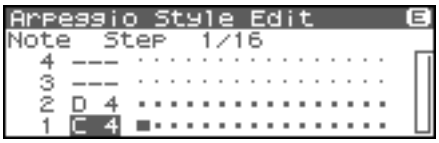
3. **Move the cursor to the End Step (length of the arpeggio style).**



4. **Turn the VALUE dial or use [INC][DEC] to change the length of the arpeggio style.**
   Value
   End Step: 1–32

Editing the notes

1. **Use ▲ or ▼ to move the cursor to the note number you wish to change.**



2. **Turn the VALUE dial to change the value.**
   Value: C–G9

TIP

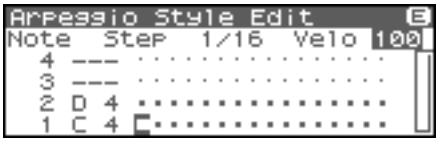
You can also use your external MIDI keyboard to change the note number.

NOTE

You can't change the note number to a note number that's already used by the style.

Editing the note velocity

1. **Use [CURSOR] to move the cursor to the grid where you wish to edit data.**



2. **Turn the VALUE dial to change the value.**
   The current value is shown in the upper right of the screen.
   Pressing [INC] will enter "100"; pressing [DEC] will enter "OFF."
   Value: OFF, 1–127, TIE

cf.

If you want to save the arpeggio style you created, refer to p. 103.

Deleting all data at the cursor location step (Clear Step)

Refer to p. 101.

Deleting all notes at the cursor location (Clear Note)

Refer to p. 101.

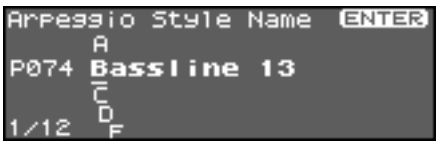
Initializing an Arpeggio Style

Refer to p. 100

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.

1. **Confirm that the current arpeggio style is the one you want to save.**
2. **Display the Arpeggio Style Edit screen (p. 102) or the Arpeggio Step Rec screen (p. 100).**
3. **Press [SHIFT] so it lights, and then press ▶.**
   The Arpeggio Style Name screen will appear.

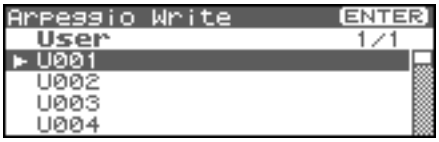


4. **Assign a name to the arpeggio style.**

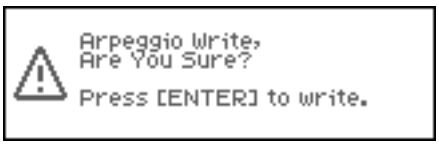
   cf.

   For details on assigning names, refer to **"Assigning a Name"** (p. 39)

5. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination.



6. **Press [ENTER].**
   A message will ask you for confirmation.



7. **Press [ENTER] to execute the save operation.**

* *To cancel the operation, press [EXIT].*

NOTE

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

TIP

Arpeggio Styles are not part of a patch or performance; they are handled as separate data. This means that an arpeggio style can be used with more than one patch or performance.

Recording arpeggios on your external sequencer

An arpeggiated phrase generated by the Fantom-XR can be recorded on an external sequencer. To do this, you will normally leave the settings as shown in the connection example on p. 29, and make the following settings only while recording the arpeggiated phrase.

Settings on the Fantom-XR

- **USB-MIDI Thru:** OFF
- **Tx Note:** ON

In the Patch Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch" (p. 156).

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch." Turn OFF settings that are labeled "MIDI Thru" or "Thru."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

In the Performance Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Arpeggio Channel" (p. 100).

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Arpeggio Channel."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

* *When you've finished recording the arpeggio and want to resume conventional recording, restore the above settings to their original state.*

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-XR 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 channel in Performance mode. You can also use this to play rhythms.

NOTE

When you use the Chord Memory function with a tone for which the Mono/Poly Parameters (p. 50) is Mono, only one sound in the chord is played. When using the Chord Memory function to turn Poly the Mono/Poly Parameters.

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. 97). 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 [ARP].

If you're in Patch mode

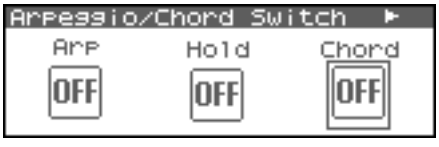
* *In Patch mode, select a patch before you proceed.*

The Arpeggio/Chord Switch screen will appear.

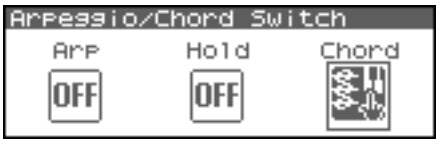
If you're in Performance mode

The Arp/Chd Switch screen will appear.

2. Turn the VALUE dial or press ◀ or ▶ to select "Chord."



3. Press the VALUE dial or use [INC][DEC] to turn chord memory function on/off.



If you turn this on and play your external MIDI keyboard, a chord of the currently selected chord form will play.

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.

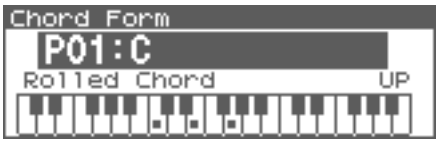
Selecting Chord Forms

Changing the chord form will change the notes in the chord.

1. In the Arpeggio/Chord Switch screen (in Performance mode, the Arp/Chd/Rhy Switch screen), press ◀ or ▶ to select "Chord."

2. Press [SHIFT] so it lights, and then press ▼.
Or, press [ENTER].

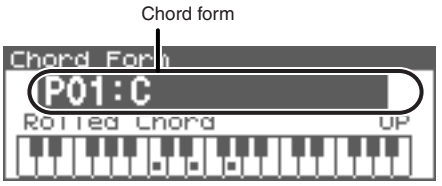
The Chord Form screen will appear.



MEMO

Another way to access the Chord Form screen is to press [MENU] to access the Arpeggio/Chord Menu screen (in Performance mode, the Arp/Chd/Rhy Menu screen), then choose "Chord Form" and press [ENTER].

3. Use ▲ or ▼ to move the cursor to the chord form.



TIP

While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the chord forms.

4. Turn the VALUE dial or use [INC][DEC] to change the chord form.

The notes of the chord will be displayed.

Value: P01–64 (Preset), U01–64 (User)

TIP

You can press [GROUP] to switch between User and Preset memories.

5. When you have made the setting, press [EXIT].

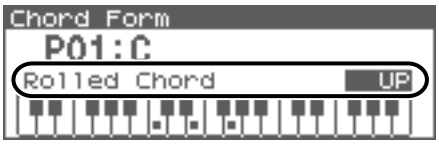
cf.

For more on the Chord Forms pre-programmed at the factory, refer to **"Chord Form List"** (p. 239).

Sounding a chord in the order of its notes (Rolled Chord)

This causes the notes within a chord to be sounded consecutively, rather than simultaneously. Since the playback speed will change according to the force with which you play the keyboard, you can vary your playing dynamics to create a realistic simulation of playing a guitar.

1. In the Chord Form screen, use ◀ or ▶ to move the cursor to "Rolled Chord."



2. Turn the VALUE dial or use [INC][DEC] to change the value.

- **Rolled Chord**

Value

OFF:	The Rolled Chord function will be turned off.
UP:	Notes will be sounded in order from bottom to top.
DOWN:	Notes will be sounded in order from top to bottom.
ALTERNATE:	The order in which the notes are sounded will change each time you play the keyboard.

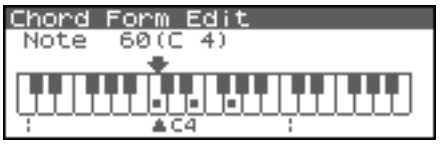
Creating Your Own Chord Forms

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. Select the Chord Form you wish to edit.

2. Press [SHIFT] so it lights, and then press ▼.
The Chord Form Edit screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*



3. Use your external MIDI keyboard to input the chord you want to produce.
When you play the keyboard, symbols will appear on the corresponding keys in the screen.
If you input a key by mistake, simply press the same key once again.

TIP

You can also use the VALUE dial to move the selected key, and press the VALUE dial or use [INC][DEC] to turn it on/off.

TIP

You can press the OUTPUT knob to audition the chord you've input.

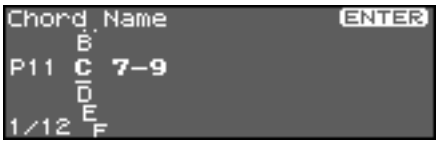
4. If you want to save the chord form you created, proceed to step 2 of "Saving the Chord Forms You Have Created (Write)" (p. 106). If you don't want to save it, press [EXIT].

Saving the Chord Forms You Have Created (Write)

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-XR's user memory.

1. **Confirm that the chord form is the one you want to save.**

2. **In the Chord Form Edit screen (p. 105), press [SHIFT] so it lights, and then press ▶.**
   The Chord Name screen will appear.

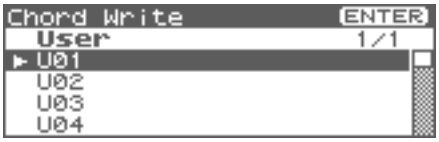


3. **Assign a name to the chord form.**

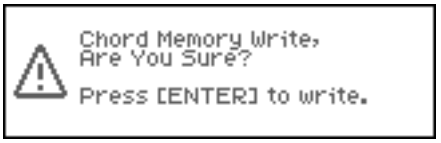
   cf.

   For details on assigning names, refer to **"Assigning a Name"** (p. 39)

4. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination.



5. **Press [ENTER].**
   A message will ask you for confirmation.



6. **Press [ENTER] to execute the save operation.**

* *To cancel the operation, press [EXIT].*

NOTE

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

TIP

Chord Forms are not part of the Performance; they are handled as separate data. This means that a chord form can be used with more than one patch or performance.

Recording chords on your external sequencer

Chords generated by the Fantom-XR can be recorded on an external sequencer. To do this, you will normally leave the settings as shown in the connection example on p. 29, and make the following settings only while recording what you play using the Chord Memory function.

Settings on the Fantom-XR

- **USB-MIDI Thru:** OFF
- **Tx Note:** ON

In the Patch Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch" (p. 156).

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

In the Performance Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Arpeggio Channel" (p. 100). (Chord Memory uses the part specified by "Arpeggio Channel.")

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Arpeggio Channel."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

* *When you've finished recording using Chord Memory and want to resume conventional recording, restore the above settings to their original state.*

Playing Rhythms

About Rhythm Patterns

This function lets you produce a variety of rhythm patterns simply by pressing a single key. You can use the built-in rhythm patterns and also create your own. When the Fantom-XR is shipped from the factory, it contains 256 "preset" rhythm patterns and 256 "user" patterns in which you can store your own original creations.

TIP

Rhythm patterns are not part of the Performance; they are handled as separate data. This means that a rhythm pattern can be used with more than one patch or performance.

Using Rhythm Groups

Settings that specify the pattern triggered by each of the twelve keys are collectively known as a "group."

When shipped from the factory, there are thirty-two "preset" rhythm groups and thirty-two "user" rhythm groups in which you can store your own original creations.

TIP

Rhythm groups are not part of the Rhythm Set nor the Performance; they are handled as separate data. This means that a rhythm group can be used with more than one patch or performance.

Playing Rhythm

Turning Rhythm On and Off

1. Press [ARP].

If you're in Patch mode

* *In Patch mode, select a rhythm set before you continue.*

The Rhythm Switch screen will appear.

If you're in Performance mode

The Arp/Chd/Rhy Switch screen will appear.

Turn the VALUE dial or press ◀ or ▶ to select "Rhythm."

2. Press the VALUE dial or use [INC][DEC] to turn rhythm on/off.

If this is on, the assigned rhythm pattern will play according to the key you play on your external MIDI keyboard.

The volume of the rhythm pattern will also change according to how strongly you press the key.

The pattern or rhythm tone that is sounded by each key can be specified in Rhythm Group Edit (p. 109).

3. To stop the rhythm pattern, press the key that's assigned to "PTN STOP" (p. 109).

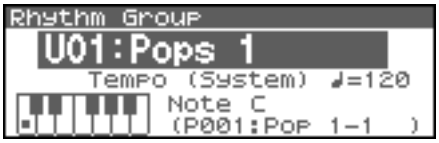
Alternatively, switch the Rhythm function off.

Select the Rhythm Group

1. Access the Rhythm Switch screen.

* *In Performance mode, access the Arp/Chd/Rhy Switch screen and use ◀ or ▶ to select "Rhythm."*

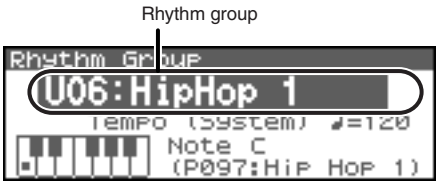
2. Press [SHIFT] so it lights, and then press ▼.
Or, press [ENTER].
The Rhythm Group screen will appear.



MEMO

Another way to access the Rhythm Group screen is to press [MENU] to access the Rhythm Menu screen (in Performance mode, the Arp/Chd/Rhy Menu screen), then choose "Rhythm Group" and press [ENTER].

3. Press ▲ or ▼ to move the cursor to the Rhythm group.



TIP

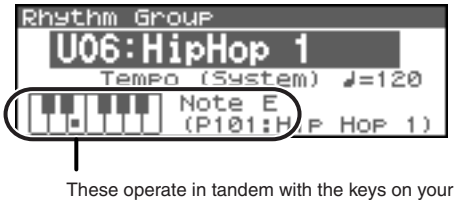
While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the rhythm groups.

4. Turn the VALUE dial or use [INC][DEC] to select the rhythm group.
Value: P01–32 (Preset), U01–32 (User)

TIP

You can press [GROUP] to switch between User and Preset memories.

5. If an external MIDI keyboard is connected, you can play your keyboard to audition the rhythm pattern assigned to each note.



MEMO

You can also audition the rhythm patterns using just the Fantom-XR, without using any external equipment. Move the cursor to "Note" and turn the VALUE dial or use [INC][DEC] to select a note; then press the OUTPUT knob to audition the rhythm pattern assigned to that note.

MEMO

The rhythm pattern assigned to each note is displayed below Note. If you want to change the rhythm pattern, refer to **"Selecting Rhythm Patterns"** (p. 110).

6. When you have made the setting, press [EXIT].

cf.

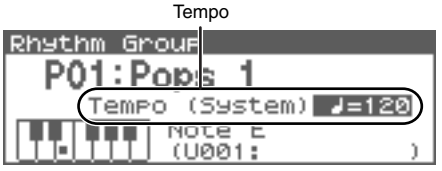
For more on the prepared rhythm group already programmed in the Fantom-XR, refer to **"Rhythm Group List"** (p. 243)

Determining the Tempo for Rhythm Group

This sets the Rhythm group tempo.

1. In the Rhythm Group screen, use ▲ or ▼ to move the cursor to "Tempo."

2. Turn the VALUE dial or use [INC][DEC] to change the tempo.
Value: 5–300



* *Editing the Tempo setting will change the System setting "Tempo" (p. 156). The tempo setting cannot be saved in the Rhythm Group.*

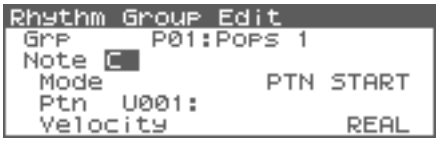
Creating Your Own Styles (Rhythm Group Edit)

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 create your own original rhythm group.

1. **In the Rhythm Group screen, select the rhythm group you wish to edit.**

2. **Press [SHIFT] so it lights, and then press ▼.**
   The Rhythm Group Edit screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*



3. **Use ▲ or ▼ to move the cursor to "Note," and turn the VALUE dial or use [INC][DEC] to make the setting.**

- **Note**
  Specify the note to which you want to assign a pattern.
  VALUE: C–B

* *You can also select a note from your external MIDI keyboard.*

4. **Press ▲ or ▼ to move the cursor to the parameter you want to edit, and turn the VALUE dial or use [INC][DEC] to specify the setting for the note you selected in step 3.**

- **Mode**
  Specify what will happen when you play this note. If you select "PTN START," the pattern selected in "Rhythm Pattern Number" will begin playing. If you select "PTN STOP," this note will stop the currently playing rhythm pattern.
  VALUE: PTN START, PTN STOP
- **Ptn (Rhythm Pattern Number)**
  Specifies the rhythm pattern number that will sound when you press the key.
  Range: U001–256 (User), P001–256 (Preset)

TIP

You can press [GROUP] to switch between User and Preset memories.

- **Velocity (Rhythm Pattern Velocity)**
  Specifies the velocity of the rhythm pattern that will sound when you press the key. If this is set to REAL, you can add dynamics by varying the strength of your strike.
  Range: REAL, 1–127

5. **If you want to save the rhythm group you created, proceed to step 2 of "Saving the Rhythm Group You Have Created (Write)" (p. 109). If you don't want to save it, press [EXIT].**

TIP

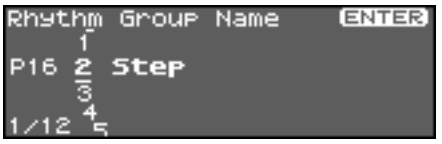
When you save a Performance, the Rhythm Pattern on/off status, the Rhythm Group number, and the settings of the Rhythm Pattern screen (p. 111) are also saved.
If you want to create a combination of sounds and rhythm pattern settings, use Performance mode to create and store your settings.

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 Rhythm Group is the one you want to save.**

2. **In the Rhythm Group Edit screen (p. 109), press [SHIFT] so it lights, and then press ▶.**
   The Rhythm Group Name screen will appear.

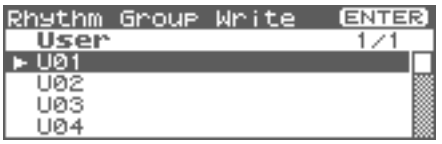


3. **Assign a name to the rhythm group.**

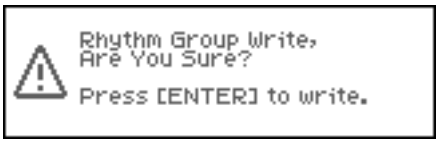
cf.

For details on assigning names, refer to **"Assigning a Name"** (p. 39)

4. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination.



5. **Press [ENTER].**
   A message will ask you for confirmation.



6. **Press [ENTER] to execute the save operation.**

* *To cancel the operation, press [EXIT].*

NOTE

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

TIP

Rhythm Group settings are not saved as part of the Performance; they are handled as separate data. This lets you use a rhythm pattern with different rhythm sets and performances.

Rhythm Pattern Settings

1. Press [ARP].

If you're in Patch mode

* *In Patch mode, select a patch before you proceed.*

The Arpeggio/Chord Switch screen will appear.

If you're in Performance mode

The Arp/Chd/Rhy Switch screen will appear.

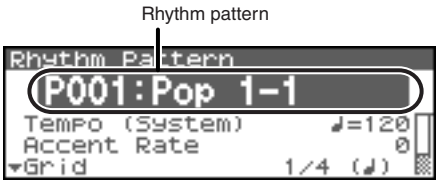
2. Press [MENU].

The Rhythm Menu screen (in Performance mode, the Arp/Chd/Rhy Menu screen) will appear.

3. Press ▲ or ▼ to select "Rhythm Pattern."

4. Press [ENTER].

The Rhythm Pattern screen will appear.



TIP

While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the Rhythm patterns.

5. Press ▲ or ▼ to move the cursor to each parameter, and turn the VALUE dial or use [INC][DEC] to make the setting.

TIP

By pressing OUTPUT knob, you can audition the sound of the rhythm pattern.

6. When you have made the setting, press [EXIT].

TIP

In the Rhythm Pattern screen, you can press [SHIFT] so it lights, then press ▲ to move the cursor to the rhythm pattern.

TIP

When you save a Performance, the Rhythm Pattern on/off status, the Rhythm Group number, and the settings of the Rhythm Pattern screen (p. 111) are also saved.
If you want to create a combination of sounds and rhythm pattern settings, use Performance mode to create and store your settings.

Selecting Rhythm Patterns

Select the basic playing style of the rhythm.

Value: P001–256 (Preset), U001–256 (User)

TIP

You can press [GROUP] to switch between User and Preset memories.

cf.

For more on the prepared Rhythm Patterns already programmed in the Fantom-XR, refer to **"Rhythm Pattern List"** (p. 240).

Determining the Tempo for Rhythm Pattern (Tempo)

This sets the Rhythm pattern tempo.

* *Editing the Tempo setting will change the System setting "Tempo" (p. 156). The tempo setting cannot be saved in the Rhythm Group.*

Value: 5–300

Changing the Accent Strength (Rhythm Accent)

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.

Value: 0–100%

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. (p. 99)*

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. (p. 111)*

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.

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. 74) is set to "No Sus."

Changing the velocity of 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).

Value: REAL, 1–127

Specifying the channel that will play the Rhythm Pattern in Performance Mode (Rhy Ptn Channel)

Here's how to specify the channel that will use the Rhythm pattern in Performance mode.

Value: 1–16

MEMO

If the Arpeggio Channel (p. 100) and the Rhy Ptn Channel are set to the same channel, the Rhythm function will not operate if the Arpeggio function or Chord Memory function is on.

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.

TIP

By pressing OUTPUT knob, you can audition the sound of the arpeggio style.

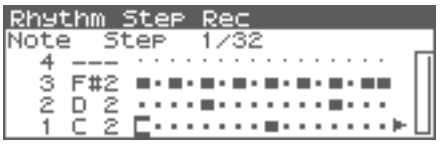
Creating a new Rhythm Pattern (Rhythm Pattern Step Recording)

Step Recording is the recording method in which an external MIDI keyboard is used to input notes one by one.

NOTE

You'll need an external MIDI keyboard in order to do Rhythm Pattern Step Recording; you can't do this using the Fantom-XR alone.

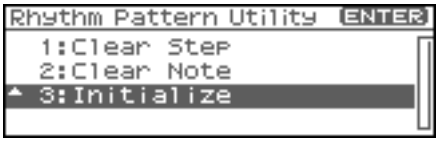
1. **Press [MENU] in the Rhythm Pattern screen.**
   The Rhythm Menu screen will appear.
2. **Use ▲ or ▼ to select "Rhythm Step Rec."**
3. **Press [ENTER].**
   The Rhythm Step Rec screen will appear.



1. Initialize the rhythm pattern

1. In the Rhythm Step Rec screen, press [MENU].
The Rhythm Pattern Utility screen will appear.

2. Use ▲ or ▼ to select "Initialize."

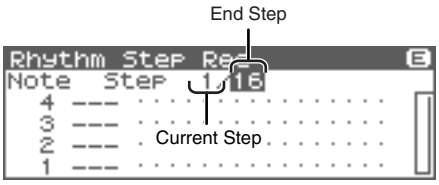


3. Press [ENTER].
A message will ask you for confirmation.

4. Press [ENTER].
The initialization will be carried out, and you'll be returned to the previous screen.
To cancel, press [EXIT].

2. Changing the Length of a Rhythm Pattern

1. Move the cursor to the End Step (length of the rhythm pattern).



2. Turn the VALUE dial or use [INC][DEC] to change the length of the arpeggio style

Value

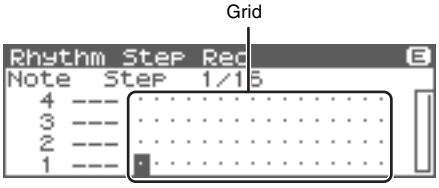
End Step: 1–32

MEMO

When you initialize a rhythm pattern, the End Step is set to "16."

3. Use your external MIDI keyboard to input data

1. Press ▲ or ▼ to move the cursor to the grid display.



To view the 17th and subsequent steps, press ▶ to switch the display.

2. Press ◀ or ▶ to specify the step that you want to input.

3. Play your external MIDI keyboard.
A note will be input at the specified step, and the Fantom-XR will wait for you to input the next step.

To input a rest, simply press ▶ to advance to the next step.

MEMO

- To input a chord, press more than one key before taking your hand off the keyboard.
- The force (velocity) with which you strike the key is also recorded. This lets you add expressive dynamics to the rhythm pattern you create.
- A maximum of sixteen note numbers (specified pitches) can be used in one Style.

cf.
To save the Rhythm Pattern you created, refer to p. 114.

Deleting all data at the cursor location step (Clear Step)

If you input unwanted data by mistake, here's how to delete all data at that step.

1. Press [MENU] in the Rhythm Step Rec screen.
The Rhythm Pattern Utility screen will appear.

2. Use ▲ or ▼ to select "Clear Step."

3. Press [ENTER].
A message will ask you for confirmation.

4. Press [ENTER].
The clear step will be carried out, and you'll be returned to the previous screen.
To cancel, press [EXIT].

Deleting all notes at the cursor location pitch (Clear Note)

If you input unwanted data by mistake, here's how to delete all notes at that pitch. When editing a rhythm pattern, you can use this to (for example) delete only the kick drum notes from the pattern.

1. Press [MENU] in the Rhythm Step Rec screen.
The Rhythm Pattern Utility screen will appear.

2. Use ▲ or ▼ to select "Clear Note."

3. Press [ENTER].
A message will ask you for confirmation.

4. Press [ENTER].
The clear note will be carried out, and you'll be returned to the previous screen.
To cancel, press [EXIT].

Editing a Rhythm Pattern (Rhythm Pattern Edit)

You can edit the built-in rhythm patterns or rhythm patterns that you created using step recording.

MEMO

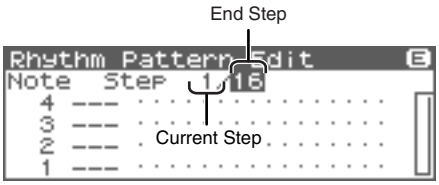
By editing an existing rhythm pattern, you can create a new rhythm pattern even if an external MIDI keyboard isn't connected.

Changing the Length of a Rhythm Pattern

1. **Select the Arpeggio Style you wish to edit.**
2. **Press [SHIFT] so it lights, and then press ▼.**
   Rhythm Pattern Edit screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

3. **Move the cursor to the End Step (length of the rhythm pattern).**

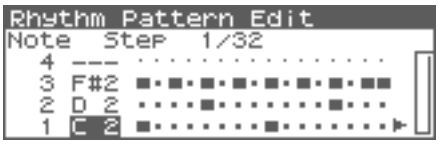


4. **Turn the VALUE dial or use [INC][DEC] to change the length of the rhythm pattern.**
   Value
   End Step: 1–32

Editing a note

When editing a rhythm pattern, you can easily change (for example) a snare sound to a different snare sound.

1. **Use ▲ or ▼ to move the cursor to the note number you wish to change.**



2. **Turn the VALUE dial to change the value.**
   Value: C–G9

TIP

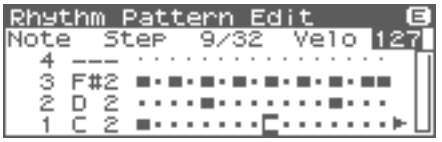
You can also use your external MIDI keyboard to change the note number.

NOTE

You can't change this to a note number that's already used by the style.

Editing the velocity of a note

1. **Use [CURSOR] to move the cursor to the grid where you wish to edit data.**



2. **Turn the VALUE dial to change the value.**
   The current value is shown in the upper right of the screen.
   Pressing [INC] will enter "100"; pressing [DEC] will enter "OFF."
   Value: OFF, 1–127, TIE

cf.

To save the rhythm pattern you created, refer to p. 114.

Deleting all data at the cursor location step (Clear Step)

Refer to p. 112.

Deleting all notes at the cursor location (Clear Note)

Refer to p. 112.

Initializing the rhythm pattern

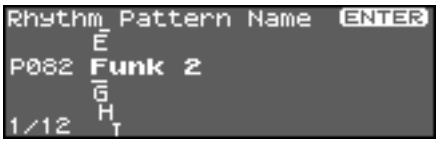
Refer to p. 112.

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 rhythm pattern is the one you want to save.**

2. **In the Rhythm Pattern Edit screen (p. 113) or the Rhythm Step Rec screen (p. 111), press [SHIFT] so it lights, and then press ▶.**
   The Rhythm Pattern Name screen will appear.

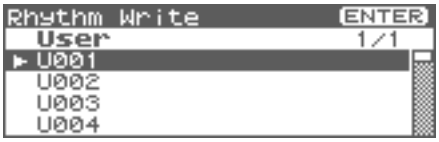


3. **Assign a name to the rhythm pattern.**

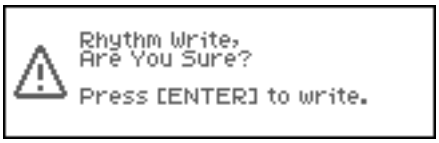
   cf.

   For details on assigning names, refer to **"Assigning a Name"** (p. 39)

4. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination.



5. **Press [ENTER].**
   A message will ask you for confirmation.



6. **Press [ENTER] to execute the save operation.**

* *To cancel the operation, press [EXIT].*

NOTE

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

TIP

Rhythm patterns are not part of the performance data; they are maintained as separate data. This lets you use a rhythm pattern with different rhythm sets and performances.

Recording rhythm pattern playback on your external sequencer

Rhythm patterns generated by the Fantom-XR can be recorded on an external sequencer. To do this, you will normally leave the settings as shown in the connection example on p. 29, and make the following settings only while recording the rhythm patterns.

Settings on the Fantom-XR

- **USB-MIDI Thru:** OFF
- **Tx Note:** ON

In the Patch Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch" (p. 156).

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Patch Mode Rx Ch."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

In the Performance Mode

Settings on your external MIDI keyboard

- Set the transmit channel to match the receive channel of the Fantom-XR's "Rhy Ptn Channel" (p. 111).

Settings on your external sequencer

- Set the receive channel to match the receive channel of the Fantom-XR's "Rhy Ptn Channel."
- Turn OFF settings that are labeled "MIDI Thru" or "Thru."

* *When you've finished recording the rhythm patterns and want to resume conventional recording, restore the above settings to their original state.*

Sampling

The Fantom-XR lets you sample audio sources, such as an audio device, mic, or CD.
This section explains the sampling procedure and what the parameters do.

Switching external input on/off

1. Press INPUT knob.

2. To turn it off, press INPUT knob again.

Making Input Source Settings (MIX IN)

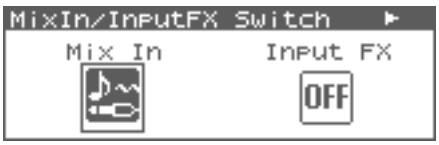
1. Connect the input device whose sound you will sample (e.g., CD player or mic) to the INPUT jacks or to the DIGITAL IN connector located on the rear panel of the Fantom-XR.

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 [SHIFT] so it lights, and then press the INPUT knob.
The MixIn/InputFX Switch screen will appear.



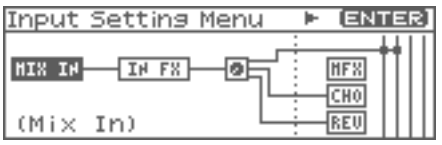
MEMO

The external input can also be switched on/off in this screen.

Press ◀ or ▶ to select Mix-In Sw, and turn the VALUE dial or use [INC][DEC] to switch the external input on/off.

3. Press [ENTER].
The Input Setting Menu screen will appear.

4. Select MIX IN (Mix In).



5. Press [ENTER].
The Mix In screen will appear.

MEMO

Alternatively, you can access the Mix In screen by choosing "Mix In" from the MixIn/InputFX Switch screen menu, and pressing [ENTER].

6. Use ▲ or ▼ to move the cursor to each parameter, and turn the VALUE dial or use [INC][DEC] to make the setting.

- **Input Select**
  Specifies the input source of the sound to be sampled.
  Value

DIGITAL IN:	DIGITAL IN connector
LINE IN L/R:	INPUT jacks L/R (stereo)
LINE IN L:	INPUT jack L (mono)
MICROPHONE:	INPUT jack L (mono, mic level)

- **Digital Input Level**
  If you've set Input Select to DIGITAL IN, this adjusts the input level from the DIGITAL IN connector.
  Value:0–127

7. Play back the external input source.

8. If you use INPUT jacks, turn the INPUT knob to adjust the volume.

* *If you're using DIGITAL IN, this adjustment is not necessary.*

* *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.*

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

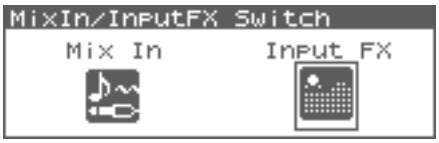
Input Effect settings (Input Effect)

You can apply a dedicated effect (Input Effect) to the external audio input.

Switching input effects on/off

1. Press [SHIFT] so it lights, and then press the INPUT knob.
The MixIn/InputFX Switch screen will appear.

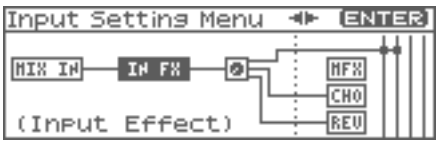
2. Press ◀ or ▶ to select Input FX, and press the VALUE dial or use [INC][DEC] to turn the Input Effect on/off.



Editing the Input Effect settings

1. In the MixIn/InputFX Switch screen, press [MENU].
The Input Setting Menu screen will appear.

2. Use ◀ or ▶ to select IN FX (Input Effect).



3. Press [ENTER].
The Input Effect screen will appear.

TIP

While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the Input Effect types.

MEMO

Alternatively, you can access the Input Effect screen by choosing "Input FX" from the MixIn/InputFX Switch screen menu, and pressing [ENTER].

4. Turn the VALUE dial, or press [INC] /[DEC] to select the input effect type.

- **Type (Input Effect Type)**

  Selects the input effect type.

Parameter	Explanation
1: EQUALIZER	Adjusts the tone of the low-frequency and high-frequency ranges.
2: ENHANCER	Modifies the harmonic content of the high-frequency range to add sparkle to the sound.
3: COMPRESSOR	Restrains high levels and boosts low levels to make the overall volume more consistent.
4: LIMITER	Compresses the sound when it exceeds a specified volume, to keep distortion from occurring.
5: NOISE SUPPRESSOR	Suppresses noise during periods of silence.
6: CENTER CANCELER	Removes the sounds that are localized at the center of the stereo input. This is a convenient way to eliminate a vocal.

In this settings screen, you can edit parameters for the type of input effect you selected.

MEMO

For details on the parameters that can be edited, refer to the section **"Input Effect Parameters"** (p. 217)

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

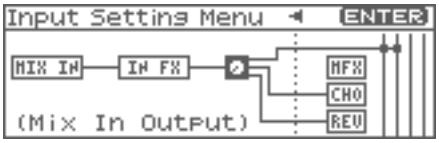
TIP

In the Input Effect screen, you can press [SHIFT] so it lights, then press ▲ to move the cursor to the Input Effect type.

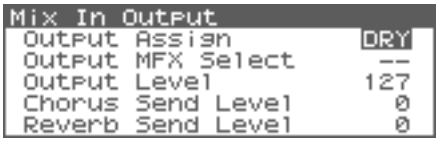
Output settings for the External Input (Mix In Output)

1. In the MixIn/InputFX Switch screen, press [MENU].
The Input Setting Menu screen will appear.

2. Use ◀ or ▶ to select Mix In Output.



3. Press [ENTER].
The Mix In Output screen will appear.



4. Use ▲ or ▼ to move the cursor to each parameter, and turn the VALUE dial or use [INC][DEC] to make the setting.

- **Output Assign (Mix In 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.
- **Output Level (Mix In Output Level)**
  Volume level of the external input sound.
  Value:0–127
- **Chorus Send Level (Mix In 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
- **Reverb Send Level (Mix In 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

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

Sampling Procedure

1. Press [SAMPLING] to access the Sampling Menu screen.

The lower part of the screen will show the amount of free memory. If the free memory reaches 0%, no further sampling is possible.

2. Press ▲ or ▼ to select Sampling mode

- **Sampling**
  Sample a sound from an external input source.
- **Re-Sampling**
  Resample the sound of the internal sound generator. The external audio source will not be input.

* *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. 128) to raise the volume.*

- **Mix-Sampling**
  Sample the combined sounds of the internal sound generator and an external input source.
- **Auto Divide (Auto Divide Sampling)**
  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.
- **Solo sampling**
  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. Press [ENTER].
The sampling-standby screen will appear.
To cancel, press [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.*

4. Use ▲ or ▼ to select parameters that specify the input source or triggering method for the sound you intend to sample, and turn the VALUE dial or use [INC][DEC] to set the value.

- **Input Select**

  Specifies the input source of the sound that is to be sampled.

  Value

  DIGITAL IN: DIGITAL IN connector

  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 [SAMPLING].

  BEAT: Sample the specified number of beats at the current tempo (BPM).

  TIME: Sample the specified length of time.

- **Length**

  You can specify this if Stop Trigger is "BEAT" or "TIME."

  Value

  Sampling Length When Stop Trigger is "BEAT":1–20000: Number of beats to continue sampling

  When Stop Trigger is "TIME":00'00"010–:length of time to continue sampling. The sampling time actually available will depend on the amount of memory.

- **Auto Trigger Sw (Auto Trigger Switch)**

  If this is "ON," sampling will begin automatically when the input sound is detected.

  Value: ON–OFF

  NOTE

  Before you turn Auto Trig on, perform steps 6 to set the input level.

- **Auto Trigger Level**

  This specifies the volume at which sampling will begin when Auto Trigger Sw is "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.*

- **Trimming Switch]**

  If this is turned on, the Start point and End point settings (p. 122) will be automatically adjusted after sampling is performed, so any silent portions at the beginning or end of the sampled sound are excluded.

5. Play the external input source.

If you're resampling, play the internal sound generator.

* *If Auto Trigger Sw is "ON," sampling will begin automatically.*

6. If you're inputting from the INPUT jacks, turn the INPUT knob to adjust the input level of the external source.

* *If you're using DIGITAL IN, this adjustment is not necessary.*

* *If the volume of the external source is too high, the PEAK indicator will light. If this occurs, turn down the INPUT knob until the PEAK indicator no longer lights.*

* *If the level meter in the display lights near "CLIP," the level of the sound you're sampling is too high. In this case, adjust the level by lowering the effect level or adjusting the mastering parameters.*

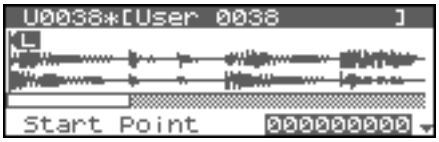
* *Using a connection cable that contains a resistor can cause the sound level to be low. Use a connection cable that does not contain a resistor.*

7. Press [SAMPLING] to begin sampling.

8. If Stop Trigger is set to MANUAL, press [SAMPLING] to stop sampling.

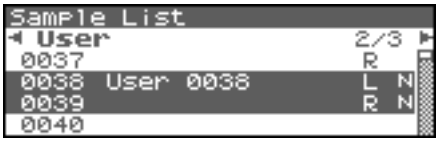
The Sample Edit (p. 122) screen will appear.

* *If you want to edit the sample, refer to p. 120.*



When you finish sampling, the sample will automatically be added to the sample list. You can view the sample list by pressing [SHIFT] so it lights and then pressing ◀.

Samples you record will be lost when you turn off the power. If you want to keep your sample, be sure to save the sample (p. 131). Samples shown as "N" in the sample list have not yet been saved.



9. Press [EXIT] to go back to the previous screen.

Dividing a Sample During Sampling

1. During sampling, press [ENTER].

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).*

TIP

Sampling time

The Fantom-XR contains 16 MB of memory, which allows about 180 seconds of mono or about 90 seconds of stereo sampling. If you want to sample for a longer time than this, you must install separately sold memory (DIMM) (p. 170, p. 172).

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. 37).

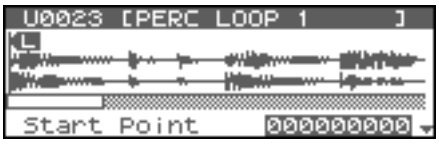
Selecting a Sample (Sample List)

Select a sample from the list.

Selecting a Sample

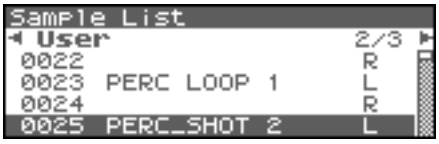
1. Press [SHIFT] so it lights, and then press [SAMPLING].

The Sample Edit screen will appear.



2. Press [SHIFT] so it lights, and then press ◀.

The Sample List screen will appear.



3. Use ◀ or ▶ to specify the group from which you want to select a sample.

* *You can also use [GROUP] to select a performance group.*

- **Preset:** Select from preset samples.
- **User:** Select from user samples.
- **Card:** Select from samples stored on a memory card.

* *You cannot edit preset samples.*

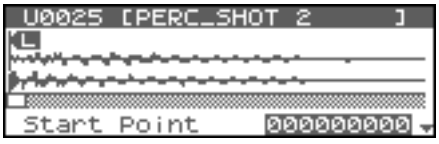
4. Turn the VALUE dial or use [INC][DEC] to select a sample.

TIP

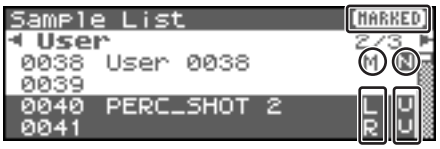
You can press OUTPUT knob to audition the selected sample.

5. Press [ENTER].

The Sample Edit Screen will appear.



The sample list shows the current state of the samples.



M: Monaural channel

L: Stereo L-channel

R: Stereo R-channel

N (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.

U (Unload): The sample has been saved, but not loaded into sample memory.

E (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.

MARKED: This indicates a sample to which a check mark is assigned.

The Fantom-XR has a parameter (Startup w/User Samp, (p. 156)) 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 again before you can re-select that sample.

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. In the Sample List screen, select the sample you wish to load.

If you want to select two or more samples, select a sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

MEMO

To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC].

To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

2. Press [MENU].

The Sample Utility screen will appear.

3. Use ▲ or ▼ to select "Load Sample."

4. Press [ENTER].

A message will ask you for confirmation.

5. Press [ENTER] to load the sample.

* *To cancel, press [EXIT].*

* *In the Sample Edit screen, you can press [MENU] and select "Load Sample" to load the currently displayed 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 group and card group exceeds the size of memory, the samples of the user group will be loaded first. At this time, as many card group samples as possible will be loaded, starting from the lowest-numbered sample.

1. **In the Sample Edit screen (p. 122) or the Sample List screen, press [MENU].**
   The Sample Utility screen will appear.
2. **▲ or ▼ to select "Load All Samples."**
3. **Press [ENTER].**
   A message will ask you for confirmation.
4. **Press [ENTER] to execute.**

* *To cancel, press [EXIT].*

Unloading a Sample

Here's how you can unload a sample from sample memory. The saved sample file itself will not be deleted.

1. **In the Sample List screen, select the sample you wish to unload.**
   If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

   MEMO

   To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].
2. **Press [MENU].**
   The Sample Utility screen will appear.
3. **▲ or ▼ to select "Unload Sample."**
4. **Press [ENTER].**
   A message will ask you for confirmation.
5. **Press [ENTER] to execute.**

* *To cancel, press [EXIT].*

* *In the Sample Edit screen (p. 122), you can press [MENU] and select "Unload Sample" to remove the currently displayed sample.*

Deleting a Sample

Here's how to completely delete a sample file.

* *You cannot delete the preset samples.*

1. **In the Sample List screen, select the sample you wish to delete.**
   If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

   MEMO

   To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

   TIP

   You can press OUTPUT knob to audition the selected sample.
2. **Press [MENU].**
   The Sample Utility screen will appear.
3. **▲ or ▼ to select "Delete Sample."**
4. **Press [ENTER].**
   A message will ask you for confirmation.
5. **Press [ENTER] to execute.**

* *To cancel, press [EXIT].*

* *In the Sample Edit screen (p. 122), you can press [MENU] and select "Delete Sample" to delete the currently displayed sample.*

Importing an 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. 148.

1. **In the Sample Edit screen (p. 122), press [MENU].**
   The Sample Utility screen will appear.
2. **▲ or ▼ to select "Import Audio."**
3. **Press [MENU].**
   The Import Audio screen will appear.
4. **Press [GROUP] to select the import-source area.**
   User: Select a file from the user area.
   Card: Select a file from the memory card.
5. **Use [CURSOR] to move the cursor to the "TMP/AUDIO_IMPORT."**

6. Press ▲ or ▼, then select the file that you want to import.

If you want to select two or more files, select the file and press [INC]. A check mark (✔) will be added to the selected file. To remove the check mark, press [DEC].

MEMO

To add a check mark to all files of the selected folder, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all files of the selected folder, press [SHIFT] so it lights and then press [DEC].

7. Press [ENTER].

A message will ask you for confirmation.

8. Press [ENTER] to execute.

* *To cancel, press [EXIT].*

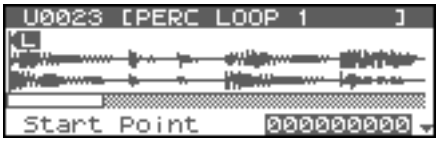
MEMO

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, be sure to save the data (p. 131).

Displaying Sample Edit Screen

1. Press [SHIFT] so it lights, and then press [SAMPLING].

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. 131).

Magnifying/Shrinking the Waveform Display (Zoom In/Out)

Here's how to change the magnification of the sample display.

1. Press ◀ or ▶ to magnify or shrink the waveform display.

- Horizontal axis (time axis): 1/1–1/65536

  Press ◀ to decrease the display magnification.

  Press ▶ to increase the display magnification.

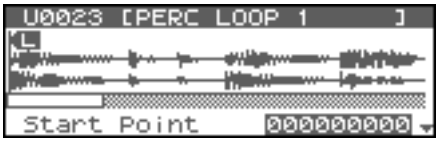
Setting the Start/End Points of the Sample

You can specify the portion of the sample that will actually sound. You can also specify the region that is to be looped.

1. In the Sample List screen, select the sample you wish to edit.

2. Press [ENTER], or hold down [SHIFT] so it lights and then press [SAMPLING].

The Sample Edit screen will appear.



3. Use ▲ or ▼ to select the parameter and turn the VALUE dial or use [INC][DEC] to get the value you want.

It's convenient to zoom in when you need to make small changes, and zoom out when you need to make major changes (p. 122).

- **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.

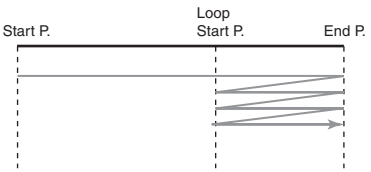
- **Loop Mode**

  Specifies how the sample will be played.

  Value

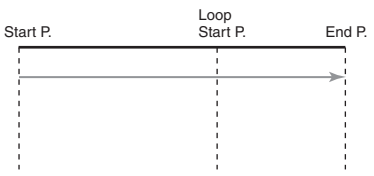
  FWD (Forward)

  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.



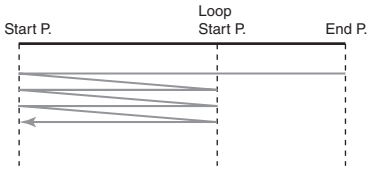
ONE-SHOT

The sample will be played back only once, from the Start point to the End point.



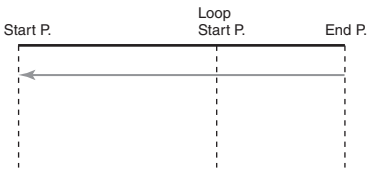
REV (Reverse)

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.



TIP

By pressing OUTPUT knob, you can audition the sample sound. Press the knob once again to stop playback.

MEMO

If you hold down OUTPUT knob and edit the start/loop/end point, the sample will play repeatedly across that point. Since the sound in the region you're specifying will play repeatedly, this is a convenient way to check your setting.
(Zooming-in or zooming-out on the waveform will change the region that loops.)

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)

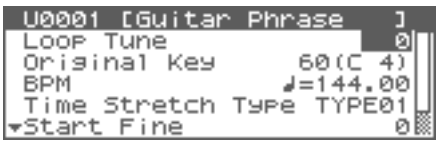
Here you can make various settings for the sample.

1. **In the Sample List screen, select the sample that you want to edit.**

2. **Press [MENU].**
   The Sample Utility screen will appear.

3. **Use ▲ or ▼ to select "Sample Parameter."**

4. **Press [ENTER].**
   The Sample Parameter screen will appear.



MEMO

Alternatively, you can access the Sample Parameter screen from the Sample Edit screen by pressing [MENU] to get the Sample Utility, choosing "Sample Parameter" from the menu, and pressing [ENTER].

5. **Use ▲ or ▼ to select the parameter and turn the VALUE dial or use [INC][DEC] to get the value you want.**

- **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)

MEMO

You can also specify the key by playing a note on your external MIDI keyboard.

- **BPM (TEMPO)**
  Specifies the original tempo of the sample.
  To set the BPM (tempo), you can press and turn the VALUE dial, or press the VALUE dial and use [INC][DEC] to adjust the value below the decimal point.
  Value: 5.00–300.00

* *In order to synchronize the tempo, Wave Temp Sync (p. 55) must be turned on.*

- **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

6. Press [EXIT] when you are finished.

Creating a Patch from a Sample (Create Patch)

Here's how you can use the currently selected sample to create a patch.

* *You cannot execute this with more than one sample selected.*

If you're starting from Patch mode

1. In the Sample List screen, select the sample from which you want to create a patch.

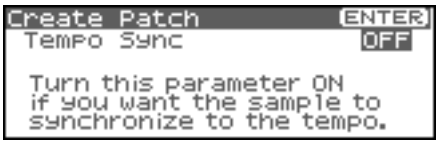
TIP

You can press OUTPUT knob to audition the selected sample.

2. Press [MENU].
The Sample Utility screen will appear.

3. Use ▲ or ▼ to select "Create Patch."

4. Press [ENTER].
The Create Patch screen will appear.



5. Turn the VALUE dial or use [INC][DEC] to change the "Tempo Sync" value.
If this is "ON," the Wave Tempo Sync parameter (p. 55) of the assigned patch will be On.

6. Press [ENTER].
A message will ask you for confirmation.

7. Press [ENTER].
To cancel, press [EXIT].

If you're starting from Performance mode

1. In the Sample List screen, select the sample from which you want to create a patch.

TIP

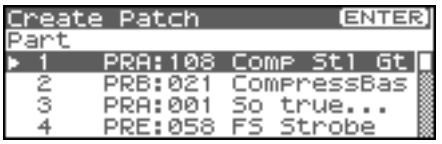
You can press OUTPUT knob to audition the selected sample.

2. Press [MENU].
The Sample Utility screen will appear.

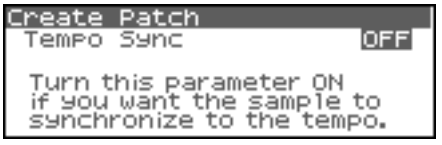
3. Use ▲ or ▼ to select "Create Patch."

4. Press [ENTER].
The Create Patch screen will appear.

5. Press ▲ or ▼ to specify the part to which the new patch is to be assigned.



6. Press [ENTER].
The Create Patch screen will appear.



7. Turn the VALUE dial or use [INC][DEC] to change the "Tempo Sync" value.
If this is "ON," the Wave Tempo Sync parameter (p. 75) of the assigned patch will be On.

8. Press [ENTER].
A message will ask you for confirmation.

9. Press [ENTER].
The sample will be assigned (as a patch) to the specified part.
To cancel, press [EXIT].

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, be sure to save it.

Creating a Rhythm Set from samples (Create Rhythm Set)

Here's how you can use the sample(s) to create a rhythm set. This operation is called **Create Rhythm Set.**

When you execute Create Rhythm Set, 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 Set 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 Set to assign the samples to a part as a rhythm set. The samples will be assigned consecutively from the C2 key.

If you're starting from Patch mode

1. **In the Sample List screen, select the sample(s) from which you want to create a rhythm set.**
   If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

   MEMO

   To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

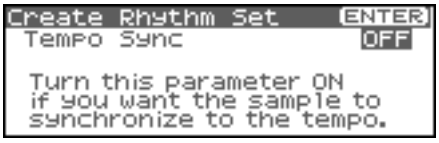
   TIP

   You can press OUTPUT knob to audition the selected sample.

2. **Press [MENU].**
   The Sample Utility screen will appear.

3. **Use ▲ or ▼ to select "Create Rhythm Set."**

4. **Press [ENTER].**
   The Create Rhythm Set screen will appear.



5. **Turn the VALUE dial or use [INC][DEC] to change the "Tempo Sync" value.**
   If this is "ON," the Wave Tempo Sync parameter (p. 55) of the assigned rhythm set will be On.

6. **Press [ENTER].**
   A message will ask you for confirmation.

7. **Press [ENTER].**
   The sample will be created as a rhythm set.
   To cancel, press [EXIT].

If you're starting from Performance mode

1. **In the Sample List screen, select the sample(s) from which you want to create a rhythm set.**
   If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

   MEMO

   To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

   TIP

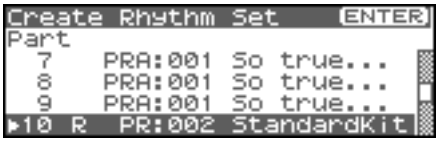
   You can press OUTPUT knob to audition the selected sample.

2. **Press [MENU].**
   The Sample Utility screen will appear.

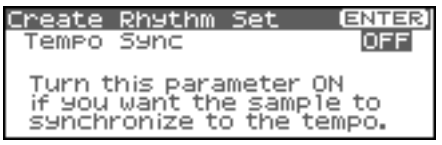
3. **Use ▲ or ▼ to select "Create Rhythm Set."**

4. **Press [ENTER].**
   The Create Rhythm screen will appear.

5. **Press ▲ or ▼ to specify the part to which the new rhythm set is to be assigned.**



6. **Press [ENTER].**
   The Create Rhythm Set screen will appear.



7. **Turn the VALUE dial or use [INC][DEC] to change the "Tempo Sync" value.**
   If this is "ON," the Wave Tempo Sync parameter (p. 55) of the assigned rhythm set will be On.

8. **Press [ENTER].**
   A message will ask you for confirmation.

9. **Press [ENTER].**
   The sample will be assigned (as a rhythm set) to the specified part.
   To cancel, press [EXIT].

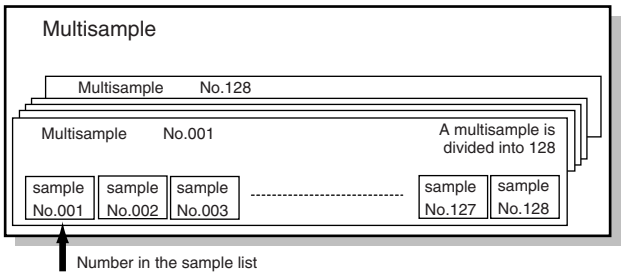
   NOTE

   If you select another rhythm set, the rhythm set you assigned will be replaced by that. If you want to keep the patch you created, be sure to save it.

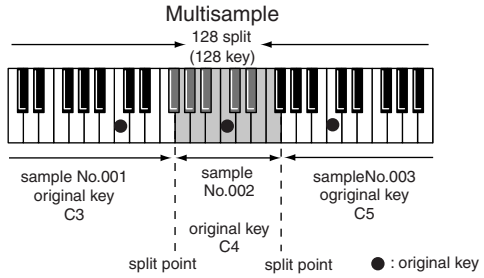
Creating a Patch from Multiple Samples (Create Multisample)

Two or more samples assigned to different keys are collectively called a "multisample." One multisample can assign up to 128 samples divided ("split") across the notes of the keyboard. A memory card can store 128 multisamples.

In order to hear a multisample, you'll need to assign it to a Part as a Patch. Choose the desired samples to create the multisample, and then assign it as a patch to a part for use.



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. In the Sample List screen, select the sample(s) that you want to include in your new multisample.

If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].

MEMO

To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

TIP

You can press OUTPUT knob 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 group.*

2. Press [MENU].

The Sample Utility screen will appear.

3. Use ▲ or ▼ to select "Create Multisample."

4. Press [ENTER].

The Create Patch screen will appear.

5. Assign a name to the multisample.

cf.

For details on assigning names, refer to **"Assigning a Name"** (p. 39)

6. When you have finished inputting the name, press [ENTER].

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

7. 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.

8. Press [ENTER].

A message will ask you to confirm the operation.

9. If you are sure you want to write the multisample, press [ENTER].
If you decide to cancel, press [EXIT].
Never switch off the Fantom-XR while data is being saved.

10. When the data has been written, the Create Patch screen will appear.
If you want to use the multisample as a patch, create the patch as described in step 4 and following of **"Creating a Patch from a Sample (Create Patch)"** (p. 124).
If you don't want to use the multisample as a patch, simply press [EXIT].

* *You cannot listen to a multisample unless you assign it to a part as a patch. If you press [EXIT] at this point, the multisample will be saved, but if you want to actually play it, you'll need to assign the saved multisample to a patch using a separate procedure (p. 124).*

Assigning a multisample to the desired keys

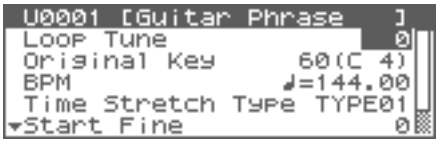
In order to assign a multisample to the desired keys, you'll need to set the Original Key of each sample to the appropriate keys. Then, when you execute the Create Multisample operation, the Fantom-XR will assign the samples to the keyboard and set the split points automatically.

1. In the Sample List screen, select the sample that you want to include in your new multisample.

2. Press [MENU].
The Sample Utility screen will appear.

3. Use ▲ or ▼ to select "Sample Parameter."

4. Press [ENTER].
The Sample Parameter screen will appear.



5. Set the Original Key to the note number of the key to which you want to assign the sample.

6. Press [SHIFT] so it lights, and then press ◀.
The Sample LIST screen will appear. Select the next sample.

7. Press [ENTER].
The Sample Parameter screen will appear.
Specify the Original Key of the selected sample.

* *If you open the Sample List screen from the Sample Parameter screen in this way, you can press [ENTER] to return directly to the Sample Parameter screen. This is convenient when you're setting the Original Key of several samples.*

8. Repeat steps 5–7 to specify the Original Key of each sample.

9. When you've finished setting the Original Key of all samples, create the multisample as described in "Creating a Patch from Multiple Samples (Create Multisample)" (p. 126).

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. In the Sample List screen, select the sample that you want to edit.

2. Either press [ENTER], or press [SHIFT] so it lights and then press [SAMPLING].
The Sample Edit screen will appear.

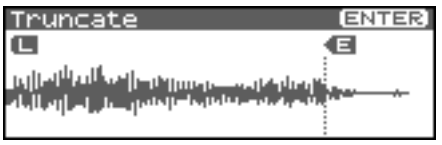
3. Set the start point and end point of the sample as described in "Setting the Start/End Points of the Sample" (p. 122).

4. Press [SHIFT] so it lights, and then press ▼.
The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

5. Use ▲ or ▼ to select "Truncate."

6. Press [ENTER].



7. Press [ENTER].

TIP

You can press the OUTPUT knob to audition the sound of the sample that you have specified the range in the step 3.

8. Press ▲ or ▼ to select how the sample will be handled.

- **Add as a new sample**
  The currently selected sample will be created as a new sample.
- **Replace an existing sample**
  The currently selected sample will be replaced by the edited sample.

9. Press [ENTER].
A message will ask you for confirmation.

10. Press [ENTER] to execute the Truncate operation.

* *To cancel, press [EXIT].*

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. **In the Sample List screen, press [SHIFT] so it lights, and then press ▼.**
   The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

2. **Use ▲ or ▼ to select "Emphasis."**
3. **Press [ENTER].**
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. **Press [ENTER].**

TIP

You can press the OUTPUT knob to audition the sound of the unedited sample.

6. **Press ▲ or ▼ to select how the sample will be handled.**
   - **Add as a new sample**
     The currently selected sample will be created as a new sample.
   - **Replace an existing sample**
     The currently selected sample will be replaced by the edited sample.
7. **Press [ENTER].**
   A message will ask you for confirmation.
8. **Press [ENTER] to execute the Emphasis operation.**

* *To cancel, press [EXIT].*

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. 117) 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. **In the Sample List screen, press [SHIFT] so it lights, and then press ▼.**
   The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

2. **Use ▲ or ▼ to select "Normalize."**
3. **Press [ENTER].**

4. **Press [ENTER].**

TIP

You can press the OUTPUT knob to audition the sound of the unedited sample.

5. **Press ▲ or ▼ to select how the sample will be handled.**
   - **Add as a new sample**
     The currently selected sample will be created as a new sample.
   - **Replace an existing sample**
     The currently selected sample will be replaced by the edited sample.
6. **Press [ENTER].**
   A message will ask you for confirmation.
7. **Press [ENTER] to execute the Normalize operation.**

* *To cancel, press [EXIT].*

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.

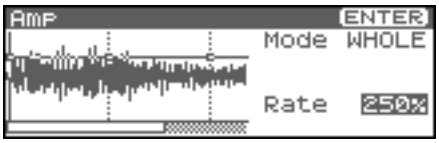
* *You cannot execute this with more than one sample selected.*

1. In the Sample List screen, press [SHIFT] so it lights, and then press ▼.
The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

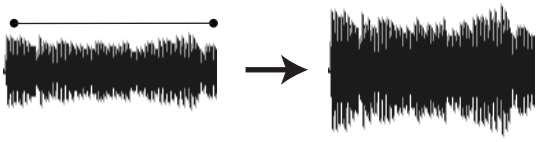
2. Use ▲ or ▼ to select "Amp."

3. Press [ENTER].

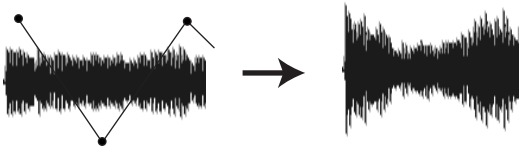


4. Either turn the VALUE dial or use [INC][DEC] to select the mode.

- **Mode**
  Value
  WHOLE: The volume of the entire sample will be adjusted.



POINT: You can specify points 1–4 within the sample, and specify the amount of boost that will occur at each point relative to the current volume.



5. Press ▼.

6. Either turn the VALUE dial or use [INC][DEC] to set the value.

- **Point (When Mode is set to POINT)**
  Select the number of the point you want to set.
  Value: 1–4
- **Location (When Mode is set to POINT)**
  Sets the location of the point 1–4.
  Value: 0–
- **Rate**
  Specify the ratio of amplification for the entire sample or at each point.
  Value: 0–400%

7. Press [ENTER].

8. Press ▲ or ▼ to select how the sample will be handled.

- **Add as a new sample**
  The currently selected sample will be created as a new sample.
- **Replace an existing sample**
  The currently selected sample will be replaced by the edited sample.

9. Press [ENTER].
A message will ask you for confirmation.

10. Press [ENTER] to execute the operation.

* *To cancel, press [EXIT].*

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. In the Sample List screen, press [SHIFT] so it lights, and then press ▼.
The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

2. Use ▲ or ▼ to select "Time Stretch."

3. Press [ENTER].

4. Press ▲ or ▼ to select the parameter.

- **Edit Time Stretch**
  VALUE
  BPM: Change the BPM 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. Either turn the VALUE dial or use [INC][DEC] to specify the tempo/length.
To set the BPM (tempo), you can press and turn the VALUE dial, or use [INC][DEC] to adjust the value below the decimal point.

6. Press [ENTER].
A message will ask you for confirmation.

7. Press [ENTER] to execute the operation.
The length of the sample will be changed as specified.

* *To cancel, press [EXIT].*

Dividing a Sample into Notes (Chop)

The **chop** function divides a sample waveform into separate notes.

* *The Create Rhythm Set function (p. 125) makes it easy to create a rhythm set from a chopped sample.*

* *You cannot execute this with more than one sample selected.*

1. In the Sample List screen, press [SHIFT] so it lights, and then press ▼.
The Sample Modify Menu screen will appear.

* *Alternatively, you can press [ENTER] to access the screen.*

2. Use ▲ or ▼ to select "Chop."

3. Press [ENTER].

4. 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. 123) of the sample.
  Divide x: Divide into 'x' number of equal lengths.

5. Press ▼.

6. 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

7. Press [ENTER].
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 [EXIT].

8. Audition the sample as described in the section "Auditioning the Divided Samples" (p. 130)
If you want to re-make settings, move the point.

cf.
"Moving a Dividing Point" (p. 131)

9. Press [ENTER].
A message will ask you for confirmation.

10. To execute the division, press [ENTER].

* *To cancel, press [EXIT].*
When you execute Chop, a message will ask you whether you want to execute Create Rhythm Set.

11. If you want to execute Create Rhythm Set, press [ENTER].
For the rest of the procedure, refer to **"Creating a Rhythm Set from samples (Create Rhythm Set)"** (p. 125).

12. If you don't want to execute Create Rhythm Set, press [EXIT].
You will return to the Sample Edit screen.

Auditioning the Divided Samples

After dividing the sample, you can press the OUTPUT knob to audition each of the divided samples.
From the sample nearest to the start point, the samples will be played by [TOP], [1], ...[15]
Move the cursor to Point No., and turn the VALUE dial or use [INC][DEC] to select the sample you want to audition.

Deleting a Dividing Point

After the dividing points have been specified, here's how you can delete an unwanted dividing point.

1. Press ▲ or ▼ to move the cursor to "Point."

2. Turn VALUE dial to select the point that you want to delete.

3. Press [MENU].
The Chop Utility screen will appear.

4. Press [ENTER].
A message will ask you for confirmation.

5. Press [ENTER].
The point will be deleted.

* *To cancel, press [EXIT].*

Moving a Dividing Point

After you've specified the dividing points for the sample, you can move them as follows.

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.**

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.

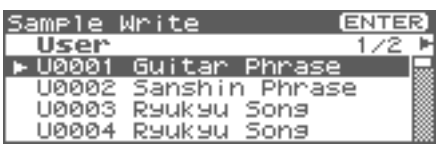
1. **In the Sample List screen, select the sample you wish to save.**
   Samples displayed as "N (NEW)" or "E (EDIT)" have not yet been saved.
   If you want to select two or more samples, select the sample and press [INC]. A check mark (✔) will be added to the selected sample. To remove the check mark, press [DEC].
2. **Press [SHIFT] so it lights, and then press ▶.**
   The Sample Name screen will appear.

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 group of the sample list. Sample names will be assigned automatically. If you want to write the samples, press [ENTER]. If you decide to cancel, press [EXIT].

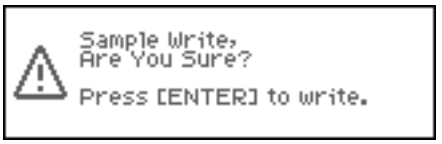
3. **Assign a name to the sample.**

   cf.

   For details on assigning names, refer to **"Assigning a Name"** (p. 39)
4. **When you have finished inputting the name, press [ENTER].**
   A screen will appear, allowing you to select the write-destination sample.



5. **Press ◀ or ▶ to select the write destination.**
   The write destination can be either the Fantom-XR's internal user area (User), or a memory card (Card).
   * *You can also use [GROUP] to select the write destination.*
6. **Turn the VALUE dial or use [INC][DEC] to select the sample number.**
7. **Press [ENTER].**
   A message will ask you for confirmation.



8. **Press [ENTER] to execute the save operation.**
   To cancel the operation, press [EXIT].

   NOTE

   Never switch off the Fantom-XR while data is being saved.
   * *You can't overwrite another sample.*
   * *In order to save a stereo sample, two consecutive sample numbers must be available.*

Adding Effects

This section explains the procedures and settings for applying effects in each mode.

cf.

For details of the Fantom-XR's onboard effects, refer to **"About the Onboard Effects"** (p. 35).

MEMO

The included Fantom-X editor lets you edit the Fantom-XR's settings from your computer in a convenient graphical environment (p. 163).

Turning Effects On and Off

The Fantom-XR'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

These MFX, CHO, and REV on/off settings are temporary; they are not saved with the Patch, Performance, or System settings. (When you power on the Fantom-XR, these switches will all be turned on.)

NOTE

The MST (mastering) on/off setting is saved as a System setting (p. 155).

This lets you specify adjustments that you always want to apply to the overall sound of the entire Fantom-XR. For example, you might specify that some compression be always applied to the midrange frequency band in order to give it more punch.

1. **Press [FX].**

   The Effect Switch screen will appear.

   If you're in Patch mode

   If you're in Performance mode

2. **Turn the VALUE dial or press ◀ or ▶ to select the effect switch.**

3. **Press the VALUE dial or use [INC][DEC] to turn each effect switch on/off. The switch will turn on/off each time you press the button.**

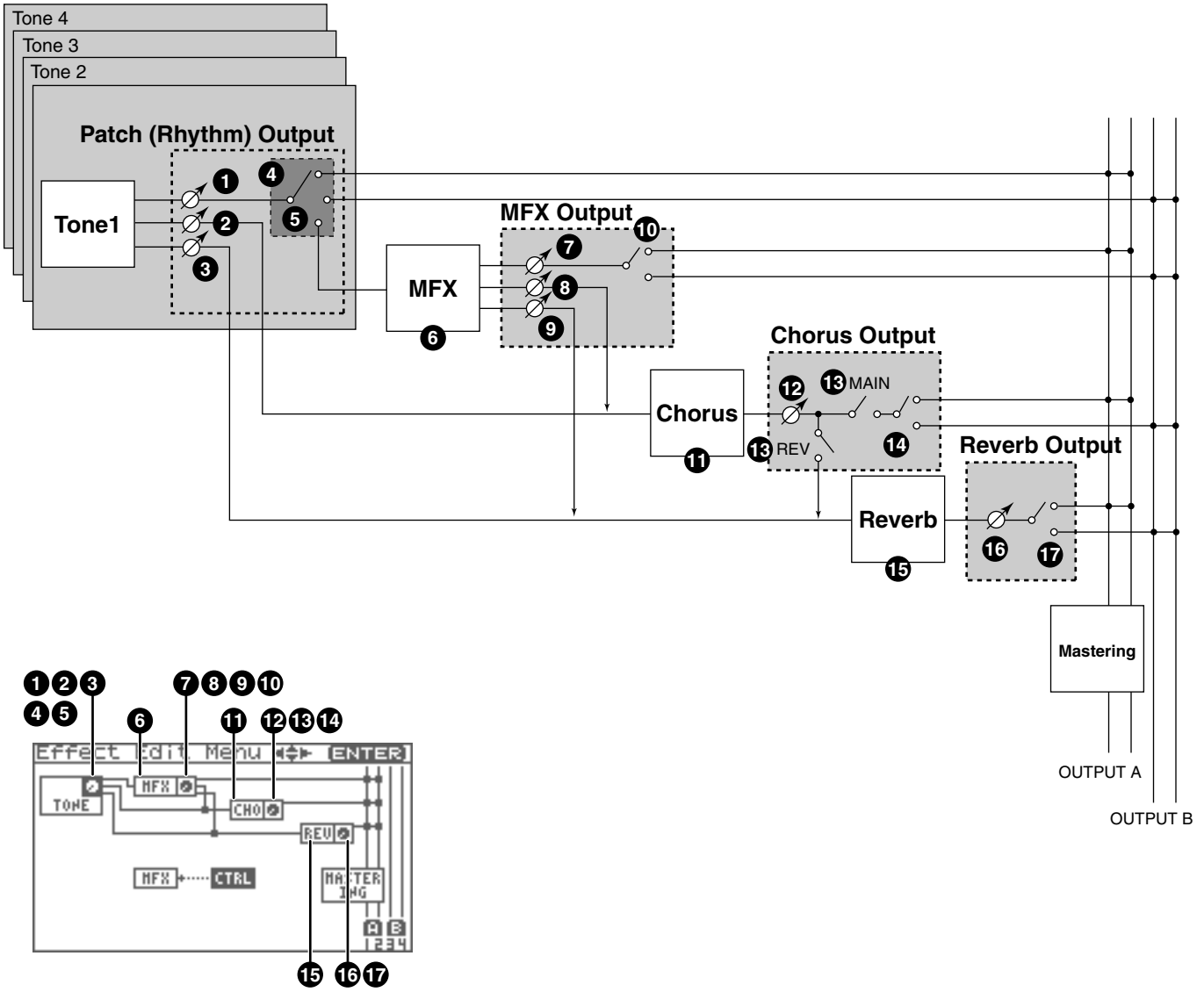
Applying Effects in Patch Mode

In Patch mode you can use multi effects (MFX), chorus, and reverb.

In the "Signal Flow Diagram (Routing)" below, numbers 1–17 correspond to the Fantom-XR's Effect Edit Menu screens (p. 134).

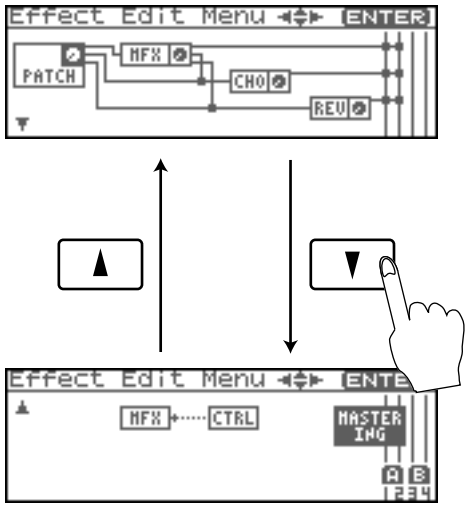
For details on parameters 1–17, refer to **"Functions of Effect Parameters"** (p. 134). For the editing procedure, refer to **"Making Effect Settings"** (p. 134).

Signal Flow Diagram (Routing)



Effect Edit Menu screen structure

Effect editing is done in the Effect Edit Menu screen.



Making Effect Settings

NOTE

You cannot edit the patches in the GM2 group.

1. **Select the patch or rhythm set to which you want to apply effects.**
2. **Press [FX].**
   The Effect Switch screen will appear.
3. **Press [MENU].**
   The Effect Edit Menu screen will appear.
4. **Refer to the "Signal Flow Diagram (Routing)" (p. 133), and turn the VALUE dial or use [CURSOR] to select the edit group containing the effect parameter you want to edit.**
5. **Press the VALUE dial or [ENTER].**
   The effect editing screen that appears will depend on the edit group of the parameter you selected.

   MEMO

   You can also access the effect parameter screens by pressing [ENTER] from the Effect Switch screen.

   cf.

   "Functions of Effect Parameters" (p. 134, p. 140)
6. **Use ▲ or ▼ to select the parameter.**

   TIP

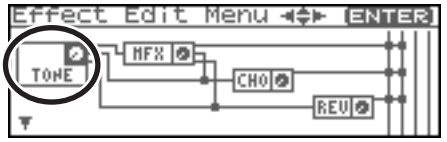
   You can also press ◀ or ▶ to move to the edit group of a different parameter.
7. **Turn the VALUE dial or use [INC][DEC] to get the value you want.**
8. **When you've finished editing, press [EXIT] to return to the previous screen.**

Functions of Effect Parameters

Patch Output (Patch/Rhythm Output)

Here you can make output settings for the Patch and Rhythm Set.

* *These parameters are the same as the corresponding Patch settings. For details, refer to p. 62.*



❶ Tone Output Level

Set the level of the signal that is sent to the output destination specified by Output Assign (❹ , ❺).

Value: 0–127

❷ Tone Chorus Send Level (MFX, non MFX)

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

Value: 0–127

❸ Tone Reverb Send Level (MFX, non MFX)

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

Value: 0–127

❹ Patch Output Assign

Specifies how the direct sound of each patch 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.

NOTE

If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

- 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.

❺ Tone Output Assign

Specifies how the direct sound of each tone 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

If the Patch Output Assign (❹) 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. 51).
- If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.

MEMO

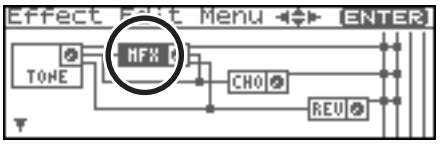
If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

TIP

If you've set Tone Out Assign to "MFX," set the MFX Output Assign parameter (❿) to specify the output destination of the sound that 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 (⓮).
- The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (⓱).

MFX

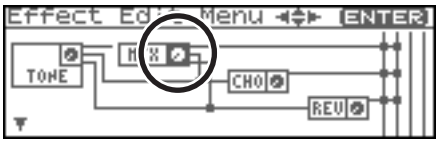


❻ MFX Type (Multi-Effects Type)

Use this parameter to select from among the 78 available multi-effects. For details on multi-effects parameters, refer to **"Multi-Effects Parameter"** (p. 193).

Value: 0 (Through)–78

MFX Output



❼ MFX Output Level (Multi-Effects Output Level)

Adjusts the volume of the sound that has passed through the multi-effects.

Value: 0–127

❽ 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

❾ 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

❿ MFX Output Assign (Multi-Effects Output Assign)

Adjusts the output destination of the sound that has passed through the multi-effects.

Value

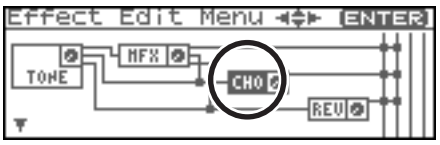
A: Output to the OUTPUT A (MIX) jacks in stereo.

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. 158).

Chorus



⓫ Chorus Type

Selects either chorus or delay.

Value

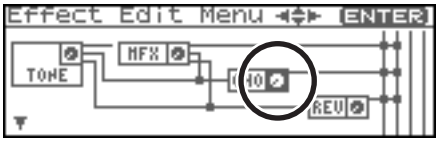
0 (Off): Neither chorus or delay is used.

1 (Chorus): Chorus is used.

2 (Delay): Delay is used.

3 (GM2 Chorus): General MIDI 2 chorus

Chorus Output



⓬ Chorus Output Level

Adjusts the volume of the sound that has passed through chorus.

Value: 0–127

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.

TIP

When set to "MAIN" or "M+R," the OUTPUT jack from which the sound is output is set in Chorus Output Assign (⓮).

⓮ 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.

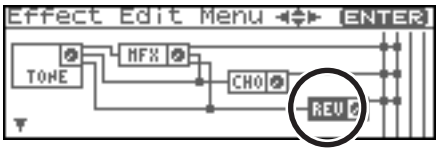
NOTE

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. 158).

Reverb



⓯ Reverb Type

Selects the type of reverb.

Value

0 (Off): Reverb is not used.

1 (Reverb): Normal reverb

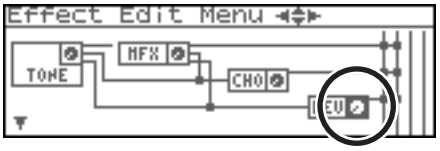
2 (SRV Room): This reverb simulates typical room acoustic reflections.

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

Reverb Output



⑯ Reverb Output Level

Adjusts the volume of the sound that has passed through reverb.

Value: 0–127

⑰ Reverb Output Assign

Specifies how the sound routed through reverb will be output.

Value

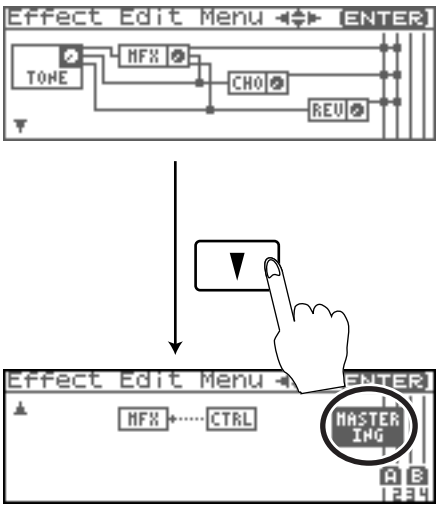
A: Output to the OUTPUT A (MIX) jacks in stereo.

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. 158).

Mastering Effect



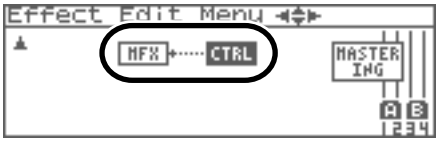
Mastering effect settings apply to the entire Fantom-XR. These settings are not for individual patches or performances.

For details on the Mastering Effect, refer to **"Mastering Effects"** (p. 146).

MFX Control

To access the MFX Control screen

1. From the Effect Edit Menu screen, turn the VALUE dial or use [INC][DEC] to select "CTRL."



2. Press [ENTER].

Control 1–4 Src (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

cf.

For more information about Control Change messages, please refer to **"MIDI Implementation"** (p. 245).

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.

TIP

If you want to use common controllers for the entire Fantom-XR, 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. 159).

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. 66). 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."

Control 1–4 Dest (Multi-Effects Control 1–4 Destination)

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 Parameter"** (p. 193).

Control 1–4 Sens (Multi-Effects Control 1–4 Sensitivity)

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. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to "0" if you don't want to apply the effect.

Value: -63–+63

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-XR. 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-XR'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 Parameter"** (p. 193), 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).

TIP

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. 66).

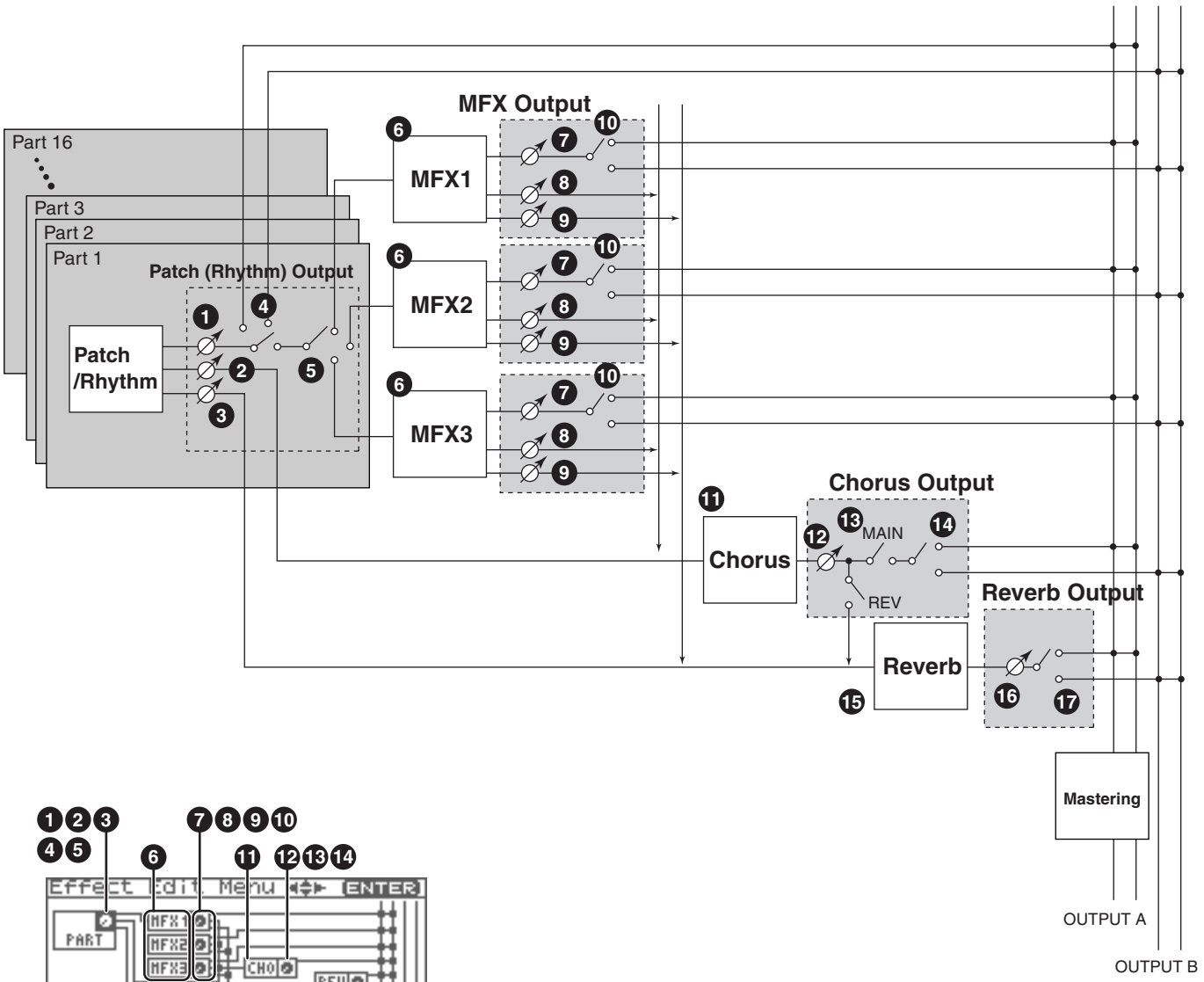
Applying Effects in Performance Mode

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.

In the "Signal Flow Diagram (Routing)" below, numbers 1–17 correspond to the Fantom-XR's Effect Edit Menu screens (p. 140).

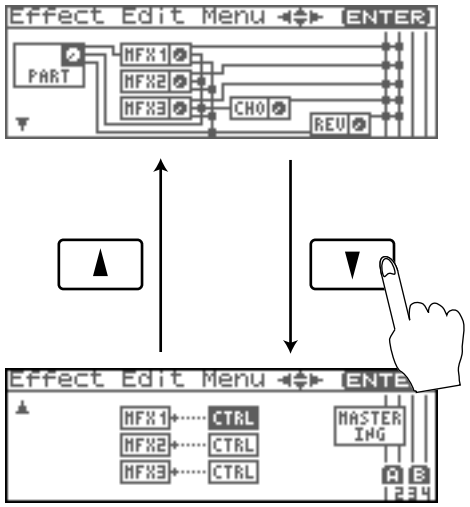
For details on parameters 1–17, refer to **"Functions of Effect Parameters"** (p. 140). For the editing procedure, refer to **"Making Effect Settings"** (p. 140).

Signal Flow Diagram (Routing)



Effect Edit Menu screen structure

Effect editing is done in the Effect Edit Menu screen.



Making Effect Settings

NOTE

You cannot edit the patches in the GM2 group.

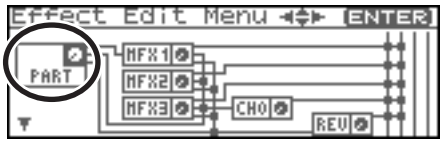
1. **Select the performance to which you want to apply effects.**
2. **Press [FX].**
   The Effect Switch screen will appear.
3. **Press [MENU].**
   The Effect Edit Menu screen will appear.
4. **Refer to the "Signal Flow Diagram (Routing)" (p. 139), and turn the VALUE dial or use [CURSOR] to select the edit group containing the effect parameter you want to edit.**
5. **Press the VALUE dial or [ENTER].**
   The effect editing screen that appears will depend on the edit group of the parameter you selected.

   MEMO

   You can also access the effect parameter screens by pressing [ENTER] from the Effect Switch screen.
6. **Use [CURSOR] to select the parameter.**
7. **Turn the VALUE dial or use [INC][DEC] to get the value you want.**
8. **When you've finished editing, press [EXIT] to return to the previous screen.**

Functions of Effect Parameters

Part Output



Here you can make output settings for the Performance.

* *These parameters are the same as the corresponding Performance settings. For details, refer to* ***"Output Level (Part Output Level)"*** *(p. 89).*

❶ Part Output Level

Set the level of the signal that is sent to the output destination specified by Part Output Assign (❹).

Value: 0–127

❷ Part Chorus Send Level

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

Value: 0–127

❸ Part Reverb Send Level

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

Value: 0–127

❹ 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

If you've made settings so that sounds are separately routed to the INDIVIDUAL 1 jack and INDIVIDUAL 2 jack, but no plug is actually inserted in the INDIVIDUAL 2 jack, the sounds routed to INDIVIDUAL 1 and INDIVIDUAL 2 will be mixed and output from the INDIVIDUAL 1 jack.

MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

TIP

If you've set Tone Out Assign to "MFX," set the MFX Output Assign parameter (⑩) to specify the output destination of the sound that 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 (⑬) and the Chorus Output Assign (⑭).
- The output destination of the signal after passing through the reverb is set with the Reverb Output Assign (⑰).

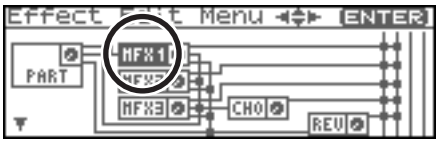
❺ Part Output MFX Select (Part Output Multi-Effects Select)

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)

MFX1–3

For the following parameters ❻ – ❿ , settings can be made individually for three systems multi-effects (MFX1–MFX3).

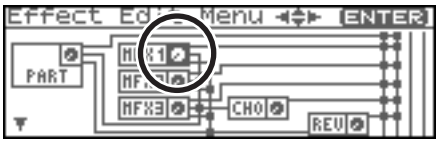


❻ MFX Type (Multi-Effects Type)

Use this parameter to select from among the 78 available multi-effects. For details on multi-effects parameters, refer to **"Multi-Effects Parameter"** (p. 193).

Value: 0 (Through)–78

MFX1–3 Output (Multi-Effects 1–3 Output)



❼ MFX Output Level (Multi-Effects Output Level)

Adjusts the volume of the sound that has passed through the multi-effects.

Value: 0–127

❽ 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

❾ 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

❿ 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.

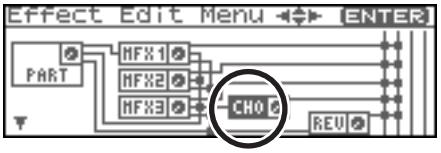
MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

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.

Chorus



⓫ Chorus Type

Selects either chorus or delay.

Value

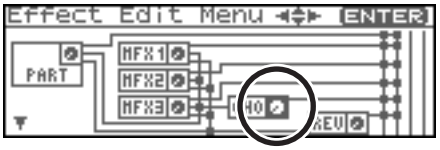
0 (Off): Neither chorus or delay is used.

1 (Chorus): Chorus is used.

2 (Delay): Delay is used.

3 (GM2 Chorus): General MIDI 2 chorus

Chorus Output



⓬ Chorus Output Level

Adjusts the volume of the sound that has passed through chorus.

Value: 0–127

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.

TIP

When set to "MAIN" or "M+R," the OUTPUT jack from which the sound is output is set in Chorus Output Assign (⓮).

⓮ 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.

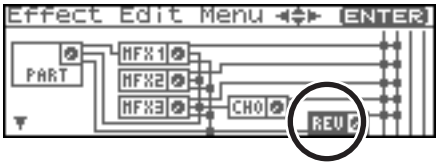
NOTE

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. 158).

Reverb



⓯ Reverb Type

Selects the type of reverb.

Value

0 (Off): Reverb is not used.

1 (Reverb): Normal reverb

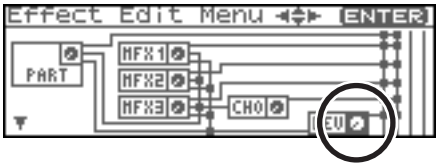
2 (SRV Room): This reverb simulates typical room acoustic reflections.

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

Reverb Output



⑯ Reverb Output Level

Adjusts the volume of the sound that has passed through reverb.

Value: 0–127

⑰ 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.

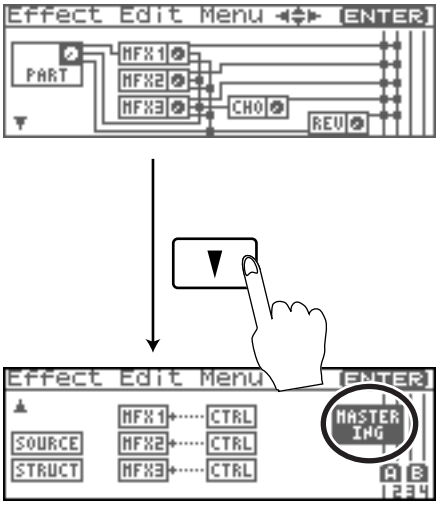
MEMO

If the Mix/Parallel parameter is set to "MIX," all sounds are output from the OUTPUT A (MIX) jacks in stereo (p. 158).

Mastering Effect

Mastering effect settings apply to the entire Fantom-XR. These settings are not for individual patches or performances.

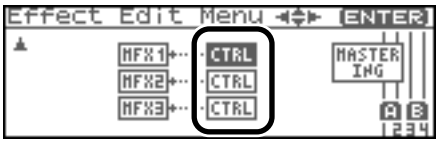
For details on the Mastering Effect, refer to **"Mastering Effects"** (p. 146).



MFX Control

To access the MFX Control screen

1. From the Effect Edit Menu screen, turn the VALUE dial or use [INC][DEC] to select "CTRL."



2. Press [ENTER].

Control 1–4 Src (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

cf.

For more information about Control Change messages, please refer to **"MIDI Implementation"** (p. 245).

PITCH BEND: Pitch Bend

AFTERTOUCH: Aftertouch

SYS CTRL1–SYS CTRL4: MIDI messages used as common multi-effects controls.

TIP

If you want to use common controllers for the entire Fantom-XR, 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. 159).

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. 66). 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. 66). When using the multi-effects control, confirm that any MIDI messages used for the multi-effects control will be received. If the Fantom-XR is set up such that reception of MIDI messages is disabled, then the multi-effects control will not function.

Control 1–4 Dest (Multi-Effects Control 1–4 Destination)

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 Parameter"** (p. 193).

Control 1–4 Sens (Multi-Effects Control 1–4 Sensitivity)

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. For either positive or negative settings, greater absolute values will allow greater amounts of change. Set this to "0" if you don't want to apply the effect.

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. 145) is set to "PRF." Set this to "OFF" when the Multi-effects Control is not being used.

Value: 1–16, OFF

NOTE

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-XR. 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-XR'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 Parameter"** (p. 193), 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).

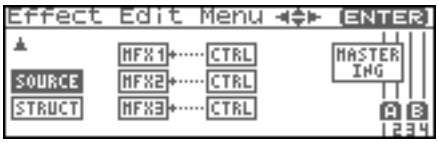
TIP

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. 66).

Specifying the Effect Source

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.

1. **From the Effect Edit Menu screen, turn the VALUE dial or use [INC][DEC] to select "SOURCE."**



2. **Press the VALUE dial or [ENTER].**
   The Effect Source screen will appear.

3. **Use ▲ or ▼ to select the parameter.**
4. **Turn the VALUE dial or use [INC][DEC] to get the value you want.**
5. **When you've finished editing, press [EXIT] to return to the previous screen.**

MFX-1–3 Source (Multi-Effects 1–3 Source)

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. 69, p. 83).

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. 69, p. 83).

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. 69, p. 83).

Specifying the multi-effect structure (MFX Structure)

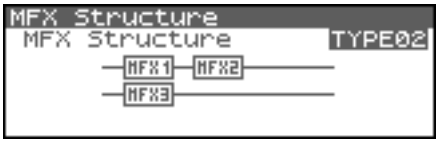
Here's how to specify how MFX 1–3 will be connected.

NOTE

This parameter is not found in Patch mode.

1. **From the Effect Edit Menu screen, turn the VALUE dial or use [INC][DEC] to select "STRUCT."**

2. **Press the VALUE dial or [ENTER].**
   The MFX Structure screen will appear.



3. **Turn the VALUE dial or use [INC][DEC] to get the value you want.**

4. **When you've finished editing, press [EXIT] to return to the previous screen.**

MFX Structure (MFX Structure Type)

Specify how MFX1–3 will be connected.

Value: Type 01–Type 16

Mastering Effects

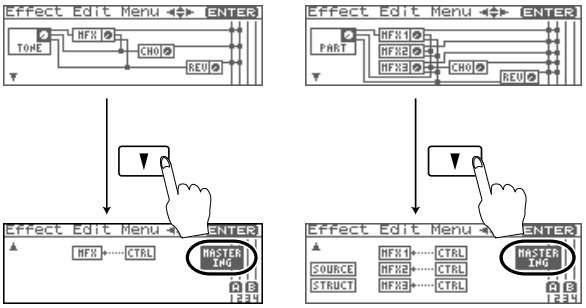
This is a stereo compressor (limiter) that is applied to the final output of the Fantom-XR. It has independent high, mid, and low ranges. Independently for the high-frequency, mid-frequency, and low-frequency regions, this compresses any sounds that exceed the specified level, making the volume more 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-XR. These settings are not for individual patches or performances.*

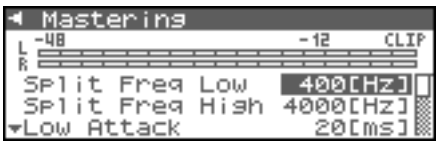
* *The mastering effect is applied to the sound that is output from the OUTPUT A (MIX) jacks. It will not be applied to the sound that is output from the OUTPUT B jacks.*

To access the Mastering screen

1. **From the Effect Edit Menu screen, turn the VALUE dial or use [INC][DEC] to select "MASTERING."**



2. **Press [ENTER].**
   The Mastering screen will appear.



Split Freq High (Split Frequency High)

Frequency at which the high-frequency (HI) and mid-frequency (MID) bands are split

Value: 2000–8000 Hz

Split Freq Low (Split Frequency Low)

Frequency at which the low-frequency (LO) and mid-frequency (MID) bands are split

Value: 200–800 Hz

Low/Mid/High Attack

Time from when the volume goes up the threshold level until the compressor effect applies

Value: 0–100 ms

Low/Mid/High Release

Time from when the volume falls below the threshold level until the compressor effect no longer applies

Value: 50–5000 ms

Low/Mid/High Threshold

Volume level at which compression begins

Value: -36–0 dB

Low/Mid/High Ratio

Compression ratio

Value: 1.00:1–INF:1 (INF: infinity)

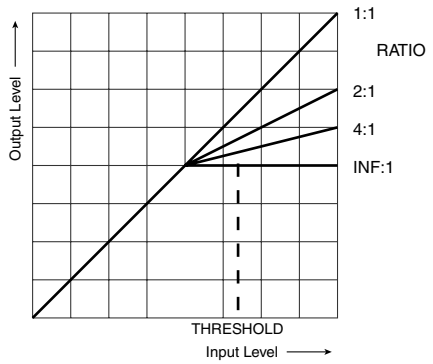
Low/Mid/High Level

Output volume

Value: 0–24 dB

About THRESHOLD and RATIO

As shown in the diagram below, these parameters determine how the volume is to be compressed.



In the Mastering screen, you can press [MENU] to execute the following menu items.

Preset [Hard Comp] **Preset [Soft Comp]** **Preset [Lo Boost]** **Preset [Mid Boost]** **Preset [Hi Boost]**	Recall preset settings for each type.
User	Recall saved user settings.

Saving the Mastering settings

Save the current settings as user settings. Only one set of user settings can be saved.

1. **In the Mastering screen, press [SHIFT] so it lights, and then press ▶.**

Connecting to Your Computer via USB (USB Mode)

About USB Functions

The Fantom-XR has two modes of USB functionality: storage mode for transferring files, and MIDI mode for sending and receiving MIDI messages. You must switch between these two modes on the Fantom-XR; they cannot be used simultaneously.

NOTE

The USB mode (file transfer/MIDI communication) must be switched before you connect the Fantom-XR with your computer.

Each mode can be used with the following operating systems.

Operating System	Storage Mode	MIDI Mode
Windows XP/2000/Me or later	√	√
Windows 98/98SE	not supported	√
Mac OS 9 (9.04 or later)	√	√
Mac OS X	√	√

* *This may not work correctly with some types of computer.*

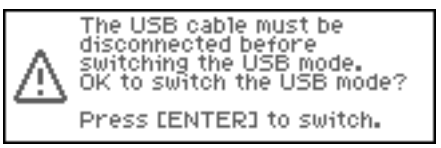
Switching the Storage Mode and the MIDI Mode

Selecting USB Storage Mode

NOTE

You must switch the Fantom-XR to USB Storage mode before you connect the Fantom-XR and your computer with a USB cable.

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.
2. **▲ or ▼ to select "System."**
3. **Press [ENTER].**
4. **Press ◀ or ▶ to display System USB screen.**
5. **▲ or ▼ to select "USB Mode."**
6. **Turn the VALUE dial or use [INC][DEC] to select "STORAGE."**
   A message will ask you for confirmation.



7. **Press [ENTER] to execute.**
   USB Storage mode will be selected.

* *To cancel, press [EXIT].*

8. **If you want the Fantom-XR to start up in USB Storage mode the next time it is powered up, press [SHIFT] so it lights and then press ▶ to store the System settings.**

cf.

For details on operations in USB Storage mode, refer to **"Transferring Files to or from Your Computer (Storage Mode)"** (p. 149).

Selecting MIDI Mode

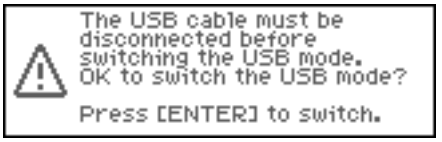
NOTE

You must switch the Fantom-XR to MIDI mode before you connect the Fantom-XR and your computer with a USB cable.

NOTE

If USB MIDI mode is selected and USB-MIDI Thru is turned ON, you will be unable to play the Fantom-XR from your external MIDI keyboard unless your sequencer software or Fantom-X Editor is running.

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.
2. **▲ or ▼ to select "System."**
3. **Press [ENTER].**
4. **Press ◀ or ▶ to display System USB screen.**
5. **▲ or ▼ to select "USB Mode."**
6. **Turn the VALUE dial or use [INC][DEC] to select "MIDI."**
   A message will ask you for confirmation.



7. Press [ENTER] to execute.
MIDI mode will be selected.

* *To cancel, press [EXIT].*

8. ▲ or ▼ to select "USB MIDI-Thru."

9. Turn the VALUE dial or use [INC][DEC] to make settings for USB-MIDI Thru Switch.
This switch specifies whether MIDI messages received at the USB connector or the MIDI IN connector will be retransmitted from the USB connector or the MIDI OUT connector (ON) or not (OFF).

10. If you want the Fantom-XR to start up in USB MIDI mode the next time it is powered up, press [SHIFT] so it lights and then press ▶ to store the System settings.

cf.

For details on operations in MIDI mode, refer to **"Exchanging MIDI Messages with Your Computer (MIDI Mode)"** (p. 151).

Transferring Files to or from Your Computer (Storage Mode)

By connecting the Fantom-XR with your computer via a USB cable, you can transfer files from internal memory or a memory card to and from the hard disk or other media of your computer, in order to back up your data.
You can use software on your computer to edit wave data you've created on the Fantom-XR. Conversely, wave data that you've created on your computer can be used on the Fantom-XR.
In this way, USB Storage mode lets you transfer files such as patch and waves to or from a connected computer.

NOTE

Connect or disconnect the USB cable only when the Fantom-XR 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.

Connections

1. With the Fantom-XR not connected, start up your computer.

2. Use a USB cable to connect the Fantom-XR to your computer.

3. Turn on the power (POWER switch) of the Fantom-XR.

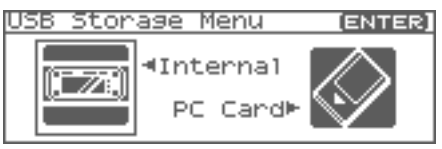
Specify the Connection-Destination Area

When the Fantom-XR is connected to your computer, you can select the area on the Fantom-XR to which a connection is to be made; either the internal user memory or the memory card.

1. Press [MENU].
The Top Menu screen will appear.

2. ▲ or ▼ to select "USB Storage."

3. Press [ENTER].
The USB Storage Menu screen will appear.



* *If the USB setting is not set to "Storage" mode, a warning of "The USB is in MIDI Mode!" will appear when you press [ENTER] in step 3. Press [ENTER] if you want to switch to USB Storage mode (the USB settings screen will appear). If you decide to cancel, press [EXIT].*

4. Press ◀ or ▶ to establish the connection with your computer.

Internal: Connect to the user memory

PC Card: Connect to the memory card

* *To cancel the connection, press [EXIT].*

5. Press [ENTER] to connect the computer and the Fantom-XR.

6. The display will differ as follows, depending on the computer you're using.

- **Windows Me/2000 users**
  A drive named "Removable disk" will be displayed within My Computer.
  Below that drive there will be folders named "ROLAND" and "TMP."
- **Macintosh, Windows XP users**
  A drive icon named "FANX 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

You must observe the following points when the Fantom-XR is connected to your computer via USB.

- Don't use your computer to move or delete folders within the Fantom-XR.
- Don't use your computer to format or optimize the Fantom-XR's user memory or memory card, or execute operations such as Scan Disk.
- The Fantom-XR can only handle filenames consisting of single-byte alphanumeric characters.
- Only the following types of files can be transferred between the Fantom-XR and your computer.
  Standard MIDI Files
  Audio files (.WAV/AIFF)
- To handle these files, use the appropriate method described below.

Standard MIDI Files (SMF format 0, 1)	When placing the files from your computer, place them in the following location. ROLAND/SEQ/SNG
Audio files	When placing the 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-XR, perform operations within the ROLAND/SMPL folder.

- Do not use your USB-connected computer to delete or rewrite any files placed in the ROLAND/SND/ folder.

Exiting Storage mode

Windows Me/2000/XP Users

1. In My Computer, right-click the "removable hard disk" icon and execute "Remove."

Macintosh Users

1. Drag the Fantom-XR drive icon into the trash.

Canceling USB Communication

If you want to power off the Fantom-XR when it is connected to your computer in Storage mode, you must first cancel USB communication on your computer as described here.

Windows Me/2000/XP Users

1. Use the device eject button shown in the taskbar at the lower right of your computer screen to cancel the connection with the Fantom-XR.

Macintosh Users

1. Make sure that the Fantom-XR drive icon is not on your desktop.

Examples of Using Storage Mode

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 found on your computer.

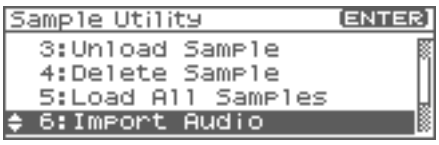
- **Windows Me/2000 users**
  Removable disk/TMP/AUDIO_IMPORT folder
- **Macintosh/Windows XP users**
  FANX USER/TMP/AUDIO_IMPORT folder

* *"/" indicates a directory level.*

1. Press [SHIFT] so it lights, and then press [SAMPLING].
The Sample Edit screen will appear.

2. Press [MENU].
The Sample Utility screen will appear.

3. **▲ or ▼ to select "Import Audio."**



4. **Press [ENTER].**
The Import Audio screen will appear.

5. **Press [GROUP] to select the import-destination area.**
User: Import from user memory.
CARD: Import from a memory card.

6. **Press ▲ or ▼, then select the file that you want to import.**
If you want to select multiple files, select a file and press [INC]. A check mark (✔) will be added to the selected file. To remove the check mark, press [DEC].

MEMO

To add a check mark to all samples of the selected group, press [SHIFT] so it lights and then press [INC].
To remove the check mark from all samples of the selected group, press [SHIFT] so it lights and then press [DEC].

7. **Press [ENTER].**
A message will ask you for confirmation.

* *To cancel, press [EXIT].*

8. **Press [ENTER].**
The file will be imported, and the Sample List screen will appear.

* *To cancel, press [EXIT].*

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 save the sample, press [SHIFT] so it lights, and then press ▶ to save the sample.

Exchanging MIDI Messages with Your Computer (MIDI Mode)

Driver Installation and Settings

In order to use the Fantom-XR as a USB MIDI device from your computer, you must first install the USB MIDI driver. The USB MIDI driver is on the included "Fantom-X Driver CD-ROM."
In order to use USB in MIDI mode, you must install the driver from the included CD-ROM into your computer.
The correct driver and the installation procedure will depend on your system and on the other programs you are using. Be sure to read the Readme file on the CD-ROM before installation.

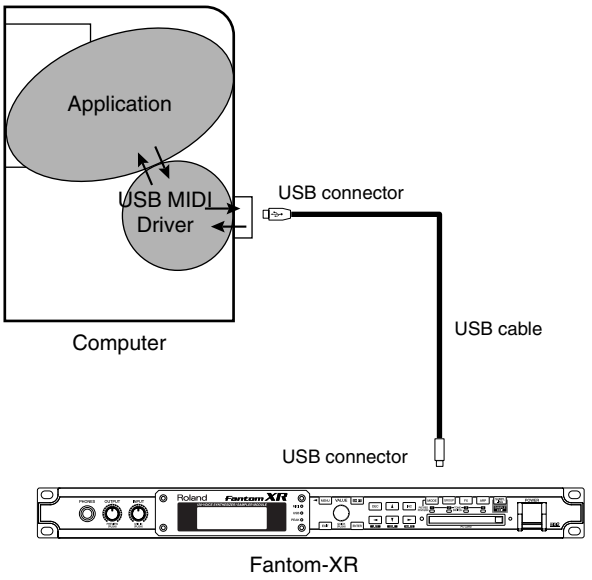
Windows XP/2000
\Win2kXP\Readme_e.htm
Windows Me/98/98SE
\Win98Me\Readme_e.htm
Mac OS 9 (9.04 or later)
\Fantom-X Driver OS9 (E)\Readme_e.htm
Mac OS X
\Fantom-X Driver OSX (E)\Readme_e.htm

NOTE Caution when disconnecting the USB cable

You must shut down your computer before disconnecting the USB cable. Disconnecting the cable while your computer's power is on may destabilize its operation.

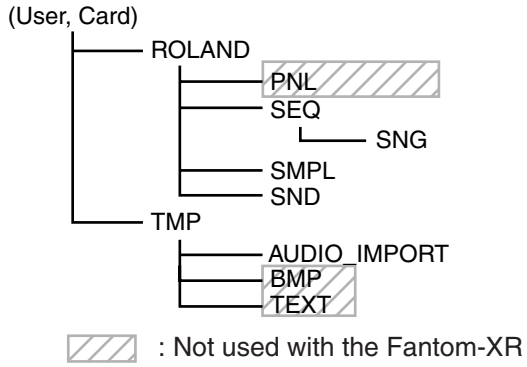
What is the USB MIDI Driver?

The USB MIDI Driver is a software which passes data between the Fantom-XR and the application (sequencer software, etc.) that is running on the USB-connected computer.
The USB MIDI Driver sends data from the application to the Fantom-XR, and passes data from the Fantom-XR to the application.



File-Related Functions (File Utility)

Here you can perform a variety of operations related to the files stored in the Fantom-XR's user memory, and on memory cards. You can copy, delete, or move files, as well as format memory cards.
The folder structure of the user area and memory card is as follows.



NOTE

You must observe the following points when managing files with the Fantom-XR connected to your computer via USB.

- Don't use your computer to move or delete folders within the Fantom-XR.
- Don't use your computer to format or optimize the Fantom-XR's user memory or memory card, or execute operations such as Scan Disk.
- The Fantom-XR can only handle filenames consisting of single-byte alphanumeric characters.
- Don't use your computer to delete or overwrite the files located in the ROLAND/SND folder.

When copying files from your computer into the Fantom-XR's user area or memory card, place them in the following folders.

Computer	Fantom-XR
Standard MIDI file (SMF format 0, 1)	ROLAND/SEQ/SNG
Audio file (WAV/AIFF)	TMP/AUDIO_IMPORT folder

Don't place files of any other format in the user memory or memory card.

Selecting a file

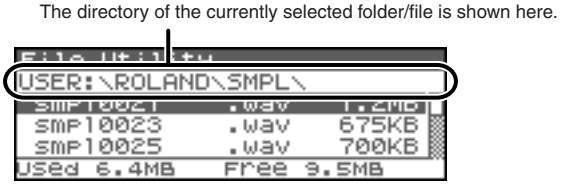
1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.

2. **Press ▲ or ▼ to select "File Utility."**

3. **Press [ENTER].**
   The File Utility screen will appear.

4. **Press [GROUP] to select the file group.**
   - **USER:** Files in user memory
   - **CARD:** Files on a memory card

5. **Press [CURSOR] to select a folder or file.**



Selecting multiple files

Select a file and press [INC]. A check mark (✔) will be added to the selected file. To remove the check mark, press [DEC].

MEMO

To add a check mark to all files in the folder, press [SHIFT] so it lights and then press [INC]. To remove the check mark from all files in the folder, press [SHIFT] so it lights and then press [DEC].

Copying a File (File Copy)

Here's how you can copy a file or files with check marks to a different folder.

1. **In the File Utility screen, select the file that you want to copy.**
2. **Press [MENU].**
   The File Utility Menu screen will appear.
3. **Press ▲ or ▼ to select "File Copy," and press [ENTER].**
   A screen will appear, allowing you to select the folder to which the file is to be copied.
   Use [CURSOR] to select the folder.
4. **To copy the file, press [ENTER].**

* *To cancel, press [EXIT].*

Moving a File (File Move)

Here's how you can move a file or files with check marks to a different folder.

1. **In the File Utility screen, select the file that you want to move.**
2. **Press [MENU].**
   The File Utility Menu screen will appear.
3. **Press ▲ or ▼ to select "File Move," and press [ENTER].**
   A screen will appear, allowing you to select the folder to which the file is to be moved.
4. **To move the file, press [ENTER].**

* *To cancel, press [EXIT].*

Deleting a File (File Delete)

Here's how you can delete a selected file or files with check marks.

[F3 (Card Format)]:Format (initialize) a memory card.

1. **In the File Utility screen, select the file that you want to delete.**
2. **Press [MENU].**
   The File Utility Menu screen will appear.
3. **Press ▲ or ▼ to select "File Delete," and press [ENTER].**
   A message will ask you for confirmation.
4. **To delete the file, press [EXIT].**

* *To cancel, press [EXIT].*

Initializing a Memory Card (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. **In the File Utility screen, press [MENU].**
   The File Utility Menu screen will appear.
2. **Press ▲ or ▼ to select "Card Format," and press [ENTER].**
   A message will ask you for confirmation.
3. **To format the card, press [ENTER].**

* *To cancel, press [EXIT].*

Settings Common to All Modes (System Function)

Settings that affect the entire operating environment of the Fantom-XR, 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 System Function Settings

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.

2. **Press ▲ or ▼ to select "System."**

3. **Press [ENTER].**
   The System Setup screen will appear.

4. **The parameters are organized into several edit groups. Use ◀ or ▶ to switch the groups.**

5. **Press ▲ or ▼ to move the cursor to the parameter you want to edit.**

6. **Turn the VALUE dial or use [INC][DEC] to set the value.**

7. **Repeat steps 4–6 to set each System parameter you want to edit.**

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. **After editing the System settings in the various screens, press [SHIFT] so it lights, and then press ▶.**
   A message will ask you confirmation.

2. **To save the settings, press [ENTER].**

* *To cancel, press [EXIT].*

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.

cf.
For details on these settings, refer to **"How to Make System Function Settings"** (p. 155).

System Startup

Parameter	Value	Description
LCD Contrast	1–20	This adjusts the contrast/brightness of the display. Higher values will make the characters darker.
Startup w/PresetSamp (Load Preset Samples at Startup)	OFF, ON	Specifies whether the preset samples will be loaded into memory at power-on (ON) or not (OFF).
Startup w/User Samp (Load User Samples at Startup)	OFF, ON	Specifies whether the samples of the user area and memory card will be loaded into memory at power-on (ON) or not (OFF).
Power Up Mode	PATCH, PERFORM	This setting allows you to choose the mode that you want the Fantom-XR to be in when it is powered up. **PATCH:** The Fantom-XR will be in Patch mode when you turn on the power. **PERFORM:** The Fantom-XR will be in Performance mode when you turn on the power.

System Sync/Tempo

Parameter	Value	Description
Sync Mode	MASTER, SLAVE	Specifies the synchronization message that the Fantom-XR will use for operation. **MASTER:** The Fantom-XR will be the master. Choose this setting when using the Fantom-XR by itself without synchronizing to another device. **SLAVE:** The Fantom-XR will be the slave. Choose this setting when you want the Fantom-XR to synchronize to MIDI Clock messages received from another MIDI device.
Tempo (System Tempo)	5–300	Sets the system tempo. * *When Sync Mode is set to "SLAVE," the tempo will synchronize to the clock messages received from an external MIDI device, so the tempo value will be ignored.* * *The tempo value is not saved even if you save the System settings.*
Tempo Override	OFF, ON	Specify whether the system tempo will change (ON), or will not change (OFF) when you switch performance.

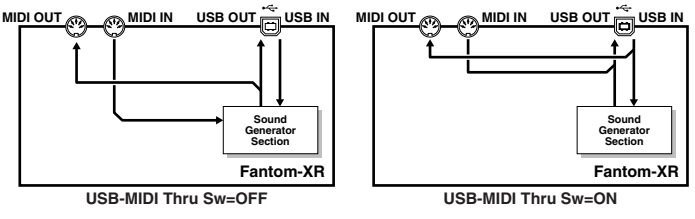
System MIDI

Parameter	Value	Description
Device ID (Device ID Number)	17–32	When you want to transmit or receive System Exclusive messages, set this parameter to match the Device ID number of the other MIDI device.
Performance Ctrl Ch (Performance Control Channel)	1–16, OFF	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. **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.
Patch Mode Rx Ch (Patch Mode Receive Channel)	1–16	Specifies the channel used to receive MIDI messages in Patch mode.

System MIDI

Parameter	Value	Description
Tx Edit Data (Transmit Edit Data Switch)	OFF, ON	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).
Tx Note (Transmit Note Switch)	OFF, ON	Specify whether the performance data generated by the Arpeggio, Rhythm Pattern, and Chord Memory functions will be transmitted from MIDI OUT.
Rx Program Change (Receive Program Change Switch)	OFF, ON	Specifies whether Program Change messages will be received (ON) or not (OFF).
Rx Bank Select (Receive Bank Select Switch)	OFF, ON	Specifies whether Bank Select messages will be received (ON) or not (OFF).
Receive Exclusive (Receive System Exclusive Switch)	OFF, ON	Specifies whether System Exclusive messages will be received (ON) or not (OFF).
Rx GM System On (Receive GM System On Switch)	OFF, ON	Specifies whether General MIDI System On messages will be received (ON) or not (OFF).
Rx GM2 System On (Receive GM2 System On Switch)	OFF, ON	Specifies whether General MIDI 2 System On messages will be received (ON) or not (OFF).
Rx GS Reset (Receive GS Reset Switch)	OFF, ON	Specifies whether GS Reset messages will be received (ON) or not (OFF).

System USB

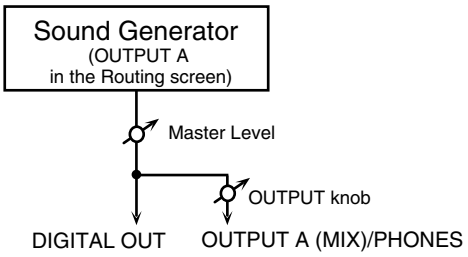
Parameter	Value	Description
USB Mode	STORAGE, MIDI	Selects the mode in which the USB connector will be used. **Storage:** Storage mode. Select this if you want to transfer files. **MIDI:** MIDI mode. Select this if you want to exchange MIDI messages with a sequencer or other program. **NOTE** You must switch the USB Mode before you connect the Fantom-XR to your computer via the USB cable. If you change this setting while the Fantom-XR is connected, the computer may fail to recognize it correctly. **cf.** For details on connections to your computer in each USB Mode, refer to **"Connections"** (p. 149)
USB-MIDI Thru Sw (USB-MIDI Thru Switch)	OFF, ON	When USB Mode is set to "MIDI," this switch specifies whether MIDI messages received at the MIDI connector will be retransmitted from the MIDI OUT connector (ON) or not (OFF). 

System Sound

Parameter	Value	Description
Master Tune	415.3–466.2 Hz	Adjusts the overall tuning of the Fantom-XR. The display shows the frequency of the A4 note (center A).
Master Level	0–127	Adjusts the volume of the entire Fantom-XR. **MEMO** The screen for adjusting the Master Level can also be accessed directly from the Top Menu screen. For details, refer to **"Adjusting the Master Level"** (p. 159). **cf.** **"How do I Adjust the Volume?"** (p. 159)
Output Gain	-12– +12	This adjusts the output gain from the Fantom-XR'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.
Mix/Parallel	MIX, PARALLEL	Specifies how the sound of the entire Fantom-XR will be output. **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. **TIP** 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	-24– +24	Shifts the overall pitch of the Fantom-XR in semitone steps.
Patch Remain (Patch Remain Switch)	OFF, ON	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. **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.

How do I Adjust the Volume?

Master Level adjusts the volume of both the OUTPUT A jacks and the DIGITAL OUT jack. The front panel OUTPUT knob adjusts only the volume of the OUTPUT A jacks. Here's an explanation of what you need to adjust depending on the output jacks you're using.



When using the OUTPUT A jacks: adjust using the OUTPUT knob

The front panel OUTPUT knob controls the volume of the OUTPUT A jacks. This means that if you're outputting from the OUTPUT A jacks, the simplest way is to leave the Master Level fixed at 127 (the default setting), and use the OUTPUT knob to control the volume.

When using the DIGITAL OUT jack: adjust using Master Level

Master Level controls both the OUTPUT A jacks and the DIGITAL OUT jack. This means that if you're outputting from DIGITAL OUT, use Master Level to adjust the volume.

Adjusting the Master Level

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.

2. **▲ or ▼ to select "Master Level."**

3. **Turn the VALUE dial or use [INC][DEC] to adjust the master level.**

NOTE

The Master Level setting is temporary, and will be lost when you turn off the power. If you want to keep the Master Level setting you edited, save the master level in the internal system memory. → **"Saving the System Settings (Write)"** (p. 155)

System Control

Parameter	Value	Description
Source 1–4	OFF, CC01–31, 33–95, PITCH BEND AFTERTOUCH	System Control Assign selects the MIDI message used as the System Control. **OFF:** The system control knob will not be used. **CC01–31, 33–95:** Controller numbers 1–31, 33–95 **cf.** For details on control change messages, refer to **"MIDI Implementation"** (p. 245). **PITCH BEND:** Pitch Bend **AFTERTOUCH:** Aftertouch

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. 66). Similarly, the function allowing you to use MIDI messages to change multi-effects settings in realtime is called the **Multi-effects Control** (p. 138).

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-XR.

You can use up to four System Controls.

System Preview

Parameter	Value	Description
Preview Mode	SINGLE, CHORD, PHRASE	**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 (Preview 1–4 Note Number)	C-1–G9	Specify the pitch of the four notes that will sound when the Preview Mode parameter is set to "SINGLE" or "CHORD." **NOTE** If "PHRASE" is selected for the Preview Mode parameter, these settings will have no effect.
Preview 1–4 Velo (Preview 1–4 Velocity)	OFF, 0–127	Specify the velocity of the four notes that will sound when the Preview Mode parameter is set to "SINGLE" or "CHORD." **NOTE** If "PHRASE" is selected for the Preview Mode parameter, these settings will have no effect.

System Scale Tune

Parameter	Value	Description
Scale Tune Switch	OFF, ON	Turn this on when you wish to use a tuning scale other than equal temperament. 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. 93). The Fantom-XR 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.
Patch Scale Tune for C–B	-64– +63	Make scale tune settings for Patch mode.For details on these settings, refer to **"How to Make System Function Settings"** (p. 155).

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-XR 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-XR, 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

System Sampling

Parameter	Value	Description
Default File Type	WAV, AIFF	Specifies the file format used when saving a sample.
Pre Sample Time	0–1000 ms	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	0–7	Volume level at which sampling will begin when Auto Trig is ON A setting of 0 is the minimum.
Gap Time	500, 1000, 1500, 2000 ms	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.
Input Select	DIGITAL IN, LINE-L/R, LINE-L, MICROPHONE	Input source of the external input sound **DIGITAL IN:** DIGITAL INPUT jack **LINE-L/R:** INPUT jacks L/R (stereo) **LINE-L:** INPUT jack L (mono) **MICROPHONE:** INPUT jack (mono, mic level)
Trimming Switch	OFF, ON	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.

System Memory Info

Displays the amount of memory installed.

System SRX Info

Displays the name of the wave expansion board that is installed.

System Version Info

Displays the version of the Fantom-XR.

Data Management Functions
Reset to Default Factory Settings (Factory Reset)

Basic Procedure

1. **In the Patch Play screen (p. 40) or the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen will appear.

2. **Use ▲ or ▼ to select "Utility."**

3. **Press [ENTER].**
   The Utility Menu screen will appear.

4. **Use ▲ or ▼ to select the operation that you want to execute.**
   - **User Backup**
     Saves user data to a memory card.
   - **User Restore**
     Loads user data from a memory card.
   - **Factory Reset**
     Restores 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
- Samples
- Arpeggio styles
- Chord forms
- System settings
- Standard MIDI files

* *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. **Select "User Backup" in the Utility Menu screen, and press [ENTER].**
   A message will ask you for confirmation.

3. **To execute the backup, press [ENTER].**
   To cancel, press [EXIT].

NOTE

Fantom-XR backup data must not be used to perform a Restore into other models in the Fantom-XR.

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-XR.

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. **Select "User Restore" in the Utility Menu screen, and press [ENTER].**
   A message will ask you for confirmation.

3. **To execute the restoration, press [ENTER].**

* *To cancel, press [EXIT].*

4. **When the display indicates "Power Off," turn the power off, then on again.**

NOTE

If you have added files to the Fantom-XR's internal memory (such as the TMP folder) after executing the User Backup operation, the Restore may not be successful. If this occurs, delete the files you added after the backup (p. 154), and then try the Restore operation again.

Factory Reset

This restores all data in the Fantom-XR to the factory-set condition (**Factory Reset**).

NOTE

If there is important data you've created that's stored in the Fantom-XR'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 memory card (p. 162) or save it on via USB to your computer (p. 149).

1. **Select "Factory Reset" in the Utility Menu screen, and press [ENTER].**
   A message will ask you for confirmation.

2. **Press [ENTER] to execute the Factory Reset.**

* *To cancel, press [EXIT].*

3. **When the display indicates "Power Off," turn the power off, then on again.**

Using Fantom-X Editor

To help you take even greater advantage of its functionality, the Fantom-XR comes with Fantom-X Editor software. Fantom-X Editor assigns parameters to sliders and knobs in the computer screen, allowing you to work efficiently in a graphical editing environment.

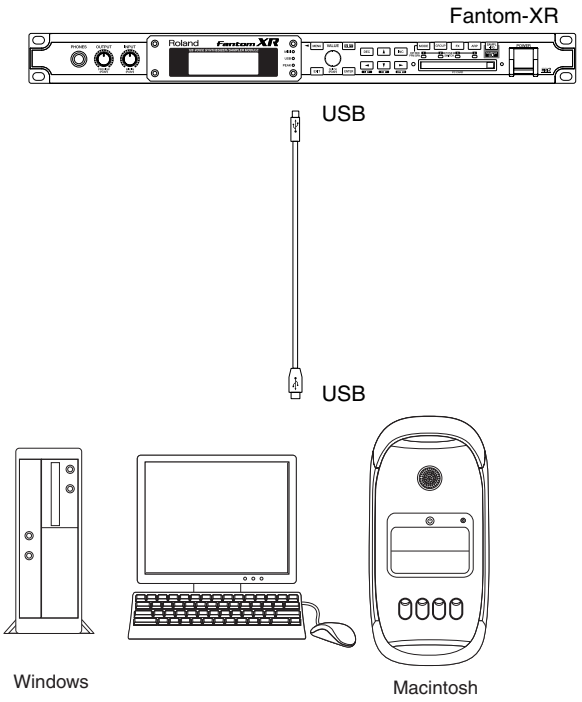
Installing Fantom-X Editor into Your Computer

Detailed instructions on installing the software can be found in the online manual contained on the Fantom-X Editor CD-ROM.

- **Windows users**
  In the Fantom-X Editor CD-ROM, open the Readme_E.txt.
- **Macintosh users**
  In the Fantom-X Editor CD-ROM, open the Readme(English).txt.

Making Connections

In order to use Fantom-X Editor, use an USB cable (sold separately) to connect the Fantom-XR and your computer.



Using Fantom-X Librarian

Fantom-X Librarian is software that lets you manage libraries of Fantom-XR 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-X Editor CD-ROM," you will need to put the Fantom-XR in Librarian mode.

* *The same is true when you want to use a separately sold librarian.*

1. **Press [MENU].**
   The Top Menu screen will appear.
2. **Use ▲ or ▼ to select "Librarian."**
3. **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-XR.
4. **Press [EXIT] to exit Librarian mode and return to the normal state.**

NOTE

The "Now Writing" message indicates that user memory is being overwritten. Do not operate the Fantom-XR while this message is being shown.

Fantom-X Editor System Requirements

System Requirements (Windows)

- Operating System:
  Microsoft® Windows® XP
  Microsoft® Windows® Me
  Microsoft® Windows® 2000 Professional
  Microsoft® Windows® 98/98SE
- CPU/Clock:
  Pentium®/Celeron™ processor 400 MHz 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:
  120 MB 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 (Classic) 8.6 and 9.x
  Mac OS (X) 10.2 or later
- CPU/Clock:
  PowerPC G3 233 MHz or higher (Classic)
  PowerPC G3 500 MHz or higher (X)
- Memory (RAM):
  128 MB or more
  256 MB or more (recommended)
- Display/Colors:
  800 x 600 or higher/32,000 colors or more
  1024 x 768 or higher (recommended)
- Hard Disk:
  120 M bytes or more
- Others
  OMS 2.0 or later (Classic)

* *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.*

Playing SMF data (Song Play)

The Fantom-XR can consecutively play back Standard MIDI File (SMF) data (filename extension .MID) stored in user memory or a memory card.

TIP

When you play back a standard MIDI file, we recommend that you use the sound generator in **Performance mode**. 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.

1. **In the Performance Play screen (p. 84), press [MENU].**
   The Top Menu screen appears.

2. **Press ▲ or ▼ to select "Song Play."**

3. **Press [ENTER].**
   The Song Play screen appears.

4. **Press [GROUP] to select the file group that you want to play.**
   - **USER:** Files in user memory
   - **CARD:** Files on a memory card

5. **Turn the VALUE dial or use [INC][DEC] to select the file you want to play.**

TIP

By pressing [SHIFT] so it lights and press [INC][DEC] you can jump to the beginning or end of the song list.

6. **Press [ENTER] to start playback.**
   When the selected file has finished playing, the next file in the list will automatically begin playing. When the last file has been played, playback will begin playing from the first file of the list. If you want to interrupt playback, press [EXIT].

NOTE

When you perform song playback, any patch or performance you may have been editing will be lost.

NOTE

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

Installing the Wave Expansion Board

Up to six optional Wave Expansion Boards (SRX series) can be installed in the Fantom-XR.

Wave Expansion Boards store Wave data, patches, and rhythm sets, and by equipping the Fantom-XR 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). 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.

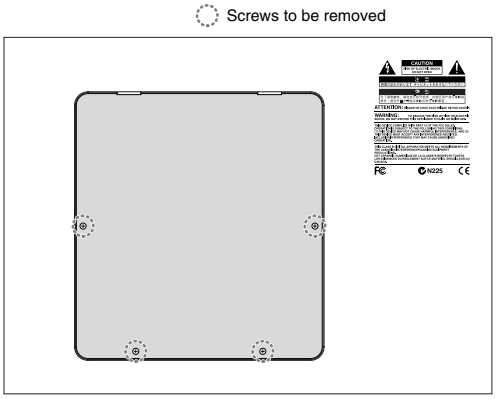
- When installing Wave Expansion Boards, remove only the specified screws.
- Be careful that the screws you remove do not drop into the interior of the Fantom-XR.
- Do not leave the bottom cover removed. After installation of the Wave Expansion Boards is complete, be sure to replace the cover.
- Be careful not to cut your hand on the opening for installing the board.
- Do not touch any of the printed circuit pathways or connection terminals.
- 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.

How to Install a Wave Expansion Board

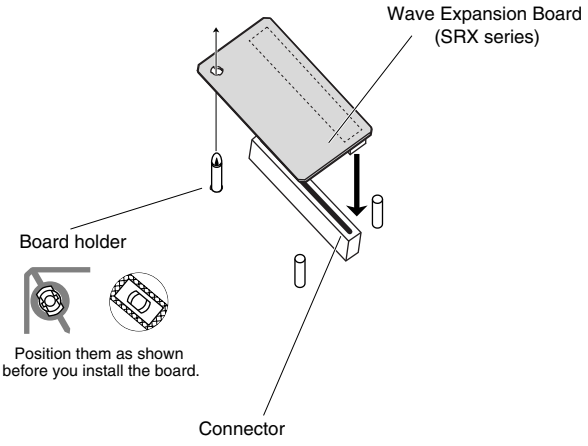
To install a wave expansion board, you'll need to remove the top panel cover. Boards can be installed in the EXP A–EXP F slots. These slots correspond with the Wave Expansion Board groups (XP-A–XP-F) when the expansion Wave, patches, and rhythm sets are used.

1. **Before installing the Wave Expansion Board, turn off the power of the Fantom-XR and all connected devices, and disconnect all cables, including the Power cable, from the Fantom-XR.**

2. **From the Fantom-XR, remove only the screws shown in the following diagram, and detach the top panel cover.**



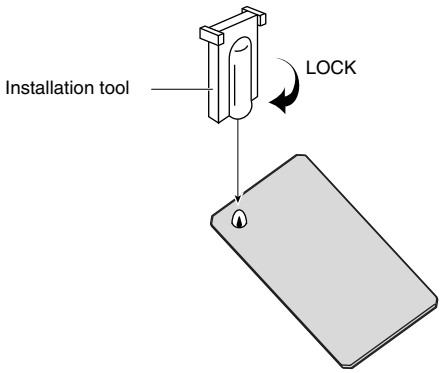
3. **There are six slots inside. As shown in the following illustration, plug the connector of the Wave Expansion Board into the connector of the relevant slot, and at the same time insert the board holder through the hole of the Wave Expansion Board.**



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.

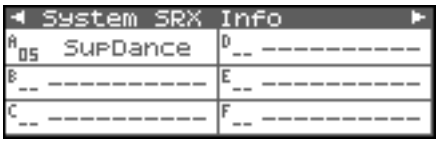
1. **Turn on the power, as described in "Turning On the Power" (p. 17).**

2. **Press [MENU].**
   The Top Menu screen will appear.

3. **Press ▲ or ▼ to select "System."**

4. **Press [ENTER].**

5. **Press ◀ or ▶ to display System SRX Info screen.**
   The System screen will appear. 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 screen.**

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 (six cartes SRX) peuvent être installées dans le Fantom-XR.
Les cartes d'expansion Wave emmagasinent des données Wave, correctifs et rythmes, et en ajoutant ces cartes au Fantom-XR, 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). 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.

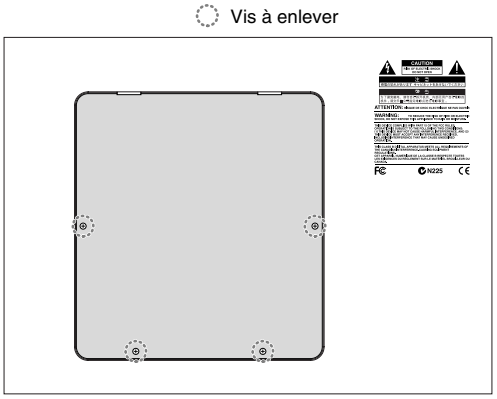
- Pour installer les cartes d'expansion Wave, retirer uniquement les vis mentionnées.
- Assurez-vous que les vis retirées ne tombent pas dans le Fantom-XR.
- Ne pas laisser le panneau de protection avant detache. S'assurer de l'avoir rattacher apres avoir installe le disque dur.
- Faites attention de 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

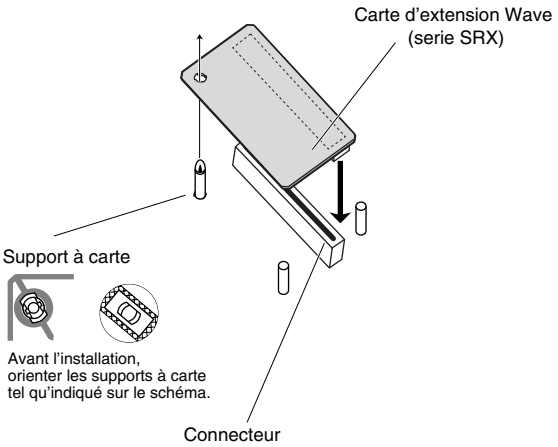
Pour installer une carte d'expansion Wave, il faut retirer le couvercle supérieur. Les cartes peuvent être installées dans les emplacements SRX-A– SRX-F. Ces fentes correspondent aux groupes de cartes d'expansion Wave (XP-A– XP-F) lorsque l'expansion Wave, les correctifs et rythmes sont utilisés.

1. **Avant d'installer la carte d'expansion Wave, coupez l'alimentation du Fantom-XR et de tous les appareils branchés, et débranchez tous les câbles du Fantom-XR, y compris le câble d'alimentation.**

2. **Retirer du Fantom-XR, uniquement les vis montrées dans le diagramme ci-dessous et détacher le couvercle supérieur.**



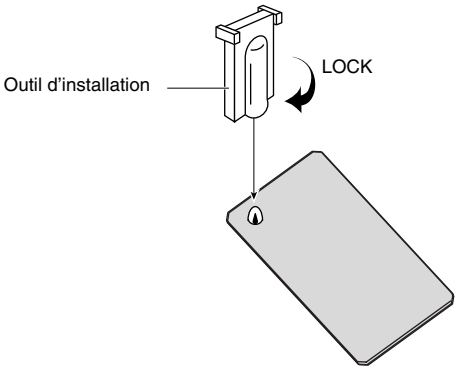
3. **Il y a six emplacements à l'intérieur. Comme le montre l'illustration ci-dessous, branchez le connecteur de la carte d'expansion Wave dans la fente appropriée et, en même temps, insérez le support de carte de circuits imprimés dans l'ouverture de la carte d'expansion Wave.**



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.

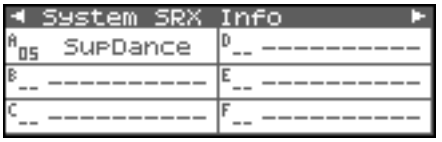
1. Mettre sous tension de la façon décrite sous "Turning On the Power" (p. 17).

2. Appuyer sur [MENU].
Le menu principal s'affichera à l'écran.

3. Appuyer sur ▲ ou sur ▼ pour sélectionner "System."

4. Appuyer sur [ENTER].

5. Appuyer sur ◀ ou sur ▶ pour afficher l'écran System 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.

6. Appuyer sur [EXIT] pour quitter la fenêtre du système.

Expanding the Memory

The Fantom-XR comes with 16 MB of memory into which audio samples can be loaded. However, in some cases, 16 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.

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). 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.

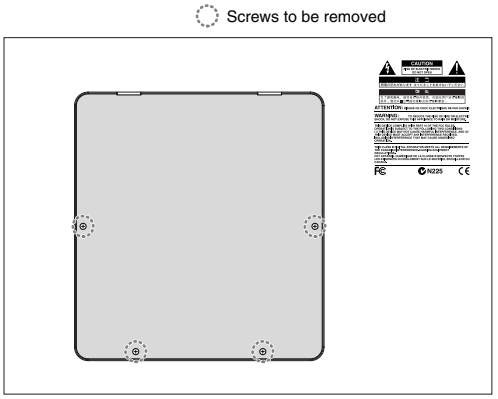
- Be careful that the screws you remove do not drop into the interior of the Fantom-XR.
- Be careful not to cut your hand on the edge of the cover or the opening edge while removing the cover.
- Do not touch any of the printed circuit pathways or connection terminals.
- Never use excessive force when 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.
- 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

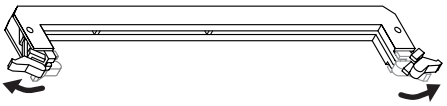
To install a memory module, you'll need to remove the top panel cover.

1. **Before expanding the memory, turn off the power of the Fantom-XR and all connected devices, and disconnect all cables, including the Power cable, from the Fantom-XR.**

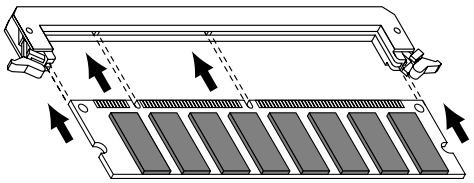
2. **From the Fantom-XR, remove only the screws shown in the following diagram, and detach the cover.**



3. **Press outward the white clips at either end of the socket should be in the downward position.**



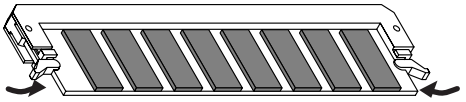
4. **Paying attention to the location of the notch on the memory module and the orientation, insert it vertically within the guides at either side of the socket.**



TIP

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.**

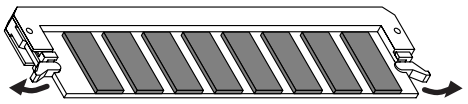


6. **Use the screws that you removed in step 2 to fasten the cover back in place.**

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

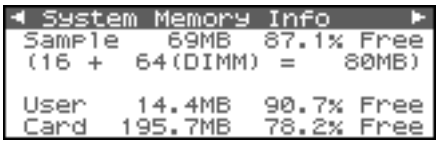
1. **Turn on the power, as described in "Turning On the Power" (p. 17).**

2. **Press [MENU].**
   The Top Menu screen will appear.

3. **Press ▲ or ▼ to select "System."**

4. **Press [ENTER].**

5. **Press ◀ or ▶ to display System Memory Info screen.**
   Verify that the screen correctly shows the amount of memory you installed.



6. **Press [EXIT] to exit the System screen.**

NOTE

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 Off the Power"** (p. 19), 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

NOTE

The Fantom-XR 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.

Ajouter de la mémoire

French language
for Canadian Safety Standard

(French Language for Canadian Safety Standard)

Le Fantom-XR est livré avec une mémoire de 16 Mo dans laquelle les échantillons audio peuvent être chargés. Toutefois, dans certains cas, une mémoire de 16 Mo sera insuffisante pour charger de grandes quantités de données. Il faudra alors ajouter des modules de mémoire vendus séparément (DIMM). La mémoire est extensible jusqu'à 64/128/256/512 Mo.

Avant d'ajouter de la mémoire, consulter le détaillant, le centre de service Roland le plus proche ou un distributeur autorisé Roland.

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). 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.

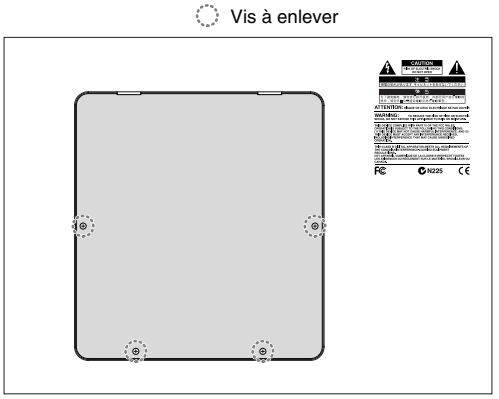
- Assurez-vous que les vis que vous retirez ne tombent pas à l'intérieur du Fantom-XR.
- Faites attention de ne pas vous couper sur le bord du couvercle ou de l'ouverture lorsque vous retirez le couvercle.
- Ne pas toucher aux circuits imprimés ou aux connecteurs.
- Ne jamais forcer lors de l'installation 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.
- Une fois l'installation du module terminée, remettez le couvercle en place.

Installation du module de mémoire

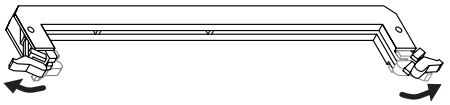
Pour installer un module de mémoire, il faut retirer le couvercle supérieur

1. **Avant d'installer la mémoire additionnelle, mettez hors tension le Fantom-XR et tous les périphériques connectés et débranchez tous les câbles, y compris le câble d'alimentation du Fantom-XR.**

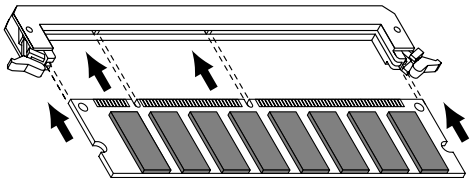
2. **Retirer du Fantom-XR, uniquement les vis montrées dans le diagramme ci-dessous et détacher le couvercle supérieur.**



3. **Appuyez sur les clips blancs à l'extrémité de la prise qui devraient être orientés vers le bas.**

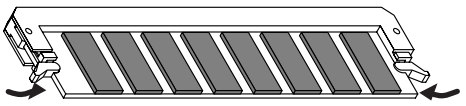


4. **Prenez bien note de l'emplacement et de l'orientation de l'encoche du module de mémoire et insérez-le verticalement à l'intérieur des guides qui se trouvent de chaque côté de la prise.**



* *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.**

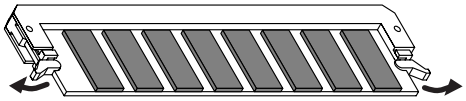


6. **À l'aide des vis retirées à l'étape 2, remettez le couvercle en place.**

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

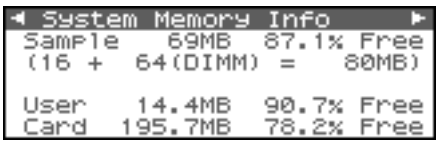
1. **Mettre sous tension de la façon décrite sous "Turning On the Power" (p. 17).**

2. **Appuyer sur [MENU].**
   Le menu principal s'affichera à l'écran.

3. **Appuyer sur ▲ ou sur ▼ pour sélectionner "System."**

4. **Appuyer sur [ENTER].**

5. **Appuyer sur ◀ ou sur ▶ pour afficher l'écran System Memory Info.**
   S'assurer de lire dans la fenêtre la taille de la mémoire que vous avez installée.



6. **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 **"Turning Off the Power"** (p. 19), et réinstaller la mémoire conformément aux instructions.

Spécifications des modules de mémoire (DIMM) qui peuvent être utilisés

Nombre de broches:	168-pin
Vitesse:	100 MHz (PC100 CL=2)
	133 MHz (PC133 CL=3)
Tension:	3.3 V
Capacité:	64/128/256/512 MB
Hauteur de la carte:	38 mm ou moins

NOTE

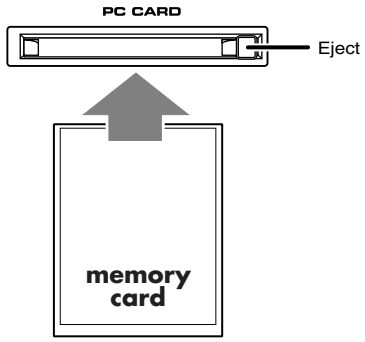
Il a été confirmé que le Fantom-XR fonctionne avec la mémoire standard possédant les spécifications ci-dessus. Nous ne pouvons toutefois pas certifier que toutes les mémoires possédant ces spécifications fonctionneront correctement. Il faut se rappeler que même si les spécifications sont identiques, des différences dans la conception du module de mémoire ou les conditions d'utilisation peuvent faire en sorte qu'il n'est pas possible d'utiliser le module de mémoire.

Using a Memory Card

The Fantom-XR features a PC card slot, allowing you to use not only PC card type memory cards, but also other types of media, such as CompactFlash and SmartMedia, via the appropriate PC card adaptor.

Before Using the Memory Card

Make sure that the correct side of the card is facing upward, and insert it into the Fantom-XR's PC card slot. When you need to remove the card, press the eject button located beside the card.



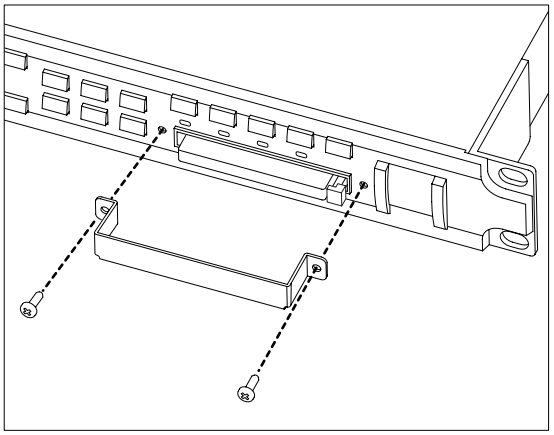
Writing data to the card

Patches, rhythm sets, performances, and samples can be written to the card. For details on the writing procedure, refer to the explanation for the corresponding parameters.

Installing the PC Card Protector

The Fantom-XR provides a PC card protector to prevent theft of the memory card. To install the PC card protector, use the following procedure.

1. **Insert the memory card into the PC CARD card slot.**
2. **Use the attached screws to fasten the PC card protector as shown below.**



Appendix

Troubleshooting

If the Fantom-XR 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*** *(p. 218).*

Problems Concerning the Entire Fantom-XR

Q The power does not turn on.

A Make sure that the Fantom-XR's AC cord is connected correctly to its power inlet and to the AC outlet (p. 16).

Issues Related to Sound

Q Turning the OUTPUT knob doesn't change the volume.

A If you're using the DIGITAL OUT, the OUTPUT knob will not change the volume. Adjust the "Master Level" (p. 158).

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 OUTPUT 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.
- Is the MIDI receive channel correct?
  Make sure that the MIDI transmit channel of the connected device matches the receive channel of the Fantom-XR (p. 156).
- Have all tones in the patch been turned off?
  Turn on "Tone Switch." (p. 47)
- The Part level settings may be too low.
  Access the Level parameter, and check the level of each part (p. 88).
- Are the Effect settings correct?
  Check the Effect settings ON or OFF, the Effect Balance or Level. (p. 132)]
- Are the settings for the output destination correct?
  Check the various output assign settings (p. 89).
- Is the Wave Expansion Board properly installed?
  When selecting the settings that stipulate the use of EXP-A–F waves, Patches, or Rhythm Sets, check that the specified Wave Expansion Board is installed properly in the specified slot (p. 166, p. 168).
- Has the volume been lowered by MIDI messages (volume messages or expression messages) received from an external MIDI device?

  TIP

  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. 87).
- Have the samples been loaded correctly? (p. 120)

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. 88).
- Is the part being muted?
  Set the Mute Switch parameter to "OFF" (p. 89).

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 and the Performance Part.

- **Tone Key Range**
  Key Range Lower/Upper parameter (p. 53)
- **Part Key Range**
  Key Range Lower/Upper parameter (p. 91)

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 OUTPUT knob to lower the volume level.
- Use the Sound Parameter in the System to lower the Output Gain.

Q Pitch is incorrect.

A Check the following points.

- Is the tuning of the Fantom-XR incorrect?
  Check the Master Tune parameter setting (p. 158).
- Has the pitch been changed by Pitch Bend messages received from an external MIDI device?

  TIP

  In the case of Performance mode, the value of Pitch Bend messages (Pitch Bend) can be viewed in the Part Information window (p. 87).
- Have the Coarse Tune or Fine Tune parameters been set for specific Parts?
  Check the Coarse Tune parameter and Fine Tune parameter settings (p. 89).

Q The sound is interrupted.

A Sounds will be interrupted if more than 128 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. 92)

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-XR'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. 158) 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. 158) 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. 64). 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-XR'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. 50) is "ON," and the Legato Retrigger parameter (p. 50) 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-XR'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-XR'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. 162)
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-XR 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 "MST" effect switches may have been turned off.
  Turn them on in the Effect Switch screen. (p. 132)
- Are the various effect settings correct? (p. 132)
- 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. 66)

The Fantom-XR 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-XR, and makes changes to the various Patch parameters based on these messages.

Depending on these settings, the Fantom-XR 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 Check the following points.

- 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-XR will display a message asking whether you want to discard these patches. In such cases, first save the patch (p. 69) or rhythm set (p. 83), and then save the performance (p. 96) again.
- The Mastering Effect settings may have changed. (These settings are not stored as part of a performance.)

Q Patches sound different than when written.

A Check the following points.

- The write operation cannot be used to save Patches as changed in Patch mode using Control Change messages from an external MIDI device.

  cf.

  Refer to **MIDI Implementation** (p. 245) for more on the Control Change messages that are received.
- The Mastering Effect settings may have changed. (These settings are not stored as part of a patch.)

Q The Arpeggio settings in the Performance are different than those for the Patch.

A Since the Fantom-XR stores arpeggio settings for each performance, it will operate according to the arpeggio settings that were specified for each performance.

Issues Related to MIDI and External Devices

Q Performances of the external sequencer 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 128 voices playing simultaneously?
  Reduce the number of voices. The composition of Fantom-XR 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.

  TIP

  In the Part Information window you can check the number of notes for which sound is actually being processed (p. 87).
- 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-XR 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-XR, 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.

Q Can't receive MIDI messages correctly

A Check the following points.

Is the Fantom-XR set to receive MIDI messages?

- **In Patch Mode**
  Patch Mode Rx Channel parameter (p. 156)
- **In Performance Mode**
  Performance Part Receive Channel parameter (p. 91)
  Performance Part Receive Switch parameter (p. 92)

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. 157).
- Does the Device ID number of the transmitting device match the Device ID number of the Fantom-XR?
  Check the Device ID parameter (p. 156).
- 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-XR 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-XR's MIDI Receive channel are matched. The MIDI Receive channel used by the Fantom-XR in Patch mode is set with the Patch Mode Rx Channel parameter (p. 156). Rhythm Set performance data is generally received on MIDI Channel 10.

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 setting be off?
  Press [INPUT] to turn it on.
- The level of the external input may be lowered.
  When you sample, use the INPUT knob to adjust the level appropriately.
- Check the Level setting in the Sampling screen (p. 118).
- 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. 118) may be set to monaural (stereo).
- Could the Input Select parameter in the Sampling screen (p. 118) be set to "LINE IN L," or "MICROPHONE"?
  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.
  Set the Input Select parameter in the Sampling screen (p. 118) to "MICROPHONE."
- The mic level may have been lowered.
  When sampling, use the INPUT 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. 121)
  Erase unneeded samples to increase the amount of free space.
  If there is still not enough, install additional memory (DIMM modules). (p. 170, p. 172)

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. 117) to adjust the level while watching the level meter displayed in the upper part of the display.
  If the level meter in the display is lighting close to "CLIP," the level of the sound you're sampling is too high. If this occurs, adjust the level by lowering the effect level or adjusting the mastering parameters.
- 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-XR can use either PC card type memory cards, or another type of memory card via a PC card adaptor.

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.

Parameter List

Patch Parameters

Patch General (p. 49)

Parameter		Value
Patch Name	* Specify when writing	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
Patch Category		
Patch Level		0–127
Patch Pan		L64–0–63R
Patch Priority		LAST, LOUDEST
Octave Shift		-3– +3
Patch Coarse Tune		-48– +48
Patch Fine Tune		-50– +50
Stretch Tune Depth		OFF, 1–3
Analog Feel	Analog Feel Depth	0–127
Cutoff Offset		-63– +63
Resonance Offset		-63– +63
Attack Time Offset		-63– +63
Release Time Offset		-63– +63
Velocity Sens Offset		-63– +63
Mono/Poly		MONO, POLY
Legato Switch		OFF, ON
Legato Retrigger		OFF, ON
Portamento Switch		OFF, ON
Portamento Mode		NORMAL, LEGATO
Portamento Type		RATE, TIME
Portamento Start		PITCH, NOTE
Portamento Time		0–127

Patch TMT (p. 51)

Parameter		Value
Structure Type 1 & 2		1–10
Booster 1 & 2	Booster Gain 1 & 2	0, +6, +12, +18
Structure Type 3 & 4		1–10
Booster 3 & 4	Booster Gain 3 & 4	0, +6, +12, +18
Key Fade Lower	Keyboard Fade Width Lower	0–127
Key Range Lower	Keyboard Range Lower	C-1–UPPER
Key Range Upper	Keyboard Range Upper	LOWER–G9
Key Fade Upper	Keyboard Fade Width Upper	0–127
TMT Velocity Control	TMT Velocity Control Switch	OFF, ON, RANDOM, CYCLE
Velo Fade Lower	Velocity Fade Width Lower	0–127
Velo Range Lower	Velocity Range Lower	1–UPPER
Velo Range Upper	Velocity Range Upper	LOWER–127
Velo Fade Upper	Velocity Fade Width Upper	0–127
TMT Control Switch		OFF, ON

Patch WG (p. 54)

Parameter		Value
Wave Group		INT, EXP, SAMP, MSAM
Wave Bank		When the wave group is INT: A or B, When the wave group is EXP: A–F, 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)	----, 1–1228 (The upper limit will depend on the wave group.)
Wave No.R	Wave Number R	----, 1–1228 (The upper limit will depend on the wave group.)
Wave Gain		-6, 0, +6, +12
Wave Tempo Sync		OFF, ON
FXM Switch		OFF, ON
FXM Color		1–4
FXM Depth		0–16
Tone Delay Mode		NORM, HOLD, OFFN, OFFD
Tone Delay Time		0–127, Note
Tone Coarse Tune		-48– +48
Tone Fine Tune		-50– +50
Random Pitch Depth		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 Keyfollow		-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
Pitch Bend Range Up	Pitch Bend Range Up	0– +48
Pitch Bend Range Down	Pitch Bend Range Down	-48–0

Patch Pitch Env (p. 57)

Parameter		Value
P-Env Depth	Pitch Envelope Depth	-12– +12
P-Env V-Sens	Pitch Envelope Velocity Sensitivity	-63– +63
P-Env T1 V-Sens	Pitch Envelope Time 1 Velocity Sensitivity	-63– +63
P-Env T4 V-Sens	Pitch Envelope Time 4 Velocity Sensitivity	-63– +63
P-Env Time KF	Pitch Envelope Time Keyfollow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100
P-Env Time 1 - 4	Pitch Envelope Time 1–4	0–127
P-Env Level 0 - 4	Pitch Envelope Level 0–4	-63– +63

Patch TVF (p. 58)

Parameter		Value
Filter Type		OFF, LPF BPF, HPF, PKG, LPF2, LPF3
Cutoff Frequency		0–127
Resonance		0–127
Cutoff Keyfollow	Cutoff Frequency Keyfollow	-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	TVF Envelope Velocity Curve	FIXED, 1–7
Cutoff V-Sens	TVF Envelope Velocity Sensitivity	-63– +63
Resonance V-Sens	Resonance Velocity Sensitivity	-63– +63

Patch TVF Env (p. 59)

Parameter		Value
F-Env Depth	TVF Envelope Depth	-63– +63
F-Env V-Curve	TVF Envelope Velocity Curve	-63– +63
F-Env V-Sens	TVF Envelope Velocity Sensitivity	-63– +63
F-Env T1 V-Sens	TVF Envelope Time 1 Velocity Sensitivity	-63– +63
F-Env T4 V-Sens	TVF Envelope Time 4 Velocity Sensitivity	-63– +63
F-Env Time KF	TVF Envelope Time Keyfollow	-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	0–127
F-Env Level 0 - 4	TVF Envelope Level 0–4	0–127

Patch TVA (p. 60)

Parameter		Value
Tone Level		0–127
Level V-Curve	TVA Level Velocity Curve	FIXED, 1–7
Level V-Sens	TVA Level Velocity Sensitivity	-63– +63
Bias Level		-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100
Bias Position		C-1–G9
Bias Direction		LWR, UPR, L&U, ALL
Tone Pan		L64–0–63R
Pan Keyfollow		-100– +100
Random Pan Depth		0–63
Alter Pan Depth	Alternate Pan Depth	L63–0–63R

Patch TVA Env (p. 61)

Parameter		Value
A-Env T1 V-Sens	TVA Envelope Time 1 Velocity Sensitivity	-63– +63
A-Env T4 V-Sens	TVA Envelope Time 4 Velocity Sensitivity	-63– +63
A-Env Time KF	TVA Envelope Time Keyfollow	-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	0–127
A-Env Level 1 -3	TVA Envelope Level 1–3	0–127

Patch Output (p. 62)

Parameter		Value
Patch Out Assign	Patch Output Assign	MFX, A, B, 1–4, TONE
Tone Out Assign	Tone Output Assign	MFX, A, B, 1–4
Tone Out Level	Tone Output Level	0–127
Tone Chorus Send (MFX)	Tone Chorus Send Level	0–127
Tone Reverb Send (MFX)	Tone Reverb Send Level	0–127
Tone Chorus Send (nonMFX)	Tone Chorus Send Level	0–127
Tone Reverb Send (nonMFX)	Tone Reverb Send Level	0–127

Patch LFO1/2 (p. 63)

Parameter		Value
Waveform	LFO1/LFO2 Waveform	SIN, TRI, SAWU, SAWD, SQR, RND, BD-U, BD-D, TRP S&H, CHS, VSIN, STEP
Rate	LFO1/LFO2 Rate	0–127, Note
Rate Detune	LFO1/LFO2 Rate Detune	0–127
Offset	LFO1/LFO2 Offset	-100, -50, 0, +50, +100
Delay Time	LFO1/LFO2 Delay Time	0–127

Parameter		Value
Delay Time KF	LFO1/LFO2 Delay Time Keyfollow	-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	ON <, ON >, OFF <, OFF >
Fade Time	LFO1/LFO2 Fade Time	0–127
Key Trigger	LFO1/LFO2 Key Trigger	OFF, ON
Pitch Depth	LFO1/LFO2 Pitch Depth	-63– +63
TVF Depth	LFO1/LFO2 TVF Depth	-63– +63
TVA Depth	LFO1/LFO2 TVA Depth	-63– +63
Pan Depth	LFO1/LFO2 Pan Depth	-63– +63

Patch Step LFO (p. 65)

Parameter		Value
Step Type	LFO Step Type	TYP1, TYP2
Step 1 - 16	LFO Step1–16	-36– +36

Patch Ctrl (p. 66)

Parameter		Value
Tone Env Mode		NSUS, SUST
Tone Rx Bender		OFF, ON
Tone Rx Expression		OFF, ON
Tone Rx Hold-1		OFF, ON
Tone Rx Pan Mode		CONT, K-ON
Tone Redamper Sw		OFF, ON

Patch Mtrx Ctrl 1-4 (p. 67)

Parameter		Value
Ctrl 1 - 4 Source	Matrix Control 1–4 Source	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PITCH ENV, TVF ENV, TVA ENV
Ctrl 1 - 4 Destination 1 - 4	Matrix Control 1 - 4 Destination 1–4	OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PAN, OUTPUT LEVEL, CHORUS SEND, REVERB SEND, LFO1 PCH DEPTH, LFO2 PCH DEPTH, LFO1 TVF DEPTH, LFO2 TVF DEPTH, LFO1 TVA DEPTH, LFO2 TVA DEPTH, LFO1 PAN DEPTH, LFO2 PAN DEPTH, LFO1 RATE, LFO2 RATE, PIT ENV A-TIME, PIT ENV D-TIME, PIT ENV R-TIME, TVF ENV A-TIME, TVF ENV D-TIME, TVF ENV R-TIME, TVA ENV A-TIME, TVA ENV D-TIME, TVA ENV R-TIME, TMT, FXM DEPTH, MFX CTRL1, MFX CTRL2, MFX CTRL3, MFX CTRL4, TIME
Ctrl 1 - 4 Sens 1 - 4	Matrix Control 1 - 4 Sens 1–4	-63– +63
Ctrl 1 - 4 Switch 1 - 4	Tone Control 1 - 4 Switch 1–4	OFF, ON, REVERSE

Effects (p. 134)

Parameter		Value
MFX		
Type	Multi-Effects Type	00 THRU – 78 SYMPATHETIC RESONANCE
MFX Output		
Output Level	Multi-Effects Output Level	0–127
Output Assign	Multi-Effects Output Assign	A, B
Chorus Send Level	Multi-Effects Chorus Send Level	0–127
Reverb Send Level	Multi-Effects Reverb Send Level	0–127
MFX Control		
Control 1–4 Src	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4
Control 1–4 Dest	Multi-Effects Control Destination 1–4	OFF, DEPTH, DAMPER

Parameter		Value
Control 1–4 Sens	Multi-Effects Control Sens 1–4	-63– +63
Chorus		
Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2 Chorus)
Chorus Output		
Output Level		0–127
Output Assign		A, B
Output Select		MAIN, REV, M+R
Reverb		
Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2 Reverb)
Reverb Output		
Output Level		0–127
Output Assign		A, B

Rhythm Set Parameters

Rhythm General (p. 73)

Parameter		Value
Rhythm Set Name	* Specify when writing	space, A–Z, a–z, 0–9, ! ” # $ % & ’ ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
Rhythm Level	Rhythm Set Level	0–127
Rhythm Tone Name		space, A–Z, a–z, 0–9, ! ” # $ % & ’ ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
Assign Type		MULTI, SINGLE
Mute Group		OFF, 1–31
Tone Env Mode	Rhythm Tone Envelope Mode	NO-SUS, SUSTAIN
Tone Pitch Bend Range	Rhythm Tone Pitch Bend Range	0–48
Tone Receive Expression	Rhythm Tone Receive Expression Switch	OFF, ON
Tone Receive Hold-1	Rhythm Tone Receive Hold-1 Switch	OFF, ON
Tone Receive Pan Mode	Rhythm Tone Receive Pan Mode	CONTINUOUS, KEY-ON
One Shot Mode		OFF, ON
Aft Time Ctrl Sens	Aftertouch Time Control Sensitivity	-63– +63

Rhythm Wave (p. 75)

Parameter		Value
Wave Group		INT, EXP, SAMP, MSAM
Wave Bank		When the wave group is INT: A or B, When the wave group is EXP: A–F, 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)	----, 1–1228 (The upper limit will depend on the wave group.)
Wave No.R	Wave Number R	----, 1–1228 (The upper limit will depend on the wave group.)
Wave Gain		-6, 0, +6, +12
Wave Tempo Sync		OFF, ON
FXM Switch		OFF, ON
FXM Color		1–4
FXM Depth		0–16
Wave Coarse Tune		-48– +48
Wave Fine Tune		-50– +50
Wave Level		0–127
Wave Pan		L64–0–63R
Wave Rnd Pan Sw	Wave Random Pan Switch	OFF, ON
Wave Alter Pan Sw	Wave Alternate Pan Switch	OFF, ON, REVS

Rhythm WMT (p. 76)

Parameter		Value
WMT Velocity Control	Velocity Control Switch	OFF, ON, RANDOM
Velo Fade Lower	Velocity Fade Width Lower	0–127
Velo Range Lower	Velocity Range Lower	1–UPPER
Velo Range Upper	Velocity Range Upper	LOWER–127
Velo Fade Upper	Velocity Fade Width Upper	0–127

Rhythm Pitch (p. 77)

Parameter		Value
Tone Coarse Tune	Rhythm Tone Coarse Tune	C-1–G9
Tone Fine Tune	Rhythm Tone Fine Tune	-50– +50
Tone Random Pitch Depth		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

Rhythm Pitch Env (p. 77)

Parameter		Value
P-Env Depth	Pitch Envelope Depth	-12– +12
P-Env V-Sens	Pitch Envelope Velocity Sensitivity	-63– +63
P-Env T1 V-Sens	Pitch Envelope Time 1 Velocity Sensitivity	-63– +63
P-Env T4 V-Sens	Pitch Envelope Time 4 Velocity Sensitivity	-63– +63
P-Env Time 1 - 4	Pitch Envelope Time 1–4	0–127
P-Env Level 0 - 4	Pitch Envelope Level 0–4	-63– +63

Rhythm TVF (p. 78)

Parameter		Value
Filter Type		OFF, LPF BPF, HPF, PKG, LPF2, LPF3
Cutoff Frequency		0–127
Resonance		0–127
Cutoff V-Curve	Cutoff Frequency Velocity Curve	FIXED, 1–7
Cutoff V-Sens	Cutoff Velocity Sensitivity	-63– +63
Resonance V-Sens	Resonance Velocity Sensitivity	-63– +63

Rhythm TVF Env (p. 79)

Parameter		Value
F-Env Depth	TVF Envelope Depth	-63– +63
F-Env V-Curve	TVF Envelope Velocity Curve	FIX, 1–7
F-Env V-Sens	TVF Envelope Velocity Sensitivity	-63– +63
F-Env T1 V-Sens	TVF Envelope Time 1 Velocity Sensitivity	-63– +63
F-Env T4 V-Sens	TVF Envelope Time 4 Velocity Sensitivity	-63– +63
F-Env Time 1 - 4	TVF Envelope Time 1–4	0–127
F-Env Level 0 - 4	TVF Envelope Level 0–4	0–127

Rhythm TVA (p. 80)

Parameter		Value
Tone Level	Rhythm Tone level	0–127
Level V-Curve	Level Velocity Curve	FIXED, 1–7
Level V-Sens	Level Velocity Sensitivity	-63– +63
Tone Pan	Rhythm Tone Pan	L64–0–63R
Random Pan Depth		0–63
Alternate Pan Depth		L63–0–63R

Rhythm TVA Env (p. 80)

Parameter		Value
A-Env T1 V-Sens	TVA Envelope Time 1 Velocity Sensitivity	-63– +63
A-Env T4 V-Sens	TVA Envelope Time 4 Velocity Sensitivity	-63– +63
A-Env Time 1 - 4	TVA Envelope Time 1–4	0–127
A-Env Level 1 - 3	TVA Envelope Level 1–3	0–127

Rhythm Output (p. 81)

Parameter		Value
Rhythm Out Assign	Rhythm Output Assign	MFX, A, B, 1–4, TONE
Tone Out Assign	Tone Output Assign	MFX, A, B, 1–4
Tone Out Level	Tone Output Level	0–127
Tone Chorus Send (MFX)	Tone Chorus Send Level	0–127
Tone Reverb Send (MFX)	Tone Reverb Send Level	0–127
Tone Chorus Send (nonMFX)	Tone Chorus Send Level	0–127
Tone Reverb Send (nonMFX)	Tone Reverb Send Level	0–127

Effects (p. 134)

Parameter		Value
MFX Group		
Type	Multi-Effects Type	00 THROUGH–78 SYMPATHETIC RESONANCE
MFX Output		
Output Level	Multi-Effects Output Level	0–127
Output Assign	Multi-Effects Output Assign	A, B
Chorus Send Level	Multi-Effects Chorus Send Level	0–127
Reverb Send Level	Multi-Effects Reverb Send Level	0–127
MFX Control		
Control 1–4 Src	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4
Control 1–4 Dest	Multi-Effects Control Destination 1–4	OFF, LOW GAIN, HIGH GAIN, LEVEL
Control 1–4 Sens	Multi-Effects Control Sens 1–4	-63– +63
Chorus Group		
Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2 Chorus),
Chorus Output		
Output Level		0–127
Output Assign		A, B
Output Select		MAIN, REV, M+R
Reverb Group		
Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2 Reverb)
Reverb Output		
Output Level		0–127
Output Assign		A, B

Performance Parameters

General (p. 94)

Parameter		Value
Performance Name	* Specify when writing.	space, A–Z, a–z, 0–9, ! ” # $ % & ’ ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
Recommended Tempo		20-250

Part (p. 88)

Parameter		Value
Patch Type		_ , R
Patch Group		USR, PRA–H, GM, CRD, XPA–XPF
Patch Number		001–
Level		0–127
Pan		L64–0–63R
Solo Switch		- , SOLO
Mute Switch		OFF, MUTE
Octave Shift		-3– +3
Coarse Tune		-48– +48
Fine Tune		-50– +50
Output Assign		MFX, A, B, 1–4, PAT
Output MFX Select		1–3 (MFX-1–MFX-3)
Output Level		0–127
Chorus Send Level		0–127
Reverb Send Level		0–127
Cutoff Offset		-64– +63
Resonance Offset		-64– +63
Attack Time Offset		-64– +63
Release Time Offset		-64– +63
Decay Time Offset		-64– +63
Mono/Poly		MONO, POLY, PAT
Legato Switch		OFF, ON, PAT
Portamento Switch		OFF, ON, PAT
Portamento Time		0–127, PATCH
Vibrato Rate		-64– +63
Vibrato Depth		-64– +63
Vibrato Delay		-64– +63
Key Fade Lower	Keyboard Fade Lower	0–127
Key Range Lower		C-1–UPPER
Key Range Upper		LOWER–G9
Key Fade Upper	Keyboard Fade Upper	0–127
Receive Channel		1–16
Voice Reserve		0–63, FUL
Velocity Sens Offset		-63– +63
Pitch Bend Range		0– 24, PAT
Receive Switch		OFF, ON

Scale Tune (p. 92)

Parameter		Value
Part Scale Tune for C - B		-64– +63

MIDI (p. 93)

Parameter		Value
Rx Program Change		OFF, ON
Rx Bank Select		OFF, ON
Rx Pitch Bend		OFF, ON
Rx Poly Key Pressure		OFF, ON
Rx Channel Pressure		OFF, ON
Rx Modulation		OFF, ON
Rx Volume		OFF, ON
Rx Pan		OFF, ON
Rx Expression		OFF, ON
Rx Hold-1		OFF, ON
Phase Lock		OFF, ON
Velocity Curve Type		OFF, 1-4

Arpeggio (p. 97)

Parameter		Value
Switch	Arpeggio Switch	OFF, ON
Style		U001–U128, P001–P128
Accent Rate		0–100
Octave Range		-3– +3
Grid		1/4 (♩), 1/8 (♪), 1/8 (♪) L, 1/8 (♪) H, 1/12 (♪3), 1/16 (𝅘𝅥𝅯), 1/16 (𝅘𝅥𝅯) L, 1/16 (𝅘𝅥𝅯) H, 1/24 (𝅘𝅥𝅯3)
Duration		30, 40, 50, 60, 70, 80, 90,100, 120, FULL
Motif		UP (L), UP (L&H), UP (_), DOWN (L), DOWN (L&H), DOWN (_), UP&DOWN (L), UP&DOWN (L&H), UP&DOWN (_), RANDOM (L), RANDOM (_), PHRASE
Velocity		REAL, 1–127
Arpeggio Channel		1–16

Chord Memory (p. 104)

Parameter		Value
Chord Switch		OFF, ON
Chord Form		U01–U64, P01–P64
Rolled Chord		OFF, UP, DOWN, ALT

Rhythm Group (p. 109)

Parameter		Value
Rhythm Group No.	Rhythm Group Number	U01-32, P01-32
Note		C–B
Mode		PTN START, PTN STOP
Rhythm Pattern Number	Rhythm Pattern Number	U001–U256, P001–P256
Velocity	Rhythm Pattern Velocity	REAL, 1–127

Rhythm Pattern (p. 111)

Parameter		Value
Switch		OFF, ON
Pattern		U001–256, P001–P256
Accent Rate		0–100
Grid		1/4 (♩), 1/8 (♪), 1/8 (♪) L, 1/8 (♪) H, 1/12 (♪3), 1/16 (𝅘𝅥𝅯), 1/16 (𝅘𝅥𝅯) L, 1/16 (𝅘𝅥𝅯) H, 1/24 (𝅘𝅥𝅯3)
Duration		30, 40, 50, 60, 70, 80, 90, 100, 120, FULL
Velocity		REAL, 1–127
Rhy Ptn Channel	Rhythm Pattern Channel	1-16

Effect (p. 140)

Parameter		Value
Effect Source		
MFX1 Source	Multi-Effects 1 Source	PERFORM, PART1–P16
MFX2 Source	Multi-Effects 2 Source	PERFORM, PART1–P16
MFX3 Source	Multi-Effects 3 Source	PERFORM, PART1–P16
Chorus Source		PERFORM, PART1–P16
Reverb Source		PERFORM, PART1–P16
MFX Structure		
MFX Structure	Multi-Effects Structure	TYPE01-16
MFX1–3 Group		
Type		0-78
MFX1–3 Output		
Output Level	Multi-Effects Output Level	0–127
Output Assign	Multi-Effects Output Assign	A, B
Chorus Send Level	Multi-Effects Chorus Send Level	0–127
Reverb Send Level	Multi-Effects Reverb Send Level	0–127
MFX1–3 Control		
Control 1–4 Src	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4
Control 1–4 Dest	Multi-Effects Control Destination 1–4	OFF, DEPTH, DAMPER
Control 1–4 Sens	Multi-Effects Control Sens 1–4	-63– +63
Control Channel	Multi-Effects Control Channel	1–16, OFF
Chorus		
Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2 Chorus)
Chorus Output		
Output Level		0–127
Output Assign		A, B
Output Select		MAIN, REV, MAIN+REV
Reverb		
Type		0 (Off), 1 (Reverb) 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2 Reverb)
Reverb Output		
Output Level		0–127
Output Assign		A, B

Sample Parameters

Sample (p. 122)

Parameter		Value
Sample Name		space, A–Z, a–z, 0–9, ! ” # $ % & ’ ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | }
Start Point		
Loop Start Point		
End Point		
Loop Mode		FWD, ONE-SHOT, REV, REV-ONE
Loop Tune		-50– +50
Original Key		0 (C-1) –127 (G9)
BPM	tempo	5.00–300.00
Time Stretch Type		TYPE01–TYPE10
Start Fine		0–255
Loop Start Fine		0–255
Loop End Fine		0–255

System Parameters

System Startup (p. 156)

Parameter		Value
LCD Contrast		1-20
Startup w/Preset Samp	Load Preset Samples at Startup	OFF, ON
Startup w/User Samp	Load User Samples at Startup	OFF, ON
Power Up Mode		PATCH, PERFORM

System Sync/Tempo (p. 156)

Parameter		Value
Sync Mode		MASTER, SLAVE
Tempo		5-300
Tempo Override		OFF, ON

System MIDI (p. 156)

Parameter		Value
Device ID	Device ID Number	17-32
Performance Ctrl Ch	Performance Control Channel	1-16, OFF
Patch Mode Rx Ch	Patch Mode Receive Channel	1-16
Tx Edit Data	Transmit Edit Data Switch	OFF, ON
Tx Note	Transmit Note Switch	OFF, ON
Rx Program Change	Receive Program Change Switch	OFF, ON
Rx Bank Select	Receive Bank Select Switch	OFF, ON
Receive Exclusive	Receive System Exclusive Switch	OFF, ON
Rx GM System On	Receive GM System On Switch	OFF, ON
Rx GN2 System On	Receive GM2 System On Switch	OFF, ON
Rx GS Reset	Receive GS Reset Switch	OFF, ON

System USB (p. 157)

Parameter		Value
USB Mode		STORAGE, MIDI,
USB-MIDI Thru	USB-MIDI Thru Switch	OFF, ON

System Sound (p. 158)

Parameter		Value
Master Tune		415.3–466.2 Hz
Master Level		0–127
Output Gain		-12– +12 dB
Mix/Parallel		MIX, PARALLEL
Master Key Shift		-24– +24
Patch Remain	Patch Remain Switch	OFF, ON

System Control (p. 159)

Parameter		Value
Source 1 - 4	System Control 1-4 Source	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH

System Preview (p. 160)

Parameter		Value
Preview Mode		SINGLE, CHORD, PHRASE
Preview 1 - 4 Note		C- –G9
Preview 1 - 4 Velo		OFF, 1–127

System Scale Tune (p. 160)

Parameter		Value
Scale Tune Switch		OFF, ON
Patch Scale Tune C - B		-64– +63

System Sampling (p. 161)

Parameter		Value
Default File Type		WAV, AIFF
Pre Sample Time		0, 20, 40, 80, 160, 320, 640, 1000 ms
Trigger Level		0–7
Gsp Time		500, 1000, 1500, 2000 ms
Input Select		DIGITAL IN LINE IN L/R, LINE IN L, MICROPHONE
Trimming Switch		OFF, ON

System Mastering Effect (p. 146)

Parameter		Value
Split Freq Low		2000–8000 Hz
Split Freq High		200–800 Hz
Low/Mid/High Attack		0–100 ms
Low/Mid/High Release		50–5000 ms
Low/Mid/High Threshold		-36–0 dB
Low/Mid/High Ratio		1.00:1–INF:1 (INF: Infinity)
Low/Mid/High Level		0–24 dB

Input Setting (p. 115)

Parameter		Value
Mix In		
Input Select		LINE IN L/R, LINE IN L, MICROPHONE
Digital Input Level		0-127
Input Effect		
Type		EQ, ENHANCER, COMP, LIMITER, NOISE SUP, C CANCELER
Mix In Output		
Output Assign		MFX, DRY
Output MFX Select		1-3
Output Level		0-127
Chorus Send Level		0-127
Reverb Send Level		0-127

Effects List

Multi-Effects Parameter

The multi-effects feature 78 different kinds of effects. Some of the effects consist of two or more different effects connected in series.
Parameters marked with a sharp "#" can be controlled using a specified controller (Two setting items will change simultaneously for "#1" and "#2").

FILTER (10 types)		
01	EQUALIZER	P.194
02	SPECTRUM	P.194
03	ISOLATOR	P.194
04	LOW BOOST	P.194
05	SUPER FILTER	P.195
06	STEP FILTER	P.195
07	ENHANCER	P.195
08	AUTO WAH	P.195
09	HUMANIZER	P.196
10	SPEAKER SIMULATOR	P.196
MODULATION (12 types)		
11	PHASER	P.196
12	STEP PHASER	P.197
13	MLT STAGE PHASER	P.197
14	INFINITE PHASER	P.197
15	RING MODULATOR	P.197
16	STEP RING MOD	P.198
17	TREMOLO	P.198
18	AUTO PAN	P.198
19	STEP PAN	P.198
20	SLICER	P.199
21	ROTARY	P.199
22	VK ROTARY	P.199
CHORUS (12 types)		
23	CHORUS	P.200
24	FLANGER	P.200
25	STEP FLANGER	P.200
26	HEXA-CHORUS	P.200
27	TREMOLO CHORUS	P.201
28	SPACE-D	P.201
29	3D CHORUS	P.201
30	3D FLANGER	P.201
31	3D STEP FLANGER	P.202
32	2BAND CHORUS	P.202
33	2BAND FLANGER	P.202
34	2BAND STEP FLNGR	P.203
DYNAMICS (8 types)		
35	OVERDRIVE	P.203
36	DISTORTION	P.203
37	VS OVERDRIVE	P.203
38	VS DISTORTION	P.204
39	GUITAR AMP SIMULATOR	P.204
40	COMPRESSOR	P.204
41	LIMITER	P.204
42	GATE	P.205
DELAY (13 types)		
43	DELAY	P.205
44	LONG DELAY	P.205
45	SERIAL DELAY	P.205
46	MODULATION DELAY	P.206
47	3TAP PAN DELAY	P.206
48	4TAP PAN DELAY	P.206
49	MULTI TAP DELAY	P.207
50	REVERSE DELAY	P.207
51	SHUFFLE DELAY	P.207
52	3D DELAY	P.208
53	TIME CTRL DELAY	P.208
54	LONG T CTL DELAY	P.208
55	TAPE ECHO	P.208
LO-FI (5 types)		
56	LOFI NOISE	P.209
57	LOFI COMPRESS	P.209
58	LOFI RADIO	P.209
59	TELEPHONE	P.210
60	PHONOGRAPH	P.210
PITCH (3 types)		
61	PITCH SHIFTER	P.210
62	2VOI PCH SHIFTER	P.210
63	STEP PCH SHIFTER	P.211
REVERB (2 types)		
64	REVERB	P.211
65	GATED REVERB	P.211
COMBINATION (12 types)		
66	OD → CHORUS	P.211
67	OD → FLANGER	P.212
68	OD → DELAY	P.212
69	DST → CHORUS	P.212
70	DST → FLANGER	P.212
71	DST → DELAY	P.212
72	ENH → CHORUS	P.213
73	ENH → FLANGER	P.213
74	ENH → DELAY	P.213
75	CHORUS → DELAY	P.213
76	FLANGER → DELAY	P.214
77	CHORUS → FLANGER	P.214
PIANO (1 type)		
78	SYMPATHETIC RESO	P.214

About Note

Some effect parameters (such as Rate or Delay Time) can be set in terms of a note value.

Such parameters have a num/note switch that lets you specify whether you will set the value as a note value or as a numerical value.

If you want to set Rate (Delay Time) as a numerical value, set the num/note switch to "Hz" ("msec"). If you want to set it as a note value, set the num/note switch to "NOTE."

NOTE

If a parameter whose num/note switch is set to "NOTE" is specified as a destination for multi-effect control, you will not be able to use multi-effect control to control that parameter.

NOTE

If you specify the delay time as a note value, slowing down the tempo will not change the delay time beyond a certain length. This is because there is an upper limit for the delay time; if the delay time is specified as a note value and you slow down the tempo until this upper limit is reached, the delay time cannot change any further. This upper limit is the maximum value that can be specified when setting the delay time as a numerical value.

TIP

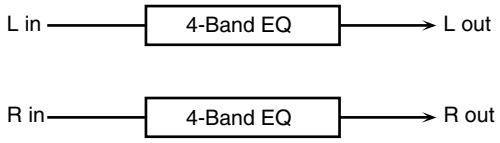
While this screen is displayed, you can press [SHIFT] so it lights, then press ◀ to view a list of the MFX types.

TIP

While this screen displayed, you can press [SHIFT] so it lights, then press ▲ to move the cursor to the MFX type.

01: EQUALIZER

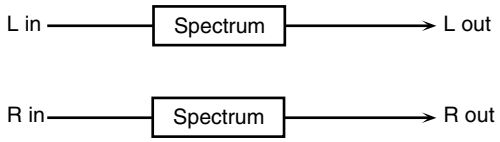
This is a four-band stereo equalizer (low, mid x 2, high).



Parameter	Value	Description
Low Freq	200, 400 Hz	Frequency of the low range
Low Gain #	-15– +15 dB	Gain of the low range
Mid1 Freq	200–8000 Hz	Frequency of the middle range 1
Mid1 Gain	-15– +15 dB	Gain of the middle range 1
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
Mid2 Freq	200–8000 Hz	Frequency of the middle range 2
Mid2 Gain	-15– +15 dB	Gain of the middle range 2
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
High Freq	2000, 4000, 8000 Hz	Frequency of the high range
High Gain #	-15– +15 dB	Gain of the high range
Level #	0–127	Output Level

02: SPECTRUM

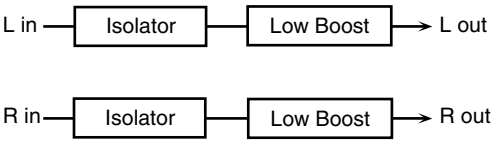
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



Parameter	Value	Description
Band1 (250Hz)	-15– +15 dB	Gain of each frequency band
Band2 (500Hz)		
Band3 (1000Hz)		
Band4 (1250Hz)		
Band5 (2000Hz)		
Band6 (3150Hz)		
Band7 (4000Hz)		
Band8 (8000Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Level #	0–127	Output Level

03: ISOLATOR

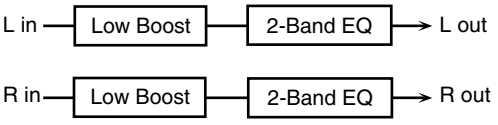
This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.



Parameter	Value	Description
Boost/ Cut Low #	-60– +4 dB	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Boost/ Cut Mid #		
Boost/ Cut High #		
Anti Phase Low Sw	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Anti Phase Low Level	0–127	Adjusts the level settings for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
Anti Phase Mid Sw	OFF, ON	Settings of the Anti-Phase function for the Middle frequency ranges The parameters are the same as for the Low frequency ranges.
Anti Phase Mid Level	0–127	
Low Boost Sw	OFF, ON	Turns Low Booster on/off. This emphasizes the bottom to create a heavy bass sound.
Low Boost Level	0–127	Increasing this value gives you a heavier low end. * Depending on the Isolator and filter settings this effect may be hard to distinguish.
Level	0–127	Output Level

04: LOW BOOST

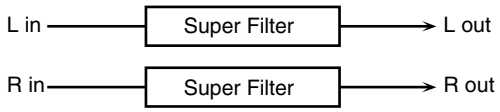
Boosts the volume of the lower range, creating powerful lows.



Parameter	Value	Description
Boost Frequency #	50–125 Hz	Center frequency at which the lower range will be boosted
Boost Gain #	0– +12 dB	Amount by which the lower range will be boosted
Boost Width	WIDE, MID, NARROW	Width of the lower range that will be boosted
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Level	0–127	Output level

05: SUPER FILTER

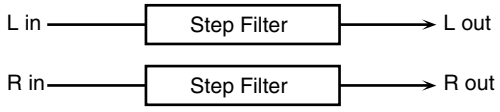
This is a filter with an extremely sharp slope. The cutoff frequency can be varied cyclically.



Parameter	Value	Description
Filter Type	LPF, BPF, HPF, NOTCH	Filter type Frequency range that will pass through each filter **LPF**: frequencies below the cutoff **BPF:** frequencies in the region of the cutoff **HPF:** frequencies above the cutoff **NOTCH:** frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 dB	Amount of attenuation per octave **-36 dB:** extremely steep **-24 dB:** steep **-12 dB:** gentle
Filter Cutoff #	0–127	Cutoff frequency of the filter Increasing this value will raise the cutoff frequency.
Filter Resonance #	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0– +12 dB	Amount of boost for the filter output
Modulation Sw	OFF,ON	On/off switch for cyclic change
Modulation Wave	TRI, SQR, SIN, SAW1, SAW2	How the cutoff frequency will be modulated **TRI:** triangle wave **SQR:** square wave **SIN:** sine wave **SAW1:** sawtooth wave (upward) **SAW2:** sawtooth wave (downward)
		
Rate #	0.05–10.00 Hz, note	Rate of modulation
Depth	0–127	Depth of modulation
Attack #	0–127	Speed at which the cutoff frequency will change This is effective if Modulation Wave is SQR, SAW1, or SAW2.
Level	0–127	Output level

06: STEP FILTER

This is a filter whose cutoff frequency can be modulated in steps. You can specify the pattern by which the cutoff frequency will change.



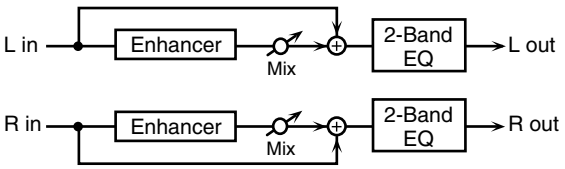
Parameter	Value	Description
Step 01–16	0–127	Cutoff frequency at each step
Rate #	0.05–10.00 Hz, note	Rate of modulation
Attack #	0–127	Speed at which the cutoff frequency changes between steps
Filter Type	LPF, BPF, HPF, NOTCH	Filter type Frequency range that will pass through each filter **LPF:** frequencies below the cutoff **BPF:** frequencies in the region of the cutoff **HPF:** frequencies above the cutoff **NOTCH:** frequencies other than the region of the cutoff
Filter Slope	-12, -24, -36 dB	Amount of attenuation per octave **-12 dB:** gentle **-24 dB:** steep **-36 dB:** extremely steep
Filter Resonance #	0–127	Filter resonance level Increasing this value will emphasize the region near the cutoff frequency.
Filter Gain	0– +12 dB	Amount of boost for the filter output
Level	0–127	Output level

MEMO

You can use multi-effect control to make the step sequence play again from the beginning (p. 215).

07: ENHANCER

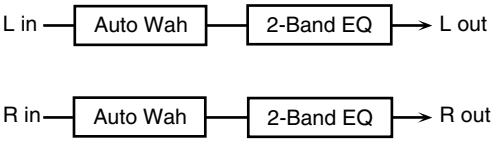
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



Parameter	Value	Description
Sens #	0–127	Sensitivity of the enhancer
Mix #	0–127	Level of the overtones generated by the enhancer
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

08: AUTO WAH

Cyclically controls a filter to create cyclic change in timbre.

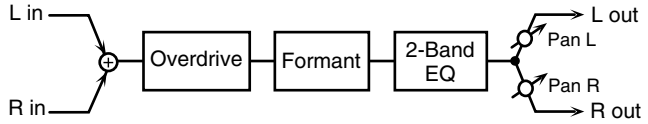


Parameter	Value	Description
Filter Type	LPF, BPF	Type of filter **LPF:** The wah effect will be applied over a wide frequency range. **BPF:** The wah effect will be applied over a narrow frequency range.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
Sens #	0–127	Adjusts the sensitivity with which the filter is controlled.
Polarity	UP, DOWN	Sets the direction in which the frequency will change when the auto-wah filter is modulated. **UP:** The filter will change toward a higher frequency. **DOWN:** The filter will change toward a lower frequency.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth #	0–127	Depth of modulation
Phase #	0–180 deg	Adjusts the degree of phase shift of the left and right sounds when the wah effect is applied.

Parameter	Value	Description
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

09: HUMANIZER

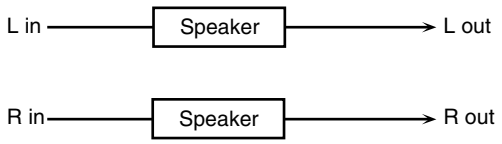
Adds a vowel character to the sound, making it similar to a human voice.



Parameter	Value	Description
Drive Sw	OFF, ON	Turns Drive on/off.
Drive #	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2	a, e, i, o, u	
Rate #	0.05–10.00 Hz, note	Frequency at which the two vowels switch
Depth #	0–127	Effect depth
Input Sync Sw	OFF, ON	Determines whether the LFO for switching the vowels is reset by the input signal (ON) or not (OFF).
Input Sync Threshold	0–127	Volume level at which reset is applied
Manual #	0–100	Point at which Vowel 1/2 switch **49 or less:** Vowel 1 will have a longer duration. **50:** Vowel 1 and 2 will be of equal duration. **51 or more:** Vowel 2 will have a longer duration.
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Pan #	L64–63R	Stereo location of the output
Level	0–127	Output level

10: SPEAKER SIMULATOR

Simulates the speaker type and mic settings used to record the speaker sound.



Parameter	Value	Description
Speaker Type	(See the table right.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.
Mic Level #	0–127	Volume of the microphone
Direct Level #	0–127	Volume of the direct sound
Level #	0–127	Output Level

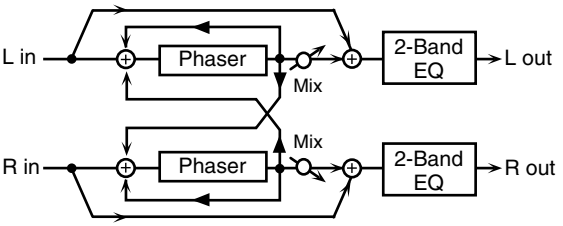
Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	small open-back enclosure	10	dynamic
SMALL 2	small open-back enclosure	10	dynamic
MIDDLE	open back enclosure	12 x 1	dynamic
JC-120	open back enclosure	12 x 2	dynamic
BUILT-IN 1	open back enclosure	12 x 2	dynamic
BUILT-IN 2	open back enclosure	12 x 2	condenser
BUILT-IN 3	open back enclosure	12 x 2	condenser
BUILT-IN 4	open back enclosure	12 x 2	condenser
BUILT-IN 5	open back enclosure	12 x 2	condenser
BG STACK 1	sealed enclosure	12 x 2	condenser
BG STACK 2	large sealed enclosure	12 x 2	condenser
MS STACK 1	large sealed enclosure	12 x 4	condenser
MS STACK 2	large sealed enclosure	12 x 4	condenser
METAL STACK	large double stack	12 x 4	condenser
2-STACK	large double stack	12 x 4	condenser
3-STACK	large triple stack	12 x 4	condenser

11: PHASER

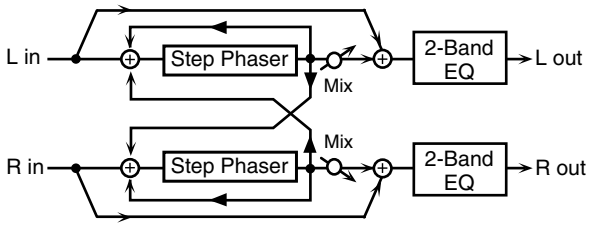
A phase-shifted sound is added to the original sound and modulated.



Parameter	Value	Description
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0–127	Amount of feedback
Cross Feedback	-98– +98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Mix #	0–127	Level of the phase-shifted sound
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

12: STEP PHASER

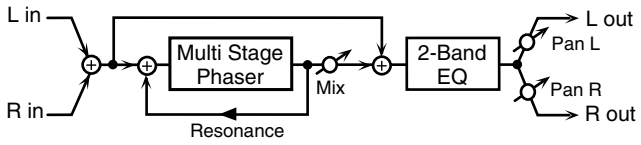
The phaser effect will be varied gradually.



Parameter	Value	Description
Mode	4-STAGE, 8-STAGE, 12-STAGE	Number of stages in the phaser
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. **INVERSE:** The left and right phase will be opposite. When using a mono source, this spreads the sound. **SYNCHRO:** The left and right phase will be the same. Select this when inputting a stereo source.
Resonance #	0–127	Amount of feedback
Cross Feedback	-98– +98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate #	0.10–20.00 Hz, note	Rate of the step-wise change in the phaser effect
Mix #	0–127	Level of the phase-shifted sound
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

13: MLT STAGE PHASER (MULTI STAGE PHASER)

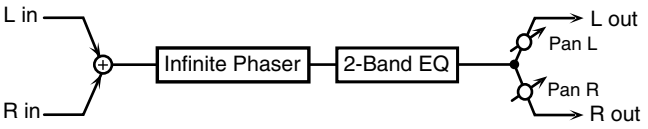
Extremely high settings of the phase difference produce a deep phaser effect.



Parameter	Value	Description
Mode	4-STAGE, 8-STAGE, 12-STAGE, 16-STAGE, 20-STAGE, 24-STAGE	Number of phaser stages
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance #	0–127	Amount of feedback
Mix #	0–127	Level of the phase-shifted sound
Pan #	L64–63R	Stereo location of the output sound
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

14: INFINITE PHASER

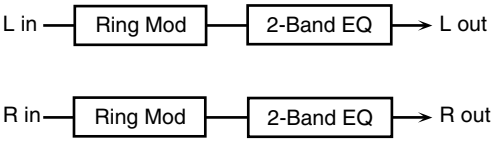
A phaser that continues raising/lowering the frequency at which the sound is modulated.



Parameter	Range	Explanation
Mode	1, 2, 3, 4	Higher values will produce a deeper phaser effect.
Speed #	-100– +100	Speed at which to raise or lower the frequency at which the sound is modulated (+: upward / -: downward)
Resonance #	0–127	Amount of feedback
Mix #	0–127	Volume of the phase-shifted sound
Pan #	L64–63R	Panning of the output sound
Low Gain	-15– +15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Level	0–127	Output volume

15: RING MODULATOR

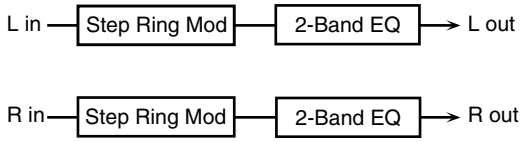
This is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency in response to changes in the volume of the sound sent into the effect.



Parameter	Value	Description
Frequency #	0–127	Adjusts the frequency at which modulation is applied.
Sens #	0–127	Adjusts the amount of frequency modulation applied.
Polarity	UP, DOWN	Determines whether the frequency modulation moves towards higher frequencies (**UP**) or lower frequencies (**DOWN**).
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

16: STEP RING MOD (STEP RING MODULATOR)

This is a ring modulator that uses a 16-step sequence to vary the frequency at which modulation is applied.



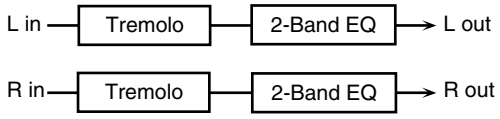
Parameter	Range	Explanation
Step 01–16	0–127	Frequency of ring modulation at each step
Rate #	0.05–10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the modulation frequency changes between steps
Low Gain	-15– +15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and effect sound (W)
Level	0–127	Output volume

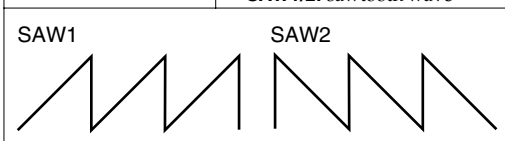
MEMO

You can use multi-effect control to make the step sequence play again from the beginning (p. 215).

17: TREMOLO

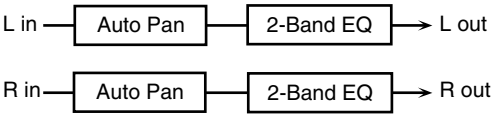
Cyclically modulates the volume to add tremolo effect to the sound.

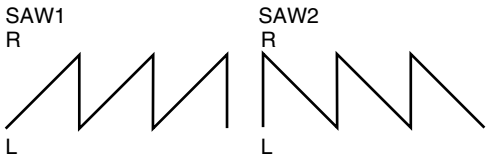


Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave **TRI:** triangle wave **SQR:** square wave **SIN:** sine wave **SAW1/2:** sawtooth wave
		
Rate #	0.05–10.00 Hz, note	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

18: AUTO PAN

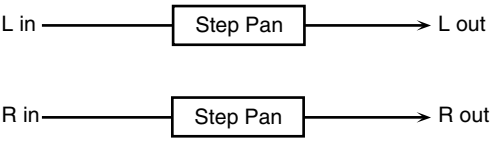
Cyclically modulates the stereo location of the sound.



Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave **TRI:** triangle wave **SQR:** square wave **SIN:** sine wave **SAW1/2:** sawtooth wave
		
Rate #	0.05–10.00 Hz, note	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level	0–127	Output Level

19: STEP PAN

This uses a 16-step sequence to vary the panning of the sound.



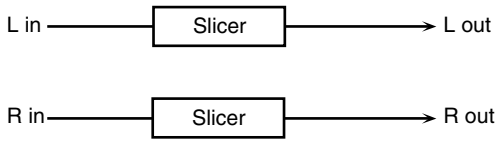
Parameter	Range	Explanation
Step 01–16	L64–63R	Pan at each step
Rate #	0.05–10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the pan changes between steps
Input Sync Sw	OFF, ON	Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF)
Input Sync Threshold	0–127	Volume at which an input note will be detected
Level	0–127	Output volume

MEMO

You can use multi-effect control to make the step sequence play again from the beginning (p. 215).

20: SLICER

By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.



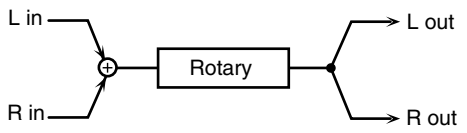
Parameter	Value	Description
Step 01–16	L64–63R	Level at each step
Rate #	0.05–10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the level changes between steps
Input Sync Sw	OFF, ON	Specifies whether an input note will cause the sequence to resume from the first step of the sequence (ON) or not (OFF)
Input Sync Threshold	0–127	Volume at which an input note will be detected
Mode	LEGATO, SLASH	Sets the manner in which the volume changes as one step progresses to the next. **LEGATO:** The change in volume from one step's level to the next remains unaltered. If the level of a following step is the same as the one preceding it, there is no change in volume. **SLASH:** The level is momentarily set to 0 before progressing to the level of the next step. This change in volume occurs even if the level of the following step is the same as the preceding step.
Shuffle #	0–127	Timing of volume changes in levels for even-numbered steps (step 2, step 4, step 6...). The higher the value, the later the beat progresses.
Level	0–127	Output level

MEMO

You can use multi-effect control to make the step sequence play again from the beginning (p. 215).

21: ROTARY

The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past. Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.

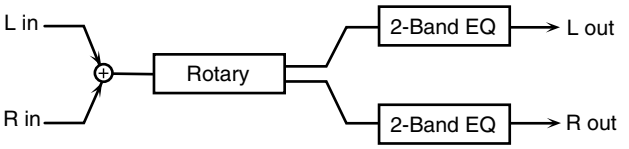


Parameter	Value	Description
Speed #	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. **SLOW:** Slows down the rotation to the Slow Rate. **FAST:** Speeds up the rotation to the Fast Rate.
Wf Slow Speed	0.05–10.00 Hz	Slow speed (SLOW) of the low frequency rotor
Wf Fast Speed	0.05–10.00 Hz	Fast speed (FAST) of the low frequency rotor
Wf Acceleration	0–15	Adjusts the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.
Wf Level	0–127	Volume of the low frequency rotor
Tw Slow Speed	0.05–10.00 Hz	Settings of the high frequency rotor The parameters are the same as for the low frequency rotor
Tw Fast Speed	0.05–10.00 Hz	
Tw Acceleration	0–15	
Tw Level	0–127	
Separation	0–127	Spatial dispersion of the sound
Level #	0–127	Output Level

22: VK ROTARY

This type provides modified response for the rotary speaker, with the low end boosted further.

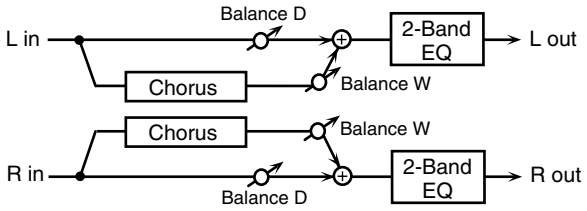
This effect features the same specifications as the VK-7's built-in rotary speaker.



Parameter	Value	Description
Speed #	SLOW, FAST	Rotational speed of the rotating speaker
Brake #	OFF, ON	Switches the rotation of the rotary speaker. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.
Wf Slow Speed	0.05–10.00 Hz	Low-speed rotation speed of the woofer
Wf Fast Speed	0.05–10.00 Hz	High-speed rotation speed of the woofer
Wf Trans Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Wf Trans Down	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Wf Level	0–127	Volume of the woofer
Tw Slow Speed	0.05–10.00 Hz	Settings of the tweeter The parameters are the same as for the woofer.
Tw Fast Speed	0.05–10.00 Hz	
Tw Trans Up	0–127	
Tw Trans Down	0–127	
Tw Level	0–127	
Spread	0–10	Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level #	0–127	Output Level

23: CHORUS

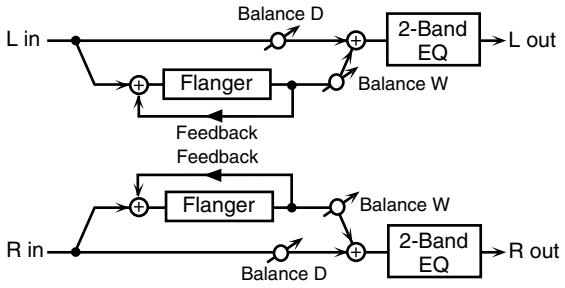
This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

24: FLANGER

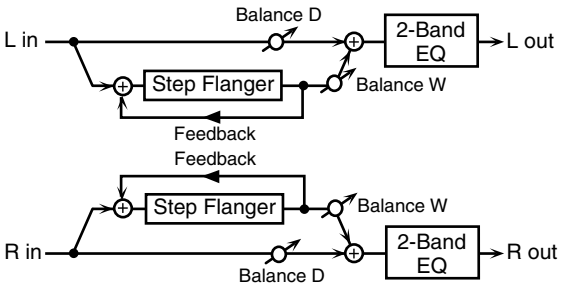
This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.



Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

25: STEP FLANGER

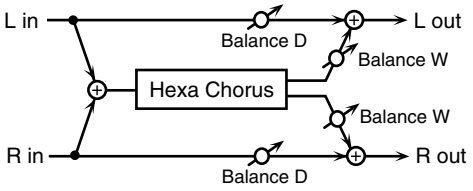
This is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.



Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate #	0.10–20.00 Hz, note	Rate (period) of pitch change
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

26: HEXA-CHORUS

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

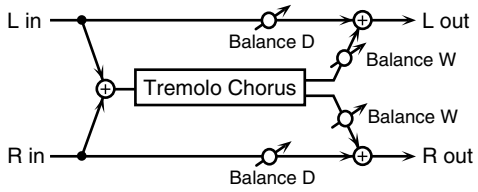


Parameter	Value	Description
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Pre Delay Deviation	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Depth Deviation	-20– +20	Adjusts the difference in modulation depth between each chorus sound.

Parameter	Value	Description
Pan Deviation	0–20	Adjusts the difference in stereo location between each chorus sound. **0:** All chorus sounds will be in the center. **20:** Each chorus sound will be spaced at 60 degree intervals relative to the center.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

27: TREMOLO CHORUS

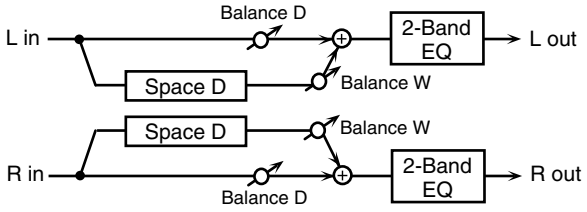
This is a chorus effect with added Tremolo (cyclic modulation of volume).



Parameter	Value	Description
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate #	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Tremolo Rate #	0.05–10.00 Hz, note	Modulation frequency of the tremolo effect
Tremolo Separation	0–127	Spread of the tremolo effect
Tremolo Phase	0–180 deg	Spread of the tremolo effect
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the tremolo chorus sound (W)
Level	0–127	Output Level

28: SPACE-D

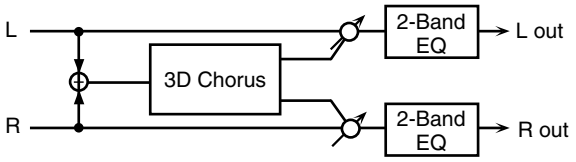
This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Parameter	Value	Description
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

29: 3D CHORUS

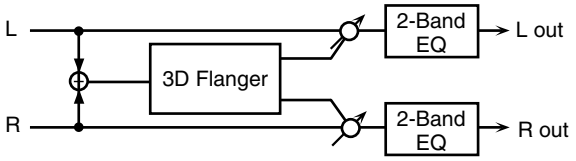
This applies a 3D effect to the chorus sound. The chorus sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Modulation depth of the chorus effect
Phase	0–180 deg	Spatial spread of the sound
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Level	0–127	Output Level

30: 3D FLANGER

This applies a 3D effect to the flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.

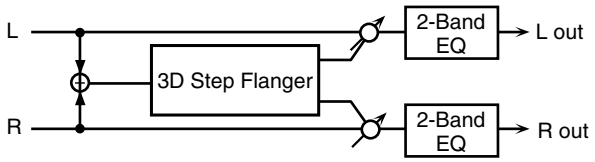


Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Parameter	Value	Description
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

31: 3D STEP FLANGER

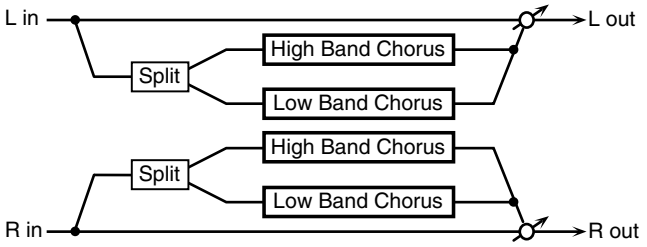
This applies a 3D effect to the step flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff Freq **HPF:** cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180 deg	Spatial spread of the sound
Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Step Rate #	0.10–20.00 Hz, note	Rate (period) of pitch change
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Level	0–127	Output Level

32: 2BAND CHORUS

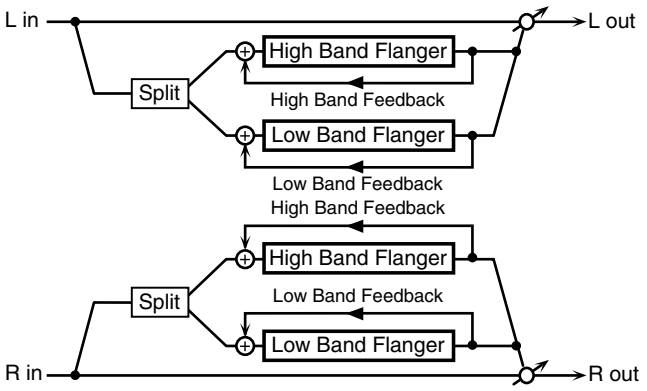
A chorus effect that lets you apply an effect independently to the low-frequency and high-frequency ranges.



Parameter	Range	Explanation
Split Freq	200–8000 Hz	Frequency at which the low and high ranges will be divided
Low Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the low-range chorus sound is heard
Low Rate #	0.05–10.00 Hz, note	Rate at which the low-range chorus sound is modulated
Low Depth	0–127	Modulation depth for the low-range chorus sound
Low Phase	0–180 deg	Spaciousness of the low-range chorus sound
High Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the high-range chorus sound is heard
High Rate #	0.05–10.00 Hz, note	Rate at which the low-range chorus sound is modulated
High Depth	0–127	Modulation depth for the high-range chorus sound
High Phase	0–180 deg	Spaciousness of the high-range chorus sound
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and chorus sound (W)
Level	0–127	Output volume

33: 2BAND FLANGER

A flanger that lets you apply an effect independently to the low-frequency and high-frequency ranges.

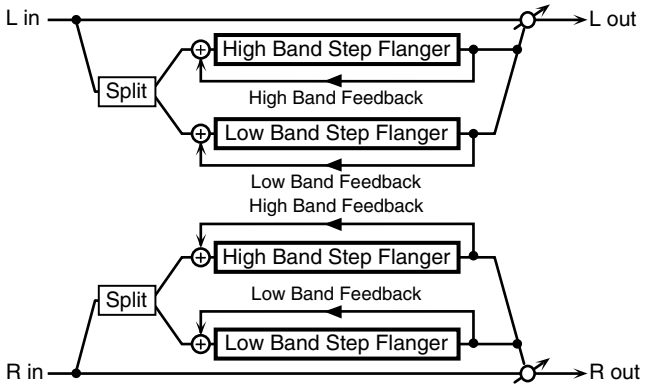


Parameter	Range	Explanation
Split Freq	200–8000 Hz	Frequency at which the low and high ranges will be divided
Low Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the low-range flanger sound is heard
Low Rate #	0.05–10.00 Hz, note	Rate at which the low-range flanger sound is modulated

Parameter	Range	Explanation
Low Depth	0–127	Modulation depth for the low-range flanger sound
Low Phase	0–180 deg	Spaciousness of the low-range flanger sound
Low Feedback #	-98– +98%	Proportion of the low-range flanger sound that is to be returned to the input (negative values invert the phase)
High Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the high-range flanger sound is heard
High Rate #	0.05–10.00 Hz, note	Rate at which the high-range flanger sound is modulated
High Depth	0–127	Modulation depth for the high-range flanger sound
High Phase	0–180 deg	Spaciousness of the high-range flanger sound
High Feedback #	-98– +98%	Proportion of the high-range flanger sound that is to be returned to the input (negative values invert the phase)
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and flanger sound (W)
Level	0–127	Output volume

34: 2BAND STEP FLNGR (2BAND STEP FLANGER)

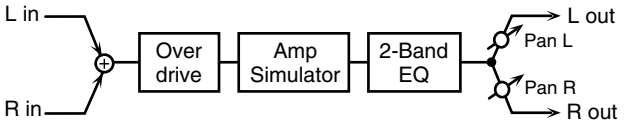
A step flanger that lets you apply an effect independently to the low-frequency and high-frequency ranges.



Parameter	Range	Explanation
Split Freq	200–8000 Hz	Frequency at which the low and high ranges will be divided
Low Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the low-range flanger sound is heard
Low Rate #	0.05–10.00 Hz, note	Rate at which the low-range flanger sound is modulated
Low Depth	0–127	Modulation depth for the low-range flanger sound
Low Phase	0–180 deg	Spaciousness of the low-range flanger sound
Low Feedback #	-98– +98%	Proportion of the low-range flanger sound that is to be returned to the input (negative values invert the phase)
Low Step Rate #	0.10–20.00 Hz, note	Rate at which the steps will cycle for the low-range flanger sound
High Pre Delay	0.0–100.0 ms	Delay time from when the original sound is heard to when the high-range flanger sound is heard
High Rate #	0.05–10.00 Hz, note	Rate at which the high-range flanger sound is modulated
High Depth	0–127	Modulation depth for the high-range flanger sound
High Phase	0–180 deg	Spaciousness of the high-range flanger sound
High Feedback #	-98– +98%	Proportion of the high-range flanger sound that is to be returned to the input (negative values invert the phase)
High Step Rate #	0.10–20.00 Hz, note	Rate at which the steps will cycle for the high-range flanger sound
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and flanger sound (W)
Level	0–127	Output volume

35: OVERDRIVE

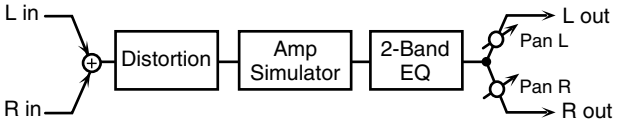
Creates a soft distortion similar to that produced by vacuum tube amplifiers.



Parameter	Value	Description
Drive #	0–127	Degree of distortion Also changes the volume.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** small amp **BUILT-IN:** single-unit type amp **2-STACK:** large double stack amp **3-STACK:** large triple stack amp
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Pan #	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

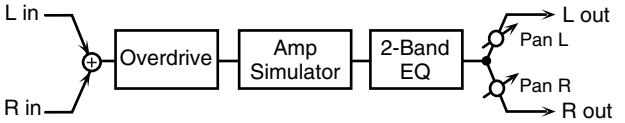
36: DISTORTION

Produces a more intense distortion than Overdrive. The parameters are the same as for "35: OVERDRIVE."



37: VS OVERDRIVE

This is an overdrive that provides heavy distortion.

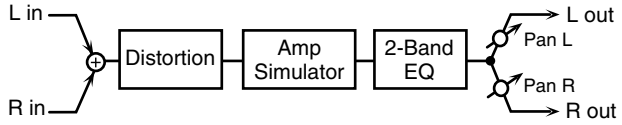


Parameter	Value	Description
Drive #	0–127	Degree of distortion Also changes the volume.
Tone #	0–127	Sound quality of the Overdrive effect
Amp Sw	OFF, ON	Turns the Amp Simulator on/off.

Parameter	Value	Description
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp **SMALL:** small amp **BUILT-IN:** single-unit type amp **2-STACK:** large double stack amp **3-STACK:** large triple stack amp
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Pan #	L64–63R	Stereo location of the output sound
Level	0–127	Output Level

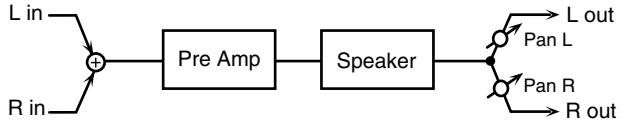
38: VS DISTORTION

This is a distortion effect that provides heavy distortion. The parameters are the same as for "37: VS OVERDRIVE."



39: GUITAR AMP SIMULATOR

This is an effect that simulates the sound of a guitar amplifier.



Parameter	Value	Description
Pre Amp Sw	OFF, ON	Turns the amp switch on/off.
Pre Amp Type	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ	Type of guitar amp
Pre Amp Volume #	0–127	Volume and amount of distortion of the amp
Pre Amp Master #	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MIDDLE, HIGH	Amount of pre-amp distortion
Pre Amp Bass	0–127	Tone of the bass/mid/treble frequency range * Middle cannot be set if "Match Drive" is selected as the Pre Amp Type.
Pre Amp Middle		
Pre Amp Treble		
Pre Amp Presence	0–127 (MATCH DRIVE: -127 - 0)	Tone for the ultra-high frequency range
Pre Amp Bright	OFF, ON	Turning this "On" produces a sharper and brighter sound. * This parameter applies to the "JC-120," "Clean Twin," and "BG Lead" Pre Amp Types.
Speaker Sw	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).
Speaker Type	(See the table below.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the mic that's capturing the sound of the speaker. This can be adjusted in three steps, from 1 to 3, with the mic becoming more distant as the value increases.
Mic Level	0–127	Volume of the microphone
Direct Level	0–127	Volume of the direct sound
Pan #	L64–63R	Stereo location of the output
Level #	0–127	Output level

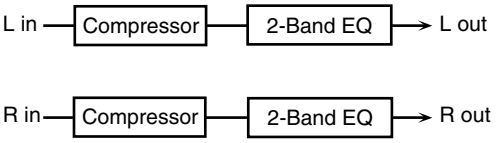
Specifications for each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	small open-back enclosure	10	dynamic
SMALL 2	small open-back enclosure	10	dynamic
MIDDLE	open back enclosure	12 x 1	dynamic
JC-120	open back enclosure	12 x 2	dynamic
BUILT-IN 1	open back enclosure	12 x 2	dynamic
BUILT-IN 2	open back enclosure	12 x 2	condenser
BUILT-IN 3	open back enclosure	12 x 2	condenser
BUILT-IN 4	open back enclosure	12 x 2	condenser
BUILT-IN 5	open back enclosure	12 x 2	condenser
BG STACK 1	sealed enclosure	12 x 2	condenser
BG STACK 2	large sealed enclosure	12 x 2	condenser
MS STACK 1	large sealed enclosure	12 x 4	condenser
MS STACK 2	large sealed enclosure	12 x 4	condenser
METAL STACK	large double stack	12 x 4	condenser
2-STACK	large double stack	12 x 4	condenser
3-STACK	large triple stack	12 x 4	condenser

40: COMPRESSOR

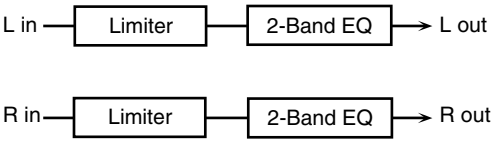
Flattens out high levels and boosts low levels, smoothing out fluctuations in volume.



Parameter	Value	Description
Attack #	0–127	Sets the speed at which compression starts
Threshold #	0–127	Adjusts the volume at which compression begins
Post Gain	0– +18 dB	Adjusts the output gain.
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Level #	0–127	Output level

41: LIMITER

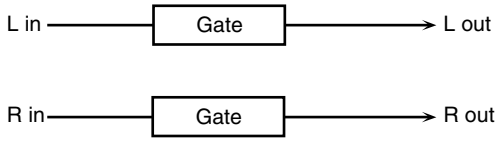
Compresses signals that exceed a specified volume level, preventing distortion from occurring.



Parameter	Value	Description
Release #	0–127	Adjusts the time after the signal volume falls below the Threshold Level until compression is no longer applied.
Threshold #	0–127	Adjusts the volume at which compression begins
Ratio	1.5:1, 2:1, 4:1, 100:1	Compression ratio
Post Gain	0– +18 dB	Adjusts the output gain.
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Level #	0–127	Output level

42: GATE

Cuts the reverb's delay according to the volume of the sound sent into the effect. Use this when you want to create an artificial-sounding decrease in the reverb's decay.

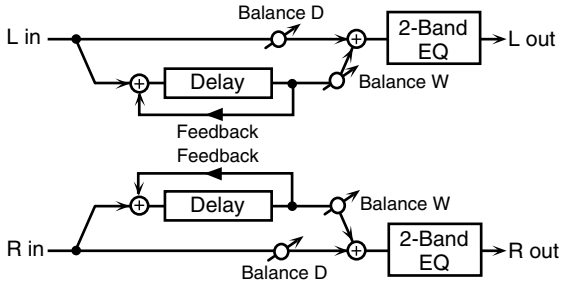


Parameter	Value	Description
Threshold #	0–127	Volume level at which the gate begins to close
Mode	GATE, DUCK	Type of gate **GATE:** The gate will close when the volume of the original sound decreases, cutting the original sound. **DUCK (Ducking):** The gate will close when the volume of the original sound increases, cutting the original sound.
Attack	0–127	Adjusts the time it takes for the gate to fully open after being triggered.
Hold	0–127	Adjusts the time it takes for the gate to start closing after the source sound falls beneath the Threshold.
Release	0–127	Adjusts the time it takes the gate to fully close after the hold time.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

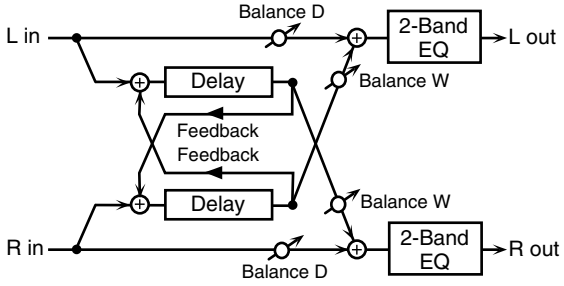
43: DELAY

This is a stereo delay.

When Feedback Mode is NORMAL:



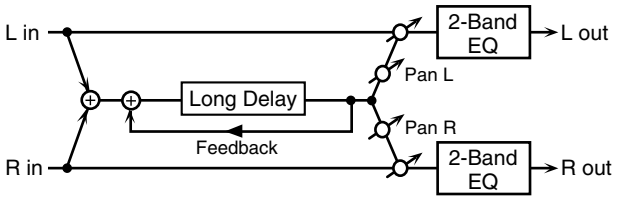
When Feedback Mode is CROSS:



Parameter	Value	Description
Delay Left	0–1300 ms, note	Adjusts the time until the delay sound is heard.
Delay Right		
Phase Left	NORMAL, INVERSE	Phase of the delay sound
Phase Right		
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
Feedback #	-98– +98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

44: LONG DELAY

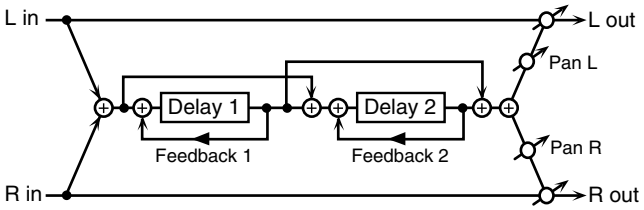
A delay that provides a long delay time.



Parameter	Range	Explanation
Delay Time	0–2600 ms, note	Delay time from when the original sound is heard to when the delay sound is heard
Phase	NORMAL, INVERSE	Phase of the delay (NORMAL: non-inverted, INVERT: inverted)
Feedback #	-98– +98%	Proportion of the delay sound that is to be returned to the input (negative values invert the phase)
HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the delayed sound will be cut (BYPASS: no cut)
Pan #	L64–63R	Panning of the delay sound
Low Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and delay sound (W)
Level	0–127	Output volume

45: SERIAL DELAY

This delay connects two delay units in series. Feedback can be applied independently to each delay unit, allowing you to produce complex delay sounds.



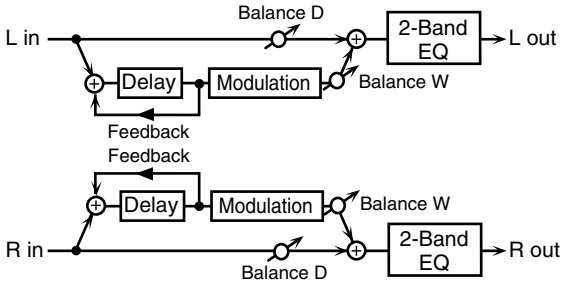
Parameter	Range	Explanation
Delay1 Time	0–1300 ms, note	Delay time from when sound is input to delay 1 until the delay sound is heard
Delay1 Feedback #	-98– +98%	Proportion of the delay sound that is to be returned to the input of delay 1 (negative values invert the phase)
Delay1 HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the delayed sound of delay 1 will be cut (BYPASS: no cut)
Delay2 Time	0–1300 ms, note	Delay time from when sound is input to delay 2 until the delay sound is heard

Parameter	Range	Explanation
Delay2 Feedback #	-98– +98%	Proportion of the delay sound that is to be returned to the input of delay 2 (negative values invert the phase)
Delay2 HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the delayed sound of delay 2 will be cut (BYPASS: no cut)
Pan #	L64–63R	Panning of the delay sound
Low Gain	-15– +15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and delay sound (W)
Level	0–127	Output volume

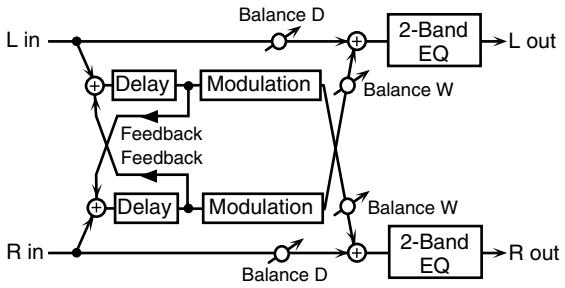
46: MODULATION DELAY

Adds modulation to the delayed sound.

When Feedback Mode is NORMAL:



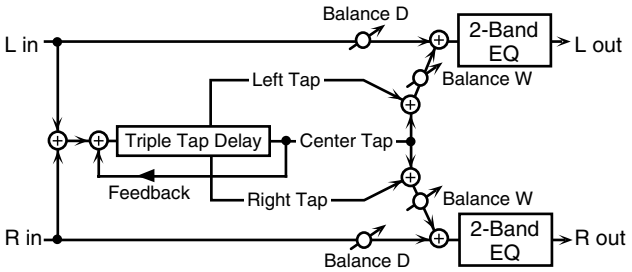
When Feedback Mode is CROSS:



Parameter	Value	Description
Delay Left	0–1300 ms, note	Adjusts the time until the delay sound is heard.
Delay Right		
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect (See the figures above.)
Feedback #	-98– +98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Rate #	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0-180 deg	Spatial spread of the sound
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

47: 3TAP PAN DELAY

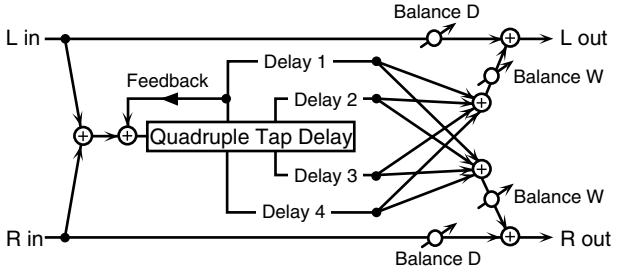
Produces three delay sounds; center, left and right.

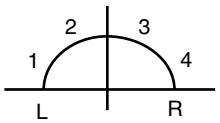


Parameter	Value	Description
Delay Left/ Right/Center	0–2600 ms, note	Adjusts the time until the delay sound is heard.
Center Feedback #	-98– +98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Left/Right/ Center Level	0–127	Volume of each delay
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

48: 4TAP PAN DELAY

This effect has four delays.



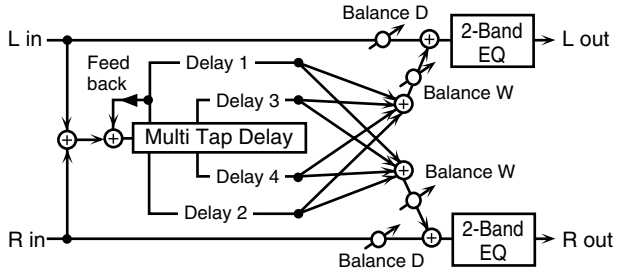


Stereo location of each delay

Parameter	Value	Description
Delay 1–4 Time	0–2600 ms, note	Adjusts the time until the delay sound is heard.
Delay 1 Feedback #	-98– +98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Delay 1–4 Level	0–127	Volume of each delay
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

49: MULTI TAP DELAY

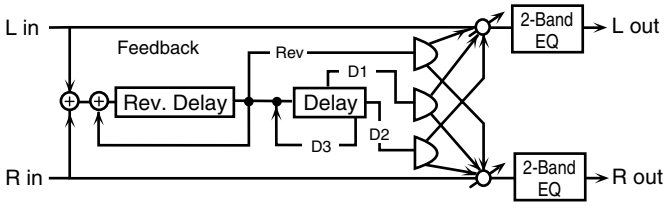
This effect provides four delays. Each of the Delay Time parameters can be set to a note length based on the selected tempo. You can also set the panning and level of each delay sound.



Parameter	Value	Description
Delay 1–4 Time	0–2600 ms, note	Adjusts the time until Delays 1–4 are heard.
Delay 1 Feedback #	-98– +98 %	Adjusts the amount of the delay sound that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any the high frequencies, set this parameter to BYPASS.
Delay 1–4 Pan	L64–63R	Stereo location of Delays 1–4
Delay 1–4 Level	0–127	Output level of Delays 1–4
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

50: REVERSE DELAY

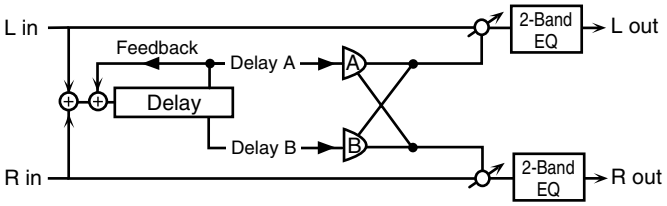
This is a reverse delay that adds a reversed and delayed sound to the input sound. A tap delay is connected immediately after the reverse delay.



Parameter	Range	Explanation
Threshold	0–127	Volume at which the reverse delay will begin to be applied
Rev Dly Time	0–1300 ms, note	Delay time from when sound is input into the reverse delay until the delay sound is heard
Rev Dly Feedback #	-98– +98%	Proportion of the delay sound that is to be returned to the input of the reverse delay (negative values invert the phase)
Rev Dly HF Damp	200–8000 Hz, BYPASS	Frequency at which the high-frequency content of the reverse-delayed sound will be cut (BYPASS: no cut)
Rev Dly Pan	L64–63R	Panning of the reverse delay sound
Rev Dly Level	0–127	Volume of the reverse delay sound
Delay 1 – 3 Time	0–1300 ms, note	Delay time from when sound is input into the tap delay until the delay sound is heard
Delay 3 Feedback #	-98– +98%	Proportion of the delay sound that is to be returned to the input of the tap delay (negative values invert the phase)
Delay HF Damp	200–8000 Hz, BYPASS	Frequency at which the low-frequency content of the tap delay sound will be cut (BYPASS: no cut)
Delay 1 Pan', 'Delay 2 Pan	L64–63R	Panning of the tap delay sounds
Delay 1 Level', 'Delay 2 Level	0–127	Volume of the tap delay sounds
Low Gain	-15– +15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and delay sound (W)
Level	0–127	Output volume

51: SHUFFLE DELAY

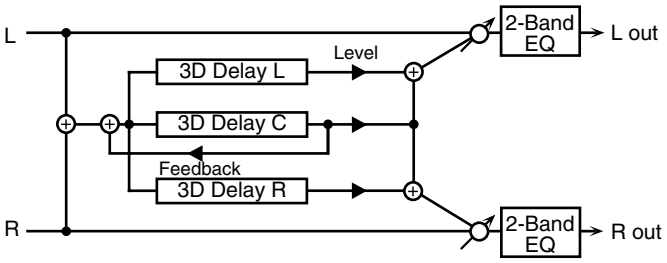
Adds a shuffle to the delay sound, giving the sound a bouncy delay effect with a swing feel.



Parameter	Value	Description
Delay Time #	0–2600 ms, note	Adjusts the time until the delay sound is heard.
Shuffle Rate #	0–100 %	Adjusts the ratio (as a percentage) of the time that elapses before Delay B sounds relative to the time that elapses before the Delay A sounds. When set to 100%, the delay times are the same.
Acceleration	0–15	Adjusts the time over which the Delay Time changes from the current setting to its specified new setting.
Feedback #	-98– +98 %	Adjusts the amount of the delay that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Pan A/B	0–127	Stereo location of Delay A/B
Level A/B	0–127	Volume of delay A/B
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

52: 3D DELAY

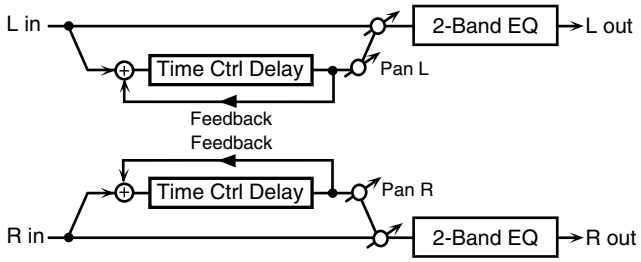
This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Delay Left	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Right		
Delay Center		
Center Feedback #	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Left Level	0–127	Output level of the delay sound
Right Level		
Center Level		
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select **SPEAKER** when using speakers, or **PHONES** when using headphones.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output Level

53: TIME CTRL DELAY

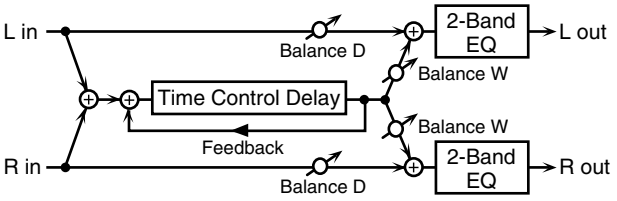
A stereo delay in which the delay time can be varied smoothly.



Parameter	Value	Description
Delay Time #	0–1300 ms, note	Adjusts the time until the delay is heard.
Acceleration	0–15	Adjusts the time over which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
Feedback #	-98– +98 %	Adjusts the amount of the delay that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

54: LONG T CTL DELAY (LONG TIME CONTROL DELAY)

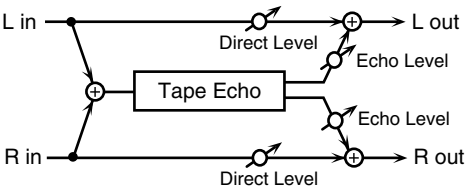
A delay in which the delay time can be varied smoothly, and allowing an extended delay to be produced.



Parameter	Value	Description
Delay Time #	0–2600 ms, note	Adjusts the time until the delay is heard.
Acceleration	0–15	Adjusts the time over which the Delay Time changes from the current setting to a specified new setting. The rate of change for the Delay Time directly affects the rate of pitch change.
Feedback #	-98– +98 %	Adjusts the amount of the delay that's fed back into the effect. Negative (-) settings invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect is filtered out. If you do not want to filter out any high frequencies, set this parameter to BYPASS.
Pan #	L64–63R	Stereo location of the delay
Low Gain	-15– +15 dB	Gain of the low frequency range
High Gain	-15– +15 dB	Gain of the high frequency range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Level	0–127	Output level

55: TAPE ECHO

A virtual tape echo that produces a realistic tape delay sound. This simulates the tape echo section of a Roland RE-201 Space Echo.

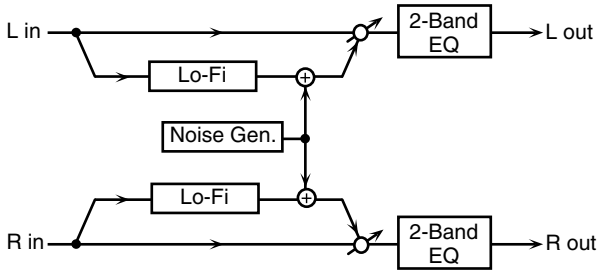


Parameter	Value	Description
Mode	S, M, L, S+M, S+L, M+L, S+M+L	Combination of playback heads to use Select from three different heads with different delay times. **S:** short, **M:** middle, **L:** long
Repeat Rate #	0–127	Tape speed Increasing this value will shorten the spacing of the delayed sounds.
Intensity #	0–127	Amount of delay repeats
Bass	-15– +15 dB	Boost/cut for the lower range of the echo sound
Treble	-15– +15 dB	Boost/cut for the upper range of the echo sound
Head S Pan	L64–63R	Independent panning for the short, middle, and long playback heads
Head M Pan		
Head L Pan		
Tape Distortion	0–5	Amount of tape-dependent distortion to be added This simulates the slight tonal changes that can be detected by signal-analysis equipment. Increasing this value will increase the distortion.

Parameter	Value	Description
Wow/Flutter Rate	0–127	Speed of wow/flutter (complex variation in pitch caused by tape wear and rotational irregularity)
Wow/Flutter Depth	0–127	Depth of wow/flutter
Echo Level #	0–127	Volume of the echo sound
Direct Level #	0–127	Volume of the original sound
Level	0–127	Output level

56: LOFI NOISE

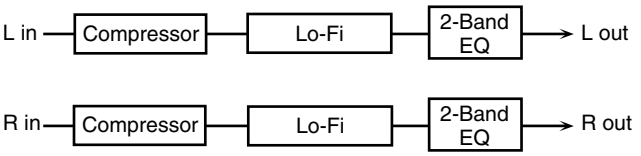
In addition to a lo-fi effect, this adds various types of noise such as white noise and disc noise.



Parameter	Value	Description
LoFi Type	1–9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Filter Cutoff	200–8000 Hz	Center frequency of the filter
W/P Noise Type	WHITE, PINK	Switch between white noise and pink noise.
W/P Noise LPF	200–8000 Hz, BYPASS	Center frequency of the low pass filter applied to the white/pink noise (BYPASS: no cut)
W/P Noise Level #	0–127	Volume of the white/pink noise
Disc Noise Type	LP, EP, SP, RND	Type of record noise The frequency at which the noise is heard depends on the selected type.
Disc Noise LPF	200–8000 Hz, BYPASS	Adjusts the cutoff frequency of the low pass filter applied to the record noise. If you don't want to filter out any high frequencies, set this parameter to BYPASS.
Disc Noise Level #	0–127	Volume of the record noise
Hum Noise Type	50 Hz, 60 Hz	Frequency of the hum noise
Hum Noise LPF	200–8000 Hz, BYPASS	Center frequency of the low pass filter applied to the hum noise (BYPASS: no cut)
Hum Noise Level #	0–127	Volume of the hum noise
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

57: LOFI COMPRESS

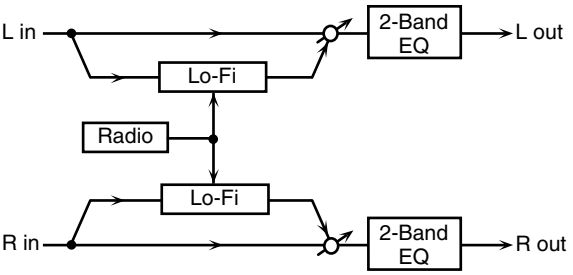
This is an effect that intentionally degrades the sound quality for creative purposes.



Parameter	Value	Description
Pre Fil Type	1–6	Selects the type of filter applied to the sound before it passes through the Lo-Fi effect.
LoFi Type	1–9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Post Fil Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Post Fil Cutoff	200–8000 Hz	Basic frequency of the Post Filter
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level #	0–127	Output level

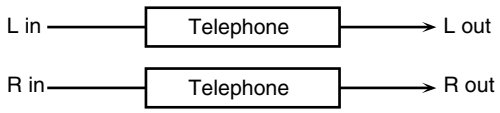
58: LOFI RADIO

In addition to a Lo-Fi effect, this effect also generates radio noise.



Parameter	Value	Description
LoFi Type	1–9	Degrades the sound quality. The sound quality grows poorer as this value is increased.
Filter Type	OFF, LPF, HPF	Type of filter **OFF:** no filter is used **LPF:** cuts the frequency range above the Cutoff **HPF:** cuts the frequency range below the Cutoff
Filter Cutoff	200–8000 Hz	Basic frequency of the Post Filter
Radio Detune #	0–127	Simulates the tuning noise of a radio. As this value is raised, the tuning drifts further.
Radio Noise Level #	0–127	Volume of the radio noise
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

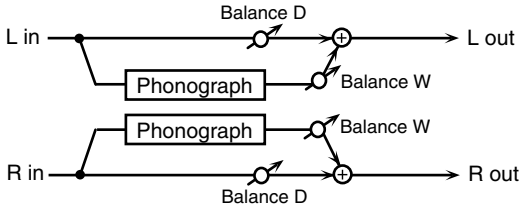
59: TELEPHONE



Parameter	Value	Description
Voice Quality #	0–15	Audio quality of the telephone voice
Treble	-15– +15 dB	Bandwidth of the telephone voice
Balance #	D100:0–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

60: PHONOGRAPH

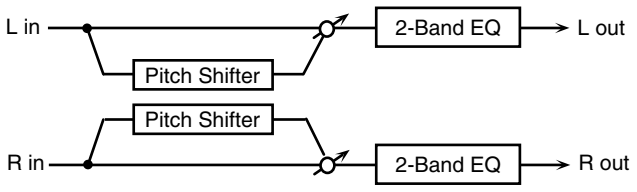
Simulates a sound recorded on an analog record and played back on a record player. This effect also simulates the various types of noise that are typical of a record, and even the rotational irregularities of an old turntable.



Parameter	Value	Description
Signal Distortion	0–127	Depth of distortion
Frequency Range	0–127	Frequency response of the playback system Decreasing this value will produce the impression of an old system with a poor frequency response.
Disc Type	LP, EP, SP	Rotational speed of the turntable This will affect the frequency of the scratch noise.
Scratch Noise Level	0–127	Amount of noise due to scratches on the record
Dust Noise Level	0–127	Volume of noise due to dust on the record
Hiss Noise Level	0–127	Volume of continuous "hiss"
Total Noise Level #	0–127	Volume of overall noise
Wow	0–127	Depth of long-cycle rotational irregularity
Flutter	0–127	Depth of short-cycle rotational irregularity
Random	0–127	Depth of indefinite-cycle rotational irregularity
Total Wow/Flutter #	0–127	Depth of overall rotational irregularity
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Level	0–127	Output level

61: PITCH SHIFTER (Feedback Pitch Shifter)

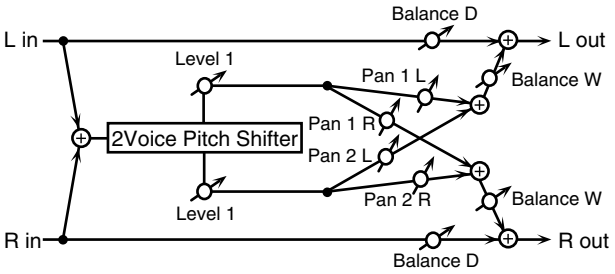
A stereo pitch shifter.



Parameter	Value	Description
Coarse #1	-24– +12 semi	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine #1	-100– +100 cent	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay Time	0–1300 ms, note	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Feedback #	-98– +98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0–127	Output Level

62: 2VOI PCH SHIFTER (2VOICE PITCH SHIFTER)

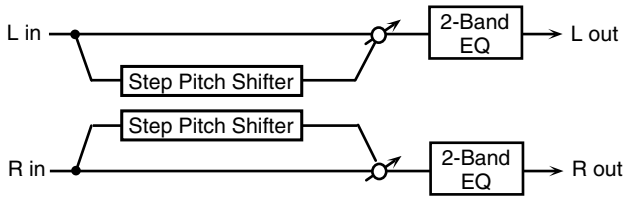
Shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.



Parameter	Value	Description
Pitch 1: Coarse #1	-24-+12 semi	Adjusts the pitch of Pitch Shift 1 in semitone steps.
Pitch 1:Fine #1	-100-+100 cent	Adjusts the pitch of Pitch Shift Pitch 1 in 2-cent steps.
Pitch 1:Delay	0–1300 ms, note	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
Pitch 1:Feedback #	-98– +98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pitch 1:Pan #	L64-63R	Stereo location of the Pitch Shift 1 sound
Pitch 1:Level	0–127	Volume of the Pitch Shift1 sound
Pitch 2: Coarse #2	-24-+12 semi	Settings of the Pitch Shift 2 sound. The parameters are the same as for the Pitch Shift 1 sound.
Pitch 2:Fine #2	-100-+100 cent	
Pitch 2:Delay	0–1300 ms, note	
Pitch 2:Feedback #	-98– +98 %	
Pitch 2:Pan #	L64-63R	
Pitch 2:Level	0–127	
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Level Balance	A100:0B-A0:100B	Volume balance between the Pitch Shift 1 and Pitch Shift 2 sounds
Balance	D100:0W-D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Level	0-127	Output Level

63: STEP PCH SHIFTER (STEP PITCH SHIFTER)

A pitch shifter in which the amount of pitch shift is varied by a 16-step sequence.



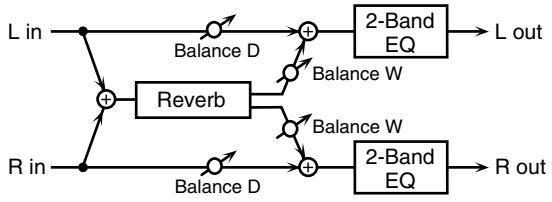
Parameter	Range	Explanation
Step 01–16	-24–+12 semi	Amount of pitch shift at each step (semitone units)
Rate #	0.05–10.00 Hz, note	Rate at which the 16-step sequence will cycle
Attack #	0–127	Speed at which the amount of pitch shift changes between steps
Gate Time #	0–127	Duration of the pitch shifted sound at each step
Fine	-100– +100 cent	Pitch shift adjustment for all steps (2-cent units)
Delay Time	0–1300 ms, note	Delay time from the original sound until the pitch-shifted sound is heard
Feedback #	-98– +98%	Proportion of the pitch-shifted sound that is to be returned to the input (negative values invert the phase)
Low Gain	-15– +15 dB	Amount of boost/cut for the low-frequency range
High Gain	-15– +15 dB	Amount of boost/cut for the high-frequency range
Balance #	D100:0W–D0:100W	Volume balance of the original sound (D) and pitch-shifted sound (W)
Level	0–127	Output volume

MEMO

You can use multi-effect control to make the step sequence play again from the beginning (p. 215).

64: REVERB

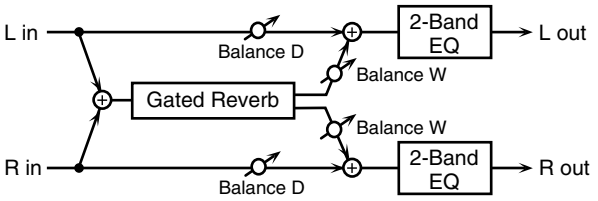
Adds reverberation to the sound, simulating an acoustic space.



Parameter	Value	Description
Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2	Type of reverb **ROOM1:** dense reverb with short decay **ROOM2:** sparse reverb with short decay **STAGE1:** reverb with greater late reverberation **STAGE2:** reverb with strong early reflections **HALL1:** reverb with clear reverberance **HALL2:** reverb with rich reverberance
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time #	0–127	Time length of reverberation
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the reverb sound (W)
Level	0–127	Output Level

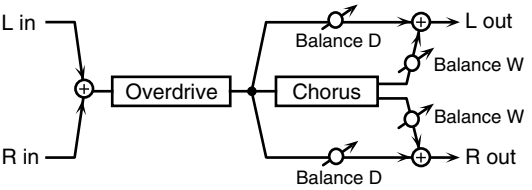
65: GATED REVERB

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



Parameter	Value	Description
Type	NORMAL, REVERSE, SWEEP1, SWEEP2	Type of reverb **NORMAL:** conventional gated reverb **REVERSE:** backwards reverb **SWEEP1:** the reverberant sound moves from right to left **SWEEP2:** the reverberant sound moves from left to right
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Gate Time	5–500 ms	Adjusts the time from when the reverb is heard until it disappears.
Low Gain	-15– +15 dB	Gain of the low range
High Gain	-15– +15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the reverb sound (W)
Level #	0–127	Output Level

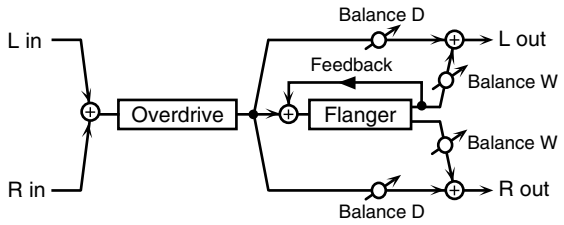
66: OD → CHORUS (OVERDRIVE → CHORUS)



Parameter	Value	Description
Od Drive #	0–127	Degree of distortion Also changes the volume.
Od Pan #	L64–63R	Stereo location of the overdrive sound
Cho Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Rate #	0.05–10.00 Hz, note	Frequency of modulation
Cho Depth	0–127	Depth of modulation

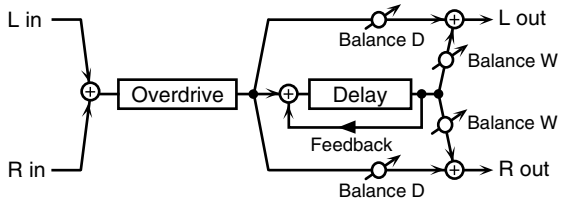
Parameter	Value	Description
Cho Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

67: OD → FLANGER (OVERDRIVE → FLANGER)



Parameter	Value	Description
Od Drive #	0–127	Degree of distortion Also changes the volume.
Od Pan #	L64–63R	Stereo location of the overdrive sound
Fln Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Fln Rate #	0.05–10.00 Hz, note	Frequency of modulation
Fln Depth	0–127	Depth of modulation
Fln Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Fln Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

68: OD → DELAY (OVERDRIVE → DELAY)



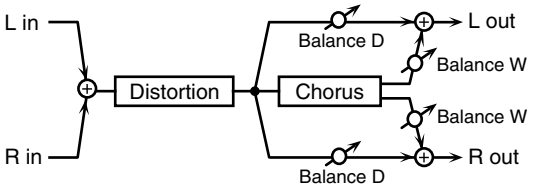
Parameter	Value	Description
Od Drive #	0–127	Degree of distortion Also changes the volume.
Od Pan #	L64–63R	Stereo location of the overdrive sound
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.

Parameter	Value	Description
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

69: DST → CHORUS (DISTORTION → CHORUS)

The parameters are essentially the same as in "66: OD → CHORUS," with the exception of the following two.

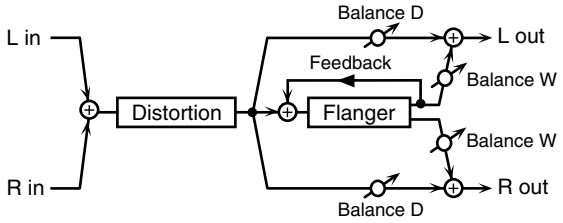
OD Drive → Dst Drive, OD Pan → Dst Pan



70: DST → FLANGER (DISTORTION → FLANGER)

The parameters are essentially the same as in "67: OD → FLANGER," with the exception of the following two.

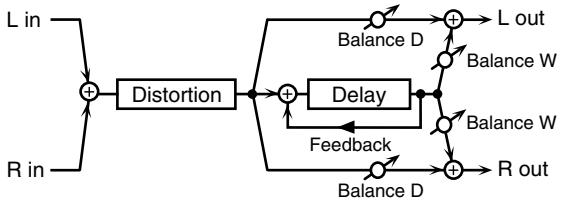
OD Drive → Dst Drive, OD Pan → Dst Pan



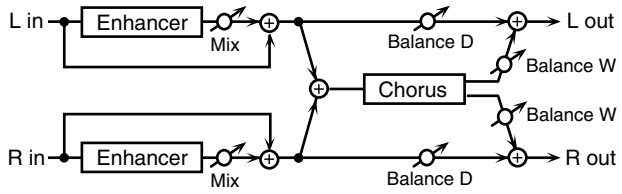
71: DST → DELAY (DISTORTION → DELAY)

The parameters are essentially the same as in "68: OD → DELAY," with the exception of the following two.

OD Drive → Dst Drive, OD Pan → Dst Pan

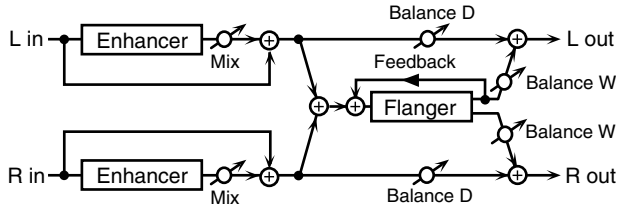


72: ENH → CHORUS (ENHANCER → CHORUS)



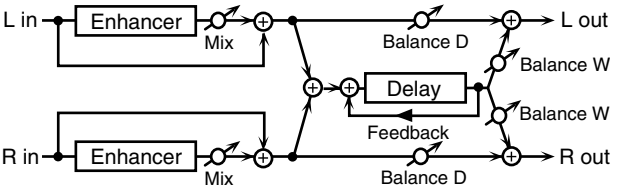
Parameter	Value	Description
Enh Sens #	0–127	Sensitivity of the enhancer
Enh Mix #	0–127	Level of the overtones generated by the enhancer
Cho Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Rate #	0.05–10.00 Hz, note	Frequency of modulation
Cho Depth	0–127	Depth of modulation
Cho Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Level	0–127	Output Level

73: ENHANCER → FLANGER (ENH → FLANGER)



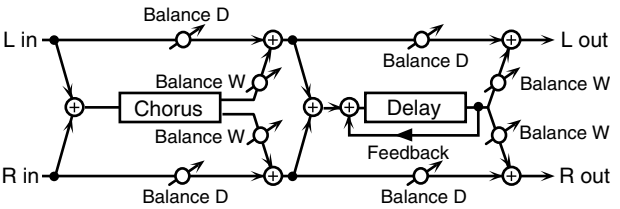
Parameter	Value	Description
Enh Sens #	0–127	Sensitivity of the enhancer
Enh Mix #	0–127	Level of the overtones generated by the enhancer
Fln Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Fln Rate #	0.05–10.00 Hz, note	Frequency of modulation
Fln Depth	0–127	Depth of modulation
Fln Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Fln Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

74: ENH → DELAY (ENHANCER → DELAY)



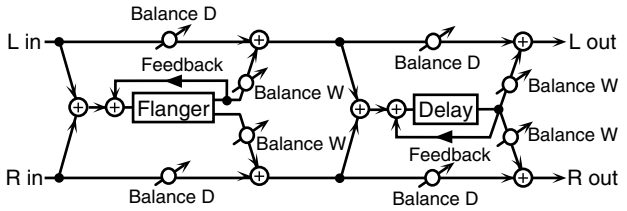
Parameter	Value	Description
Enh Sens #	0–127	Sensitivity of the enhancer
Enh Mix #	0–127	Level of the overtones generated by the enhancer
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

75: CHORUS → DELAY



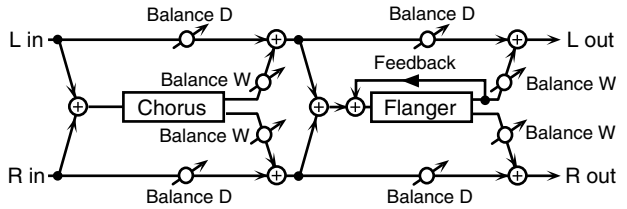
Parameter	Value	Description
Cho Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Rate #	0.05–10.00 Hz, note	Frequency of modulation
Cho Depth	0–127	Depth of modulation
Cho Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

76: FLANGER → DELAY



Parameter	Value	Description
Fln Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Fln Rate #	0.05–10.00 Hz, note	Frequency of modulation
Fln Depth	0–127	Depth of modulation
Fln Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Fln Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Time	0–2600 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback #	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Level	0–127	Output Level

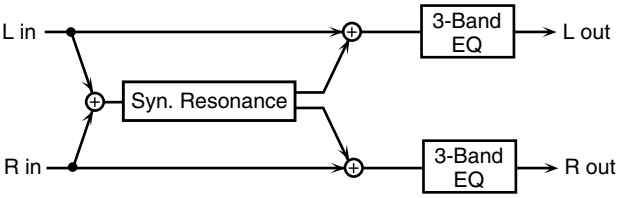
77: CHORUS → FLANGER



Parameter	Value	Description
Cho Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Cho Rate #	0.05–10.00 Hz, note	Modulation frequency of the chorus effect
Cho Depth	0–127	Modulation depth of the chorus effect
Cho Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Fln Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Fln Rate #	0.05–10.00 Hz, note	Modulation frequency of the flanger effect
Fln Depth	0–127	Modulation depth of the flanger effect
Fln Feedback #	-98– +98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Fln Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Level	0–127	Output Level

78: SYMPATHETIC RESO (SYMPATHETIC RESONANCE)

On an acoustic piano, holding down the damper pedal allows other strings to resonate in sympathy with the notes you play, creating rich and spacious resonances. This effect simulates these sympathetic resonances.



Parameter	Range	Explanation
Depth #	0–127	Depth of the effect
Damper #	0–127	Depth to which the damper pedal is pressed (controls the resonant sound)
Pre LPF	16–15000 Hz, BYPASS	Frequency of the filter that cuts the high-frequency content of the input sound (BYPASS: no cut)
Pre HPF	BYPASS, 16–15000 Hz	Frequency of the filter that cuts the low-frequency content of the input sound (BYPASS: no cut)
Peaking Freq	200–8000 Hz	Frequency of the filter that boosts/cuts a specific frequency region of the input sound
Peaking Gain	-15– +15 dB	Amount of boost/cut produced by the filter at the specified frequency region of the input sound
Peaking Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the frequency region boosted/cut by the 'Peaking Gain' parameter (larger values make the region narrower)
HF Damp	16–15000 Hz, BYPASS	Frequency at which the high-frequency content of the resonant sound will be cut (BYPASS: no cut)
LF Damp	BYPASS, 16–15000 Hz	Frequency at which the low-frequency content of the resonant sound will be cut (BYPASS: no cut)
Lid	1–6	This simulates the actual changes in sound that occur when the lid of a grand piano is set at different heights.
EQ Low Freq	200, 400 Hz	Frequency of the low-range EQ
EQ Low Gain	-15– +15 dB	Amount of low-range boost/cut
EQ Mid Freq	200–8000 Hz	Frequency of the midrange EQ
EQ Mid Gain	-15– +15 dB	Amount of midrange boost/cut
EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of midrange (larger values make the region narrower)
EQ High Freq	2000, 4000, 8000 Hz	Frequency of the high-range EQ
EQ High Gain	-15–+15 dB	Amount of high-range boost/cut
Level	0–127	Output Level

When Using 3D Effects

The following 3D effects utilize RSS (Roland Sound Space) technology to create a spaciousness that cannot be produced by delay, reverb, chorus, etc.

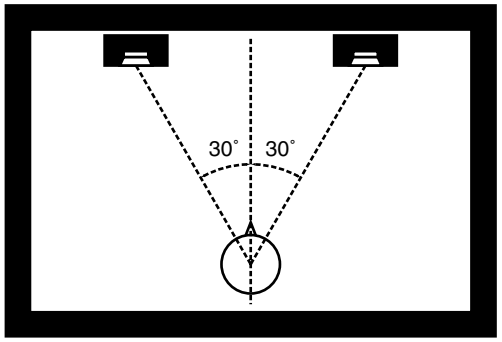
52: 3D DELAY

29: 3D CHORUS

30: 3D FLANGER

31: 3D STEP FLANGER

When using these effects, we recommend that you place your speakers as follows. Also, make sure that the speakers are at a sufficient distance from the walls on either side.



If the left and right speakers are too far apart, or if there is too much reverberation, the full 3D effect may not appear.

Each of these effects has an "Output Mode" parameter. If the sound from the OUTPUT jacks is to be heard through speakers, set this parameter to "SPEAKER." If the sound is to be heard through headphones, set it to "PHONES." This will ensure that the optimal 3D effect will be heard. If this parameter is not set correctly, the full 3D effect may not appear.

About the STEP RESET function

06: STEP FILTER

16: STEP RING MOD

19: STEP PAN

20: SLICER

63: STEP PCH SHIFTER

The above five types contain a sixteen-step sequencer.

For these types, you can use a multi-effect control to reset the sequence to play from the first step.

To do this, set the multi-effect control Destination to "Step Reset."

For example if you are using the modulation lever to control the effect, you would make the following settings.

Source: CC01: MODULATION

Destination: Step Reset

Sens: +63

With these settings, the sequence will play back from the first step whenever you operate the modulation lever.

note:

(Sixty-fourth-note triplet), (Sixty-fourth note), (Thirty-second-note triplet),

(Thirty-second note), (Sixteenth-note triplet), (Dotted thirty-second note),

(Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note),

(Eighth note), (Quarter-note triplet), (Dotted eighth note),

(Quarter note), (Half-note triplet), (Dotted quarter note), (Half note),

(Whole-note triplet), (Dotted half note), (Whole note),

(Double-note triplet), (Dotted whole note), (Double note)

Chorus Parameters

The Fantom-XR's Chorus effect unit can also be used as a stereo delay unit.

These settings allow you to select chorus or delay, and the characteristics of the selected effect type.

Parameter	Value	Description
Chorus Type	0 (OFF), 1 (CHORUS), 2 (DELAY), 3 (GM2 CHORUS)	Selects either Chorus or Delay. 0 (OFF): Neither Chorus or Delay is used. 1 (CHORUS): Chorus is used. 2 (DELAY): Delay is used. 3 (GM2 CHORUS): GM2 Chorus is used.
Type: 1 (CHORUS)		
Rate	0.05–10.00 Hz, note	Frequency of modulation
Depth	0–127	Depth of modulation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Phase	0–180°	Spatial spread of the sound
Type: 2 (DELAY)		
Delay Left Delay Right Delay Center	0–1000 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Center Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Left Level Right Level Center Level	0–127	Volume of each delay sound
Type: 3 (GM2 CHORUS)		
Pre-LPF	0–7	Cuts the high frequency range of the sound coming into the chorus. Higher values will cut more of the high frequencies.
Level	0–127	Volume of the chorus sound
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
Delay	0–127	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate	0–127	Frequency of modulation
Depth	0–127	Depth of modulation
Send Level To Reverb	0–127	Adjusts the amount of chorus sound that will be sent to the reverb.

NOTE

If you specify the delay time as a note value, slowing down the tempo will not change the delay time beyond a certain length. This is because there is an upper limit for the delay time; if the delay time is specified as a note value and you slow down the tempo until this upper limit is reached, the delay time cannot change any further. This upper limit is the maximum value that can be specified when setting the delay time as a numerical value.

note:

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

Reverb Parameters

These settings allow you to select the desired type of reverb, and its characteristics.

Parameter	Value	Description
Reverb Type	0 (OFF), 1 (REVERB), 2 (SRV ROOM), 3 (SRV HALL), 4 (SRV PLATE), 5 (GM2 REVERB)	Type of reverb 0 (OFF): Reverb is not used. 1 (REVERB): Normal reverb 2 (SRV ROOM): This simulates typical room acoustic reflections. 3 (SRV HALL): This simulates typical concert hall acoustic reflections. 4 (SRV PLATE): This simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. 5 (GM2 REVERB): GM2 Reverb
Type: 1 (REVERB)		
Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DELAY	Type of reverb/delay ROOM1: short reverb with high density ROOM2: short reverb with low density STAGE1: reverb with greater late reverberation STAGE2: reverb with strong early reflections HALL1: very clear-sounding reverb HALL2: rich reverb DELAY: conventional delay effect PAN-DELAY: delay effect with echoes that pan left and right
Time	0–127	Time length of reverberation (Type: ROOM1–HALL2) Delay time (Type: DELAY, PAN-DELAY)
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which the high-frequency content of the reverb sound will be cut, or "damped." If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Feedback	0–127	Adjusts the amount of delay feedback when the Type setting is DELAY or PAN-DELAY.
Type: 2 (SRV ROOM)/3 (SRV HALL)/4 (SRV PLATE)		
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time	0–127	Time length of reverberation
Size	1–8	Size of the simulated room or hall
High Cut	160 Hz–12.5 kHz, BYPASS	Adjusts the frequency above which the high-frequency content of the reverb will be reduced. If you do not want to reduce the high frequencies, set this parameter to BYPASS.
Density	0–127	Density of reverb
Diffusion	0–127	Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)
LF Damp Freq	50–4000 Hz	Adjusts the frequency below which the low-frequency content of the reverb sound will be reduced, or "damped."
LF Damp Gain	-36–0 dB	Adjusts the amount of damping applied to the frequency range selected with LF Damp. With a setting of "0," there will be no reduction of the reverb's low-frequency content.
HF Damp Freq	4000 Hz–12.5 kHz	Adjusts the frequency above which the high-frequency content of the reverb sound will be reduced, or "damped."
HF Damp Gain	-36–0 dB	Adjusts the amount of damping applied to the frequency range selected with HF Damp. With a setting of "0," there will be no reduction of the reverb's high-frequency content.
Type: 5 (GM2 REVERB)		
Character	0–7	Type of reverb 0–5: reverb 6, 7: delay
Pre-LPF	0–7	Cuts the high frequency range of the sound coming into the reverb. Higher values will cut more of the high frequencies.
Level	0–127	Output level of reverberation
Time	0–127	Time length of reverberation
Delay Feedback	0–127	Adjusts the amount of the delay sound that is fed back into the effect when the Reverb Character setting is 6 or 7.

Input Effect Parameters

Selects the type of effect that will be applied to the external input source.

01: EQUALIZER

Adjusts the tone of the low-frequency and high-frequency ranges.

Parameter	Range	Explanation
Low Freq	200, 400 Hz	Center frequency of the low-frequency range
Low Gain	-15–+15 dB	Amount of low-frequency boost/cut
High Freq	2000, 4000, 8000 Hz	Center frequency of the high-frequency range
High Gain	-15–+15 dB	Amount of high-frequency boost/cut

02: ENHANCER

Modifies the harmonic content of the high-frequency range to add sparkle to the sound.

Parameter	Range	Explanation
Sens	0–127	Depth of the enhancer effect
Mix	0–127	Volume of the harmonics that are generated

03: COMPRESSOR

Restrains high levels and boosts low levels to make the overall volume more consistent.

Parameter	Range	Explanation
Attack	0–127	Time from when the input exceeds the Threshold until the volume begins to be compressed
Threshold	0–127	Volume level at which compression will begin
Post Gain	0–+18 dB	Level of the output sound

04: LIMITER

Compresses the sound when it exceeds a specified volume, to keep distortion from occurring.

Parameter	Range	Explanation
Release	0–127	Time from when the input falls below the Threshold until compression ceases
Threshold	0–127	Volume level at which compression will begin
Post Gain	0–+18 dB	Level of the output sound

05: NOISE SUPPRESSOR

Suppresses noise during periods of silence.

Parameter	Range	Explanation
Threshold	0–127	Volume at which noise suppression will begin
Release	0–127	Time from when noise suppression begins until the volume reaches zero.

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.

Parameter	Range	Explanation
Ch Balance	-50– +50	Volume balance of the L (left) and R (right) channels for removing the sound
Range Low	16–15000 Hz	Lower frequency limit of the band to be removed
Range High	16–15000 Hz1	Upper frequency limit of the band to be removed

Error Messages

If an incorrect operation is performed, or if processing could not be performed as you specified, an error message will appear. Refer to the explanation for the error message that appears, and take the appropriate action.

Message	Meaning	Action
Cannot Edit Preset Sample!	This is a preset sample, and therefore cannot be edited.	—
Cannot Edit GM Patch	This is a GM patch, and therefore cannot be edited.	—
Cannot Write GM Patch	This is a GM patch, and therefore cannot be saved.	—
Card Not Ready!	A memory card is not inserted in the slot.	Insert a memory card into the slot.
Empty Sample!	The sample contains no data.	Select a sample that contains data.
File Name Duplicate	A file with the same name already exists.	Delete the file bearing the same name from the disk, and if overwriting and saving the data, merely save the file. If you do not want to delete the file with the same name from the disk, either save the file with a different name.
Illegal File!	The Fantom-XR cannot use this file.	—
Memory Damaged!	The contents of memory may have been damaged.	Please perform the Factory Reset operation. If this does not resolve the problem, please contact your dealer or the nearest Roland Service Center.
Memory Full!	Saving is not possible because there is insufficient space in the user area or memory card.	Delete unneeded data.
MIDI Offline!	There is a problem with the MIDI cable connection.	Check that the MIDI cable has not been disconnected or broken.
No More Sample Numbers!	The sample cannot be divided any further. Since fewer than 256 consecutive sample numbers are vacant, no further sampling is possible.	Erase unneeded samples in order to allocate 256 or more consecutive sample numbers.
Permission Denied!	The file is protected.	—
Sample Length Too Short!	The sample is too short, and cannot be edited correctly.	If the sample is extremely short, editing may not produce the desired result.
Sample Memory Full!	Since there is insufficient sample memory, no further sampling or sample editing is possible.	Erase unneeded samples.
Too Many Sample Selected!	The operation cannot be executed, since marks are assigned to more than one sample.	Either clear the marks, or mark only one sample.
Unformatted!	The memory card is in an unsupported format.	Format the memory card.

Performance List

USER Group

No.	Name	No.	Name
001	Seq:Template	033	GM2 Template
002	Seq:Pop 1	034	Piano+Str X
003	Seq:Pop 2	035	Arctic Zone
004	Seq:Pop 3	036	Frozen EP
005	Seq:Pop 4	037	Strings Orch
006	Seq:Pop 5	038	PopBrsStack
007	Seq:Pop 6	039	IcebergGroov
008	Seq:Pop 7	040	Sad Tale
009	Seq:Rock 1	041	ChillyPlanes
010	Seq:Rock 2	042	TwilightSong
011	Seq:Fusion	043	Anonymous
012	Seq:Funk	044	Ancient Wind
013	Seq:Jazz	045	AutoSequence
014	Seq:HipHop 1	046	Phaser EP 1
015	Seq:HipHop 2	047	Phaser EP 2
016	Seq:R&B 1	048	EP Multi
017	Seq:R&B 2	049	Rotary Multi
018	Seq:BrkBeats	050	Bass Multi
019	Seq:Big Beat	051	Dist Gt Mult
020	Seq:DnB	052	Burning Lead
021	Seq:2 Step	053	Highland
022	Seq:Trance	054	Marshland
023	Seq:Techno	055	Rv Piano Pad
024	Seq:Electro	056	Old EP Vinyl
025	Seq:Hardcore	057	Delay Santur
026	Seq:House	058	EpicTrncySyn
027	Seq:Disco	059	Multi Mod Ld
028	Seq:Reggae	060	Robot Bass
029	Seq:Bossa	061	Slice Rv Hit
030	Seq:Latin	062	AutoNoiseOSC
031	Seq:EL Samba	063	*Eurodance
032	Gated Drums	064	*SlapBs Trig

PRESET Group

No.	Name	No.	Name
001	Seq:Template	033	Seq:Perc Phr
002	Seq:Pop 1	034	Piano+Str X
003	Seq:Pop 2	035	Arctic Zone
004	Seq:Pop 3	036	Frozen EP
005	Seq:Pop 4	037	Strings Orch
006	Seq:Pop 5	038	PopBrsStack
007	Seq:Pop 6	039	IcebergGroov
008	Seq:Pop 7	040	Sad Tale
009	Seq:Rock 1	041	ChillyPlanes
010	Seq:Rock 2	042	TwilightSong
011	Seq:Fusion	043	Anonymous
012	Seq:Funk	044	Ancient Wind
013	Seq:Jazz	045	AutoSequence
014	Seq:HipHop 1	046	Phaser EP 1
015	Seq:HipHop 2	047	Phaser EP 2
016	Seq:R&B 1	048	EP Multi
017	Seq:R&B 2	049	Rotary Multi
018	Seq:BrkBeats	050	Bass Multi
019	Seq:Big Beat	051	Dist Gt Mult
020	Seq:DnB	052	Burning Lead
021	Seq:2 Step	053	Highland
022	Seq:Trance	054	Marshland
023	Seq:Techno	055	Rv Piano Pad
024	Seq:Electro	056	Old EP Vinyl
025	Seq:Hardcore	057	Delay Santur
026	Seq:House	058	EpicTrncySyn
027	Seq:Disco	059	Multi Mod Ld
028	Seq:Reggae	060	Robot Bass
029	Seq:Bossa	061	Slice Rv Hit
030	Seq:Latin	062	AutoNoiseOSC
031	Seq:EL Samba	063	Gated Drums
032	Seq:TablaPhr	064	GM2 Template

The sound data (Performance, Patch, Rhythm Set, and Rhythm Group, Rhythm Pattern) with * mark to the head of their names use the Preset Samples. Therefore, in order to play these sound data, the Preset Samples need to be loaded to Fantom-XR.

Patch List

USER (User Group)

No.	Name	Voice	Category
001	UltimatGrand	2	AC.PIANO
002	Strobot	2	PULSATING
003	Full Strings	4	STRINGS
004	The VorteX	2	SYNTH FX
005	Purple Organ	5	ORGAN
006	X Brs Sect 1	6	AC.BRASS
007	FlamencoGt X	3	AC.GUITAR
008	* EuroPhrSeq	6	BEAT&GROOVE
009	SquareSphere	2	PULSATING
010	HimalayaThaw	4	BELL
011	Nu RnB Bass	1	SYNTH BASS
012	Killerbeez	4	TECHNO SYNTH
013	Angel Pipes	2	OTHER SYNTH
014	GTR Heroes	5	DIST.GUITAR
015	Symphonika	8	ORCHESTRA
016	Cut Thru Wah	2	EL.GUITAR
017	Mr. Nasty	2	SYNTH BASS
018	ParisRomance	4	ACCORDION
019	Spr SideBand	6	BRIGHT PAD
020	Tre EP	5	EL.PIANO
021	Epic Lead	2	HARD LEAD
022	Motion Pad	4	SOFT PAD
023	VKHold4Speed	4	ORGAN
024	Double Track	2	EL.GUITAR
025	Nylon Gtr VS	2	AC.GUITAR
026	AirPluck	4	MALLET
027	Nu RnB Saw 1	4	SYNTH BASS
028	X Finger Bs2	2	BASS
029	SolarPleXus	2	SYNTH FX
030	Arie Piano	4	AC.PIANO
031	StellarTreck	4	PULSATING
032	Larsen /Aft	2	DIST.GUITAR
033	Moody Tron	3	STRINGS
034	Magic Wave	2	SYNTH FX
035	DigimaX	2	OTHER SYNTH
036	X Perc Organ	3	ORGAN
037	Mini Growl	2	SOFT LEAD
038	Snappy Clav	2	KEYBOARDS
039	Staccato VS	4	STRINGS
040	Life-on	4	BRIGHT PAD
041	Powerline	2	SYNTH BASS
042	Disto Stab !	5	HIT&STAB
043	Piano Oz	4	AC.PIANO
044	Space & Time	4	PULSATING
045	Cello	1	STRINGS
046	CerealKiller	1	SYNTH FX
047	EP Belle	3	EL.PIANO
048	Trancy X	4	OTHER SYNTH
049	HimalayaPipe	4	FLUTE
050	JP8000 Brass	7	SYNTH BRASS
051	WithALtlHelp	5	AC.GUITAR
052	Strobe X	5	PULSATING
053	Trancepire	1	TECHNO SYNTH
054	TubyRuesday	2	BELL
055	Exhale	2	OTHER SYNTH
056	Searing COSM	2	DIST.GUITAR
057	Follow	2	SOFT PAD
058	Grand Pipe	3	ORGAN
059	Sad ceremony	8	VOX
060	BodyElectric	3	HARD LEAD
061	Doubled Bass	3	BASS
062	Xtrem Sine	1	SOFT LEAD
063	Mod Chord	2	HIT&STAB
064	Filament	5	SYNTH BASS
065	SuperSawSlow	2	OTHER SYNTH
066	FS Wurly	2	EL.PIANO
067	Mash Pad	5	BRIGHT PAD
068	Vocastic	8	PULSATING
069	Bon Voyage	3	HARD LEAD
070	Visionary	4	BRIGHT PAD
071	So true...	2	AC.PIANO
072	Are U ready?	4	PULSATING
073	Mellow Tron	3	STRINGS
074	Shangri-La	5	SYNTH FX
075	BluesHrp V/S	1	HARMONICA
076	EuronalSynth	2	SOFT LEAD
077	Alto Sax	1	SAX
078	SBF Nozer	2	TECHNO SYNTH
079	Nu Romance	4	OTHER SYNTH
080	Ring Worldz	2	BRIGHT PAD
081	Rezo Sync	3	HARD LEAD
082	Over-D6	3	KEYBOARDS
083	Orange Skin	4	HIT&STAB
084	Atk Flute	2	FLUTE
085	* FiestaBeat	4	BEAT&GROOVE
086	Lounge Kit	2	COMBINATION
087	Galaxadin	2	PULSATING
088	Tornrubber	2	SYNTH BASS
089	Comp Stl Gtr	2	AC.GUITAR
090	Pop Brs Stac	2	AC.BRASS
091	Sweet House	4	TECHNO SYNTH
092	Celebrated	4	SYNTH FX
093	Digitvox	2	BRIGHT PAD
094	Viola	3	STRINGS
095	Optik'Synth	2	HARD LEAD
096	Crystal EP	2	EL.PIANO
097	xcultural	3	COMBINATION
098	Control Room	4	SYNTH FX
099	Pearly Harp	4	PLUCKED
100	Machine Str	2	STRINGS
101	X Mute Bass	2	BASS
102	Bass Drive	3	SYNTH BASS
103	Dance Steam	2	HIT&STAB
104	Riven Pad	5	SOFT PAD
105	Vint Clavier	3	OTHER SYNTH
106	Jazz Guitar	1	EL.GUITAR
107	When I'm 64	2	COMBINATION
108	SideBandBell	4	BELL
109	D n' Bass	1	SYNTH BASS
110	La Seine	4	ACCORDION
111	InfinitePhsr	6	BRIGHT PAD
112	Wired Synth	8	OTHER SYNTH
113	5th Pad X	5	SOFT PAD
114	FS SoapOpera	1	ORGAN
115	NylonGt /HO	1	AC.GUITAR
116	Dark Grand	4	AC.PIANO
117	Auto Sync	2	PULSATING
118	Film Cue	4	VOX
119	Violin	1	STRINGS
120	Minty Fresh	3	PULSATING
121	StakDraw Org	4	ORGAN
122	F.Horns Sect	3	AC.BRASS
123	Wind & Str 1	7	ORCHESTRA
124	FS 12str Gtr	3	AC.GUITAR
125	Comp Picker	2	BASS
126	eXisDance	4	PULSATING
127	Dreaming Box	4	BELL
128	Andes Mood	1	FLUTE
129	Dust Bass	4	SYNTH BASS
130	Survivoz	4	BRIGHT PAD
131	Backing PhEP	2	EL.PIANO
132	Tutti	8	HIT&STAB
133	ActualAnalog	2	HARD LEAD
134	TrnsSweepPad	6	SOFT PAD
135	Ivan's	4	TECHNO SYNTH
136	Triple X	2	OTHER SYNTH
137	DelicatePizz	4	STRINGS
138	SubOscar	3	SYNTH BASS
139	FS Sitar 1	4	PLUCKED
140	Punker 1	2	DIST.GUITAR
141	Ooh La La	5	BRIGHT PAD
142	Solo Tb	1	AC.BRASS
143	Psycho EP	4	EL.PIANO
144	SBF Lead	4	HARD LEAD
145	Flange Dream	4	SOFT PAD
146	X Picked Bs	2	BASS
147	Classic Lead	4	HARD LEAD
148	LongDistance	1	ETHNIC
149	X Pure Grand	2	AC.PIANO
150	Da Chronic	2	SYNTH BASS
151	Tenor Sax	2	SAX
152	Dancefloor	4	PULSATING
153	Shroomy	3	TECHNO SYNTH
154	Ethno Keys	2	MALLET
155	Simply Nasty	4	HARD LEAD
156	Beat Vox	1	VOX
157	AMP EP	5	EL.PIANO
158	Contrabass	4	STRINGS
159	Bend SynBrs	4	SYNTH BRASS
160	Modular	2	OTHER SYNTH
161	Dirty D/A	3	SOFT LEAD
162	Tekno Tone	1	PULSATING
163	Nu Bace	2	SYNTH BASS
164	Mod Scanner	2	SYNTH FX
165	Fantomas Pad	5	PULSATING
166	FS Fretnot 1	2	BASS
167	Solo Tp	2	AC.BRASS
168	Farewell	6	ORCHESTRA
169	Wezcoast	2	HARD LEAD
170	FS Flute	2	FLUTE
171	Theramax	1	SOFT LEAD
172	Mojo Man	2	HIT&STAB
173	Solo Sop Sax	1	SAX
174	Timeline	4	BRIGHT PAD
175	Wet TC	1	EL.GUITAR
176	Underneath	4	SYNTH BASS
177	Lazer Points	2	SYNTH FX
178	Wire Sync	3	HARD LEAD
179	JD-800 Piano	1	AC.PIANO
180	Cross Talk	1	PULSATING
181	Nu Pad	2	PULSATING
182	Phase Clavi	2	KEYBOARDS
183	Anadroid	1	TECHNO SYNTH
184	Phono Organ	2	ORGAN
185	Dirt & Grime	3	SYNTH BASS
186	Rockin' Dly	3	DIST.GUITAR
187	Mr. Fourier	3	PULSATING
188	NewAge Frtls	3	BASS
189	Evolution X	2	SOFT PAD
190	Baritone Sax	1	SAX
191	Hall Oboe	1	WIND
192	TB-Sequence	1	OTHER SYNTH
193	GuitaratiuG	3	EL.GUITAR
194	Alpha Hoover	1	TECHNO SYNTH
195	ChoruSE ONE	1	SYNTH BASS
196	Sinetific	2	SOFT LEAD
197	Wired Rez	3	TECHNO SYNTH
198	FS Marimba	1	MALLET
199	SlippingSaws	3	HARD LEAD
200	Choral Sweep	3	VOX
201	Flugel Horn	1	AC.BRASS
202	TDreamTouch	3	OTHER SYNTH
203	Polar Morn	4	BRIGHT PAD
204	Drop Bass	3	SYNTH BASS
205	Pop Orch	7	ORCHESTRA
206	Nyl-Intro	2	AC.GUITAR
207	Morph Filter	3	SOFT PAD
208	Kinda Kurt	2	EL.GUITAR
209	Downright Bs	3	BASS
210	50`SteelDrms	4	MALLET
211	Reso SynBass	3	SYNTH BASS
212	South Pole	2	SYNTH FX
213	Studio Grand	2	AC.PIANO
214	VirtualHuman	4	PULSATING
215	Darmstrat X	5	DIST.GUITAR
216	Ending Scene	4	ORCHESTRA
217	Distro FXM	3	HARD LEAD
218	FullDraw Org	3	ORGAN
219	Alien Voice	2	SYNTH FX
220	Stadium SBF	1	OTHER SYNTH
221	Good Old Day	3	WIND
222	FS Slap Bass	2	BASS
223	Skydiver	2	PLUCKED
224	Harmon Mute	1	AC.BRASS
225	PeakArpSine	1	SOFT LEAD
226	Alien Bubble	1	TECHNO SYNTH
227	Twin StratsB	2	EL.GUITAR
228	Orbiting	3	PULSATING
229	Sahara Str	4	STRINGS
230	Fundamental	3	SYNTH BASS
231	SA Dance Pno	2	AC.PIANO
232	Dirty Saw	2	HARD LEAD
233	X-panda	2	OTHER SYNTH
234	Saturn Siren	5	BRIGHT PAD
235	Orch & Horns	5	ORCHESTRA
236	Amore Story	4	AC.GUITAR
237	Raven Chord	4	TECHNO SYNTH
238	Soulfinger	2	BASS
239	Landing Pad	3	SYNTH FX
240	Virtual RnBs	2	SYNTH BASS
241	Clarence.net	2	WIND
242	PanningFrmnt	2	PULSATING
243	Quiet River	4	PLUCKED
244	OB Slow Str	2	SOFT PAD
245	FS Loud Gtr	3	DIST.GUITAR
246	X Finger Bs1	2	BASS
247	VelPanWurly	2	EL.PIANO
248	Syn Opera	4	VOX
249	Modular Lead	3	SOFT LEAD
250	With Love	4	AC.GUITAR
251	JP-8 Phase	4	SOFT PAD
252	Pop Brs wAtk	4	AC.BRASS
253	Cicada Piano	4	AC.PIANO
254	X StrSection	4	STRINGS
255	Jupiter-X	5	SOFT PAD
256	Bending Logo	8	SYNTH FX

PR-A (Preset A Group)

No.	Name	Voices	Category
001	So true...	2	AC.PIANO
002	ConcertPiano	3	AC.PIANO
003	Warm Piano	2	AC.PIANO
004	Warm Pad Pno	4	AC.PIANO
005	Warm Str Pno	6	AC.PIANO
006	BealeSt Walk	4	AC.PIANO
007	Rapsody	7	AC.PIANO
008	JD-800 Piano	1	AC.PIANO
009	SA Dance Pno	2	AC.PIANO
010	FS E-Grand	4	AC.PIANO
011	FS Blend Pno	5	AC.PIANO
012	LA Piano	3	AC.PIANO
013	FS 70'EP	5	EL.PIANO
014	StageEP Trem	2	EL.PIANO
015	Back2the60s	2	EL.PIANO
016	Tine EP	1	EL.PIANO
017	LEO EP	4	EL.PIANO
018	LonesomeRoad	2	EL.PIANO
019	Age'n'Tines	2	EL.PIANO
020	Brill TremEP	2	EL.PIANO
021	Crystal EP	2	EL.PIANO
022	Celestial EP	4	EL.PIANO
023	Spirit Tines	3	EL.PIANO
024	Psycho EP	4	EL.PIANO
025	Mk2 Stg phsr	3	EL.PIANO
026	SA Stacks	5	EL.PIANO
027	Backing PhEP	2	EL.PIANO
028	Balladeer	3	EL.PIANO
029	Remember	2	EL.PIANO
030	FS Wurly	2	EL.PIANO
031	Wurly Trem	3	EL.PIANO
032	Super Wurly	3	EL.PIANO
033	Pulse EPno	3	EL.PIANO
034	Fonky Fonky	2	EL.PIANO
035	FM EP	5	EL.PIANO
036	FM-777	5	EL.PIANO
037	FM EPad	3	EL.PIANO
038	D6 Clavi	3	KEYBOARDS
039	Cutter Clavi	2	KEYBOARDS
040	FS Clavi	2	KEYBOARDS
041	Funky D	2	KEYBOARDS
042	Phase Clavi	2	KEYBOARDS
043	BPF Clavi Ph	2	KEYBOARDS
044	Pulse Clavi	2	KEYBOARDS
045	Analog Clavi	1	KEYBOARDS
046	Reso Clavi	2	KEYBOARDS
047	Harpsy Clavi	2	KEYBOARDS
048	FS Harpsi	4	KEYBOARDS
049	Amadeus	8	KEYBOARDS
050	FS Celesta	1	KEYBOARDS
051	FS Glocken	1	BELL
052	Music Bells	2	BELL
053	FS Musicbox	1	BELL
054	MuBox Pad	4	BELL
055	Kalimbells	2	BELL
056	Himalaya Ice	2	BELL
057	Dreaming Box	4	BELL
058	Step Ice	4	BELL
059	FS Bell 1	4	BELL
060	FS Bell 2	2	BELL
061	Candy Bell	2	BELL
062	FS Chime	1	BELL
063	Bell Ring	4	BELL
064	Tubular Bell	1	BELL
065	5th Key	2	BELL
066	Vibrations	2	MALLET
067	FS Vibe	1	MALLET
068	FS Marimba	1	MALLET
069	FS Xylo	1	MALLET
070	Ethno Keys	2	MALLET
071	Synergy MLT	2	MALLET
072	Steel Drums	2	MALLET
073	Xylosizer	2	MALLET
074	Toy Box	3	MALLET
075	FullDraw Org	3	ORGAN
076	StakDraw Org	4	ORGAN
077	FullStop Org	3	ORGAN
078	FS Perc Org	4	ORGAN
079	Euro Organ	2	ORGAN
080	Perky Organ	1	ORGAN
081	LoFi PercOrg	1	ORGAN
082	Rochno Org	4	ORGAN
083	R&B Organ 1	2	ORGAN
084	R&B Organ 2	4	ORGAN
085	Zepix Organ	4	ORGAN
086	Peep Durple	5	ORGAN
087	FS Dist Bee	1	ORGAN
088	60's Org 1	2	ORGAN
089	60's Org 2	2	ORGAN
090	FS SoapOpera	1	ORGAN
091	Chapel Organ	2	ORGAN
092	Grand Pipe	3	ORGAN
093	Masked Opera	6	ORGAN
094	Pipe Org/Mod	6	ORGAN
095	Vodkakordion	3	ACCORDION
096	Squeeze Me!	2	ACCORDION
097	Guinguette	3	ACCORDION
098	Harmonderca	2	HARMONICA
099	BluesHrp V/S	1	HARMONICA
100	Green Bullet	2	HARMONICA
101	SoftNyln Gtr	2	AC.GUITAR
102	FS Nylon Gt	2	AC.GUITAR
103	Wet Nyln Gtr	3	AC.GUITAR
104	Pre Mass Hum	4	AC.GUITAR
105	Thick Steel	2	AC.GUITAR
106	Uncle Martin	2	AC.GUITAR
107	Wide Ac Gtr	4	AC.GUITAR
108	Comp Stl Gtr	2	AC.GUITAR
109	Stl Gtr Duo	2	AC.GUITAR
110	FS 12str Gtr	3	AC.GUITAR
111	So good !	2	AC.GUITAR
112	Muted Gtr Pk	2	EL.GUITAR
113	StratSeq'nce	3	EL.GUITAR
114	Fixx it	1	EL.GUITAR
115	Jazz Guitar	1	EL.GUITAR
116	DynoJazz Gtr	1	EL.GUITAR
117	Wet TC	1	EL.GUITAR
118	Clean Gtr	1	EL.GUITAR
119	Crimson Gtr	2	EL.GUITAR
120	Touchee Funk	2	EL.GUITAR
121	Plug n' Gig	1	EL.GUITAR
122	Kinda Kurt	2	EL.GUITAR
123	Nice Oct Gtr	2	EL.GUITAR
124	Strat Gtr	1	EL.GUITAR
125	JC Strat Bdy	2	EL.GUITAR
126	Twin StratsB	2	EL.GUITAR
127	BluNoteStrat	1	EL.GUITAR
128	FS Funk Gtr	2	EL.GUITAR

PR-B (Preset B Group)

No.	Name	Voices	Category
001	GK Dubguitar	4	EL.GUITAR
002	& Scratchee	4	EL.GUITAR
003	Touch Drive	1	DIST.GUITAR
004	FS Chunk	4	DIST.GUITAR
005	Trem-o-Vibe	2	DIST.GUITAR
006	Nice Dist Gt	1	DIST.GUITAR
007	LP Dist	2	DIST.GUITAR
008	Hurting Gtr	3	DIST.GUITAR
009	Searing COSM	2	DIST.GUITAR
010	FS Loud Gtr	3	DIST.GUITAR
011	FS Plugged!!	1	DIST.GUITAR
012	Punker 1	2	DIST.GUITAR
013	FS PowerChd	2	DIST.GUITAR
014	Punker 2	2	DIST.GUITAR
015	Ulti Ac Bass	2	BASS
016	Downright Bs	3	BASS
017	Ultimo Bass	3	BASS
018	Roomy Bass	2	BASS
019	Comp'd JBass	2	BASS
020	FingerMaster	2	BASS
021	CompressBass	2	BASS
022	All Round Bs	2	BASS
023	R&B Bs/Slide	2	BASS
024	Thumb Up!	1	BASS
025	Tubby Mute	2	BASS
026	Chicken Bass	3	BASS
027	Snug Bass	2	BASS
028	Return2Base!	1	BASS
029	A Big Pick	3	BASS
030	Basement	1	BASS
031	FS Fretnot 1	2	BASS
032	FS Fretnot 2	3	BASS
033	RichFretless	2	BASS
034	Got Pop?	1	BASS
035	JBass v/Thmb	2	BASS
036	FS Slap Bass	2	BASS
037	LEO Bass	1	BASS
038	Smooth Bass	2	SYNTH BASS
039	MC-404 Bass	2	SYNTH BASS
040	SH-101 Bs 1	2	SYNTH BASS
041	FS Syn Bass1	3	SYNTH BASS
042	Electro Rubb	2	SYNTH BASS
043	R&B Bass 1	2	SYNTH BASS
044	Enorjizor	2	SYNTH BASS
045	LowFat Bass	3	SYNTH BASS
046	Doze Bass	1	SYNTH BASS
047	FS Flat Bs	3	SYNTH BASS
048	Saw&MG Bass	4	SYNTH BASS
049	R&B Bass 2	1	SYNTH BASS
050	Foundation	2	SYNTH BASS
051	R&B Bass 3	2	SYNTH BASS
052	HipHop Bs 1	2	SYNTH BASS
053	HipHop Bs 2	3	SYNTH BASS
054	Solid Goa	1	SYNTH BASS
055	ResoSyn Bs 1	2	SYNTH BASS
056	SH-1 Bass	2	SYNTH BASS
057	SH-101 Bs 2	2	SYNTH BASS
058	FS Syn Bass2	2	SYNTH BASS
059	Poly Bass	1	SYNTH BASS
060	Punch MG 1	2	SYNTH BASS
061	Gashed Bass	2	SYNTH BASS
062	Q Bass	3	SYNTH BASS
063	FS Rubber Bs	3	SYNTH BASS
064	ResoSyn Bs 2	2	SYNTH BASS
065	Super-G DX	3	SYNTH BASS
066	Punch MG 2	2	SYNTH BASS
067	Kickin' Bass	2	SYNTH BASS
068	OilDrum Bass	3	SYNTH BASS
069	Glide-iator	2	SYNTH BASS
070	MG+SubOsc Bs	2	SYNTH BASS
071	FS Unison Bs	2	SYNTH BASS
072	TexturedBusy	3	SYNTH BASS
073	Detune Bass	2	SYNTH BASS
074	Lo Bass	3	SYNTH BASS
075	SQ Pan	2	SYNTH BASS
076	FS GarageBs1	3	SYNTH BASS
077	FS GarageBs2	2	SYNTH BASS
078	Sub Sonic	4	SYNTH BASS
079	FS Jungle Bs	2	SYNTH BASS
080	R&B Bass 4	1	SYNTH BASS
081	Beepin Bass	2	SYNTH BASS
082	MC-TB Bass	2	SYNTH BASS
083	Acdg Bass	2	SYNTH BASS
084	Loco Voco	2	SYNTH BASS
085	TBasic	1	SYNTH BASS
086	Unplug it!	1	SYNTH BASS
087	V.Form Bass	1	SYNTH BASS
088	S&H Bass	3	SYNTH BASS
089	Destroyed Bs	2	SYNTH BASS
090	FS Acid Bs	2	SYNTH BASS
091	Lo-Fi TB	1	SYNTH BASS
092	Violin	1	STRINGS
093	Viola	3	STRINGS
094	Cello	1	STRINGS
095	Contrabass	4	STRINGS
096	Dolce Qrt	2	STRINGS
097	Chamber Str	3	STRINGS
098	Small Str	7	STRINGS
099	Studio Sect.	4	STRINGS
100	Stringz 101	2	STRINGS
101	Crossed Bows	5	STRINGS
102	FS Strings	8	STRINGS
103	2-way Sect.	2	STRINGS
104	Warm Strings	5	STRINGS
105	Stacc mp Str	4	STRINGS
106	Magnolia Str	3	STRINGS
107	Movie Scene	4	STRINGS
108	Gang Strangs	6	STRINGS
109	Clustered!?!	8	STRINGS
110	DramaSect/sw	4	STRINGS
111	DelicatePizz	4	STRINGS
112	Vls PizzHall	4	STRINGS
113	Orch Pizz	4	STRINGS
114	Wind & Str 1	7	ORCHESTRA
115	Wind & Str 2	5	ORCHESTRA
116	Farewell	6	ORCHESTRA
117	Orch & Horns	5	ORCHESTRA
118	Soft Orch 1	4	ORCHESTRA
119	Soft Orch 2	7	ORCHESTRA
120	Henry IX	4	ORCHESTRA
121	Ending Scene	4	ORCHESTRA
122	Good Old Day	3	WIND
123	FS WindWood	3	WIND
124	Clarence.net	2	WIND
125	FS Oboe	1	WIND
126	Hall Oboe	1	WIND
127	English Horn	1	WIND
128	Bassoon	1	WIND

PR-C (Preset C Group)

No.	Name	Voices	Category
001	FS Flute	2	FLUTE
002	Atk Flute	2	FLUTE
003	Piccolo	2	FLUTE
004	Andes Mood	1	FLUTE
005	Pan Pipes	2	FLUTE
006	Solo Tp	2	AC.BRASS
007	Horn Chops	2	AC.BRASS
008	Flugel Horn	1	AC.BRASS
009	Spit Flugel	3	AC.BRASS
010	Mute Tp /Mod	3	AC.BRASS
011	Harmon Mute	1	AC.BRASS
012	Soft Tb	2	AC.BRASS
013	Solo Tb	1	AC.BRASS
014	Solo Bone	2	AC.BRASS
015	Grande Tuba	2	AC.BRASS
016	FS Tuba	1	AC.BRASS
017	StackTp Sect	4	AC.BRASS
018	Tb Section	5	AC.BRASS
019	TpTb Sect.	2	AC.BRASS
020	FS Brass	7	AC.BRASS
021	DynamicBrass	8	AC.BRASS
022	Tpts & Tmbs	2	AC.BRASS
023	Brass & Sax	5	AC.BRASS
024	BrassPartOut	6	AC.BRASS
025	Simple Tutti	2	AC.BRASS
026	Full sForza	4	AC.BRASS
027	F.Horns Sect	3	AC.BRASS
028	Stereo Brass	4	AC.BRASS
029	Brass Fall	2	AC.BRASS
030	FS Saw Brass	4	SYNTH BRASS
031	Wide SynBrss	2	SYNTH BRASS
032	DetuneSawBrs	2	SYNTH BRASS
033	J-Pop Brass	6	SYNTH BRASS
034	Brash!	4	SYNTH BRASS
035	Jump For KY	3	SYNTH BRASS
036	Neo SuperBrs	4	SYNTH BRASS
037	SoftSynBrass	2	SYNTH BRASS
038	Silky JP	2	SYNTH BRASS
039	Silk Brs Pad	1	SYNTH BRASS
040	FatSynBrass	4	SYNTH BRASS
041	Soprano Sax	1	SAX
042	Solo Sop Sax	1	SAX
043	Alto mp	1	SAX
044	Alto Sax	1	SAX
045	Solo AltoSax	1	SAX
046	AltoLead Sax	1	SAX
047	Tenor Sax	2	SAX
048	Fat TenorSax	3	SAX
049	Baritone Sax	1	SAX
050	Sax Sect. 1	3	SAX
051	Sax Sect. 2	4	SAX
052	Horny Sax	2	SAX
053	R&B TriLead	1	SOFT LEAD
054	PeakArpSine	1	SOFT LEAD
055	Theramax	1	SOFT LEAD
056	FS Sqr Lead	2	SOFT LEAD
057	Dawn Of Pan	4	SOFT LEAD
058	Sqr Diamond	2	SOFT LEAD
059	FS SoftLead	2	SOFT LEAD
060	Mid Saw Ld	4	SOFT LEAD
061	FS ResoLead	3	SOFT LEAD
062	Dig-n-Duke	2	SOFT LEAD
063	Modulated Ld	1	SOFT LEAD
064	Waspy Lead	1	SOFT LEAD
065	Mew Lead	1	SOFT LEAD
066	Violin Lead	2	SOFT LEAD
067	Oscillo Lead	2	SOFT LEAD
068	JP Saw Lead	2	SOFT LEAD
069	MG Sqr Lead	2	SOFT LEAD
070	Tristar	2	SOFT LEAD
071	Mod Lead	4	SOFT LEAD
072	Digital Ld 1	3	SOFT LEAD
073	Chubby Lead	2	SOFT LEAD
074	Sneaky Leady	2	SOFT LEAD
075	SoloNzPeaker	1	SOFT LEAD
076	Clone Zone	2	SOFT LEAD
077	Legato Tkno	1	SOFT LEAD
078	DC Triangle	2	HARD LEAD
079	Sqr-Seqence	1	HARD LEAD
080	Griggley	2	HARD LEAD
081	Pure Square	2	HARD LEAD
082	Legato Saw	2	HARD LEAD
083	Lone Prophat	1	HARD LEAD
084	Porta SoloLd	2	HARD LEAD
085	FS Saw Ld 1	2	HARD LEAD
086	FS Saw Ld 2	2	HARD LEAD
087	Wind Syn Ld	2	HARD LEAD
088	Dual Profs	2	HARD LEAD
089	Gwyo Press	2	HARD LEAD
090	Q DualSaws	2	HARD LEAD
091	Mogulator Ld	2	HARD LEAD
092	DirtyVoltage	2	HARD LEAD
093	Clean?	2	HARD LEAD
094	Distortion	4	HARD LEAD
095	FS Syn Ld	2	HARD LEAD
096	SynLead 0322	2	HARD LEAD
097	Digital Ld 2	3	HARD LEAD
098	X-Sink Delay	3	HARD LEAD
099	Noized Lead	3	HARD LEAD
100	Space Lead	3	HARD LEAD
101	Destroyed Ld	2	HARD LEAD
102	SyncModulate	3	HARD LEAD
103	Sync Tank	2	HARD LEAD
104	Squareheads	2	HARD LEAD
105	Distorted MG	1	HARD LEAD
106	SonicVampire	2	HARD LEAD
107	Blue Meanie	2	HARD LEAD
108	Defcon	2	HARD LEAD
109	Stimulation	4	HARD LEAD
110	Sub Hit	3	HIT&STAB
111	Blue Ice	2	HIT&STAB
112	.16 Orch	2	HIT&STAB
113	In da Cave	2	HIT&STAB
114	BlastfrmPast	2	HIT&STAB
115	Smear Hit 1	2	HIT&STAB
116	Smear Hit 2	2	HIT&STAB
117	Good Old Hit	4	HIT&STAB
118	Mix Hit 1	4	HIT&STAB
119	Philly Hit	1	HIT&STAB
120	Mojo Man	2	HIT&STAB
121	Cheezy Movie	4	HIT&STAB
122	Mix Hit 2	4	HIT&STAB
123	Lo-Fi Hit	4	HIT&STAB
124	2ble Action	2	HIT&STAB
125	Funk Chank	2	HIT&STAB
126	Venus	2	HIT&STAB
127	AluminmWires	3	TECHNO SYNTH
128	Raven Chord	4	TECHNO SYNTH

PR-D (Preset D Group)

No.	Name	Voices	Category
001	HPF Sweep	2	TECHNO SYNTH
002	Moon Synth	2	TECHNO SYNTH
003	DelyResoSaws	2	TECHNO SYNTH
004	R-Trance	7	TECHNO SYNTH
005	Alfa Retro	3	TECHNO SYNTH
006	Nu Hoover	4	TECHNO SYNTH
007	Hoovercraft	4	TECHNO SYNTH
008	Braatz...	6	TECHNO SYNTH
009	AllinOneRiff	7	TECHNO SYNTH
010	YZ Again	7	TECHNO SYNTH
011	Flazzy Lead	8	TECHNO SYNTH
012	Coffee Bee	2	TECHNO SYNTH
013	Sweet House	4	TECHNO SYNTH
014	Alien Bubble	1	TECHNO SYNTH
015	LowFreqHit	3	TECHNO SYNTH
016	Loonacy	6	TECHNO SYNTH
017	Periscope	4	TECHNO SYNTH
018	Electrostars	4	TECHNO SYNTH
019	Going Mad!	4	TECHNO SYNTH
020	LoFiSequence	2	TECHNO SYNTH
021	DreamInColor	3	TECHNO SYNTH
022	MelodicDrums	2	TECHNO SYNTH
023	Techno Snips	2	TECHNO SYNTH
024	TB Wah	1	TECHNO SYNTH
025	Waving TB303	3	TECHNO SYNTH
026	Digi Seq	3	TECHNO SYNTH
027	Seq Saw	1	TECHNO SYNTH
028	Reso Seq Saw	1	TECHNO SYNTH
029	DetuneSeqSaw	2	TECHNO SYNTH
030	Technotribe	2	TECHNO SYNTH
031	MetalVoxBox	4	TECHNO SYNTH
032	Teethy Grit	3	TECHNO SYNTH
033	Repertition	4	TECHNO SYNTH
034	Jucy Saw	3	OTHER SYNTH
035	Cue Tip	1	OTHER SYNTH
036	TB-Sequence	1	OTHER SYNTH
037	Europe Xpres	2	OTHER SYNTH
038	Squeepy	1	OTHER SYNTH
039	Atmorave	4	OTHER SYNTH
040	DOC Stack	2	OTHER SYNTH
041	Sweep Lead	2	OTHER SYNTH
042	Digitaless	2	OTHER SYNTH
043	Flip Pad	3	OTHER SYNTH
044	Short Detune	2	OTHER SYNTH
045	forSequence	2	OTHER SYNTH
046	Memory Pluck	2	OTHER SYNTH
047	Metalic Bass	2	OTHER SYNTH
048	Aqua	2	OTHER SYNTH
049	Big Planet	2	OTHER SYNTH
050	Wet Atax	2	OTHER SYNTH
051	Houze Clavi	2	OTHER SYNTH
052	SuperSawSlow	2	OTHER SYNTH
053	TranceSaws	4	OTHER SYNTH
054	Trancy Synth	2	OTHER SYNTH
055	Saw Stack	2	OTHER SYNTH
056	Frgile Saws	2	OTHER SYNTH
057	Steamed Sawz	2	OTHER SYNTH
058	RAVtune	2	OTHER SYNTH
059	Bustranza	2	OTHER SYNTH
060	AftTch Ji-n	2	OTHER SYNTH
061	JP OctAttack	2	OTHER SYNTH
062	Oct Unison	6	OTHER SYNTH
063	Xtatic	4	OTHER SYNTH
064	Dirty Combo	2	OTHER SYNTH
065	FM's Attack	3	OTHER SYNTH
066	Impression	4	OTHER SYNTH
067	Digi-vox Syn	1	OTHER SYNTH
068	Fairy Factor	6	OTHER SYNTH
069	Tempest	2	OTHER SYNTH
070	X-Racer	2	OTHER SYNTH
071	TB Booster	2	OTHER SYNTH
072	Syn-Orch/Mod	6	OTHER SYNTH
073	Pressyn	2	OTHER SYNTH
074	High Five	2	OTHER SYNTH
075	4DaCommonMan	4	OTHER SYNTH
076	Orgaenia	5	OTHER SYNTH
077	Sleeper	4	OTHER SYNTH
078	Sugar Synth	5	OTHER SYNTH
079	Ice Palace	4	OTHER SYNTH
080	Story Harp	7	OTHER SYNTH
081	LostParadise	5	OTHER SYNTH
082	Magnetic 5th	2	OTHER SYNTH
083	Jazz Doos	4	VOX
084	Beat Vox	1	VOX
085	Scat Beats	1	VOX
086	Choir Aahs 1	4	VOX
087	Choir Aahs 2	4	VOX
088	ChoirOoh/Aft	4	VOX
089	Angels Choir	4	VOX
090	Angelique	4	VOX
091	Gospel Oohs	2	VOX
092	Uhmmm	8	VOX
093	Aah Vox	2	VOX
094	Morning Star	3	VOX
095	Syn Opera	4	VOX
096	BeautifulOne	4	VOX
097	Ooze	2	VOX
098	Aerial Choir	4	VOX
099	3D Vox	3	VOX
100	FS Sqr Pad	4	SOFT PAD
101	FS Hollow	4	SOFT PAD
102	Silk Pad	3	SOFT PAD
103	WarmReso Pad	2	SOFT PAD
104	FS Soft Pad	3	SOFT PAD
105	Soft Breeze	2	SOFT PAD
106	JP Strings 1	3	SOFT PAD
107	JP Strings 2	5	SOFT PAD
108	FS Syn Str	5	SOFT PAD
109	Syn Strings	2	SOFT PAD
110	OB Slow Str	2	SOFT PAD
111	Super SynStr	2	SOFT PAD
112	Strings Pad	2	SOFT PAD
113	R&B SoftPad	2	SOFT PAD
114	Reso Pad	3	SOFT PAD
115	Phat Pad	2	SOFT PAD
116	FS PhaserPad	2	SOFT PAD
117	Mystic Str	5	SOFT PAD
118	Glass Organ	3	SOFT PAD
119	Wind Pad	4	SOFT PAD
120	Combination	4	SOFT PAD
121	HumanKindnes	4	SOFT PAD
122	Atmospherics	2	SOFT PAD
123	Terra Nostra	8	SOFT PAD
124	OB Aaahs	4	SOFT PAD
125	Vulcano Pad	8	SOFT PAD
126	Cloud #9	3	SOFT PAD
127	Lostscapes	2	SOFT PAD
128	Organic Pad	3	SOFT PAD

PR-E (Preset E Group)

No.	Name	Voices	Category
001	Digital Aahs	3	SOFT PAD
002	FreezinNight	5	SOFT PAD
003	FS MovinPad	8	SOFT PAD
004	Seq-Pad 1	8	SOFT PAD
005	Digi-Swell	3	BRIGHT PAD
006	Stringship	4	BRIGHT PAD
007	SaturnHolida	2	BRIGHT PAD
008	India Garden	6	BRIGHT PAD
009	OB Rezo Pad	3	BRIGHT PAD
010	Sonic Surfer	2	BRIGHT PAD
011	2 Point 2	7	BRIGHT PAD
012	2.2 Pad	7	BRIGHT PAD
013	New Year Day	4	BRIGHT PAD
014	Mod Dare	4	BRIGHT PAD
015	Neuro-Drone	7	BRIGHT PAD
016	In The Pass	3	BRIGHT PAD
017	Polar Night	4	BRIGHT PAD
018	Electric Pad	3	BRIGHT PAD
019	MistOver5ths	4	BRIGHT PAD
020	Voyager	4	BRIGHT PAD
021	Cosmic Rays	4	BRIGHT PAD
022	Gritty Pad	1	BRIGHT PAD
023	Distant Sun	4	BRIGHT PAD
024	Filmscape	5	BRIGHT PAD
025	BillionStars	4	BRIGHT PAD
026	Sand Pad	2	BRIGHT PAD
027	Fat Stacks	4	BRIGHT PAD
028	ReverseSweep	2	BRIGHT PAD
029	HugeSoundMod	4	BRIGHT PAD
030	Metal Swell	5	BRIGHT PAD
031	ShapeURMusic	5	PULSATING
032	Synth Force	4	PULSATING
033	Trance Split	2	PULSATING
034	Step Trance	1	PULSATING
035	Chop Synth	2	PULSATING
036	Euro Teuro	6	PULSATING
037	Auto Trance	2	PULSATING
038	Eureggae	1	PULSATING
039	Sorry4theDLY	1	PULSATING
040	Beat Pad	3	PULSATING
041	FS ResoStep	5	PULSATING
042	TMT Seq Pad	4	PULSATING
043	ZipDoggyDoDa	7	PULSATING
044	ForYourBreak	4	PULSATING
045	HPF Slicer	3	PULSATING
046	DarknessSide	6	PULSATING
047	Sliced Choir	6	PULSATING
048	Digi-Doo	2	PULSATING
049	PanningFrmnt	2	PULSATING
050	Dirty Beat	7	PULSATING
051	Hellrazor	3	PULSATING
052	Electrons	1	PULSATING
053	Protons	2	PULSATING
054	FS Alfa Rave	5	PULSATING
055	Brisk Vortex	3	PULSATING
056	FS Throbulax	2	PULSATING
057	FS Lonizer	4	PULSATING
058	FS Strobe	4	PULSATING
059	VirtualHuman	4	PULSATING
060	FS Line	1	PULSATING
061	StepPitShift	2	PULSATING
062	Sever	7	PULSATING
063	Pad Pulses	3	PULSATING
064	Dub Tales	2	PULSATING
065	Seq-Pad 2	8	PULSATING
066	Nice Kalimba	1	PLUCKED
067	Quiet River	4	PLUCKED
068	Teky Drop	4	PLUCKED
069	Pat is away	5	PLUCKED
070	FS Sitar 1	4	PLUCKED
071	FS Sitar 2	5	PLUCKED
072	Sitar on C	6	PLUCKED
073	Sitar Baby	1	PLUCKED
074	EasternDlite	2	PLUCKED
075	Elec Sitar	3	PLUCKED
076	Neo Sitar	2	PLUCKED
077	Bosporus	3	PLUCKED
078	Santur Stack	4	PLUCKED
079	Aerial Harp	2	PLUCKED
080	Harpiness	2	PLUCKED
081	TroubadorEns	4	PLUCKED
082	Jamisen	2	PLUCKED
083	Koto	8	PLUCKED
084	Monsoon	4	PLUCKED
085	Bend Koto	2	PLUCKED
086	LongDistance	1	ETHNIC
087	Ambi Shaku	3	ETHNIC
088	FS PipeDream	4	ETHNIC
089	FS Lochscape	2	ETHNIC
090	FS Far East	4	ETHNIC
091	Banjo	2	FRETTED
092	Breath Slice	5	SYNTH FX
093	Lazer Points	2	SYNTH FX
094	Chaos 2003	4	SYNTH FX
095	SoundOnSound	1	SYNTH FX
096	Low Beat-S	5	SYNTH FX
097	Control Room	4	SYNTH FX
098	FS Try This!	3	SYNTH FX
099	OutOf sortz	5	SYNTH FX
100	Seq	4	SYNTH FX
101	Scatter	7	SYNTH FX
102	WaitnOutside	2	SYNTH FX
103	Ambience	3	SYNTH FX
104	Fantom Noise	4	SYNTH FX
105	Breath Echo	1	SYNTH FX
106	SoundStrange	3	SYNTH FX
107	Cosmic Pulse	5	SYNTH FX
108	Faked Piano	4	SYNTH FX
109	Tubulence	3	SYNTH FX
110	South Pole	2	SYNTH FX
111	FS Crystal	2	SYNTH FX
112	ResoSweep Dn	1	SYNTH FX
113	Zap B3 & C4	1	SYNTH FX
114	PolySweep Nz	4	SYNTH FX
115	New Planetz	4	SYNTH FX
116	Strange Land	6	SYNTH FX
117	Trancer	4	SYNTH FX
118	S&H Voc	2	SYNTH FX
119	12th Planet	2	SYNTH FX
120	Ambidextrous	2	SOUND FX
121	En-co-re	4	SOUND FX
122	Mobile Phone	1	SOUND FX
123	Beat (C4)	4	BEAT&GROOVE
124	StepLFO Ens	4	BEAT&GROOVE
125	Timpani+Low	4	PERCUSSION
126	Timpani Roll	2	PERCUSSION
127	Bass Drum	4	PERCUSSION
128	Techno Craft	3	COMBINATION

PR-F (Preset F Group)

No.	Name	Voices	Category
001	ConcertGrand	2	AC.PIANO
002	Hall Concert	2	AC.PIANO
003	Bright Tune	2	AC.PIANO
004	Mellow Tune	2	AC.PIANO
005	Back E-Grand	2	EL.PIANO
006	EP mkI	3	EL.PIANO
007	Stage EP	4	EL.PIANO
008	MKS20EnsemEP	4	EL.PIANO
009	UltimatGrand	2	AC.PIANO
010	X Pure Grand	2	AC.PIANO
011	Studio Grand	2	AC.PIANO
012	88ConcertPno	2	AC.PIANO
013	DryStudio88	4	AC.PIANO
014	First Choice	2	AC.PIANO
015	Rokkin' pF	2	AC.PIANO
016	Dark Grand	4	AC.PIANO
017	Piano Oz	4	AC.PIANO
018	Grand Hall	5	AC.PIANO
019	X Piano +Str	4	AC.PIANO
020	Arie Piano	4	AC.PIANO
021	Cicada Piano	4	AC.PIANO
022	Clare Voyent	5	AC.PIANO
023	X Piano +Pad	4	AC.PIANO
024	X Piano +Vox	4	AC.PIANO
025	FX Piano	4	AC.PIANO
026	AmbientPiano	4	AC.PIANO
027	Tre EP	5	EL.PIANO
028	Stage Phazer	2	EL.PIANO
029	StageCabinet	2	EL.PIANO
030	AMP EP	5	EL.PIANO
031	VelPanWurly	2	EL.PIANO
032	Mr.AXXE	3	EL.PIANO
033	1983 EP	4	EL.PIANO
034	EP Stack	4	EL.PIANO
035	EP Belle	3	EL.PIANO
036	Chocolate EP	6	EL.PIANO
037	Abstract EP	3	EL.PIANO
038	Ringy EP	2	EL.PIANO
039	Hipchord	4	EL.PIANO
040	Snappy Clav	2	KEYBOARDS
041	Over-D6	3	KEYBOARDS
042	CoupleHarpsi	7	KEYBOARDS
043	HimalayaThaw	4	BELL
044	Ballad Bells	4	BELL
045	Bell Monitor	2	BELL
046	SideBandBell	4	BELL
047	SBF Saw Bell	4	BELL
048	TubyRuesday	2	BELL
049	Music Box 2	2	BELL
050	AirPluck	4	MALLET
051	Airie Vibez	4	MALLET
052	Ringy Vibes	2	MALLET
053	50`SteelDrms	4	MALLET
054	VKHold4Speed	4	ORGAN
055	X Perc Organ	3	ORGAN
056	Rocky Organ	2	ORGAN
057	Purple Organ	5	ORGAN
058	Phono Organ	2	ORGAN
059	Mid Pipe Org	4	ORGAN
060	ParisRomance	4	ACCORDION
061	La Seine	4	ACCORDION
062	VntgAccrdion	3	ACCORDION
063	Oktoberfest	3	ACCORDION
064	NaturalNylon	2	AC.GUITAR
065	Nylon Gtr VS	2	AC.GUITAR
066	Double Nylon	4	AC.GUITAR
067	Mellow Nylon	2	AC.GUITAR
068	FlamencoGt X	3	AC.GUITAR
069	El Toro Gtr	2	AC.GUITAR
070	Dyna Nylon	2	AC.GUITAR
071	NylonGt /HO	1	AC.GUITAR
072	Nylon 4way	1	AC.GUITAR
073	Nyl-Intro	2	AC.GUITAR
074	Nylon Dreams	4	AC.GUITAR
075	With Love	4	AC.GUITAR
076	Amore Story	4	AC.GUITAR
077	Interlude	5	AC.GUITAR
078	Sweet Tears	4	AC.GUITAR
079	WithALtlHelp	5	AC.GUITAR
080	Double Track	2	EL.GUITAR
081	Mystic Gtr	2	EL.GUITAR
082	Cut Thru Wah	2	EL.GUITAR
083	GuitaratiuG	3	EL.GUITAR
084	WahGt Riff	1	EL.GUITAR
085	Larsen /Aft	2	DIST.GUITAR
086	Darmstrat X	5	DIST.GUITAR
087	Rockin' Dly	3	DIST.GUITAR
088	DistGt Mt	2	DIST.GUITAR
089	GTR Heroes	5	DIST.GUITAR
090	X Mute Bass	2	BASS
091	Nu Finger Bs	1	BASS
092	Soulfinger	2	BASS
093	X Finger Bs1	2	BASS
094	StickyOctave	3	BASS
095	Bass & Amp	2	BASS
096	Chorus Bass	2	BASS
097	X 5String Bs	2	BASS
098	6-Pack Stick	2	BASS
099	Nu Pick Bass	2	BASS
100	Comp Picker	2	BASS
101	X Finger Bs2	2	BASS
102	X Picked Bs	2	BASS
103	Mutation	2	BASS
104	X Slap Bass	3	BASS
105	Fuzz Mute	2	BASS
106	Doubled Bass	3	BASS
107	NewAge Frtls	3	BASS
108	Powerline	2	SYNTH BASS
109	Reso SynBass	3	SYNTH BASS
110	Synth Bassic	2	SYNTH BASS
111	Down 4 It	1	SYNTH BASS
112	Glider Bass	1	SYNTH BASS
113	Fundamental	3	SYNTH BASS
114	Artus Bass	3	SYNTH BASS
115	Sweet & Low	2	SYNTH BASS
116	Change It	3	SYNTH BASS
117	the ONE	1	SYNTH BASS
118	ChoruSE ONE	1	SYNTH BASS
119	Eyes Bass	2	SYNTH BASS
120	Secret Bass	3	SYNTH BASS
121	Base BoX	2	SYNTH BASS
122	Nu RnB Bass	1	SYNTH BASS
123	D n' Bass	1	SYNTH BASS
124	DnB Bass 1	2	SYNTH BASS
125	Fat Bottom	4	SYNTH BASS
126	Deep S-E	1	SYNTH BASS
127	Nu Bace	2	SYNTH BASS
128	Mini Like!	2	SYNTH BASS

PR-G (Preset G Group)

No.	Name	Voices	Category
001	Da Chronic	2	SYNTH BASS
002	Virtual RnBs	2	SYNTH BASS
003	Not a Bass	2	SYNTH BASS
004	Nu RnB Saw 1	4	SYNTH BASS
005	Nu RnB Saw 2	4	SYNTH BASS
006	Buzzy Bs	2	SYNTH BASS
007	SBF Saw Bs	3	SYNTH BASS
008	Party Bass	3	SYNTH BASS
009	Tornrubber	2	SYNTH BASS
010	Drop Bass	3	SYNTH BASS
011	Filament	5	SYNTH BASS
012	Dust Bass	4	SYNTH BASS
013	Mr. Nasty	2	SYNTH BASS
014	Bass Drive	3	SYNTH BASS
015	Underneath	4	SYNTH BASS
016	Dirt & Grime	3	SYNTH BASS
017	Down & Dirty	2	SYNTH BASS
018	SubOscar	3	SYNTH BASS
019	Full Strings	4	STRINGS
020	X StrSection	4	STRINGS
021	Oct Strings	6	STRINGS
022	Sahara Str	4	STRINGS
023	Random Mood	6	STRINGS
024	X Hall Str	8	STRINGS
025	Strings Flow	4	STRINGS
026	Biggie Bows	6	STRINGS
027	Staccato VS	4	STRINGS
028	So Staccato	4	STRINGS
029	Pizz'Stac VS	6	STRINGS
030	Mellow Tron	3	STRINGS
031	Moody Tron	3	STRINGS
032	Tronic Str	2	STRINGS
033	Machine Str	2	STRINGS
034	Symphonika	8	ORCHESTRA
035	Pop Orch	7	ORCHESTRA
036	Contemp'Orch	8	ORCHESTRA
037	Orange Skin	4	HIT&STAB
038	Tutti	8	HIT&STAB
039	Brass Ditt	2	HIT&STAB
040	Housechord	3	HIT&STAB
041	Mod Chord	2	HIT&STAB
042	Dance Steam	2	HIT&STAB
043	Disto Stab !	5	HIT&STAB
044	Fairy Flute	3	FLUTE
045	Chiffed Toot	1	FLUTE
046	Hop Flute	2	FLUTE
047	HimalayaPipe	4	FLUTE
048	X Brs Sect 1	6	AC.BRASS
049	Pop Stak Brs	8	AC.BRASS
050	X Brs Sect 2	4	AC.BRASS
051	Pop Brs wAtk	4	AC.BRASS
052	Hybrid Brass	8	AC.BRASS
053	Nu Stab Brs	5	AC.BRASS
054	Heavy Brs 1	3	AC.BRASS
055	Heavy Brs 2	4	AC.BRASS
056	Wonder Brass	6	AC.BRASS
057	Pop Brs Sfz	4	AC.BRASS
058	Pop Brs Stac	2	AC.BRASS
059	Brass Fall /	2	AC.BRASS
060	X-Saw Brass1	2	SYNTH BRASS
061	JP8000 Brass	7	SYNTH BRASS
062	X-Saw Brass2	4	SYNTH BRASS
063	Bend SynBrs	4	SYNTH BRASS
064	Sax Heavy	6	SAX
065	FXM Alto Sax	1	SAX
066	Simply Nasty	4	HARD LEAD
067	Deep Wine	3	HARD LEAD
068	Bon Voyage	3	HARD LEAD
069	Xpress Lead	2	HARD LEAD
070	BodyElectric	3	HARD LEAD
071	Classic Lead	4	HARD LEAD
072	Optik'Synth	2	HARD LEAD
073	Feat Lead	2	HARD LEAD
074	X Sync Mod	2	HARD LEAD
075	SBF Lead	4	HARD LEAD
076	Hard Sync	4	HARD LEAD
077	Rezo Sync	3	HARD LEAD
078	Wire Sync	3	HARD LEAD
079	Distro FXM	3	HARD LEAD
080	Epic Lead	2	HARD LEAD
081	Crumble Syn	2	HARD LEAD
082	SlippingSaws	3	HARD LEAD
083	Bag Lead	3	HARD LEAD
084	Dirty Saw	2	HARD LEAD
085	Wezcoast	2	HARD LEAD
086	X-Saw Lead	2	HARD LEAD
087	ActualAnalog	2	HARD LEAD
088	SBF Reso	4	HARD LEAD
089	SliCed Lead	2	SOFT LEAD
090	Synthi Fizz	2	SOFT LEAD
091	Mini Growl	2	SOFT LEAD
092	Jupiter Lead	1	SOFT LEAD
093	X-Pulse Lead	2	SOFT LEAD
094	Jupi Square	2	SOFT LEAD
095	TriStac Lead	2	SOFT LEAD
096	Modular Lead	3	SOFT LEAD
097	Sinetific	2	SOFT LEAD
098	Dirty D/A	3	SOFT LEAD
099	EuronalSynth	2	SOFT LEAD
100	Xtrem Sine	1	SOFT LEAD
101	Killerbeez	4	TECHNO SYNTH
102	Freeze Synth	5	TECHNO SYNTH
103	JamPacked!	4	TECHNO SYNTH
104	SawStac Chd	3	TECHNO SYNTH
105	Trancepire	1	TECHNO SYNTH
106	Acid Lead	2	TECHNO SYNTH
107	Tranceformer	1	TECHNO SYNTH
108	Anadroid	1	TECHNO SYNTH
109	Shroomy	3	TECHNO SYNTH
110	SBF Nozer	2	TECHNO SYNTH
111	Voxulizer	2	TECHNO SYNTH
112	Wired Rez	3	TECHNO SYNTH
113	Noize R us	2	TECHNO SYNTH
114	Inner Voices	4	TECHNO SYNTH
115	Beep Melodie	4	TECHNO SYNTH
116	Alpha Hoover	1	TECHNO SYNTH
117	Steel Wire	2	TECHNO SYNTH
118	Rav-i-Toid	3	TECHNO SYNTH
119	Rez Therapy	4	TECHNO SYNTH
120	Ivan's	4	TECHNO SYNTH
121	Morpher	8	TECHNO SYNTH
122	StellarTreck	4	PULSATING
123	Tekno Tone	1	PULSATING
124	Generator	2	PULSATING
125	ARP x Race	1	PULSATING
126	DSP Chaos	1	PULSATING
127	Phraserblade	2	PULSATING
128	Dancefloor	4	PULSATING

PR-H (Preset H Group)

No.	Name	Voices	Category
001	Minor Thirds	2	PULSATING
002	Strobe X	5	PULSATING
003	Orbiting	3	PULSATING
004	FX World	2	PULSATING
005	Mr. Fourier	3	PULSATING
006	Nu Trance X	2	PULSATING
007	eXisDance	4	PULSATING
008	Are U ready?	4	PULSATING
009	Minty Fresh	3	PULSATING
010	Spectrums	4	PULSATING
011	Shape of X	5	PULSATING
012	Auto 5thSaws	4	PULSATING
013	Strobot	2	PULSATING
014	Dreamswirl	3	PULSATING
015	Galaxadin	2	PULSATING
016	Welcome2X	1	PULSATING
017	Space & Time	4	PULSATING
018	Cross Talk	1	PULSATING
019	Lava Flows	6	PULSATING
020	Steppin Faze	2	PULSATING
021	Reanimation	2	PULSATING
022	VoX Chopper	2	PULSATING
023	SquareSphere	2	PULSATING
024	Auto Sync	2	PULSATING
025	Vocastic	8	PULSATING
026	Bending Logo	8	SYNTH FX
027	SolarPleXus	2	SYNTH FX
028	Scare	7	SYNTH FX
029	Chaoism	3	SYNTH FX
030	Hillside	1	SYNTH FX
031	Alien Voice	2	SYNTH FX
032	What What?	4	SYNTH FX
033	Beyond Here	3	SYNTH FX
034	Mod Scanner	2	SYNTH FX
035	Gasp	8	SYNTH FX
036	Neverville	6	SYNTH FX
037	Landing Pad	3	SYNTH FX
038	Celebrated	4	SYNTH FX
039	ResoSweep Up	1	SYNTH FX
040	The VorteX	2	SYNTH FX
041	Magic Wave	2	SYNTH FX
042	Shangri-La	5	SYNTH FX
043	CerealKiller	1	SYNTH FX
044	DigimaX	2	OTHER SYNTH
045	Trancy X	4	OTHER SYNTH
046	X Sweep Saws	3	OTHER SYNTH
047	X-Trance	3	OTHER SYNTH
048	JP-8000 Saws	2	OTHER SYNTH
049	X Super Saws	3	OTHER SYNTH
050	Exhale	2	OTHER SYNTH
051	SBF Voices	2	OTHER SYNTH
052	Stadium SBF	1	OTHER SYNTH
053	Master X	4	OTHER SYNTH
054	X-panda	2	OTHER SYNTH
055	TDreamTouch	3	OTHER SYNTH
056	Smooth Synth	3	OTHER SYNTH
057	Stereotype	2	OTHER SYNTH
058	Saw Keystep	2	OTHER SYNTH
059	4mant Cycle	1	OTHER SYNTH
060	Trance Sweep	3	OTHER SYNTH
061	Modular	2	OTHER SYNTH
062	Triple X	2	OTHER SYNTH
063	Angel Pipes	2	OTHER SYNTH
064	Vint Clavier	3	OTHER SYNTH
065	Wired Synth	8	OTHER SYNTH
066	Nu Romance	4	OTHER SYNTH
067	Survivoz	4	BRIGHT PAD
068	Ring Worldz	2	BRIGHT PAD
069	Mashed!? :0)	4	BRIGHT PAD
070	Saturn Siren	5	BRIGHT PAD
071	Side Band X	5	BRIGHT PAD
072	Mashy Scene	4	BRIGHT PAD
073	Spr SideBand	6	BRIGHT PAD
074	Digitvox	2	BRIGHT PAD
075	Oral eXam	4	BRIGHT PAD
076	Timeline	4	BRIGHT PAD
077	Whisper Pad	3	BRIGHT PAD
078	Orchipad	5	BRIGHT PAD
079	Visionary	4	BRIGHT PAD
080	Rave Stringy	4	BRIGHT PAD
081	InfinitePhsr	6	BRIGHT PAD
082	Jupiter 2004	4	BRIGHT PAD
083	Light Phaser	5	BRIGHT PAD
084	Life-on	4	BRIGHT PAD
085	Polar Morn	4	BRIGHT PAD
086	Saturn Rings	4	BRIGHT PAD
087	Ooh La La	5	BRIGHT PAD
088	Flying X	5	BRIGHT PAD
089	Motion Pad	4	SOFT PAD
090	Mash Pad	5	BRIGHT PAD
091	Xtragalactic	4	SOFT PAD
092	Morph Filter	3	SOFT PAD
093	TrnsSweepPad	6	SOFT PAD
094	Follow	2	SOFT PAD
095	Jupiter-X	5	SOFT PAD
096	Riven Pad	5	SOFT PAD
097	Consolament	3	SOFT PAD
098	Spacious Pad	4	SOFT PAD
099	JD Pop Pad	3	SOFT PAD
100	Silhouette	3	SOFT PAD
101	JP-8 Phase	4	SOFT PAD
102	Nu Epic Pad	2	SOFT PAD
103	Forever	5	SOFT PAD
104	Flange Dream	4	SOFT PAD
105	Guild Vox	3	SOFT PAD
106	5th Pad X	5	SOFT PAD
107	Evolution X	2	SOFT PAD
108	Chariots	4	SOFT PAD
109	Trevor's Pad	4	PULSATING
110	Nu Pad	2	PULSATING
111	Fantomas Pad	5	PULSATING
112	Film Cue	4	VOX
113	Choral Sweep	3	VOX
114	Paradise	4	VOX
115	Sad ceremony	8	VOX
116	Lost Voices	4	VOX
117	Talk 2 Me	2	VOX
118	Pearly Harp	4	PLUCKED
119	Nylon Harp	3	PLUCKED
120	Skydiver	2	PLUCKED
121	Unpluck'd	3	PLUCKED
122	Ethno Plucks	3	PLUCKED
123	SaraswatiRvr	3	PLUCKED
124	Drone X	4	PLUCKED
125	Lounge Kit	2	COMBINATION
126	Gospel Trio	3	COMBINATION
127	xcultural	3	COMBINATION
128	When I'm 64	2	COMBINATION

cf.
PR-I (Preset I Group) (p. 282)

GM (GM2 Group)

No.	Name	Voice	LSB	PC
001	Piano 1	4	0	1
002	Piano 1w	4	1	1
003	European Pf	4	2	1
004	Piano 2	4	0	2
005	Piano 2w	4	1	2
006	Piano 3	2	0	3
007	Piano 3w	2	1	3
008	Honky-tonk	2	0	4
009	Honky-tonk 2	2	1	4
010	E.Piano 1	3	0	5
011	St.Soft EP	3	1	5
012	FM+SA EP	2	2	5
013	60's EP	2	3	5
014	E.Piano 2	2	0	6
015	Detuned EP 2	2	1	6
016	St.FM EP	3	2	6
017	EP Legend	2	3	6
018	EP Phase	2	4	6
019	Harpsichord	1	0	7
020	Coupled Hps.	2	1	7
021	Harpsi.w	1	2	7
022	Harpsi.o	2	3	7
023	Clav.	1	0	8
024	Pulse Clav	1	1	8
025	Celesta	1	0	9
026	Glockenspiel	1	0	10
027	Music Box	1	0	11
028	Vibraphone	2	0	12
029	Vibraphone w	2	1	12
030	Marimba	1	0	13
031	Marimba w	1	1	13
032	Xylophone	1	0	14
033	Tubular-bell	1	0	15
034	Church Bell	1	1	15
035	Carillon	1	2	15
036	Santur	1	0	16
037	Organ 1	2	0	17
038	Trem. Organ	2	1	17
039	60's Organ 1	1	2	17
040	70's E.Organ	2	3	17
041	Organ 2	2	0	18
042	Chorus Or.2	2	1	18
043	Perc. Organ	2	2	18
044	Organ 3	3	0	19
045	Church Org.1	1	0	20
046	Church Org.2	2	1	20
047	Church Org.3	2	2	20
048	Reed Organ	2	0	21
049	Puff Organ	1	1	21
050	Accordion Fr	1	0	22
051	Accordion It	2	1	22
052	Harmonica	1	0	23
053	Bandoneon	2	0	24
054	Nylon-str.Gt	1	0	25
055	Ukulele	2	1	25
056	Nylon Gt.o	2	2	25
057	Nylon Gt.2	2	3	25
058	Steel-str.Gt	1	0	26
059	12-str.Gt	2	1	26
060	Mandolin	2	2	26
061	Steel + Body	2	3	26
062	Jazz Gt.	1	0	27
063	Pedal Steel	1	1	27
064	Clean Gt.	1	0	28
065	Chorus Gt.	2	1	28
066	Mid Tone GTR	1	2	28
067	Muted Gt.	1	0	29
068	Funk Pop	1	1	29
069	Funk Gt.2	2	2	29
070	Jazz Man	1	3	29
071	Overdrive Gt	2	0	30
072	Guitar Pinch	2	1	30
073	DistortionGt	2	0	31
074	Feedback Gt.	2	1	31
075	Dist Rtm GTR	2	2	31
076	Gt.Harmonics	1	0	32
077	Gt. Feedback	1	1	32
078	Acoustic Bs.	2	0	33
079	Fingered Bs.	1	0	34
080	Finger Slap	2	1	34
081	Picked Bass	2	0	35
082	Fretless Bs.	2	0	36
083	Slap Bass 1	2	0	37
084	Slap Bass 2	3	0	38
085	Synth Bass 1	2	0	39
086	SynthBass101	1	1	39
087	Acid Bass	1	2	39
088	Clavi Bass	2	3	39
089	Hammer	2	4	39
090	Synth Bass 2	3	0	40
091	Beef FM Bass	2	1	40
092	RubberBass 2	2	2	40
093	Attack Pulse	1	3	40
094	Violin	1	0	41
095	Slow Violin	1	1	41
096	Viola	1	0	42
097	Cello	1	0	43
098	Contrabass	1	0	44
099	Tremolo Str	3	0	45
100	PizzicatoStr	2	0	46
101	Harp	1	0	47
102	Yang Qin	2	1	47
103	Timpani	3	0	48
104	Orche str	2	0	49
105	Orchestra	4	1	49
106	60s Strings	4	2	49
107	Slow Strings	2	0	50
108	Syn.Strings1	3	0	51
109	Syn.Strings3	3	1	51
110	Syn.Strings2	3	0	52
111	Choir Aahs	2	0	53
112	Chorus Aahs	2	1	53
113	Voice Oohs	3	0	54
114	Humming	2	1	54
115	SynVox	3	0	55
116	Analog Voice	1	1	55
117	OrchestraHit	2	0	56
118	Bass Hit	2	1	56
119	6th Hit	2	2	56
120	Euro Hit	2	3	56
121	Trumpet	1	0	57
122	Dark Trumpet	1	1	57
123	Trombone	1	0	58
124	Trombone 2	1	1	58
125	Bright Tb	1	2	58
126	Tuba	1	0	59
127	MutedTrumpet	1	0	60
128	MuteTrumpet2	1	1	60
129	French Horns	2	0	61
130	Fr.Horn 2	1	1	61
131	Brass 1	4	0	62
132	Brass 2	4	1	62
133	Synth Brass1	3	0	63
134	Pro Brass	3	1	63
135	Oct SynBrass	3	2	63
136	Jump Brass	3	3	63
137	Synth Brass2	3	0	64
138	SynBrass sfz	2	1	64
139	Velo Brass 1	2	2	64
140	Soprano Sax	1	0	65
141	Alto Sax	1	0	66
142	Tenor Sax	2	0	67
143	Baritone Sax	2	0	68
144	Oboe	2	0	69
145	English Horn	1	0	70
146	Bassoon	1	0	71
147	Clarinet	1	0	72
148	Piccolo	1	0	73
149	Flute	1	0	74
150	Recorder	1	0	75
151	Pan Flute	1	0	76
152	Bottle Blow	2	0	77
153	Shakuhachi	2	0	78
154	Whistle	1	0	79
155	Ocarina	2	0	80
156	Square Wave	2	0	81
157	MG Square	1	1	81
158	2600 Sine	1	2	81
159	Saw Wave	2	0	82
160	OB2 Saw	1	1	82
161	Doctor Solo	2	2	82
162	Natural Lead	2	3	82
163	SequencedSaw	2	4	82
164	Syn.Calliope	2	0	83
165	Chiffer Lead	2	0	84
166	Charang	2	0	85
167	Wire Lead	2	1	85
168	Solo Vox	2	0	86
169	5th Saw Wave	2	0	87
170	Bass & Lead	2	0	88
171	Delayed Lead	2	1	88
172	Fantasia	2	0	89
173	Warm Pad	1	0	90
174	Sine Pad	2	1	90
175	Polysynth	2	0	91
176	Space Voice	4	0	92
177	Itopia	3	1	92
178	Bowed Glass	3	0	93
179	Metal Pad	3	0	94
180	Halo Pad	3	0	95
181	Sweep Pad	2	0	96
182	Ice Rain	2	0	97
183	Soundtrack	2	0	98
184	Crystal	2	0	99
185	Syn Mallet	1	1	99
186	Atmosphere	2	0	100
187	Brightness	3	0	101
188	Goblin	2	0	102
189	Echo Drops	2	0	103
190	Echo Bell	3	1	103
191	Echo Pan	2	2	103
192	Star Theme	2	0	104
193	Sitar	1	0	105
194	Sitar 2	2	1	105
195	Banjo	1	0	106
196	Shamisen	2	0	107
197	Koto	2	0	108
198	Taisho Koto	2	1	108
199	Kalimba	1	0	109
200	Bagpipe	3	0	110
201	Fiddle	2	0	111
202	Shanai	1	0	112
203	Tinkle Bell	3	0	113
204	Agogo	1	0	114
205	Steel Drums	1	0	115
206	Woodblock	1	0	116
207	Castanets	1	1	116
208	Taiko	3	0	117
209	Concert BD	4	1	117
210	Melo. Tom 1	1	0	118
211	Melo. Tom 2	1	1	118
212	Synth Drum	2	0	119
213	808 Tom	2	1	119
214	Elec Perc	1	1	119
215	Reverse Cym.	1	0	120
216	Gt.FretNoise	1	0	121
217	Gt.Cut Noise	1	1	121
218	String Slap	1	2	121
219	Breath Noise	1	0	122
220	Fl.Key Click	1	1	122
221	Seashore	2	0	123
222	Rain	2	1	123
223	Thunder	1	2	123
224	Wind	2	3	123
225	Stream	2	4	123
226	Bubble	2	5	123
227	Bird	2	0	124
228	Dog	1	1	124
229	Horse-Gallop	1	2	124
230	Bird 2	1	3	124
231	Telephone 1	1	0	125
232	Telephone 2	1	1	125
233	DoorCreaking	1	2	125
234	Door	1	3	125
235	Scratch	2	4	125
236	Wind Chimes	2	5	125
237	Helicopter	2	0	126
238	Car-Engine	1	1	126
239	Car-Stop	1	2	126
240	Car-Pass	1	3	126
241	Car-Crash	2	4	126
242	Siren	1	5	126
243	Train	1	6	126
244	Jetplane	2	7	126
245	Starship	2	8	126
246	Burst Noise	2	9	126
247	Applause	2	0	127
248	Laughing	1	1	127
249	Screaming	1	2	127
250	Punch	1	3	127
251	Heart Beat	1	4	127
252	Footsteps	1	5	127
253	Gun Shot	1	0	128
254	Machine Gun	1	1	128
255	Lasergun	1	2	128
256	Explosion	2	3	128

Voice: number of voice LSB: Bank Select LSB, MSB is all 121 PC: Program Change Number

Rhythm Set List

USER (User Group)

No.	Name
001	StudioX Kit1
002	StudioX Kit2
003	X Euro Kit
004	X Hybrid Kit
005	Neo-Wrld Kit
006	PassionDrums
007	Organic Kit
008	Arpeggiate!
009	StandardKit1
010	StandardKit2
011	StandardKit3
012	Rock Kit 1
013	Rock Kit 2
014	Brush Jz Kit
015	Orch Kit
016	909 808 Kit
017	Limiter Kit
018	HipHop Kit 1
019	HipHop Kit 2
020	HipHop&Latin
021	Machine&Hip
022	R&B Kit
023	HiFi R&B Kit
024	Machine Kit1
025	4 Kit MIX
026	Kit-Euro:POP
027	House Kit
028	Nu Technica
029	Machine Kit2
030	ArtificalKit
031	*Eurodance
032	*Smpl Trig

PRSET (Preset Group)

No.	Name
001	StandardKit1
002	StandardKit2
003	StandardKit3
004	Rock Kit 1
005	Rock Kit 2
006	Brush Jz Kit
007	Orch Kit
008	909 808 Kit
009	Limiter Kit
010	HipHop Kit 1
011	HipHop Kit 2
012	HipHop&Latin
013	Machine&Hip
014	R&B Kit
015	HiFi R&B Kit
016	Machine Kit1
017	4 Kit MIX
018	Kit-Euro:POP
019	House Kit
020	Nu Technica
021	Machine Kit2
022	ArtificalKit
023	Noise Kit
024	Kick Menu
025	Snare Menu 1
026	Snare Menu 2
027	HiHat Menu
028	Rim&Tom Menu
029	Clp&Cym&Hit
030	FX/SFX Menu
031	Percussion
032	Scrh&Voi&Wld
033	StudioX Kit1
034	StudioX Kit2
035	X Euro Kit
036	X Hybrid Kit
037	Neo-Wrld Kit
038	PassionDrums
039	Organic Kit
040	Arpeggiate!

GM2 (GM2 Group)

No.	Name
001	GM2 STANDARD
002	GM2 ROOM
003	GM2 POWER
004	GM2 ELECTRIC
005	GM2 ANALOG
006	GM2 JAZZ
007	GM2 BRUSH
008	GM2 ORCHESTRA
009	GM2 SFX

Prst: / User: / Note No.	001 / 009 / StandardKit1	002 / 010 / StandardKit2	003 / 011 / StandardKit3	004 / 012 / Rock Kit 1	005 / 013 / Rock Kit 2	006 / 014 / Brush Jz Kit	007 / 015 / Orch Kit
28	MaxLow Kick3	Dance Kick	HipHop Kick2	R&B Kick	MaxLow Kick2	TR909 Kick 1	Timpani Roll
29	Rk CmpKick	Dry Kick 1	Frenzy Kick	Rk CmpKick	MaxLow Kick1	TR909 Kick	ConcertBD
30	Gospel Clap	Snr Roll	Low Down Snr	Snr Roll	Pop Snr Rim	Jz Brsh Slap	Shaker 2
31	Boys Kick	Power Kick	TR707 Kick	Bright Kick	Power Kick	Old Kick	Jngl pkt Snr
32	Snr Roll	Amb.Snr 2	Frenzy Snr 1	Snr Roll Lp	Med Snare	Soft Jz Roll	Reverse Cym
33	HipHop Kick2	Power Kick	TR606DstKick	SH32 Kick	Bright Kick	R&B Kick	Snr Roll Lp
34	Reg.PHH mf	Reg.PHH	Reg.PHH	Reg.PHH	Rock CHH 2	Reg.PHH	Jazz Ride
35	Reg.Kick	Reg.Kick	Low Kick 1	Reg.Kick	Rock Kick	Jazz Kick	Timpani Roll
C2 36	Reg.Kick	Reg.Kick	Old Kick	Reg.Kick	Rk CmpKick	Jazz Kick	ConcertBD
37	Reg.Stick	Wild Stick	Lo-Bit Stk 4	Reg.Stick	Rock Stick	Reg.Stick	Hard Stick
38	Reg.Snr 2	Amb.Snr 1	Reg.Snr 1	Reg.Snr 2	Maple Snr	Jazz Rim	Amb.Snr 2
39	Reg.SnrGst	Reg.SnrGst	Amb Clap	Reg.SnrGst	Sft Snr Gst	Jz Brsh Swsh	Gospel Clap
40	Reg.Snr 1	Amb.Snr 2	Med Snare	Reg.Snr 1	Rock Snr	Jazz Snr	Snr Roll
41	Reg.F.Tom	Reg.F.Tom	Jazz Lo Tom	Reg.F.Tom	Sharp L.Tom6	Reg.F.Tom	Timpani
42	Reg.CHH 1	Reg.CHH 1	Reg.CHH 1	Reg.CHH 1	Rock CHH 1	Reg.CHH 1	Timpani
43	Reg.L.Tom	Reg.L.Tom	Jazz Lo Tom	Reg.L.Tom	Sharp L.Tom5	Reg.L.Tom	Timpani
44	Reg.CHH 2	Reg.CHH 2	Reg.CHH 2	Reg.CHH 2	Rock PHH	Reg.CHH 2	Timpani
45	Reg.M.Tom	Reg.M.Tom	Jazz Mid Tom	Reg.M.Tom	Sharp L.Tom4	Reg.M.Tom	Timpani
46	Reg.OHH	Reg.OHH	Reg.OHH	Reg.OHH	Rock OHH	Reg.OHH	Timpani
47	Reg.M.Tom	Reg.M.TomFlm	Jazz Mid Tom	Reg.M.TomFlm	Sharp H.Tom3	Reg.M.Tom	Timpani
C3 48	Reg.H.Tom	Reg.H.Tom	Jazz Hi Tom	Reg.H.Tom	Sharp H.Tom2	Reg.H.Tom	Timpani
49	Crash Cym 1	Crash Cym 1	Crash Cym1	Crash Cym 1	Crash Cym 1	Jazz Crash	Timpani
50	Reg.H.Tom	Reg.H.TomFlm	Jazz Hi Tom	Reg.H.TomFlm	Sharp H.Tom1	Reg.H.Tom	Timpani
51	Rock Ride	Rock Ride	Rock Rd Edge	Rock Ride	Ride Cymbal	Jazz Ride	Timpani
52	China Cymbal	China Cymbal	China Cymbal	China Cymbal	China Cymbal	China Cymbal	Timpani
53	Ride Edge	Splash Cym	Rock Rd Cup	Splash Cym	Ride Bell	Ride Edge	Timpani
54	Tamborine	Tamborine	Tamborine	Tamborine	Tamborine 3	Tamborine	Tamborine 3
55	Crash Cym	Rock Crash 1	Splash Cym	Rock Crash 1	Rock Crash 2	Crash Cym	Concert Cym
56	Cowbell Low	Cowbell Hi	Cowbell	Cowbell Hi	Cowbell Mute	Cowbell Low	Cowbell Mute
57	Crash Cym 2	Crash Cym 1	Rock Crash 2	Crash Cym 1	Splash Cym	Crash Cym	Crash Cym 1
58	Cowbell Hi	Cowbell Low	CR78 Guiro	Cowbell Low	Cowbell	Cowbell Hi	Ride Cymbal
59	Ride Bell	Rock Ride	Jazz Ride	Rock Ride	Rock Rd Cup	Ride Bell	Crash Cym 1
C4 60	Conga Hi Mt	Conga Hi Mt	Bongo Hi	Conga Hi Mt	Conga Hi Mt	Conga Hi Mt	Bongo Hi Op
61	Conga Lo Mt	Conga Lo Mt	Bongo Lo	Conga Lo Mt	Conga Lo Mt	Conga Lo Mt	Bongo Lo Op
62	Conga Lo	Conga Hi Slp	Conga Hi Mt	Conga Hi Slp	Conga Slp Op	Conga Lo Slp	Conga Hi Mt
63	Conga Hi Op	Conga Hi Op	Conga Hi	Conga Hi Op	Conga Hi Op	Conga Hi Op	Conga Hi Op
64	Conga Lo Op	Conga Lo Op	Conga Lo	Conga Lo Op	Conga Lo Op	Conga Lo Op	Conga Lo Op
65	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi
66	Timbale Low	Timbale Low	Timbale Low	Timbale Low	Timbale Low	Timbale Low	Timbale Low
67	Agogo Bell H	Mild Agogo H	Cowbell Hi	Agogo Bell H	Agogo Bell H	Agogo Bell H	Agogo Bell H
68	Agogo Bell L	Mild Agogo L	Cowbell Low	Agogo Bell L	Agogo Bell L	Agogo Bell L	Agogo Bell L
69	Cabasa Up	Cabasa Up	Cabasa	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up
70	Maracas	Maracas	Shaker	Maracas	Maracas	Maracas	Maracas
71	Whistle Shrt	Whistle Shrt	Urban CHH	Whistle Shrt	Whistle Shrt	Jazz Kick	Whistle Shrt
C5 72	Whistle Long	Whistle Long	Scratch 5	Whistle Long	Whistle Long	Jazz Kick	Whistle Long
73	Guiro Short	Guiro Short	Syn Low Atk2	Guiro Short	Guiro Short	Reg.Stick	Guiro Short
74	Guiro Long	Guiro Long	MG Zap 3	Guiro Long	Guiro Long	Jazz Rim	Guiro Long
75	Claves	Claves	Syn Swt Atk1	Claves	Claves	Sft Snr Gst	Claves
76	Wood Block H	Wood Block H	Syn Swt Atk4	Wood Block H	Wood Block H	Jazz Snr	Wood Block H
77	Wood Block L	Wood Block L	Bongo Hi Slp	Wood Block L	Wood Block L	Reg.F.Tom	Wood Block L
78	Cuica Mute	Cuica Mute	Vox Hihat 2	Cuica Mute	Cuica Mute	Reg.CHH 1	Cuica Mute
79	Cuica Open	Cuica Open	Vox Hihat 3	Cuica Open	Cuica Open	Reg.L.Tom	Cuica Open
80	Triangle Mt	Triangle Mt	Triangle 1	Triangle Mt	Triangle Mt	Reg.CHH 2	Triangle Mt
81	Triangle Op	Triangle Op	Triangle 2	Triangle Op	Triangle Op	Reg.M.Tom	Triangle Op
82	Cabasa Cut	Cabasa Cut	Cajon	Cabasa Cut	Cabasa Cut	Reg.OHH	Cabasa Cut
83	Castanet	DigiSpectrum	Cajon 3	DigiSpectrum	Wind Chime	Reg.M.TomFlm	Finger Snap
C6 84	Bongo Hi Mt	Wind Chime	Wind Chime	Wind Chime	Dst Gtr Riff	Reg.H.Tom p	Wind Chime
85	Bongo Hi Slp	Wood Block	SprgDrm Hit	Gtr Cut 1	Gtr Trill	Jazz Cymbal	Slight Bell
86	Bongo Lo Slp	Cajon 2	Crotale	Gtr Cut 2	Gtr Cut 1	Reg.H.TomFlm	Vibraslap
87	Bongo Hi Op	ConcertBD	R8 Click	Gtr Cut 3	Gtr Cut 2	Jazz Ride	Crotale
88	Bongo Lo Op	R&B Kick	Metro Bell	Gtr Cut 4	Gtr Cut 3	China Cymbal	Applause
89	Cajon 1	Dry Kick 2	DR202 Beep	Rock PHH	Gtr Cut 4	Cajon 1	Tubular Bell
90	Cajon 2	Old Kick	Reverse Cym	Rock CHH 2	Dist Mute	Cajon 2	Tubular Bell
91	Cajon 3	Jazz Doos	Xylo Seq.	TablaBayam 1	Dist Chord	Cajon 3	Tubular Bell
92	Udo	Agogo Noise	Vinyl Noise	Rock CHH 1	DistGtr Nz 1	Udo	Tubular Bell
93	Udu Pot Hi	Rock OHH	Mobile Phone	TablaBayam 2	DistGtr Nz 2	Udu Pot Hi	Tubular Bell
94	Udu Pot Slp	JD Anklungs	Group Snap	Rock OHH	DistGtr Nz 3	Udu Pot Slp	Tubular Bell
95	TablaBayam 1	Rock OHH	Laser	TablaBayam 5	JD Switch	TablaBayam 1	Tubular Bell
C7 96	TablaBayam 2	Udo	Siren	Cajon 3	Cajon 3	TablaBayam 2	Tubular Bell
97	TablaBayam 3	Cajon 1	AnalogKick 3	Cajon 2	Cajon 2	TablaBayam 3	Tubular Bell
98	TablaBayam 4	Udu Pot Hi	TR909 Kick 1	Cajon 1	Cajon 1	TablaBayam 4	Tubular Bell
99	TablaBayam 5	Gospel Clap	Reg.Kick	Gospel Clap	Real Clap	TablaBayam 5	Tubular Bell
100	TablaBayam 6	Bright Clap	TR909 Snr 4	Rock Crash 2	Gospel Clap	TablaBayam 6	Tubular Bell
101	Wind Chime	Rock Rd Cup	TR808 Snr 2	Rock Rd Cup	Tibet Cymbal	Wind Chime	Tubular Bell
102	Tibet Cymbal	Cowbell	Artful Snr	Club FinSnap	Tamborine 1	Tibet Cymbal	Church Bell
103	Slight Bell	Crash Cym 2	Cross Snr	TR909 Snr 6	Tamborine 2	Slight Bell	Church Bell

Rhythm Set List

Prst:	008	009	010	011	012	013	014
User:	016	017	018	019	020	021	022
Note No.	**909 808 Kit**	**Limiter Kit**	**HipHop Kit 1**	**HipHop Kit 2**	**HipHop&Latin**	**Machine&Hip**	**R&B Kit**
28	TR909 Kick 2	Skool Kick	PlasticKick2	HipHop Kick1	Syn Low Atk1	TR909 Kick 2	70's Kick
29	TR909 Kick 4	HipHop Kick1	Low Kick 2	HipHop Kick2	Rk CmpKick	TR909 Kick 4	Skool Kick
30	Urbn Sn Roll	Dry Stick 1	Snr Roll Lp	Grit Snr 4	Grit Snr 1	Chemical Snr	Urbn Sn Roll
31	TR909 Kick 5	Low Kick 3	AnalogKick 3	FB Kick	HipHop Kick2	AnalogKick 6	HipHop Kick2
32	TR909 Snr 3	Dry Stick 4	GoodOld Snr5	Boys Snr 2	Jz Brsh Swsh	TR808 Snr 1	Slap Snr 2
33	TR909 Kick 3	Boys Kick	Dist Kick	Low Kick 2	Pin Kick	70's Kick	Old Kick
34	TR909 PHH 2	Swallow PHH	Bang CHH	Lo-Bit PHH	Lo-Bit CHH 1	TR808 PHH	HipHop CHH 2
35	TR909 Kick 6	Rough Kick 3	TR707 Kick	Skool Kick	Back Kick	SH32 Kick	Filtered Hit
C2 36	TR909 Kick 1	R&B Kick	Skool Kick	Low Kick 1	Back Kick	Low Kick 2	Vinyl Kick
37	TR909 Rim	Lo-Bit Stk 4	Lo-Bit Stk 4	Swag Rim	R&B Rim 4	TR808 Rim	Dry Stick 4
38	TR909 Snr 1	Grit Snr 2	Ballad Snr	Back Snr	Pocket Snr	Lite Snare	Dirty Snr 3
39	TR909 Clap 1	Dist Clap	Old Clap	Planet Clap	Old Clap	Short Clap	Frenzy Snr 1
40	TR909 Snr 2	Lo-Bit Snr 3	Lo-Bit Snr 2	R&B Snare 1	Grit Snr 1	CR78 Snare	Boys Snr 2
41	TR909 Tom L	Reg.F.Tom	TR909 Tom L	TR808 Tom L	CR78 Guiro	CR78 Tamb	VoxKickSwepL
42	TR909 CHH 1	Lo-Bit CHH 2	Urban CHH	Bang CHH	LowDwn CHH	Lite CHH	Club CHH 1
43	TR909 Tom L	Reg.F.Tom	Deep Tom L	TR808 Tom L	7th Hit	CR78 Tamb	Reg.F.Tom
44	TR909 PHH 1	Lo-Bit CHH 4	Swallow PHH	TR808 CHH 1	Swallow PHH	Lite OHH	Neck CHH
45	TR909 Tom M	Reg.L.Tom	TR909 Tom M	TR808 Tom M	DistGtr Nz 1	CR78 Beat	VoxKickSwepM
46	TR909 OHH 2	Lo-Bit OHH 2	Lo-Bit OHH 2	Reg.OHH ff	Reg.OHH	Lite OHH	Lo-Bit OHH 2
47	TR909 Tom M	Reg.L.TomFlm	Deep Tom M	TR808 Tom M	Pick Kick	CR78 Beat	Reg.M.Tom
C3 48	TR909 Tom H	Reg.H.Tom	TR909 Tom H	TR808 Tom H	Skool Kick	CR78 Guiro	VoxKickSwepH
49	TR909 Crash	Crash Cym 1	Crash Cym 1	TR909 Crash	Regular Rim	TR606 Cym	Rock Crash 1
50	TR909 Tom H	Reg.H.TomFlm	Deep Tom H	TR808 Tom H	Keen Snr 2	CR78 Guiro	Reg.H.Tom
51	TR909 Ride	Lo-Bit OHH 1	Rock Crash 1	Jazz Ride	Hip Clap	Lo-Bit OHH 1	Splash Cym
52	TR909 Crash	TR606 Cym	Rock Rd Edge	Crash Cym 1	Boys Snr 1	TR606 Cym	Rock Rd Edge
53	TR909 Ride	Jazz Ride	China Cymbal	Ride Cymbal	Funk Clap	Lo-Bit OHH 1	Concert Cym
54	CR78 Tamb	Tamborine 1	Snap	Lo-Bit Snr	Bang CHH	CR78 Tamb	Cheap Clap
55	TR909 Crash	TR606 OHH	Udo	Lo-Bit PHH	Real Clap	TR606 Cym	Snap
56	JD Sm Metal	Vibraslap	Op Pandeiro	HipHop OHH	Street PHH	JD Sm Metal	Low Down Snr
57	TR909 Ride	Neck Kick	Mt Pandeiro	TR808 PHH	Gospel Clap	Lo-Bit OHH 1	Wood Block
58	Syn Swt Atk3	Hip PHH	Guiro Long	Euro Hit	Bang OHH	Syn Swt Atk3	Shaku Noise
59	TR808 Kick	TR808 Kick	Guiro Short2	Low Kick 3	Boys Kick	Low Kick 3	Syn Hrd Atk1
C4 60	TR808 Kick	Neck Kick	Guiro Short1	HipHop Kick1	Low Kick 1	Low Kick 2	Digi Loop 2
61	TR808 Rim	Neck Rim	Shaker 2	R&B Rim 2	Lo-Bit Stk 1	R&B Rim 2	Maracas
62	TR808 Snr 2	Neck Snr	Shaker 1	Jngl pkt Snr	GoodOld Snr1	Keen Snr 2	Cabasa Up
63	TR808 Clap 2	R8 Clap	Bone Shake	Claptail	LoBit SnrFlm	TR808 Clap 2	Cabasa Down
64	TR808 Snr 4	Boys Snr 1	Vibraslap	Dirty Snr 6	Dirty Snr 6	Back Snr	Cabasa Cut
65	TR808 Tom L	TR808 Tom	Vox Kick 1	Scratch 1	Grit Snr 2	TR606 Tom L	Tamborine 1
66	TR808 CHH 1	Shaky CHH	Vox Snare 1	HipHop CHH 1	Lo-Bit CHH 1	HipHop CHH 2	Tamborine 2
67	TR808 Tom L	TR808 Tom	VoxKickSweep	Scratch 1	Dirty Snr 8	TR606 Tom L	Tamborine 1
68	TR808 CHH 2	Shaky CHH	Vox Snare 2	Urban CHH	Lo-Bit CHH 1	TR808 PHH	Triangle Mt
69	TR808 Tom M	TR606 Tom L	Vox Hihat 2	Scratch 4	Dirty Snr 2	TR606 Tom M	Triangle Op
70	TR808 OHH 1	Lo-Bit OHH 2	Vox Hihat 3	Neck OHH	Lo-Bit OHH 3	TR808 OHH 2	Xylo Seq.
71	TR808 Tom M	TR606 Tom L	Vox Hihat 1	Scratch 5	Lo-Bit Snr 2	TR606 Tom M	7th Hit
C5 72	TR808 Tom H	TR606 Tom H	Vox Cymbal	Syn Mtl Atk1	Cajon 3	TR606 Tom H	Mild Hit
73	TR606 Cym	Crash Cym 2	Slight Bell	Crash Cym 1	TablaBayam 6	Lo-Bit OHH 3	Vinyl Noise
74	TR808 Tom H	TR606 Tom H	Tibet Cymbal	Syn Mtl Atk2	Cajon 1	TR606 Tom H	Cajon 1
75	TR606 Cym	Jazz Ride	Wind Chime	TR909 Ride	Shaker 2	Lo-Bit OHH 1	Cajon 2
76	TR606 OHH	Splash Cym	Scratch 2	DistGtr Nz 1	Cajon 2	TR909 Crash	Cajon 3
77	TR606 OHH	Rock Rd Edge	Scratch 1	Rough Kick 3	Timbale Hi	Lite OHH	Conga Hi Mt
78	CR78 Tamb	Tamborine 3	Scratch 10	Reg.Snr1	Conga Lo Mt	CR78 Tamb	Conga Lo Mt
79	CR78 OHH	Guiro Long	Scratch 9	Funk Clap	Timbale Hi	TR909 Crash	Conga Hi Slp
80	Cowbell Mute	Gospel Clap	OrangeHit 2	Real Clap	Conga Lo Op	JD Sm Metal	Conga Lo Slp
81	CR78 OHH	Tibet Cymbal	LoFi Min Hit	Happy Clap	Timbale Low	Lite OHH	Conga Hi Op
82	Syn Swt Atk5	Wind Chime	Thin Beef	Gospel Clap	Conga Slp Op	Syn Swt Atk1	Conga Lo Op
83	TR808 OHH 2	VoxKickSweep	Dist Hit	SBF Hrd Ld 1	Timbale Low	TR808 OHH 2	Conga Slp Op
C6 84	808 Maracas	Vox Kick 2	Narrow Hit 2	MG Zap 4	Cowbell Low	808 Maracas	Conga Efx
85	TR808 Claves	Vox Kick 1	MG Attack	Scratch 9	Triangle Mt	TR808 Claves	Conga Thumb
86	Triangle Mt	Vox Snare 1	MG Zap 9	Crotale	Cowbell Hi	Triangle Mt	Vox Cymbal
87	Triangle Op	Pa!	Pa!	HipHop OHH	Triangle Op	Triangle Op	Chiki!
88	Narrow Hit 2	Vox Snare 2	R8 Shaker 1	OrangeHit 3	Claves	OrangeHit 1	Castanet
89	Easy Gtr	Chiki!	Cabasa Down	DistGtr Nz 3	Castanet	Punch	CR78 Beat
90	MG Zap	Vox Hihat 2	Cabasa Cut	Drive Hit	Club Clap	MG Zap 1	CR78 OHH
91	Scratch 1	Vox Hihat 1	MaxLow Kick1	JD ScrapeGut	Guiro 2	Scratch 1	CR78 CHH
92	MG Zap 1	Vox Hihat 2	MaxLow Kick2	Office Phone	Cabasa Down	MG Zap 1	Lite OHH
93	TR606 Snr 2	Vox Cymbal	Lo-Bit Snr 1	Bird Song	Crash Cym 1	TR606 Snr 2	CR78 Tamb
94	Synth Saw	Vox Hihat 3	LowDwn CHH	Polishing Nz	TR707 Ride	Synth Saw	JD Vox Noise
95	Digi Breath	Heartbeat	Wild Stick	Dentist Nz	TR606 Cym	Digi Breath	CR78 Guiro
C7 96	Polishing Nz	Scratch 2	MC500 Beep 1	Vinyl Noise	CR78 OHH	Polishing Nz	Metro Click
97	TablaBayam 7	Scratch 5	MC500 Beep 2	Lo-Bit CHH 2	Agogo Bell H	Vibraslap	Metro Bell
98	TablaBayam 6	Scratch 1	Gospel Clap	Dirty Snr 7	Agogo Bell L	Door Creak	Wind Chime
99	Cajon 1	Scratch 4	TR606 Cym	Lo-Bit CHH 2	Wood Block H	Filtered Hit	Slight Bell
100	Filtered Hit	Scratch 6	China Cymbal	Dirty Snr 9	Wood Block L	TR909 Ride	Crash Cym 1
101	Door Creak	Mobile Phone	Rock Crash 2	Lo-Bit Snr 1	Tamborine 2	EP Release	TR909 Crash
102	Vint.Phone	Wah Gtr Riff	CR78 OHH	Neck OHH	Whistle	Syn Low Atk1	CR78 OHH
103	AnalogKick	Wah Gtr Riff	Concert Cym	Lo-Bit Snr 2	Conga Thumb	AnalogKick 6	Lite OHH

Prst: / User: / Note No.	015 / 023 / HiFi R&B Kit	016 / 024 / Machine Kit1	017 / 025 / 4 Kit MIX	018 / 026 / Kit-Euro:POP	019 / 027 / House Kit	020 / 028 / Nu Technica	021 / 029 / Machine Kit2
28	MaxLow Kick2	TR909 Kick 2	FB Kick	TR707 Kick	TR909 Kick 3	SH32 Kick	AnalogKick 5
29	FB Kick	TR909 Kick 4	Pick Kick	AnalogKick 1	SH32 Kick	JD EML 5th	AnalogKick 6
30	Rough Kick1	Light Snr	Tiny Snare	Dirty Snr 6	Urbn Sn Roll	AnalogKick 6	Analog Snr 1
31	MaxLow Kick1	Back Kick	TR606DstKick	FB Kick	TR909 Kick 2	Low Kick 2	AnalogKick 1
32	Rough Kick3	DR660 Snr	TR808 Snr 7	Artful Snr	TR909 Snr 6	PlasticKick3	TR808 Snr 4
33	Rk CmpKick	Pick Kick	Hippie Kick	PlasticKick2	TR909 Kick 5	Low Kick 1	FB Kick
34	Swallow Kick	TR808 PHH	TR606 PHH 2	Shaky CHH	TR909 PHH 2	TR707 Kick	TR808 PHH
35	Low Kick 1	AnalogKick 6	SH32 Kick	Swallow Kick	TR909 Kick 4	PlasticKick3	AnalogKick 6
C2 36	Boys Kick	Pick Kick	TR707 Kick	TR909 Kick 6	TR909 Kick 4	SH32 Kick	AnalogKick 6
37	Hard Stick	TR808 Rim	R&B Rim 4	R&B Rim 4	TR909 Rim	TR909 Snr 5	Swag Rim
38	GoodOld Snr3	Jngl pkt Snr	Dirty Snr 6	TR909 Snr 3	TR909 Snr 4	TR909 Snr 2	TR909 Snr 1
39	GoodOld Snr4	Funk Clap	TR808 Clap 2	TR909 Clap 1	TR909 Clap 2	Flange Snr	TR707 Clap
40	GoodOld Snr2	Jngl pkt Snr	Keen Snr 1	TR909 Snr 4	TR909 Snr 5	Disc Clap	Frenzy Snr 1
41	Lo-Bit Snr 1	MG Attack	TablaBayam 7	Sharp L.Tom2	TR909 Tom L	Dance CHH	Deep Tom L
42	Shaky CHH	TR808 CHH 1	Lo-Bit CHH 3	TR909 CHH 1	TR909 CHH 2	TR606 DstCHH	TR606 CHH 1
43	Slap Snr 3	MG Attack	TablaBayam 7	Sharp L.Tom1	TR909 Tom L	TR909 PHH 2	Deep Tom L
44	Club CHH 2	TR808 PHH	TR606 PHH 1	Urban CHH	TR909 PHH 2	TR606 PHH 2	TR606 PHH 1
45	Keen Snr 1	MG Blip	TR909 DstTom	Sharp M.Tom	TR909 Tom M	TR909 OHH 1	Deep Tom M
46	Reg.OHH	TR808 OHH 1	TR606 OHH	TR909 OHH 2	TR909 OHH 2	Lite OHH	TR909 OHH 2
47	Keen Snr 1	MG Blip	Skool Kick	Sharp M.Tom	TR909 Tom M	Rock Rd Cup	Deep Tom M
C3 48	BmbCmp Snr	Beam HiQ	Low Kick 1	Sharp H.Tom	TR909 Tom H	Syn Hrd Atk4	Deep Tom H
49	TR606 Cym	TR606 Cym	R&B Rim 4	TR909 Crash	TR909 Crash	MG Zap 7	Lite OHH
50	GoodOld Snr6	Beam HiQ	TR909 Snr 3	Sharp H.Tom	TR909 Tom H	MG Zap 9	Deep Tom H
51	TR606 Cym	Lo-Bit OHH 1	R8 Clap	TR909 Ride	TR909 Ride	MG Zap 8	TR808 OHH 1
52	White Noise	TR606 Cym	Boys Snr 1	China Cymbal	TR909 Crash	MG Zap 10	TR606 Cym
53	SBF Cym Lp	Lo-Bit OHH 1	Bongo Hi Mt	TR707 Ride	TR909 Ride	HipHop CHH 2	TR909 Ride
54	CR78 Tamb	CR78 Tamb	Reg.OHH	Tamborine 3	CR78 Tamb	Syn Swt Atk3	CR78 Tamb
55	SBF Bell Lp	TR606 Cym	Bongo Hi Mt	Crash Cym 1	MG Zap 4	Street PHH	TR606 Cym
56	JD Sm Metal	JD Sm Metal	TR606 PHH 1	Cowbell	JD Sm Metal	Syn Swt Atk6	JD Sm Metal
57	TR606 Cym	Lo-Bit OHH 1	Bongo Lo Op	Rock Crash 2	MG Zap 5	HipHop OHH	TR909 Ride
58	Syn Swt Atk3	Syn Swt Atk3	Reg.OHH ff	Vibraslap	Syn Swt Atk3	TR909 OHH 2	Syn Swt Atk3
59	TR909 Kick 4	AnalogKick 6	TR909 Kick 3	TR606 Cym	AnalogKick 2	TR909 R.Crsh	AnalogKick 1
C4 60	TR909 Kick 4	Back Kick	Click Kick	Bongo Lo	TR909 Kick 2	TR909 Crash	AnalogKick 4
61	TR808 Rim	R8 Comp Rim	Swag Rim	Bongo Hi	TR909 Rim	Rock Crash 1	Urbn Sn Roll
62	TR808 Snr 2	Pocket Snr	Cross Snr	Conga Hi Mt	TR909 Snr 1	MG Zap 2	Analog Snr 2
63	TR808 Clap 2	TR909 Clap 2	Snap	Conga Hi	TR909 Clap 1	MG Zap 9	Dist Clap
64	TR808 Snr 4	Boys Snr 3	R&B Snare 1	Conga Lo	TR909 Snr 2	Smear Hit 2	Analog Snr 3
65	TR808 Tom 4	TR606 Tom L	Vox Snare 1	Conga Efx	TR909 D.TomL	Low Square	R8 Shaker 1
66	TR808 CHH 1	Neck CHH	Reg.CHH 2	Vox Hihat 2	TR909 CHH 1	JD Wood Crak	TR909 CHH 2
67	TR808 Tom 3	TR606 Tom	Vox Snare 2	Vox Hihat 3	TR909 D.TomL	Piano Atk Nz	R8 Shaker 1
68	TR808 CHH 2	Lo-Bit CHH 1	Hip PHH	CR78 Beat	TR808 CHH 2	JD Wood Crak	TR909 PHH 2
69	TR808 Tom 2	TR606 Tom L	Triangle 1	Cabasa Cut	TR909 D.TomM	DR202 Beep	SBF Bell Lp1
70	TR808 OHH 1	Reg.OHH	Reg.OHH	Shaker 1	TR909 OHH 1	JD Wood Crak	TR909 OHH 2
71	TR808 Tom 1	TR606 Tom M	AnalogKick 5	Street PHH	TR909 D.TomM	Saw Sync B	SBF Bell Lp2
C5 72	Scratch 3	TR606 Tom H	TR808 Kick	Scratch 7	TR909 D.TomH	DR202 Beep	SBF Bell Lp3
73	Scratch 4	TR909 Crash	Scratch 5	Syn Low Atk2	TR909 Crash	OrangeHit 1	TR909 Crash
74	Scratch 5	TR606 Tom H	Grit Snr 3	MG Zap 7	TR909 D.TomH	E.Gtr Harm	SBF Bell Lp4
75	Scratch 6	Lite OHH	Happy Clap	Syn Swt Atk1	TR909 Ride	Filtered Hit	TR909 Ride
76	Short Clap	TR909 Crash	Grit Snr 3	Syn Swt Atk4	TR909 Crash	Euro Hit	TR909 Crash
77	Hand Clap	Lite OHH	Snap	Conga Thumb	TR909 Ride	Jazz Tom L	TR909 Ride
78	R8 Clap	CR78 Tamb	CR78 CHH	Triangle 1	Tamborine 2	TR909 D.TomL	CR78 Tamb
79	Cabasa Cut	TR909 Crash	Snap	Triangle 2	MG Zap 2	Jazz Tom M	MG Zap 2
80	R8 Shaker 2	JD Sm Metal	CR78 OHH	Drive Hit	Cowbell Low	TR909 D.TomM	JD Sm Metal
81	Tamborine 2	Lite OHH	TablaBayam 3	Tao Hit	MG Zap 6	Jazz Tom H	MG Zap 6
82	Shaker 1	Syn Swt Atk1	CR78 OHH	Filtered Hit	Cowbell Hi	TR909 D.TomH	Syn Swt Atk1
83	Bone Shake	TR808 OHH 2	TablaBayam 3	Euro Hit	MG Zap 7	AnalogKick 3	MG Zap 7
C6 84	Tibet Cymbal	808 Maracas	Udu Pot Hi	Wind Chime	Conga Hi Mt	AnalogKick 5	808 Maracas
85	Crotale	TR808 Claves	TR606 Cym	Timpani Roll	Conga Lo Mt	Happy Clap	TR808 Claves
86	Slight Bell	Triangle Mt	Udu Pot Hi	Crotale	Conga Lo Slp	TR808 Snr 7	Triangle Mt
87	Wind Chime	Triangle Op	Lo-Bit OHH 1	R8 Click	Conga Hi Op	TR808 Snr 3	Triangle Op
88	Triangle 1	Narrow Hit 2	Crash Cym 1	Metro Bell	Conga Lo Op	TR909 Snr 6	Euro Hit
89	Mild CanWave	OrangeHit 1	TR707 Ride	MC500 Beep 1	Timbale Hi	TR909 CHH 2	Scratch 4
90	JDStrikePole	MG Zap 4	Maracas	MC500 Beep 2	Timbale Low	TR606 DstCHH	Easy Gtr
91	JD Plunk	Scratch 1	TR707 Ride	Atmosphere	Agogo Bell H	Dance CHH	Crotale
92	Syn Swt Atk2	MG Zap 1	Scratch 6	Polishing Nz	Agogo Bell L	TR606 PHH 2	MG Zap 4
93	GtrStroke Nz	TR606 Snr 2	TR606 Cym	Car Slip	Cabasa Down	TR909 OHH 2	Urbn Sn Roll
94	River	Synth Saw	SBF Nz Lp	Group Snap	Maracas	TR606 OHH	Calc.Saw
95	Bubble	Digi Breath	SBF Cym Lp	Laser	Guiro Short	CR78 OHH	White Noise
C7 96	Train Pass	Polishing Nz	Agogo Noise	ConcertBD Lp	Guiro Long	106SubOsc HD	Polishing Nz
97	Dentist Nz	TablaBayam 7	TablaBayam 7	AnalogKick 3	Claves	TR909 Snr 6	TablaBayam 7
98	Org Leakage	TablaBayam 6	TablaBayam 6	Old Kick	Wood Block L	MG Blip	TablaBayam 6
99	Agogo Noise	Cajon 1	Cajon 1	Reg.Kick	Wood Block H	JD EML 5th	Cajon 1
100	SBF Vox Lp	Filtered Hit	Filtered Hit	TR909 Snr 4	Triangle Mt	TR707 Clap	Filtered Hit
101	SynVox Noise	Door Creak	Laugh	TR808 Snr 2	Triangle Op	Dist Clap	Laugh
102	R8 Click	Vint.Phone	JD Triangle	Artful Snr	Castanet	MG Zap 5	Office Phone
103	Syn Swt Atk1	AnalogKick 6	AnalogKick 6	Cross Snr	Whistle	MG Zap 7	AnalogKick 6

Rhythm Set List

Prst:	022	023	024	025	026	027	028
User:	030	---	---	---	---	---	---
Note No.	**ArtificalKit**	**Noise Kit**	**Kick Menu**	**Snare Menu 1**	**Snare Menu 2**	**HiHat Menu**	**Rim&Tom Menu**
28	TR909 Kick 2	TR909 Kick 2	-----	Reg.Snr1 p	-----	-----	-----
29	AnalogKick 2	TR909 Kick 4	-----	Reg.Snr1 mf	-----	-----	-----
30	TR808 Snr 5	Urbn Sn Roll	-----	Reg.Snr1 f	-----	-----	-----
31	TR909 Kick 3	TR909 Kick 5	-----	Reg.Snr1 ff	-----	Reg.CHH 1 p	-----
32	Boys Snr 3	SBF Nz Lp	-----	Reg.Snr1	-----	Reg.CHH 1 mf	-----
33	FB Kick	TR909 Kick 1	-----	Reg.Snr2 p	-----	Reg.CHH 1 f	-----
34	TR606 Cym	Syn Swt Atk7	-----	Reg.Snr2 f	-----	Reg.CHH 1 ff	-----
35	AnalogKick 3	SBF Vox Kick	Reg.Kick p	Reg.Snr2 ff	Grit Snr 1	Reg.CHH 1	Reg.Stick
C2 36	TVF Trigger	SBF Vox Kick	Reg.Kick f	Reg.Snr2	Grit Snr 2	Reg.CHH 2 mf	Soft Stick
37	TR909 Rim	Laser	Reg.Kick ff	Reg.Snr Flm	Grit Snr 3	Reg.CHH 2 f	Hard Stick
38	TR909 Snr 1	SBF Nz Lp	Reg.Kick	Amb.Snr1 p	Grit Snr 4	Reg.CHH 2 ff	Wild Stick
39	Claptail	Train Pass	Rock Kick p	Amb.Snr1 f	LoBit SnrFlm	Reg.CHH 2	Rock Stick
40	TR909 Snr 3	SBF Nz Lp	Rock Kick mf	Amb.Snr1	Lo-Bit Snr 1	Rock CHH1 mf	Lo-Bit Stk 1
41	TR909 Tom L2	Syn Swt AtkL	Rock Kick	Amb.Snr2 p	Lo-Bit Snr 2	Rock CHH1 f	Lo-Bit Stk 2
42	TR909 CHH 1	Syn Swt Atk7	Jazz Kick p	Amb.Snr2 f	Lo-Bit Snr 3	Rock CHH1	Lo-Bit Stk 3
43	TR909 Tom L1	Syn Swt AtkL	Jazz Kick mf	Piccolo Snr	BmbCmp Snr	Rock CHH2 mf	Lo-Bit Stk 4
44	TR909 PHH 1	Syn Mtl Atk2	Jazz Kick f	Maple Snr	MrchCmp Snr	Rock CHH2 f	Dry Stick 1
45	TR909 Tom M2	Syn Swt AtkM	Jazz Kick	Natural Snr1	Frenzy Snr 1	Rock CHH2	Dry Stick 2
46	TR909 OHH 2	SBF Nz Lp	Dry Kick 1	Natural Snr2	Frenzy Snr 2	Rock PHH	Dry Stick 3
47	TR909 Tom M1	Syn Swt AtkM	Tight Kick 1	Dry Snr p	Slap Snr 1	Lo-Bit CHH 1	Click Snr p
C3 48	TR909 Tom H2	Syn Swt AtkH	Tight Kick 2	Dry Snr f	Keen Snr 1	Lo-Bit CHH 2	Click Snr f
49	TR909 Crash	Digi Loop 1	Old Kick	Ballad Snr	Reggae Snr	Lo-Bit CHH 3	Click Snr ff
50	TR909 Tom H1	Syn Swt AtkH	Jz Dry Kick	Light Snr p	DR660 Snr	Lo-Bit CHH 4	Dry Stick 4
51	TR909 Ride	Calc.Saw	Bright Kick	Light Snr f	Pop Snr p	Lo-Bit CHH 5	Dry Stick 5
52	White Noise	Crotale	Dry Kick 2	Light Snr ff	Pop Snr f	Modern CHH	R8 Comp Rim
53	CR78 Beat	Laser	Dry Kick 3	Light SnrRim	Pop Snr Rim	HipHop CHH 1	R&B Rim 1
54	Tamborine 3	MG Zap 11	Power Kick	Rock Snr p	Pop Snr	Urban CHH	R&B Rim 2
55	Atmosphere	Laser	R&B Kick	Rock Snr mf	Med Snare	Bang CHH	R&B Rim 3
56	Cowbell Mute	MG Zap 4	Rk CmpKick	Rock Snr f	Jngl pkt Snr	LowDwn CHH	Neck Rim
57	Digi Loop 2	Digi Loop 1	MaxLow Kick1	Rock Snr	Pocket Snr	Disc CHH	Swag Rim
58	Cowbell	MG Zap 6	MaxLow Kick2	Rock Rim p	Flange Snr	Club CHH 1	Step Rim
59	Reverse Cym	Syn Low AtkL	MaxLow Kick3	Rock Rim mf	Slap Snr 2	HipHop CHH 2	R&B Rim 4
C4 60	AnalogKick 5	Syn Low AtkH	Dist Kick	Rock Rim f	Analog Snr 1	TR909 CHH 1	Street Rim
61	Metal Vox W1	MG Attack	FB Kick	Rock Rim	Analog Snr 2	TR909 CHH 2	Regular Rim
62	Metal Vox W2	Syn Hrd Atk4	Rough Kick1	Reg.SnrGst	Analog Snr 3	Shaky CHH	TR909 Rim
63	Metal Vox W3	Train Pass	Rough Kick2	Rock Snr Gst	Jam Snr	Club CHH 2	TR808 Rim
64	White Noise1	Syn Mtl Atk1	Rough Kick3	Sft Snr Gst	Back Snr	TR808 CHH 1	Reg.F.Tom p
65	White Noise2	Syn Swt AtkL	Click Kick	Jazz Snr p	Keen Snr 2	TR808 CHH 2	Reg.F.Tom f
66	TR606 Cym	Syn Swt Atk7	Pick Kick	Jazz Snr mf	Boys Snr 1	TR606 CHH 1	Reg.F.Tom
67	MG Blip	Syn Swt AtkL	Back Kick	Jazz Snr f	Slap Snr 3	TR606 CHH 2	Reg.L.Tom p
68	MG Blip Rev.	Syn Mtl Atk2	Vinyl Kick	Jazz Snr ff	Neck Snr	TR606 DstCHH	Reg.L.Tom f
69	Polishing Nz	Syn Swt AtkM	Low Kick 1	Jazz Snr	Artful Snr	Lite CHH	Reg.L.Tom
70	Ice Crash	SBF Nz Lp	Boys Kick	Jazz Rim p	Pin Snr	CR78 CHH	Reg.M.Tom p
71	Metal Vox L2	Syn Swt AtkM	Hippie Kick	Jazz Rim mf	Chemical Snr	DR55 CHH	Reg.M.Tom f
C5 72	Thin Beef	Syn Swt AtkH	Frenzy Kick	Jazz Rim f	Sizzle Snr	Neck CHH	Reg.M.Tom
73	7th Hit	Digi Loop 1	PlasticKick1	Jazz Rim ff	Tiny Snare	Dance CHH	Reg.H.Tom p
74	Alpha Rave	Syn Swt AtkH	Swallow Kick	Jazz Rim	R&B Snare 1	Reg.PHH mf	Reg.H.Tom f
75	DistTB Sqr	Calc.Saw	Neck Kick	Jz Brsh Slap	R&B Snare 2	Reg.PHH f	Reg.H.Tom
76	Finger Snap	Crotale	70's Kick	Jz Brsh Swsh	Cross Snr	Reg.PHH	Reg.L.TomFlm
77	Conga Slp Op	Laser	Skool Kick	Swish&Turn p	Grave Snr	Street PHH	Reg.M.TomFlm
78	Conga Lo Op	MG Zap 11	Dance Kick	Swish&Turn f	Boys Snr 2	Swallow PHH	Reg.H.TomFlm
79	Conga Hi Op	Laser	HipHop Kick1	Swish&Turn	Boys Snr 3	Hip PHH	Jazz Lo Tom
80	Triangle Mt	MG Zap 4	HipHop Kick2	Snr Roll	Low Down Snr	TR909 PHH 1	Jazz Mid Tom
81	Triangle Op	Crotale	Pin Kick	Snr Roll Lp	TR909 Snr 1	TR909 PHH 2	Jazz Hi Tom
82	Cabasa Cut	MG Zap 6	Low Kick 2	Soft Jz Roll	TR909 Snr 2	TR808 PHH	Jazz Lo Flm
83	R8 Shaker 1	Syn Low Atk2	Low Kick 3	BrushRoll Lp	TR909 Snr 3	TR606 PHH 1	Jazz Mid Flm
C6 84	AnalogKick 1	808 Maracas	AnalogKick 1	GoodOld Snr1	TR909 Snr 4	TR606 PHH 2	Jazz Hi Flm
85	PlasticKick2	TR808 Claves	PlasticKick2	GoodOld Snr2	TR909 Snr 5	Lo-Bit PHH	Sharp Lo Tom
86	PlasticKick3	Triangle Mt	PlasticKick3	GoodOld Snr3	TR909 Snr 6	Lo-Bit OHH 1	Sharp Hi Tom
87	TR909 Kick 1	Triangle Op	TR909 Kick 1	GoodOld Snr4	TR808 Snr 1	Rock OHH	Dry Lo Tom
88	AnalogKick 4	Udo	TR909 Kick 2	GoodOld Snr5	TR808 Snr 2	Reg.OHH mf	Dry Hi Tom
89	AnalogKick 6	Conga Thumb	AnalogKick 2	GoodOld Snr6	TR808 Snr 3	Reg.OHH f	TR909 Tom
90	TR909 Snr 2	Easy Gtr A	TR909 Kick 3	Dirty Snr 1	TR808 Snr 4	Reg.OHH ff	TR909 DstTom
91	TR909 Snr 4	Digi Loop 1	AnalogKick 3	Dirty Snr 2	Lite Snare	Reg.OHH	TR808 Tom
92	TR909 Snr 5	MG Zap 4	AnalogKick 4	Dirty Snr 3	TR808 Snr 5	Lo-Bit OHH 2	TR606 Tom
93	TR909 Snr 6	Urbn Sn Roll	AnalogKick 5	Dirty Snr 4	TR808 Snr 6	Lo-Bit OHH 3	Deep Tom
94	TR808 Snr 1	Calc.Saw	AnalogKick 6	Dirty Snr 5	TR808 Snr 7	Neck OHH	-----
95	TR808 Snr 2	White Noise	TR606DstKick	Dirty Snr 6	TR606 Snr 1	Bang OHH	-----
C7 96	TR808 CHH 1	Polishing Nz	TR808 Kick	Dirty Snr 7	TR606 Snr 2	HipHop OHH	-----
97	TR808 OHH 1	TablaBayam 7	TR909 Kick 4	Dirty Snr 8	CR78 Snare	TR909 OHH 1	-----
98	TR909 CHH 2	Scream	TR909 Kick 5	Dirty Snr 9	Urbn Sn Roll	TR909 OHH 2	-----
99	TR909 OHH 2	Cajon 1	SH32 Kick	Dirty Snr 10	Jngl SnrRoll	TR808 OHH 1	-----
100	Lite CHH	Filtered Hit	TR707 Kick	-----	-----	TR808 OHH 2	-----
101	Lite OHH	Laugh	TR909 Kick 6	-----	-----	TR606 OHH	-----
102	TR606 Cym	ConcertBD Lp	Roll Kick	-----	-----	Lite OHH	-----
103	China Cymbal	Timpani Lp	-----	-----	-----	CR78 OHH	-----

Prst:	029	030	031	032	033	034	035
User:	---	---	---	---	001	002	003
Note No.	Clp&Cym&Hit	FX/SFX Menu	Percussion	Scrh&Voi&Wld	StudioX Kit1	StudioX Kit2	X Euro Kit
28	-----	-----	-----	-----	Dry Kick 3	Dry Kick 3	TR909 Kick 1
29	-----	-----	-----	-----	Hush Kick2	Hush Kick2	TR909 Kick
30	-----	-----	-----	-----	Br.Snr RS	WoodSnr Gst	Jz Brsh Slap
31	-----	-----	-----	-----	Wide Kick2	Wide Kick2	Old Kick
32	-----	-----	-----	-----	WoodSnr	IronSnr	TitanSnr
33	-----	-----	-----	-----	Wide Kick1	Wide Kick1	R&B Kick
34	-----	-----	-----	-----	Reg.PHH	Reg.PHH	Reg.PHH
35	Hand Clap	MG Zap 1	Finger Snap	Scratch 1	Warm Kick	Reg.Kick	Wide Kick2
C2 36	Club Clap	MG Zap 2	Club FinSnap	Scratch 2	Hush Kick	Hush Kick	Hush Kick
37	Short Clap	MG Zap 3	Single Snap	Scratch 3	WoodSideStk	Br.SideStk	Br.SideStk
38	Real Clap	MG Zap 4	Snap	Scratch 4	TitanSnr	Br.Snr	WoodSnr
39	Bright Clap	MG Zap 5	Group Snap	Scratch 5	T.Snr Ghst	IronSnrGst	Hand Clap
40	R8 Clap	MG Zap 6	Cowbell	Scratch 6	T.Snr RS	Br.Snr	TitanSnr
41	Gospel Clap	MG Zap 7	Cowbell Mute	Scratch 7	Reg.F.Tom	Reg.F.Tom	Reg.F.Tom
42	Amb Clap	MG Zap 8	Wood Block	Scratch 8	Reg.CHH 1	Reg.CHH 1	Reg.CHH 1
43	Hip Clap	MG Zap 9	Claves	Scratch 9	Reg.L.Tom	Reg.L.Tom	Reg.L.Tom
44	Funk Clap	MG Zap 10	TR808 Claves	Scratch 10	Reg.CHH 2	Reg.CHH 2	Reg.CHH 2
45	Group Clap	MG Zap 11	CR78 Beat	Vox Kick 1	Reg.M.Tom	Reg.M.Tom	Reg.M.Tom
46	Claptail	MG Blip	Castanet	Vox Kick 2	Reg.OHH	Reg.OHH	Reg.OHH
47	Planet Clap	Beam HiQ	Whistle	VoxKickSweep	Reg.M.TomFlm	Reg.M.TomFlm	Reg.M.Tom
C3 48	Royal Clap	MG Attack	Bongo Hi Mt	Vox Snare 1	Reg.H.Tom	Reg.H.Tom	Reg.H.Tom
49	Happy Clap	Syn Low Atk1	Bongo Hi Slp	Vox Snare 2	Crash Cym 1	Crash Cym 1	Jazz Crash
50	TR808 Clap 1	Syn Low Atk2	Bongo Lo Slp	Vox Hihat 1	Reg.H.TomFlm	Reg.H.TomFlm	Reg.H.Tom
51	Disc Clap	Syn Hrd Atk1	Bongo Hi Op	Vox Hihat 2	Rock Ride	Rock Ride	Jazz Ride
52	Dist Clap	Syn Hrd Atk2	Bongo Lo Op	Vox Hihat 3	China Cymbal	China Cymbal	Concert Cym
53	Old Clap	Syn Hrd Atk3	Conga Hi Mt	Vox Cymbal	Splash Cym	Splash Cym	Ride Edge
54	TR909 Clap 1	Syn Hrd Atk4	Conga Lo Mt	Pa!	Tamborine	Tamborine	Tamborine
55	TR909 Clap 2	Syn Mtl Atk1	Conga Hi Slp	Chiki!	Rock Crash 1	Rock Crash 1	Shaker 2
56	TR808 Clap 2	Syn Mtl Atk2	Conga Lo Slp	Aah Formant	Cowbell Hi	Cowbell Hi	Cowbell Mute
57	TR707 Clap	Syn Swt Atk1	Conga Hi Op	Eeh Formant	Crash Cym 1	Crash Cym 1	Cowbell Mute
58	Cheap Clap	Syn Swt Atk2	Conga Lo Op	Iih Formant	Cowbell Low	Cowbell Low	Cowbell Hi
59	Crash Cym1 p	Syn Swt Atk3	Conga Slp Op	Ooh Formant	Rock Ride	Rock Ride	Vox Cymbal
C4 60	Crash Cym1 f	Syn Swt Atk4	Conga Efx	Uuh Formant	Conga Hi Mt	Conga Hi Mt	Conga Hi Mt
61	Crash Cym 1	Syn Swt Atk5	Conga Thumb	Metal Vox W1	Conga Lo Mt	Conga Lo Mt	Conga Lo Mt
62	Crash Cym 2	Syn Swt Atk6	Timbale 1	Metal Vox W2	Conga Hi Slp	Conga Hi Slp	Conga Lo Slp
63	Rock Crash 1	Syn Swt Atk7	Timbale 2	Metal Vox W3	Conga Hi Op	Conga Hi Op	Conga Hi Op
64	Rock Crash 2	R8 Click	Cabasa Up	JD Gamelan	Conga Lo Op	Conga Lo Op	Conga Lo Op
65	Splash Cym	MC500 Beep 1	Cabasa Down	JD Gamelan	Timbale Hi	Timbale Hi	Timbale Hi
66	Jazz Crash	MC500 Beep 2	Cabasa Cut	JD Gamelan	Timbale Low	Timbale Low	Timbale Low
67	TR909 Crash	DR202 Beep	Maracas	JD Gamelan	Mild Agogo H	Mild Agogo H	Agogo Bell H
68	TR606 Cym	JD Switch	808 Maracas	JD Gamelan	Mild Agogo L	Mild Agogo L	Agogo Bell L
69	Ride Cymbal	Cutting Nz	R8 Shaker 1	JD Gamelan	Cabasa Up	Cabasa Up	Cabasa Up
70	Ride Bell	Vinyl Noise	R8 Shaker 2	JD Gamelan	Maracas	Maracas	Maracas
71	Rock Rd Cup	Applause	Shaker 1	JD Gamelan	Whistle Shrt	Whistle Shrt	Dry Kick 3
C5 72	Rock Rd Edge	River	Shaker 2	JD Gamelan	Whistle Long	Whistle Long	Dry Kick 2
73	Jazz Ride p	Thunder	Bone Shake	JD Gamelan	Guiro Short	Guiro Short	WoodSideStk
74	Jazz Ride mf	Monsoon	CR78 Guiro	JD Gamelan	Guiro Long	Guiro Long	Reg.Snr2
75	TR909 Ride	Stream	Guiro 1	JD Gamelan	Claves	Claves	Lo-Bit Snr 2
76	TR707 Ride	Bubble	Guiro 2	TablaBayam 1	Wood Block H	Wood Block H	Dirty Snr 6
77	China Cymbal	Bird Song	Guiro Long	TablaBayam 2	Wood Block L	Wood Block L	Reg.F.Tom
78	Concert Cym	Dog Bark	TR727Quijada	TablaBayam 3	Cuica Mute	Cuica Mute	Reg.CHH 1
79	ClassicHseHt	Gallop	Vibraslap	TablaBayam 4	Cuica Open	Cuica Open	Reg.L.Tom
80	OrangeHit 1	Vint.Phone	Tamborine 1	TablaBayam 5	Triangle Mt	Triangle Mt	Reg.CHH 2
81	OrangeHit 2	Office Phone	Tamborine 2	TablaBayam 6	Triangle Op	Triangle Op	Reg.M.Tom
82	OrangeHit 3	Mobile Phone	Tamborine 3	TablaBayam 7	Cabasa Cut	Cabasa Cut	Reg.OHH
83	7th Hit	Door Creak	CR78 Tamb	Cajon 1	DigiSpectrum	DigiSpectrum	Reg.M.TomFlm
C6 84	Brassy Hit	Door Slam	Timpani p	Cajon 2	Wind Chime	Wind Chime	Reg.H.Tom
85	Drive Hit	Car Engine	Timpani f	Cajon 3	WoodSnr Op	WoodSnr Op	Jazz Cymbal
86	Filtered Hit	Car Slip	Timpani Roll	Udo	WoodSnr RS	WoodSnr RS	Reg.H.TomFlm
87	Mild Hit	Car Pass	Timpani Lp	Udu Pot Hi	Br.Snr Gst	Br.Snr Gst	Tibet Cymbal
88	Narrow Hit 1	Crash Seq.	ConcertBD p	Udu Pot Slp	Br.Snr	Br.Snr	Crotale
89	Narrow Hit 2	Gun Shot	ConcertBD f	SprgDrm Hit	Dry Kick 3	Dry Kick 2	Slight Bell
90	Euro Hit	Siren	ConcertBD ff	Op Pandeiro	Jazz Kick	Old Kick	Wind Chime
91	Dist Hit	Train Pass	ConcertBD Lp	Mt Pandeiro	Dry Kick 3	Tight Kick 2	Low White Nz
92	Thin Beef	Airplane	ConcertBD	Cuica	Reg.SnrFlm	Reg.SnrFlm	ConcertBD Lp
93	Tao Hit	Laugh	Triangle1 Mt	JD Anklungs	Power Kick	Tight Kick 1	ConcertBD
94	Smear Hit 1	Scream	Triangle1 Op	-----	Med Snare	Med Snare	VoxKickSweep
95	Philly Hit	Punch	Triangle2 Mt	-----	Vinyl Kick	Dry Kick 1	MaxLow Kick2
C7 96	Smear Hit 2	Heartbeat	Triangle2 Op	-----	TR707 Kick	70's Kick	Vox Kick 1
97	LoFi Min Hit	Footsteps	Tibet Cymbal	-----	Cajon 1	Cajon 1	Vox Snare 1
98	Orch. Hit	Machine Gun	Slight Bell	-----	Udu Pot Hi	Udu Pot Hi	VoxKickSweep
99	Punch Hit	Laser	Wind Chime	-----	Gospel Clap	Gospel Clap	Hip Clap
100	-----	Thunder Lp	Crotale	-----	Bright Clap	Bright Clap	Vox Snare 2
101	-----	Metro Bell	Agogo Bell H	-----	Rock Rd Cup	Rock Rd Cup	Vox Hihat 1
102	-----	Metro Click	Agogo Bell L	-----	Cowbell	Cowbell	Vox Hihat 2
103	-----	-----	-----	-----	Crash Cym 2	Crash Cym 2	R8 Click

Rhythm Set List

Prst:	036	037	038	039	040	---	---
User:	004	005	006	007	008	031	032
Note No.	X Hybrid Kit	Neo-Wrld Kit	PassionDrums	Organic Kit	Arpeggiate!	*Eurodance	*Smpl Trig
28	Dist Kick	Dist Kick	SH32 Kick	MaxLow Kick3	MaxLow Kick3	-----	-----
29	R&B Kick	R&B Kick	JD EML 5th	Rk CmpKick	Rk CmpKick	-----	-----
30	R&B Rim 2	R&B Rim 2	AnalogKick 6	Gospel Clap	Gospel Clap	-----	-----
31	TR808 Kick	TR808 Kick	Low Kick 2	Boys Kick	Boys Kick	-----	-----
32	R&B Rim 1	R&B Rim 1	Low Kick 3	Snr Roll	Snr Roll	-----	-----
33	TR808 Kick	TR808 Kick	Back Kick	HipHop Kick2	HipHop Kick2	-----	-----
34	TR606 PHH 2	Hip PHH	Car Pass	Reg.PHH	Reg.PHH	-----	-----
35	AnalogKick 1	Rough Kick3	PlasticKick3	Reg.Kick	Reg.Kick	-----	-----
C2 36	Hush Kick	Hush Kick	TR909 Kick 4	Heartbeat	Frenzy Kick	Synth Kick	Bs Phr 01/16
37	WoodSideStk	WoodSideStk	R&B Rim 2	Lo-Bit Stk 1	Vinyl Kick	Open HiHat	Bs Phr 02/16
38	Grit Snr 2	Grit Snr 2	TR909 Snr 5	Pin Snr	Boys Kick	Lo-Bit Stk 2	Bs Phr 03/16
39	Royal Clap	Royal Clap	Back Snr	Urbn Sn Roll	Reg.Kick	Impact Perc	Bs Phr 04/16
40	Grit Snr 2	Grit Snr 2	Boys Snr 2	TitanSnr	Reg.Kick	DeepWah EP	Bs Phr 05/16
41	MG Blip	TablaBayam 1	Reg.L.Tom	MG Noise Fx	Low Kick 2	Brass Hit	Bs Phr 06/16
42	CR78 CHH	Shaky CHH	TR606 CHH 2	White Noise	TR909 Kick 3	Sweep Up	Bs Phr 07/16
43	Beam HiQ	TablaBayam 4	Reg.M.Tom	Scratch 7	Conga Hi Mt	Sync Sweep	Bs Phr 08/16
44	CR78 CHH	Shaky CHH	Lo-Bit PHH	TR606 PHH 2	Jz Slap Bass	Rhythm Loop	Bs Phr 09/16
45	MG Zap 5	Cajon 3	Reg.F.Tom	LowDwn CHH	Gtr Cut 3	Synth Bs Lp	Bs Phr 10/16
46	CR78 OHH	Lo-Bit OHH 2	Lite OHH	CR78 OHH	Scratch 1	Synth Riff	Bs Phr 11/16
47	MG Zap 6	Cajon 1	Reg.M.Tom	DR202 Beep	Scratch 7	Seq Phrase 1	Bs Phr 12/16
C3 48	MG Zap 6	Cajon 1	ConcertBD	MC500 Beep 1	Syn Swt Atk1	Seq Phrase 2	Bs Phr 13/16
49	TR909 Crash	Tibet Cymbal	Crash Cym 2	Group Snap	TablaBayam 1	Seq Phrase 3	Bs Phr 14/16
50	MG Zap 2	Cajon 2	Reg.H.Tom	Skool Kick	Udo	Seq Phrase 4	Bs Phr 15/16
51	TR606 PHH 1	Sitar Drn	Jazz Ride	Funk Clap	VoxKickSweep	Seq Phrase 5	Bs Phr 16/16
52	TR606 Cym	Guiro 2	TR909 Kick 3	China Cymbal	Vox Hihat 1	-----	-----
53	TR909 Ride	Guiro Long	Disc CHH	TR909 Ride	Cowbell	-----	-----
54	CR78 Tamb	TablaBayam 7	CR78 Tamb	Tamborine 1	Bongo Hi Mt	-----	-----
55	TR606 OHH	China Cymbal	Bang CHH	Splash Cym	ClassicHseHt	-----	-----
56	TR727Quijada	Bone Shake	ConcertBD Lp	JD Cowbell	Reg.CHH 1	-----	-----
57	JD EML 5th	Hush Kick	TR909 OHH 2	Church Bell	Org Click 1	-----	-----
58	TR606 PHH 1	TR606 PHH 1	Cowbell	DigiSpectrum	Digi Breath	-----	-----
59	JD EML 5th	Warm Kick	TR606 Cym	TR707 Ride	SynVox Noise	-----	Reg.Kick 1
C4 60	JD EML 5th	Hush Kick2	TR909 Crash	Conga Efx	JP8 Pls 3 HD	-----	Reg.Kick 3
61	Br.SideStk	Br.SideStk	Jazz Ride	Conga Thumb	Metal Vox W1	-----	Wild Stick
62	MG Attack	Keen Snr 1	Filtered Hit	Conga Slp Op	Harmonica	-----	Rock Snr
63	Amb Clap	Short Clap	P5 Sqr HD	Bongo Hi Slp	Shamisen	-----	Reg.SnrGst
64	Analog Snr 1	Vox Snare 1	Custm Sqr HD	Bongo Lo Slp	Flute	-----	Pop Snr Rim
65	TR808 Tom	SprgDrm Hit	TR808 Snr 3	TablaBayam 1	Dyno EP mp	-----	Reg.F.Tom
66	TR808 CHH 1	Vox Hihat 1	Alpha Rave	TablaBayam 2	SlwPick70s	-----	Reg.CHH 1
67	TR808 Tom	SprgDrm Hit	Jazz Crash	TablaBayam 3	Cln Gtr Cut	-----	Reg.L.Tom
68	TR808 CHH 1	Vox Hihat 2	Funk Clap	TablaBayam 4	Hard Clav	-----	Reg.CHH 2
69	TR606 Tom L	SprgDrm Hit	TR909 CHH 2	TablaBayam 5	TVF Trigger	-----	Reg.M.Tom
70	TR808 OHH 1	Vox Hihat 3	TR909 OHH 2	TablaBayam 6	Applause	-----	Reg.OHH
71	TR606 Tom L	SprgDrm Hit	Mute Tp	Wind Chime	Euro Hit	-----	Reg.M.Tom
C5 72	TR606 Tom H	SprgDrm Hit	Ride Cymbal	Tibet Cymbal	MG Zap 1	-----	Reg.H.Tom
73	Crash Cym 2	Crash Cym 2	MrchCmp Snr	CR78 Tamb	Syn Swt Atk2	-----	Crash Cym 1
74	TR606 Tom H	SprgDrm Hit	Pick Kick	Guiro Long	Syn Hrd Atk2	-----	Reg.H.Tom
75	Ride Cymbal	Jazz Ride	Lo-Bit Stk 1	MG Attack	GtrStroke Nz	-----	Rock Ride
76	Splash Cym	Splash Cym	TR909 Snr 3	MG Zap 5	JDStrikePole	-----	China Cymbal
77	TR707 Ride	Rock Rd Edge	Claptail	Org Leakage	Vint.Phone	-----	-----
78	CR78 Tamb	Mt Pandeiro	Siren	EP Release	DistGtr Nz 1	-----	-----
79	808 Maracas	Op Pandeiro	TR808 OHH 1	Eeh Formant	Reg.M.Tom	-----	-----
80	TR808 Clap 1	Gospel Clap	Rk CmpKick	Syn Swt Atk3	Jazz Lo Tom	-----	-----
81	Metro Bell	Crotale	TR606 CHH 2	Vinyl Noise	Reg.L.TomFlm	-----	-----
82	MC500 Beep 1	Wind Chime	Syn Low Atk1	Polishing Nz	TR909 Clap 2	-----	-----
83	JD Plunk	Conga Thumb	Low White Nz	VoxKickSweep	Vox Snare 1	-----	-----
C6 84	SBF Cym Lp	Conga Lo Op	MG Zap 9	Scratch 8	Cabasa Down	-----	-----
85	White Noise	Conga Lo Slp	Happy Clap	MG Zap 9	SprgDrm Hit	-----	-----
86	MG Zap 2	Conga Hi Op	TR808 Snr 7	Scream	Digital Vox	-----	-----
87	MG Zap 1	Conga Hi Slp	TR808 Snr 3	Gun Shot	JD Nasty	-----	-----
88	MG Zap 10	Conga Efx	TR808 Snr 2	Syn Low Atk1	Vib Wave	-----	-----
89	Syn Hrd Atk4	Bongo Lo Op	Club CHH 2	Syn Mtl Atk1	Kalimba	-----	-----
90	SBF Nz Lp	Bongo Lo Slp	CR78 OHH	TR727Quijada	JD Tabla	-----	-----
91	Metal Vox L2	Bongo Hi Op	LowDwn CHH	Vibraslap	JD Log Drum	-----	-----
92	Vox Hihat 2	Bongo Hi Mt	Lo-Bit OHH 1	Gtr Fret Nz3	Bell Organ	-----	-----
93	Vox Cymbal	Vox Cymbal	TR909 OHH 2	Bird Song	Gtr Cut 1	-----	-----
94	Vox Hihat 3	Vox Hihat 3	TR606 OHH	SBF Vox Lp	Eeh Formant	-----	-----
95	VoxKickSweep	VoxKickSweep	CR78 OHH	Door Slam	Xylo Seq.	-----	-----
C7 96	Vox Kick 2	Vox Kick 2	106SubOsc HD	JD Anklungs	Gun Shot	-----	-----
97	Vox Kick 1	Vox Kick 1	TR909 Snr 6	TablaBayam 3	TablaBayam 3	-----	-----
98	Vox Snare 1	Vox Snare 1	AnalogKick 3	TablaBayam 4	TablaBayam 4	-----	-----
99	Pa!	Pa!	MG Bass 2	TablaBayam 5	TablaBayam 5	-----	-----
100	Vox Snare 2	Vox Snare 2	TR808 Clap 1	TablaBayam 6	TablaBayam 6	-----	-----
101	Chiki!	Chiki!	Dist Clap	Wind Chime	Wind Chime	-----	-----
102	Vox Hihat 2	Vox Hihat 2	Super Saw	Tibet Cymbal	Tibet Cymbal	-----	-----
103	Vox Hihat 1	Vox Hihat 1	MG Zap 7	Slight Bell	Slight Bell	-----	-----

GM (GM2 Group)

Note No.	001 (PC: 1) GM2 STANDARD	002 (PC: 9) GM2 ROOM	003 (PC: 17) GM2 POWER	004 (PC: 25) GM2 ELECTRIC	005 (PC: 26) GM2 ANALOG	006 (PC: 33) GM2 JAZZ
27	High-Q	High-Q	High-Q	High-Q	High-Q	High-Q
28	Slap	Slap	Slap	Slap	Slap	Slap
29	ScratchPush	ScratchPush	ScratchPush	ScratchPush	ScratchPush	ScratchPush
30	ScratchPull	ScratchPull	ScratchPull	ScratchPull	ScratchPull	ScratchPull
31	Sticks	Sticks	Sticks	Sticks	Sticks	Sticks
32	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick
33	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click
34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell
35	Mix Kick	Mix Kick	Mix Kick	Mix Kick	Mix Kick	Jazz Kick 2
C2 36	Standard KK1	Standard KK1	Power Kick1	Elec Kick 1	TR-808 Kick	Jazz Kick 1
37	Side Stick	Side Stick	Side Stick	Side Stick	808 Rimshot	Side Stick
38	Standard SN1	Standard SN1	Dance Snare1	Elec. Snare	808 Snare 1	Standard SN1
39	909 HandClap	909 HandClap	909 HandClap	909 HandClap	909 HandClap	909 HandClap
40	Elec Snare 3	Elec Snare 3	Elec Snare 3	Elec Snare 2	Elec Snare 3	Elec Snare 3
41	Real Tom 6	Room Tom 5	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 6
42	Close HiHat2	Close HiHat2	Close HiHat2	Close HiHat2	TR-808 CHH	Close HiHat2
43	Real Tom 6	Room Tom 5	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 6
44	Pedal HiHat2	Pedal HiHat2	Pedal HiHat2	Pedal HiHat2	808__chh	Pedal HiHat2
45	Real Tom 4	Room Tom 2	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 4
46	Open HiHat2	Open HiHat2	Open HiHat2	Open HiHat2	TR-808 OHH	Open HiHat2
47	Real Tom 4	Room Tom 2	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 4
C3 48	Real Tom 1	Room Tom 2	Rock Tom 1	Synth Drum 2	808 Tom 2	Real Tom 1
49	Crash Cym.1	Crash Cym.1	Crash Cym.1	Crash Cym.1	808 Crash	Crash Cym.1
50	Real Tom 1	Room Tom 2	Rock Tom 1	Synth Drum 2	808 Tom 2	Real Tom 1
51	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
52	ChinaCymbal	ChinaCymbal	ChinaCymbal	ReverseCymbl	ChinaCymbal	ChinaCymbal
53	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Ride Bell
54	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine
55	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.
56	Cowbell	Cowbell	Cowbell	Cowbell	808cowbe	Cowbell
57	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2
58	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap
59	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
C4 60	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High
61	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo
62	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	808 Conga	Mute H.Conga
63	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	808 Conga	Conga Hi Opn
64	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	808 Conga	Conga Lo Opn
65	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale
66	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale
67	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
69	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa
70	Maracas	Maracas	Maracas	Maracas	808marac	Maracas
71	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle
C5 72	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle
73	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro
74	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro
75	Claves	Claves	Claves	Claves	808clave	Claves
76	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
77	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
78	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica
79	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica
80	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl
81	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl
82	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker
83	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell
C6 84	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree
85	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets
86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo
87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo
88	-----	-----	-----	-----	-----	-----

PC: Program Change Number Bank Select MSB is all 120, LSB is all 0

GM (GM2 Group)

Note No.	007 (PC: 41) GM2 BRUSH	008 (PC: 49) GM2 ORCHSTRA	009 (PC: 57) GM2 SFX
27	High-Q	Close HiHat2	-----
28	Slap	Pedal HiHat2	-----
	ScratchPush	Open HiHat2	-----
29	ScratchPull	Ride Cymbal	-----
30	Sticks	Sticks	-----
31	SquareClick	SquareClick	-----
32	Mtrnm.Click	Mtrnm.Click	-----
33	Mtrnm. Bell	Mtrnm. Bell	-----
34	Jazz Kick 2	Concert BD	-----
35	Jazz Kick 1	ConcertBD Mt	-----
C2 36	Side Stick	Side Stick	-----
37	Brush Swirl	Concert Snr	-----
38	Brush Slap1	Castanets	High-Q
39	Brush Swirl	Concert Snr	Slap
40	Real Tom 6	Timpani	ScratchPush
41	Close HiHat2	Timpani	ScratchPull
42	Real Tom 6	Timpani	Sticks
43	Pedal HiHat2	Timpani	SquareClick
44	Real Tom 4	Timpani	Mtrnm.Click
45	Open HiHat2	Timpani	Mtrnm. Bell
46	Real Tom 4	Timpani	Gt.FretNoiz
47	Real Tom 1	Timpani	Gt.CutNoise
C3 48	Crash Cym.1	Timpani	Gt.CutNoise
49	Real Tom 1	Timpani	String Slap
50	Ride Cymbal	Timpani	Fl.KeyClick
51	ChinaCymbal	Timpani	Laughing
52	Ride Bell	Timpani	Screaming
53	Tambourine	Tambourine	Punch
54	Splash Cym.	Splash Cym.	Heart Beat
55	Cowbell	Cowbell	Footsteps
56	Crash Cym.2	Con.Cymbal2	Footsteps
57	Vibraslap	Vibraslap	Applause
58	Ride Cymbal	Concert Cym.	Creaking
59	Bongo High	Bongo High	Door
C4 60	Bongo Lo	Bongo Lo	Scratch
61	Mute H.Conga	Mute H.Conga	Wind Chimes
62	Conga Hi Opn	Conga Hi Opn	Car-Engine
63	Conga Lo Opn	Conga Lo Opn	Car-Stop
64	High Timbale	High Timbale	Car-Pass
65	Low Timbale	Low Timbale	Car-Crash
66	Agogo	Agogo	Siren
67	Agogo	Agogo	Train
68	Cabasa	Cabasa	Jetplane
69	Maracas	Maracas	Helicopter
70	ShrtWhistle	ShrtWhistle	Starship
71	LongWhistle	LongWhistle	Gun Shot
C5 72	Short Guiro	Short Guiro	Machine Gun
73	Long Guiro	Long Guiro	Lasergun
74	Claves	Claves	Explosion
75	Woodblock	Woodblock	Dog
76	Woodblock	Woodblock	HorseGallop
77	Mute Cuica	Mute Cuica	Bird
78	Open Cuica	Open Cuica	Rain
79	MuteTriangl	MuteTriangl	Thunder
80	OpenTriangl	OpenTriangl	Wind
81	Shaker	Shaker	Seashore
82	Jingle Bell	Jingle Bell	Stream
83	Bell Tree	Bell Tree	Bubble
C6 84	Castanets	Castanets	-----
85	Mute Surdo	Mute Surdo	-----
86	Open Surdo	Open Surdo	-----
87	-----	Applause	-----
88			

Waveform List

1. Wave Bank A

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
0001	Ac.Pno p A L	0091	3rd Perc Org	0181	Clean TC C	0271	MG Bass 1 B	0361	Wide Tp C
0002	Ac.Pno p A R	0092	Lo-Fi Organ	0182	Overdrive A	0272	MG Bass 1 C	0362	Mute Tp A
0003	Ac.Pno p B L	0093	Perc Organ 1	0183	Overdrive C	0273	DistTB Sqr	0363	Mute Tp B
0004	Ac.Pno p B R	0094	Perc Organ 2	0184	Distortion A	0274	DistTBSqr Lp	0364	Mute Tp C
0005	Ac.Pno p C L	0095	Rock Organ A	0185	Distortion B	0275	Solid Bass	0365	Trombone A
0006	Ac.Pno p C R	0096	Rock Organ B	0186	Distortion C	0276	MG Big Bass	0366	Trombone B
0007	Ac.Pno f A L	0097	Rock Organ C	0187	Dist Mute A	0277	Jungle Bass	0367	Trombone C
0008	Ac.Pno f A R	0098	RtryOrg1 A L	0188	Dist Mute B	0278	Garage Bass	0368	Tbn mf A
0009	Ac.Pno f B L	0099	RtryOrg1 A R	0189	Dist Mute C	0279	SH-101 Bs A	0369	Tbn mf B
0010	Ac.Pno f B R	0100	RtryOrg1 B L	0190	Dist Chord A	0280	SH-101 Bs B	0370	Tbn mf C
0011	Ac.Pno f C L	0101	RtryOrg1 B R	0191	Dist Chord B	0281	SH-101 Bs C	0371	Tuba A
0012	Ac.Pno f C R	0102	RtryOrg1 C L	0192	Dist Chord C	0282	TB Natural	0372	Tuba B
0013	JD Piano A	0103	RtryOrg1 C R	0193	Dst Gtr Riff	0283	Poly Bass	0373	Tuba C
0014	JD Piano B	0104	RtryOrg2 A L	0194	Gtr Trill	0284	Organ Bass	0374	Sft F.Horn A
0015	JD Piano C	0105	RtryOrg2 A R	0195	Cln Gtr Cut	0285	Voco Bass	0375	Sft F.Horn B
0016	Piano Atk Nz	0106	RtryOrg2 B L	0196	Gtr Cut 1	0286	MG Bass 2 A	0376	Sft F.Horn C
0017	MKS Piano A	0107	RtryOrg2 B R	0197	Gtr Cut 2	0287	MG Bass 2 B	0377	French Hrn A
0018	MKS Piano B	0108	RtryOrg2 C L	0198	Gtr Cut 3	0288	MG Bass 2 C	0378	French Hrn C
0019	MKS Piano C	0109	RtryOrg2 C R	0199	Gtr Cut 4	0289	MG Bass 3	0379	F.HornSect A
0020	Stage EP p A	0110	LoFi RtryOrg	0200	Wah Gtr Riff	0290	MG Bass 4	0380	F.HornSect B
0021	Stage EP p B	0111	Vint.Org 1	0201	E.Gtr Harm	0291	MC Bass A	0381	F.HornSect C
0022	Stage EP p C	0112	Vint.Org 2	0202	JD ScrapeGut	0292	MC Bass B	0382	Tp Section A
0023	Stage EP f A	0113	Vint.Org 3	0203	Harp A	0293	MC Bass C	0383	Tp Section B
0024	Stage EP f B	0114	Vint.Org 4	0204	Harp B	0294	Atk Syn Bass	0384	Tp Section C
0025	Stage EP f C	0115	Lite Dst Org	0205	Harp C	0295	Atk Flute A	0385	OctBrs p A L
0026	Tine EP p A	0116	Positive '8	0206	Banjo A	0296	Atk Flute B	0386	OctBrs p A R
0027	Tine EP p B	0117	Pipe Organ	0207	Banjo B	0297	Atk Flute C	0387	OctBrs p B L
0028	Tine EP p C	0118	Cathedrl Org	0208	Banjo C	0298	Flute A	0388	OctBrs p B R
0029	Tine EP mf A	0119	Nylon Gtr1 A	0209	Sitar A	0299	Flute B	0389	OctBrs p C L
0030	Tine EP mf B	0120	Nylon Gtr1 B	0210	Sitar B	0300	Flute C	0390	OctBrs p C R
0031	Tine EP mf C	0121	Nylon Gtr1 C	0211	Sitar C	0301	Piccolo A	0391	OctBrs f A L
0032	Tine EP ff A	0122	Nylon Gtr2 A	0212	Sitar Drn A	0302	Piccolo B	0392	OctBrs f A R
0033	Tine EP ff B	0123	Nylon Gtr2 B	0213	Sitar Drn B	0303	Piccolo C	0393	OctBrs f B L
0034	Tine EP ff C	0124	Nylon Gtr2 C	0214	Sitar Drn C	0304	Pan Flute	0394	OctBrs f B R
0035	Dyno EP mp A	0125	Bright Gtr A	0215	E.Sitar A	0305	JD Rad Hose	0395	OctBrs f C L
0036	Dyno EP mp B	0126	Bright Gtr B	0216	E.Sitar B	0306	Shakuhachi	0396	OctBrs f C R
0037	Dyno EP mp C	0127	Bright Gtr C	0217	E.Sitar C	0307	JD Fl Push	0397	Brs Fall 1 L
0038	Dyno EP mf A	0128	Ac.Gtr mp A	0218	Santur A	0308	Clarinet A	0398	Brs Fall 1 R
0039	Dyno EP mf B	0129	Ac.Gtr mp B	0219	Santur B	0309	Clarinet B	0399	Brs Fall 2 L
0040	Dyno EP mf C	0130	Ac.Gtr mp C	0220	Santur C	0310	Clarinet C	0400	Brs Fall 2 R
0041	Dyno EP ff A	0131	Ac.Gtr mf A	0221	Dulcimer A	0311	Oboe Mezzo A	0401	OrchUnis A L
0042	Dyno EP ff B	0132	Ac.Gtr mf B	0222	Dulcimer B	0312	Oboe Mezzo B	0402	OrchUnis A R
0043	Dyno EP ff C	0133	Ac.Gtr mf C	0223	Dulcimer C	0313	Oboe Mezzo C	0403	OrchUnis B L
0044	Wurly mp A	0134	Ac.Gtr ff A	0224	Shamisen A	0314	Oboe Forte A	0404	OrchUnis B R
0045	Wurly mp B	0135	Ac.Gtr ff B	0225	Shamisen B	0315	Oboe Forte B	0405	OrchUnis C L
0046	Wurly mp C	0136	Ac.Gtr ff C	0226	Shamisen C	0316	Oboe Forte C	0406	OrchUnis C R
0047	Wurly mf A	0137	Ac.Gtr Sld A	0227	Koto A	0317	E.Horn A	0407	Violin Vib A
0048	Wurly mf B	0138	Ac.Gtr Sld B	0228	Koto B	0318	E.Horn B	0408	Violin Vib B
0049	Wurly mf C	0139	Ac.Gtr Sld C	0229	Koto C	0319	E.Horn C	0409	Violin Vib C
0050	Wurly ff A	0140	Ac.Gtr Hrm A	0230	Ac.Bass A	0320	Bassoon A	0410	Violin A
0051	Wurly ff B	0141	Ac.Gtr Hrm B	0231	Ac.Bass B	0321	Bassoon B	0411	Violin B
0052	Wurly ff C	0142	Ac.Gtr Hrm C	0232	Ac.Bass C	0322	Bassoon C	0412	Violin C
0053	Lo-Fi Wurly	0143	Jazz Gtr A	0233	FngrCmp Bs A	0323	Recorder A	0413	Cello Vib A
0054	Soft SA EP A	0144	Jazz Gtr B	0234	FngrCmp Bs B	0324	Recorder B	0414	Cello Vib B
0055	Soft SA EP B	0145	Jazz Gtr C	0235	FngrCmp Bs C	0325	Recorder C	0415	Cello Vib C
0056	Soft SA EP C	0146	Clean Gtr A	0236	Finger Bs A	0326	SopranoSax A	0416	Cello A
0057	Hard SA EP A	0147	Clean Gtr B	0237	Finger Bs B	0327	SopranoSax B	0417	Cello B
0058	Hard SA EP B	0148	Clean Gtr C	0238	Finger Bs C	0328	SopranoSax C	0418	Cello C
0059	Hard SA EP C	0149	Clr Mt Gtr A	0239	Precision Bs	0329	Alto Sax Vib	0419	Vl Sect. A L
0060	SA EP Ens A	0150	Clr Mt Gtr B	0240	Jz Bs Soft A	0330	Soft Alto A	0420	Vl Sect. A R
0061	SA EP Ens B	0151	Clr Mt Gtr C	0241	Jz Bs Soft B	0331	Soft Alto B	0421	Vl Sect. B L
0062	SA EP Ens C	0152	E.Gtr Ld 1	0242	Jz Bs Soft C	0332	Soft Alto C	0422	Vl Sect. B R
0063	SA E.Piano A	0153	E.Gtr Ld 2	0243	6-FngBsSft A	0333	Wide Sax A	0423	Vl Sect. C L
0064	SA E.Piano B	0154	Brt Strat A	0244	6-FngBsSft B	0334	Wide Sax B	0424	Vl Sect. C R
0065	SA E.Piano C	0155	Brt Strat B	0245	6-FngBsSft C	0335	Wide Sax C	0425	Vc Sect. A L
0066	80's E.Pno 1	0156	Brt Strat C	0246	ThumbMtBs pA	0336	BreathySax A	0426	Vc Sect. A R
0067	80's E.Pno 2	0157	SlwPick70s A	0247	ThumbMtBs pB	0337	BreathySax B	0427	Vc Sect. B L
0068	Hard E.Pno	0158	SlwPick70s B	0248	ThumbMtBs pC	0338	BreathySax C	0428	Vc Sect. B R
0069	Celesta	0159	SlwPick70s C	0249	ThumbMtBs fA	0339	Tenor Sax A	0429	Vc Sect. C L
0070	Music Box	0160	FstPick70s A	0250	ThumbMtBs fB	0340	Tenor Sax B	0430	Vc Sect. C R
0071	Reg.Clav A	0161	FstPick70s B	0251	ThumbMtBs fC	0341	Tenor Sax C	0431	Full Str A L
0072	Reg.Clav B	0162	FstPick70s C	0252	Fretless Bs A	0342	Bari.Sax 1 A	0432	Full Str A R
0073	Reg.Clav C	0163	Plk Strat A	0253	Fretless Bs B	0343	Bari.Sax 1 B	0433	Full Str B L
0074	Retro Clav A	0164	Plk Strat B	0254	Fretless Bs C	0344	Bari.Sax 1 C	0434	Full Str B R
0075	Retro Clav B	0165	Plk Strat C	0255	Fretless SftA	0345	Bari.Sax 2 A	0435	Full Str C L
0076	Retro Clav C	0166	Strat Mute A	0256	Fretless SftB	0346	Bari.Sax 2 B	0436	Full Str C R
0077	Tight Clav A	0167	Strat Mute B	0257	Fretless SftC	0347	Bari.Sax 2 C	0437	ChmbrStrAtkA
0078	Tight Clav B	0168	Strat Mute C	0258	Pick Bass 1A	0348	Musette	0438	ChmbrStrAtkB
0079	Tight Clav C	0169	Funk Gtr A	0259	Pick Bass 1B	0349	Harmonica A	0439	ChmbrStrAtkC
0080	Hard Clav A	0170	Funk Gtr B	0260	Pick Bass 1C	0350	Harmonica B	0440	ChmbrStrRevA
0081	Hard Clav B	0171	Funk Gtr C	0261	Pick Bass 2	0351	Harmonica C	0441	ChmbrStrRevB
0082	Hard Clav C	0172	Funk MtGtr A	0262	Slap Bass	0352	Blues G-harp	0442	ChmbrStrRevC
0083	JD Clav	0173	Funk MtGtr B	0263	Slap +Pull 1	0353	Flugel A	0443	Vls Pizz A
0084	Harpsi A	0174	Funk MtGtr C	0264	Slap +Pull 2	0354	Flugel B	0444	Vls Pizz B
0085	Harpsi B	0175	Easy Gtr A	0265	Slap +Pull 3	0355	Flugel C	0445	Vls Pizz C
0086	Harpsi C	0176	Easy Gtr B	0266	Jz Slap Bass	0356	Trumpet A	0446	VlsPizzRev A
0087	JD Full Draw	0177	Easy Gtr C	0267	Jz Slp+Pull1	0357	Trumpet B	0447	VlsPizzRev B
0088	Org Basic 1	0178	Nasty Gtr	0268	Jz Slp+Pull2	0358	Trumpet C	0448	VlsPizzRev C
0089	Org Basic 2	0179	Clean TC A	0269	Jz Slp+Pull3	0359	Wide Tp A	0449	Vcs Pizz A
0090	Ballad Org	0180	Clean TC B	0270	MG Bass 1 A	0360	Wide Tp B	0450	Vcs Pizz B

Waveform List

No.	Wave Name
0451	Vcs Pizz C
0452	VcsPizzRev A
0453	VcsPizzRev B
0454	VcsPizzRev C
0455	Unison Saw A
0456	Unison Saw B
0457	Unison Saw C
0458	Super Saw A
0459	Super Saw B
0460	Super Saw C
0461	Trance Saw A
0462	Trance Saw B
0463	Trance Saw C
0464	Alpha Rave
0465	Saw Sync A
0466	Saw Sync B
0467	Saw Sync C
0468	Warm Pad A
0469	Warm Pad B
0470	Warm Pad C
0471	OB2 Pad 1 A
0472	OB2 Pad 1 B
0473	OB2 Pad 1 C
0474	OB2 Pad 2 A
0475	OB2 Pad 2 B
0476	OB2 Pad 2 C
0477	SBF Vox A
0478	SBF Vox B
0479	SBF Vox C
0480	Female Ahs A
0481	Female Ahs B
0482	Female Ahs C
0483	Female Oos A
0484	Female Oos B
0485	Female Oos C
0486	Male Aahs A
0487	Male Aahs B
0488	Male Aahs C
0489	Jazz Doos A
0490	Jazz Doos B
0491	Jazz Doos C
0492	Jz Doos Lp A
0493	Jz Doos Lp B
0494	Jz Doos Lp C
0495	Gospel Hum A
0496	Gospel Hum B
0497	Gospel Hum C
0498	Soprano Vox
0499	Kalimba
0500	JD Klmba Atk
0501	JD Wood Crak
0502	JD Gamelan 1
0503	JD Gamelan 2
0504	JD Gamelan 3
0505	JD Log Drum
0506	JD Hooky
0507	JD Tabla
0508	JD Xylo
0509	Marimba
0510	Vibraphone
0511	Glocken
0512	Steel Drums
0513	JD Pole Lp
0514	JD BottleHit
0515	D-50 Bell A
0516	D-50 Bell B
0517	D-50 Bell C
0518	D-50 Bell Lp
0519	Agogo Bell
0520	Finger Bell
0521	JD Cowbell
0522	Tubular Bell
0523	Church Bell
0524	Mild CanWave
0525	JD Crystal
0526	Bell Organ
0527	Old DigiBell
0528	JD Bell Wave
0529	TinyBellWave
0530	Vib Wave
0531	JD Brt Digi
0532	Med Digi
0533	Bagpipe
0534	Digital Vox
0535	JD WallyWave
0536	JD Brusky Lp
0537	Bright Form
0538	Mild Form
0539	JD Nasty
0540	Fat SparkVox

No.	Wave Name
0541	JD Spark Vox
0542	JD Cutters
0543	SBF Hrd Ld 1
0544	SBF Hrd Ld 2
0545	JD EML 5th
0546	TB303 Saw HD
0547	Custm Saw HD
0548	MG Saw HD
0549	OB2 Saw HD
0550	DigitalSawHD
0551	Calc.Saw
0552	Calc.Saw inv
0553	Synth Saw
0554	JD Syn Saw
0555	JD Fat Saw
0556	JP-8 Saw
0557	P5 Saw HD
0558	D-50 Saw
0559	Air Wave
0560	MG Sqr HD
0561	P5 Sqr HD
0562	OB2 Sqr HD
0563	Custm Sqr HD
0564	106SubOsc HD
0565	TB303 Sqr HD
0566	Fat Square
0567	JP-8 Square
0568	JP8 Pls 1 HD
0569	JP8 Pls 2 HD
0570	JP8 Pls 3 HD
0571	JP8 Pls 4 HD
0572	Syn Pulse 1
0573	Syn Pulse 2
0574	MG Tri HD
0575	700 Triangle
0576	Syn Triangle
0577	JD Triangle
0578	ARP Sine HD
0579	Sine
0580	Digi Attack
0581	JD Fine Wine
0582	Digi Loop 1
0583	Digi Loop 2
0584	JD MetalWind
0585	Atmosphere
0586	DigiSpectrum
0587	JD Vox Noise
0588	SynVox Noise
0589	Shaku Noise
0590	Digi Breath
0591	Agogo Noise
0592	Polishing Nz
0593	Dentist Nz
0594	Vinyl Noise
0595	White Noise
0596	Pink Noise
0597	SBF Cym Lp
0598	SBF Bell Lp
0599	SBF Nz Lp
0600	SBF Vox Lp
0601	Aah Formant
0602	Eeh Formant
0603	Iih Formant
0604	Ooh Formant
0605	Uuh Formant
0606	Metal Vox W1
0607	Metal Vox L1
0608	Metal Vox W2
0609	Metal Vox L2
0610	Metal Vox W3
0611	Metal Vox L3
0612	JD Rattles
0613	Xylo Seq.
0614	JD Tin Wave
0615	JD Anklungs
0616	JD Shami
0617	SynBassClick
0618	JD EP Atk
0619	EP Release
0620	Org Click 1
0621	Org Click 2
0622	Org Click 3
0623	Org Click 4
0624	Org Click 5
0625	Org Leakage
0626	MG Noise Fx
0627	JD Sm Metal
0628	JDStrikePole
0629	Ice Crash
0630	JD Switch

No.	Wave Name
0631	JD Tuba Slap
0632	JD Plink
0633	JD Plunk
0634	TVF Trigger
0635	Cutting Nz
0636	Ac.Bass Body
0637	Flute Pad Nz
0638	Applause
0639	River
0640	Thunder
0641	Monsoon
0642	Stream
0643	Bubble
0644	Bird Song
0645	Dog Bark
0646	Gallop
0647	Vint.Phone
0648	Office Phone
0649	Mobile Phone
0650	Door Creak
0651	Door Slam
0652	Car Engine
0653	Car Slip
0654	Car Pass
0655	Crash Seq.
0656	Gun Shot
0657	Siren
0658	Train Pass
0659	Airplane
0660	Space Voyage
0661	Blow Loop
0662	Laugh
0663	Scream
0664	Punch
0665	Heartbeat
0666	Footsteps
0667	Machine Gun
0668	Laser
0669	Thunder Lp
0670	Ac.Bass Nz 1
0671	Ac.Bass Nz 2
0672	E.Bass Nz 1
0673	E.Bass Nz 2
0674	E.Bass Slide
0675	DistGtr Nz 1
0676	DistGtr Nz 2
0677	DistGtr Nz 3
0678	GtrStroke Nz
0679	Gtr Fret Nz1
0680	Gtr Fret Nz2
0681	Gtr Fret Nz3
0682	ClassicHseHt
0683	OrangeHit 1
0684	OrangeHit 2
0685	OrangeHit 3
0686	7th Hit
0687	Brassy Hit
0688	Drive Hit
0689	Filtered Hit
0690	Mild Hit
0691	Narrow Hit 1
0692	Narrow Hit 2
0693	Euro Hit
0694	Dist Hit
0695	Thin Beef
0696	Tao Hit
0697	Smear Hit 1
0698	Smear Hit 2
0699	LoFi Min Hit
0700	Orch. Hit
0701	Punch Hit
0702	O'Skool Hit
0703	Philly Hit
0704	Scratch 1
0705	Scratch 2
0706	Scratch 3
0707	Scratch 4
0708	Scratch 5
0709	Scratch 6
0710	Scratch 7
0711	Scratch 8
0712	Scratch 9
0713	Scratch 10
0714	MG Zap 1
0715	MG Zap 2
0716	MG Zap 3
0717	MG Zap 4
0718	MG Zap 5
0719	MG Zap 6
0720	MG Zap 7

No.	Wave Name
0721	MG Zap 8
0722	MG Zap 9
0723	MG Zap 10
0724	MG Zap 11
0725	MG Blip
0726	Beam HiQ
0727	MG Attack
0728	Syn Low Atk1
0729	Syn Low Atk2
0730	Syn Hrd Atk1
0731	Syn Hrd Atk2
0732	Syn Hrd Atk3
0733	Syn Hrd Atk4
0734	Syn Mtl Atk1
0735	Syn Mtl Atk2
0736	Syn Swt Atk1
0737	Syn Swt Atk2
0738	Syn Swt Atk3
0739	Syn Swt Atk4
0740	Syn Swt Atk5
0741	Syn Swt Atk6
0742	Syn Swt Atk7
0743	Reg.Kick p L
0744	Reg.Kick p R
0745	Reg.Kick f L
0746	Reg.Kick f R
0747	Reg.Kick ffL
0748	Reg.Kick ffR
0749	Rock Kick p
0750	Rock Kick f
0751	Jazz Kick p
0752	Jazz Kick mf
0753	Jazz Kick f
0754	Dry Kick 1
0755	Tight Kick 1
0756	Tight Kick 2
0757	Old Kick
0758	Jz Dry Kick
0759	Bright Kick
0760	Dry Kick 2
0761	Dry Kick 3
0762	Power Kick
0763	R&B Kick L
0764	R&B Kick R
0765	Rk CmpKick L
0766	Rk CmpKick R
0767	MaxLow Kick1
0768	MaxLow Kick2
0769	MaxLow Kick3
0770	Dist Kick
0771	FB Kick
0772	Rough Kick1
0773	Rough Kick2
0774	Rough Kick3
0775	Click Kick
0776	Pick Kick
0777	Back Kick
0778	Vinyl Kick
0779	Low Kick 1
0780	Boys Kick
0781	Hippie Kick
0782	Frenzy Kick
0783	PlasticKick1
0784	Swallow Kick
0785	Neck Kick
0786	70's Kick
0787	Skool Kick
0788	Dance Kick
0789	HipHop Kick1
0790	HipHop Kick2
0791	Pin Kick
0792	Low Kick 2
0793	Low Kick 3
0794	AnalogKick 1
0795	PlasticKick2
0796	PlasticKick3
0797	TR909 Kick 1
0798	TR909 Kick 2
0799	AnalogKick 2
0800	TR909 Kick 3
0801	AnalogKick 3
0802	AnalogKick 4
0803	AnalogKick 5
0804	AnalogKick 6
0805	TR606DstKick
0806	TR808 Kick
0807	TR909 Kick 4
0808	TR909 Kick 5
0809	SH32 Kick
0810	TR707 Kick

No.	Wave Name
0811	TR909 Kick 6
0812	Roll Kick
0813	Reg.Snr1 p L
0814	Reg.Snr1 p R
0815	Reg.Snr1mf L
0816	Reg.Snr1mf R
0817	Reg.Snr1 f L
0818	Reg.Snr1 f R
0819	Reg.Snr1ff L
0820	Reg.Snr1ff R
0821	Reg.Snr2 p L
0822	Reg.Snr2 p R
0823	Reg.Snr2 f L
0824	Reg.Snr2 f R
0825	Reg.Snr2ff L
0826	Reg.Snr2ff R
0827	Reg.SnrFlm L
0828	Reg.SnrFlm R
0829	Amb.Snr1 p L
0830	Amb.Snr1 p R
0831	Amb.Snr1 f L
0832	Amb.Snr1 f R
0833	Amb.Snr2 p L
0834	Amb.Snr2 p R
0835	Amb.Snr2 f L
0836	Amb.Snr2 f R
0837	Piccolo Snr
0838	Maple Snr
0839	Natural Snr1
0840	Natural Snr2
0841	Dry Snr p
0842	Dry Snr f
0843	Ballad Snr
0844	Light Snr p
0845	Light Snr f
0846	Light Snr ff
0847	Light SnrRim
0848	Click Snr p
0849	Click Snr f
0850	Click Snr ff
0851	Rock Snr p
0852	Rock Snr mf
0853	Rock Snr f
0854	Rock Rim p
0855	Rock Rim mf
0856	Rock Rim f
0857	Reg.SnrGst L
0858	Reg.SnrGst R
0859	Rock Snr Gst
0860	Sft Snr Gst
0861	Jazz Snr p
0862	Jazz Snr mf
0863	Jazz Snr f
0864	Jazz Snr ff
0865	Jazz Rim p
0866	Jazz Rim mf
0867	Jazz Rim f
0868	Jazz Rim ff
0869	Jz Brsh Slap
0870	Jz Brsh Swsh
0871	Swish&Turn p
0872	Swish&Turn f
0873	Snr Roll
0874	Snr Roll Lp
0875	Soft Jz Roll
0876	BrushRoll Lp
0877	GoodOld Snr1
0878	GoodOld Snr2
0879	GoodOld Snr3
0880	GoodOld Snr4
0881	GoodOld Snr5
0882	GoodOld Snr6
0883	Dirty Snr 1
0884	Dirty Snr 2
0885	Dirty Snr 3
0886	Dirty Snr 4
0887	Dirty Snr 5
0888	Dirty Snr 6
0889	Dirty Snr 7
0890	Dirty Snr 8
0891	Dirty Snr 9
0892	Dirty Snr 10
0893	Grit Snr 1
0894	Grit Snr 2
0895	Grit Snr 3
0896	Grit Snr 4
0897	LoBit SnrFlm
0898	Lo-Bit Snr 1
0899	Lo-Bit Snr 2
0900	Lo-Bit Snr 3

No.	Wave Name
0901	BmbCmp Snr
0902	MrchCmp Snr
0903	Frenzy Snr 1
0904	Frenzy Snr 2
0905	Slap Snr 1
0906	Keen Snr 1
0907	Reggae Snr
0908	DR660 Snr
0909	Pop Snr p
0910	Pop Snr f
0911	Pop Snr Rim
0912	Med Snare
0913	Jngl pkt Snr
0914	Pocket Snr
0915	Flange Snr
0916	Slap Snr 2
0917	Analog Snr 1
0918	Analog Snr 2
0919	Analog Snr 3
0920	Jam Snr
0921	Back Snr
0922	Keen Snr 2
0923	Boys Snr 1
0924	Slap Snr 3
0925	Neck Snr
0926	Artful Snr
0927	Pin Snr
0928	Chemical Snr
0929	Sizzle Snr
0930	Tiny Snare
0931	R&B Snare 1
0932	R&B Snare 2
0933	Cross Snr
0934	Grave Snr
0935	Boys Snr 2
0936	Boys Snr 3
0937	Low Down Snr
0938	TR909 Snr 1
0939	TR909 Snr 2
0940	TR909 Snr 3
0941	TR909 Snr 4
0942	TR909 Snr 5
0943	TR909 Snr 6
0944	TR808 Snr 1
0945	TR808 Snr 2
0946	TR808 Snr 3
0947	TR808 Snr 4
0948	Lite Snare
0949	TR808 Snr 5
0950	TR808 Snr 6
0951	TR808 Snr 7
0952	TR606 Snr 1
0953	TR606 Snr 2
0954	CR78 Snare
0955	Urbn Sn Roll
0956	Jngl SnrRoll
0957	Reg.Stick L
0958	Reg.Stick R
0959	Soft Stick
0960	Hard Stick
0961	Wild Stick
0962	Rock Stick
0963	Lo-Bit Stk 1
0964	Lo-Bit Stk 2
0965	Lo-Bit Stk 3
0966	Lo-Bit Stk 4
0967	Dry Stick 1
0968	Dry Stick 2
0969	Dry Stick 3
0970	Dry Stick 4
0971	Dry Stick 5
0972	R8 Comp Rim
0973	R&B Rim 1
0974	R&B Rim 2
0975	R&B Rim 3
0976	Neck Rim
0977	Swag Rim
0978	Step Rim
0979	R&B Rim 4
0980	Street Rim
0981	Regular Rim
0982	TR909 Rim
0983	TR808 Rim
0984	Reg.F.Tom p
0985	Reg.F.Tom f
0986	Reg.L.Tom p
0987	Reg.L.Tom f
0988	Reg.M.Tom p
0989	Reg.M.Tom f
0990	Reg.H.Tom p

No.	Wave Name
0991	Reg.H.Tom f
0992	Reg.L.TomFlm
0993	Reg.M.TomFlm
0994	Reg.H.TomFlm
0995	Jazz Lo Tom
0996	Jazz Mid Tom
0997	Jazz Hi Tom
0998	Jazz Lo Flm
0999	Jazz Mid Flm
1000	Jazz Hi Flm
1001	Sharp Lo Tom
1002	Sharp Hi Tom
1003	Dry Lo Tom
1004	Dry Hi Tom
1005	TR909 Tom
1006	TR909 DstTom
1007	TR808 Tom
1008	TR606 Tom
1009	Deep Tom
1010	Reg.CHH 1 p
1011	Reg.CHH 1 mf
1012	Reg.CHH 1 f
1013	Reg.CHH 1 ff
1014	Reg.CHH 2 mf
1015	Reg.CHH 2 f
1016	Reg.CHH 2 ff
1017	Reg.PHH mf
1018	Reg.PHH f
1019	Reg.OHH mf
1020	Reg.OHH f
1021	Reg.OHH ff
1022	Rock CHH1 mf
1023	Rock CHH1 f
1024	Rock CHH2 mf
1025	Rock CHH2 f
1026	Rock PHH
1027	Rock OHH
1028	Lo-Bit CHH 1
1029	Lo-Bit CHH 2
1030	Lo-Bit CHH 3
1031	Lo-Bit CHH 4
1032	Lo-Bit CHH 5
1033	Modern CHH
1034	HipHop CHH 1
1035	Urban CHH
1036	Bang CHH
1037	LowDwn CHH
1038	Disc CHH
1039	Club CHH 1
1040	HipHop CHH 2
1041	TR909 CHH 1
1042	TR909 CHH 2
1043	Shaky CHH
1044	Club CHH 2
1045	TR808 CHH 1
1046	TR808 CHH 2
1047	TR606 CHH 1
1048	TR606 CHH 2
1049	TR606 DstCHH
1050	Lite CHH
1051	CR78 CHH
1052	DR55 CHH
1053	Neck CHH
1054	Dance CHH
1055	Street PHH
1056	Swallow PHH
1057	Hip PHH
1058	TR909 PHH 1
1059	TR909 PHH 2
1060	TR808 PHH
1061	TR606 PHH 1
1062	TR606 PHH 2
1063	Lo-Bit PHH
1064	Lo-Bit OHH 1
1065	Lo-Bit OHH 2
1066	Lo-Bit OHH 3
1067	Neck OHH
1068	Bang OHH
1069	HipHop OHH
1070	TR909 OHH 1
1071	TR909 OHH 2
1072	TR808 OHH 1
1073	TR808 OHH 2
1074	TR606 OHH
1075	Lite OHH
1076	CR78 OHH
1077	Crash Cym1 p
1078	Crash Cym1 f
1079	Crash Cym 2
1080	Rock Crash 1

No.	Wave Name
1081	Rock Crash 2
1082	Splash Cym
1083	Jazz Crash
1084	TR909 Crash
1085	TR606 Cym
1086	Ride Cymbal
1087	Ride Bell
1088	Rock Rd Cup
1089	Rock Rd Edge
1090	Jazz Ride p
1091	Jazz Ride mf
1092	TR909 Ride
1093	TR707 Ride
1094	China Cymbal
1095	Concert Cym
1096	Hand Clap
1097	Club Clap
1098	Short Clap
1099	Real Clap
1100	Bright Clap
1101	R8 Clap
1102	Gospel Clap
1103	Amb Clap
1104	Hip Clap
1105	Funk Clap
1106	Group Clap
1107	Claptail
1108	Planet Clap
1109	Royal Clap
1110	Happy Clap
1111	TR808 Clap 1
1112	Disc Clap
1113	Dist Clap
1114	Old Clap
1115	TR909 Clap 1
1116	TR909 Clap 2
1117	TR808 Clap 2
1118	TR707 Clap
1119	Cheap Clap
1120	Finger Snap
1121	Club FinSnap
1122	Single Snap
1123	Snap
1124	Group Snap
1125	Vox Kick 1
1126	Vox Kick 2
1127	VoxKickSweep
1128	Vox Snare 1
1129	Vox Snare 2
1130	Vox Hihat 1
1131	Vox Hihat 2
1132	Vox Hihat 3
1133	Vox Cymbal
1134	Pa!
1135	Chiki!
1136	Cowbell
1137	Cowbell Mute
1138	Wood Block
1139	Claves
1140	TR808 Claves
1141	CR78 Beat
1142	Castanet
1143	Whistle
1144	Bongo Hi Mt
1145	Bongo Hi Slp
1146	Bongo Lo Slp
1147	Bongo Hi Op
1148	Bongo Lo Op
1149	Conga Hi Mt
1150	Conga Lo Mt
1151	Conga Hi Slp
1152	Conga Lo Slp
1153	Conga Hi Op
1154	Conga Lo Op
1155	Conga Slp Op
1156	Conga Efx
1157	Conga Thumb
1158	Timbale 1
1159	Timbale 2
1160	Cabasa Up
1161	Cabasa Down
1162	Cabasa Cut
1163	Maracas
1164	808 Maracas
1165	R8 Shaker 1
1166	R8 Shaker 2
1167	Shaker 1
1168	Shaker 2
1169	Bone Shake
1170	CR78 Guiro

No.	Wave Name
1171	Guiro 1
1172	Guiro 2
1173	Guiro Long
1174	TR727Quijada
1175	Vibraslap
1176	Tamborine 1
1177	Tamborine 2
1178	Tamborine 3
1179	CR78 Tamb
1180	TablaBayam 1
1181	TablaBayam 2
1182	TablaBayam 3
1183	TablaBayam 4
1184	TablaBayam 5
1185	TablaBayam 6
1186	TablaBayam 7
1187	Cajon 1
1188	Cajon 2
1189	Cajon 3
1190	Udo
1191	Udu Pot Hi
1192	Udu Pot Slp
1193	SprgDrm Hit
1194	Op Pandeiro
1195	Mt Pandeiro
1196	Cuica
1197	Timpani p
1198	Timpani f
1199	Timpani Roll
1200	Timpani Lp
1201	ConcertBD p
1202	ConcertBD f
1203	ConcertBD ff
1204	ConcertBD Lp
1205	Triangle 1
1206	Triangle 2
1207	Tibet Cymbal
1208	Slight Bell
1209	Wind Chime
1210	Crotale
1211	R8 Click
1212	Metro Bell
1213	Metro Click
1214	MC500 Beep 1
1215	MC500 Beep 2
1216	DR202 Beep
1217	Low Saw1
1218	Low Saw1 inv
1219	Low Saw2
1220	Low Pulse 1
1221	Low Pulse 2
1222	Low Square
1223	Low Sine
1224	Low Triangle
1225	Low White Nz
1226	Low Pink Nz
1227	DC
1228	Reverse Cym

2. Wave Bank B

In waveform numbers 0001-0040, note numbers 91-108 are set to Damper Free in order to accurately reproduce the characteristics of an acoustic piano.

No.	Wave Name
0001	JzPno* p A L
0002	JzPno* p A R
0003	JzPno* p B L
0004	JzPno* p B R
0005	JzPno* p B'L
0006	JzPno* p B'R
0007	JzPno* p C L
0008	JzPno* p C R
0009	JzPno* p C'L
0010	JzPno* p C'R
0011	JzPno*mf A L
0012	JzPno*mf A R
0013	JzPno*mf B L
0014	JzPno*mf B R
0015	JzPno*mf B'L
0016	JzPno*mf B'R
0017	JzPno*mf C L
0018	JzPno*mf C R
0019	JzPno*mf C'L
0020	JzPno*mf C'R
0021	JzPno* f A L
0022	JzPno* f A R
0023	JzPno* f B L
0024	JzPno* f B R
0025	JzPno* f B'L
0026	JzPno* f B'R
0027	JzPno* f C L
0028	JzPno* f C R
0029	JzPno* f C'L
0030	JzPno* f C'R
0031	JzPno*ff A L
0032	JzPno*ff A R
0033	JzPno*ff B L
0034	JzPno*ff B R
0035	JzPno*ff B'L
0036	JzPno*ff B'R
0037	JzPno*ff C L
0038	JzPno*ff C R
0039	JzPno*ff C'L
0040	JzPno*ff C'R
0041	JzPno p A L
0042	JzPno p A R
0043	JzPno p B L
0044	JzPno p B R
0045	JzPno p B'L
0046	JzPno p B'R
0047	JzPno p C L
0048	JzPno p C R
0049	JzPno p C'L
0050	JzPno p C'R
0051	JzPno mf A L
0052	JzPno mf A R
0053	JzPno mf B L
0054	JzPno mf B R
0055	JzPno mf B'L
0056	JzPno mf B'R
0057	JzPno mf C L
0058	JzPno mf C R
0059	JzPno mf C'L
0060	JzPno mf C'R
0061	JzPno f A L
0062	JzPno f A R
0063	JzPno f B L
0064	JzPno f B R
0065	JzPno f B'L
0066	JzPno f B'R
0067	JzPno f C L
0068	JzPno f C R
0069	JzPno f C'L
0070	JzPno f C'R
0071	JzPno ff A L
0072	JzPno ff A R
0073	JzPno ff B L
0074	JzPno ff B R
0075	JzPno ff B'L
0076	JzPno ff B'R
0077	JzPno ff C L
0078	JzPno ff C R
0079	JzPno ff C'L
0080	JzPno ff C'R
0081	Accord 4' A
0082	Accord 4' B
0083	Accord 4' C
0084	Accord 8' A
0085	Accord 8' B
0086	Accord 8' C
0087	Accord PadNz
0088	NylonGtr p A
0089	NylonGtr p B
0090	NylonGtr p C
0091	NylonGtr mfA
0092	NylonGtr mfB
0093	NylonGtr mfC
0094	NylonGtr f A
0095	NylonGtr f B
0096	NylonGtr f C
0097	NylonGtrSldA
0098	NylonGtrSldB
0099	NylonGtrSldC
0100	NylonGtrHrmA
0101	NylonGtrHrmB
0102	NylonGtrHrmC
0103	NylonGtrHOnA
0104	NylonGtrHOnB
0105	NylonGtrHOnC
0106	NGtr Nz Menu
0107	NGtr Nz Splt
0108	NGtr Nz 1
0109	NGtr Nz 2
0110	NGtr Nz 3
0111	NGtr Strm Nz
0112	Fingerd Bs A
0113	Fingerd Bs B
0114	Fingerd Bs C
0115	MuteFng Bs A
0116	MuteFng Bs B
0117	MuteFng Bs C
0118	Picked Bs A
0119	Picked Bs B
0120	Picked Bs C
0121	MutePck Bs A
0122	MutePck Bs B
0123	MutePck Bs C
0124	Bs Gls Menu
0125	GlsDown/Splt
0126	Bs Gls Down1
0127	Bs Gls Down2
0128	Bs Gls Down3
0129	GlsUpDn/Splt
0130	BsGls UpDwn1
0131	BsGls UpDwn2
0132	BsGls UpDwn3
0133	BsGls UpDwn4
0134	Bs Nz Menu
0135	Bs Nz /Splt
0136	Bs Rel Nz 1
0137	Bs Rel Nz 2
0138	Bs Rel Nz 3
0139	Bs Squeak 1
0140	Bs Squeak 2
0141	OctSynBass A
0142	OctSynBass B
0143	OctSynBass C
0144	OctSynBassLp
0145	ForceSynBs A
0146	ForceSynBs B
0147	ForceSynBs C
0148	ForceSynBsLp
0149	TrunkSynBs A
0150	TrunkSynBs B
0151	TrunkSynBs C
0152	TrunkSynBsLp
0153	F.Str mf A L
0154	F.Str mf A R
0155	F.Str mf B L
0156	F.Str mf B R
0157	F.Str mf C L
0158	F.Str mf C R
0159	F.Str mf lpL
0160	F.Str mf lpR
0161	F.Str ff A L
0162	F.Str ff A R
0163	F.Str ff B L
0164	F.Str ff B R
0165	F.Str ff C L
0166	F.Str ff C R
0167	F.Str ff lpL
0168	F.Str ff lpR
0169	F.StrStacA L
0170	F.StrStacA R
0171	F.StrStacB L
0172	F.StrStacB R
0173	F.StrStacC L
0174	F.StrStacC R
0175	PopBrsAtkA L
0176	PopBrsAtkA R
0177	PopBrsAtkB L
0178	PopBrsAtkB R
0179	PopBrsAtkC L
0180	PopBrsAtkC R
0181	PopBrass A L
0182	PopBrass A R
0183	PopBrass B L
0184	PopBrass B R
0185	PopBrass C L
0186	PopBrass C R
0187	SBF Saw
0188	LostParadise
0189	Morph Shape
0190	SBF Noise
0191	Warm Kick p
0192	Warm Kick f
0193	Hush Kick p
0194	Hush Kick f
0195	Wide Kick1 p
0196	Wide Kick1 f
0197	Wide Kick2 p
0198	Wide Kick2 f
0199	Hush Kick2 p
0200	Hush Kick2 f
0201	TitanSnr p L
0202	TitanSnr p R
0203	TitanSnr f L
0204	TitanSnr f R
0205	TitanSnr ffL
0206	TitanSnr ffR
0207	T.Snr RS p L
0208	T.Snr RS p R
0209	T.Snr RS f L
0210	T.Snr RS f R
0211	T.Snr Ghst L
0212	T.Snr Ghst R
0213	T.Snr Flm L
0214	T.Snr Flm R
0215	Br.Snr p L
0216	Br.Snr p R
0217	Br.Snr mf L
0218	Br.Snr mf R
0219	Br.Snr ff L
0220	Br.Snr ff R
0221	Br.Snr RS L
0222	Br.Snr RS R
0223	Br.Snr Gst L
0224	Br.Snr Gst R
0225	Br.Snr Flm L
0226	Br.Snr Flm R
0227	Br.SideStk L
0228	Br.SideStk R
0229	IronSnr mf L
0230	IronSnr mf R
0231	IronSnr ff L
0232	IronSnr ff R
0233	IronSnrGst L
0234	IronSnrGst R
0235	IronSnrFlm L
0236	IronSnrFlm R
0237	WoodSnr mf L
0238	WoodSnr mf R
0239	WoodSnr ff L
0240	WoodSnr ff R
0241	WoodSnr Op L
0242	WoodSnr Op R
0243	WoodSnr RS L
0244	WoodSnr RS R
0245	WoodSnr GstL
0246	WoodSnr GstR
0247	WoodSideStkL
0248	WoodSideStkR
0249	Mute Snr p L
0250	Mute Snr p R
0251	Mute Snr f L
0252	Mute Snr f R

Arpeggio Style List/Chord Form List

Arpeggio Style List

USER (User Group)
PRST (Preset Group)

No.	Arpeggio Name	No.	Arpeggio Name
001	Basic 1	065	Bassline 4
002	Basic 2	066	Bassline 5
003	Basic 3	067	Bassline 6
004	Basic 4	068	Bassline 7
005	2 Tone Up	069	Bassline 8
006	3 Tone Up	070	Bassline 9
007	4 Tone Up	071	Bassline 10
008	2 Tone Dn	072	Bassline 11
009	3 Tone Dn	073	Bassline 12
010	4 Tone Dn	074	Bassline 13
011	4 Tone Up&Dn	075	Bassline 14
012	Seq Ptn 1	076	Bassline 15
013	Seq Ptn 2	077	Bassline 16
014	Seq Ptn 3	078	Bassline 17
015	Seq Ptn 4	079	Bassline 18
016	Seq Ptn 5	080	Bassline 19
017	Seq Ptn 6	081	Bassline 20
018	Seq Ptn 7	082	Bassline 21
019	Seq Ptn 8	083	Bassline 22
020	Seq Ptn 9	084	Bassline 23
021	Seq Ptn10	085	Bassline 24
022	Seq Ptn11	086	Guitar Arp 1
023	Seq Ptn12	087	Guitar Arp 2
024	Seq Ptn13	088	Guitar Arp 3
025	Seq Ptn14	089	Gtr Backing 1
026	Seq Ptn15	090	Gtr Backing 2
027	Seq Ptn16	091	Gtr Backing 3
028	Seq Ptn17	092	Gtr Backing 4
029	Seq Ptn18	093	Gtr Backing 5
030	Seq Ptn19	094	KeyBacking 1
031	Seq Ptn20	095	KeyBacking 2
032	Seq Ptn21	096	KeyBacking 3
033	Seq Ptn22	097	KeyBacking 4
034	Seq Ptn23	098	KeyBacking 5
035	Seq Ptn24	099	KeyBacking 6
036	Seq Ptn25	100	KeyBacking 7
037	Seq Ptn26	101	KeyBacking 8
038	Seq Ptn27	102	KeyBacking 9
039	Seq Ptn28	103	KeyBacking 10
040	Seq Ptn29	104	KeyBacking 11
041	Seq Ptn30	105	KeyBacking 12
042	Seq Ptn31	106	KeyBacking 13
043	Seq Ptn32	107	KeyBacking 14
044	Seq Ptn33	108	KeyBacking 15
045	Seq Ptn34	109	KeyBacking 16
046	Seq Ptn35	110	PhrBacking 1
047	Seq Ptn36	111	PhrBacking 2
048	Seq Ptn37	112	PhrBacking 3
049	Seq Ptn38	113	PhrBacking 4
050	Seq Ptn39	114	PhrBacking 5
051	Seq Ptn40	115	PhrBacking 6
052	Seq Ptn41	116	PhrBacking 7
053	Seq Ptn42	117	PhrBacking 8
054	Seq Ptn43	118	PhrBacking 9
055	Seq Ptn44	119	PhrBacking10
056	Seq Ptn45	120	PhrBacking11
057	Seq Ptn46	121	PhrBacking12
058	Seq Ptn47	122	PhrBacking13
059	Seq Ptn48	123	PhrBacking14
060	Seq Ptn49	124	WholeNoteTrig
061	Seq Ptn50	125	HalfNote Trig
062	Bassline 1	126	GraphicPtn1
063	Bassline 2	127	GraphicPtn2
064	Bassline 3	128	GraphicPtn3

* *Arpeggio Styles are common between Preset Group and User Group.*

Chord Form List

USER (User Group)
PRST (Preset Group)

No.	Chord Name	Constituent Notes of Chord Forms (when C4 is pressed)
001	C	C4, E4, G4
002	C 6	C4, E4, G4, A4
003	C Maj 7	C4, E4, G4, B4
004	C Maj 9	C4, E4, G4, B4, D5
005	C 6/9	C4, E4, G4, A4, D5
006	C aug	C4, E4, G#4
007	C -5	C4, E4, F#4
008	C 7	C4, E4, G4, A#4
009	C 7+5	C4, E4, G#4, A#4
010	C 7-5	C4, E4, F#4, A#4
011	C 7-9	C4, E4, G4, A#4, C#5
012	C 9	C4, E4, G4, A#4, D5
013	C 7+9	C4, E4, G4, A#4, D#5
014	C 9+5	C4, E4, G#4, A#4, D5
015	C 9-5	C4, E4, F#4, A#4, D5
016	C 11	C4, E4, G4, A#4, D5, F5
017	C +11	C4, E4, G4, A#4, D5, F#5
018	C 13	C4, E4, G4, A#4, D5, F5, A5
019	C 13+11	C4, E4, G4, A#4, D5, F#5, A5
020	C m	C4, D#4, G4
021	C m6	C4, D#4, G4, A4
022	C m Maj7	C4, D#4, G4, B4
023	C m Maj9	C4, D#4, G4, B4, D5
024	C m 6/9	C4, D#4, G4, A4, D5
025	C m7	C4, D#4, G4, A#4
026	C m7-5	C4, D#4, F#4, A#4
027	C m9	C4, D#4, G4, A#4, D5
028	C m9-5	C4, D#4, F#4, A#4, D5
029	C dim7	C4, D#4, F#4, A4
030	C dim9	C4, D#4, F#4, A4, D5
031	C sus4	C4, F4, G4
032	C 7sus4	C4, F4, G4, A#4
033	General 1	C3, G3, C4, E4
034	General 2	C3, G3, C4, D#4
035	General 3	C3, F3, A#4, D4
036	General 4	C3, G3, A#4, C4, D#4
037	General 5	C3, G3, A#4, D4, F4
038	General 6	C3, G#3, C4, D#4, G4
039	General 7	C3, B3, D4, E4, G4
040	General 8	C3, A#3, D4, E4, A4
041	General 9	C3, A#3, D4, F4, A4
042	General 10	C3, A#3, E4, A4, C5
043	General 11	C3, A#3, D4, D#4, G4
044	General 12	C3, A3, D4, D#4, G4
045	General 13	C3, A3, D4, G4
046	General 14	C2, G3, D#4, A#4, D5, F5
047	Cluster	A#2, F3, G3, C4
048	For Arpg 1	C2, E2, G2, C3, E3, G3, C4, E4, G4
049	For Arpg 2	C2, D#2, G2, C3, D#3, G3, C4, D#4, G4
050	For Arpg 3	C2, G2, C3, G3, C4, G4, C5, G5, C6
051	For Arpg 4	C2, G#2, C3, G#3, C4, G#4, C5, G#5, C6
052	Oct Stack 1	C4, C5
053	Oct Stack 2	C3, C4
054	5th Stack 1	C4, G4
055	5th Stack 2	G3, C4
056	4th Stack 1	C4, F4
057	4th Stack 2	F3, C4
058	Blues Scale	C4, D#4, F4, F#4, G4, A#4
059	Bali Scale	C4, C#4, D#4, G4, G#4
060	Chinese Scale	C4, D4, E4, G4, A4
061	Japan Scale	C4, C#4, F4, G4, A#4
062	Ryukyu Scale	C4, E4, F4, G4, B4
063	Gypsy Scale	C4, C#4, E4, F4, G4, G#4, B4
064	SpanishScale	C4, C#4, E4, F4, G4, G#4, A#4

* *Chord Form are common between Preset Group and User Group.*

* *1-32 are basic chords.*

* *33-64 are chords effective for arpeggio style.*

Rhythm Pattern List

PRST (Preset Group)

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
001	Pop 1-1		
002	Pop 1-2		
003	Pop 1-3		
004	Pop 1-4	PRST:033 StudioX Kit1	BPM112
005	Pop 1-5		
006	Pop 1-6		
007	Pop 1-7		
008	Pop 1-8		
009	Pop 2-1		
010	Pop 2-2		
011	Pop 2-3		
012	Pop 2-4	PRST:034 StudioX Kit2	BPM120
013	Pop 2-5		
014	Pop 2-6		
015	Pop 2-7		
016	Pop 2-8		
017	Pop 3-1		
018	Pop 3-2		
019	Pop 3-3		
020	Pop 3-4	PRST:002 StandardKit2	BPM121
021	Pop 3-5		
022	Pop 3-6		
023	Pop 3-7		
024	Pop 3-8		
025	Pop 4-1		
026	Pop 4-2		
027	Pop 4-3		
028	Pop 4-4	PRST:020 Nu Technica	BPM098
029	Pop 4-5		
030	Pop 4-6		
031	Pop 4-7		
032	Pop 4-8		
033	Pop 5-1		
034	Pop 5-2		
035	Pop 5-3		
036	Pop 5-4	PRST:004 Rock Kit 1	BPM080
037	Pop 5-5		
038	Pop 5-6		
039	Pop 5-7		
040	Pop 5-8		
041	Pop 6-1		
042	Pop 6-2		
043	Pop 6-3		
044	Pop 6-4	PRST:033 StudioX Kit1	BPM118
045	Pop 6-5		
046	Pop 6-6		
047	Pop 6-7		
048	Pop 6-8		
049	Pop 7-1		
050	Pop 7-2		
051	Pop 7-3		
052	Pop 7-4	PRST:001 StandardKit1	BPM096
053	Pop 7-5		
054	Pop 7-6		
055	Pop 7-7		
056	Pop 7-8		
057	Rock 1-1		
058	Rock 1-2		
059	Rock 1-3		
060	Rock 1-4	PRST:004 Rock Kit 1	BPM120
061	Rock 1-5		
062	Rock 1-6		
063	Rock 1-7		
064	Rock 1-8		
065	Rock 2-1		
066	Rock 2-2		
067	Rock 2-3		
068	Rock 2-4	PRST:004 Rock Kit 1	BPM100
069	Rock 2-5		
070	Rock 2-6		
071	Rock 2-7		
072	Rock 2-8		
073	Fusion 1		
074	Fusion 2		
075	Fusion 3		
076	Fusion 4	PRST:001 StandardKit1	BPM112
077	Fusion 5		
078	Fusion 6		
079	Fusion 7		
080	Fusion 8		
081	Funk 1		
082	Funk 2		
083	Funk 3		
084	Funk 4	PRST:033 StudioX Kit1	BPM103
085	Funk 5		
086	Funk 6		
087	Funk 7		
088	Funk 8		
089	Jazz 1		
090	Jazz 2		
091	Jazz 3		
092	Jazz 4	PRST:006 Brash Jz Kit	BPM224
093	Jazz 5		
094	Jazz 6		
095	Jazz 7		
096	Jazz 8		
097	Hip Hop 1-1		
098	Hip Hop 1-2		
099	Hip Hop 1-3		
100	Hip Hop 1-4	PRST:010 HipHop Kit 1	BPM090
101	Hip Hop 1-5		
102	Hip Hop 1-6		
103	Hip Hop 1-7		
104	Hip Hop 1-8		
105	Hip Hop 2-1		
106	Hip Hop 2-2		
107	Hip Hop 2-3		
108	Hip Hop 2-4	PRST:009 Limiter Kit	BPM090
109	Hip Hop 2-5		
110	Hip Hop 2-6		
111	Hip Hop 2-7		
112	Hip Hop 2-8		
113	R&B 1-1		
114	R&B 1-2		
115	R&B 1-3		
116	R&B 1-4	PRST:014 R&B Kit	BPM120
117	R&B 1-5		
118	R&B 1-6		
119	R&B 1-7		
120	R&B 1-8		
121	R&B 2-1		
122	R&B 2-2		
123	R&B 2-3		
124	R&B 2-4	PRST:012 HipHop&Latin	BPM090
125	R&B 2-5		
126	R&B 2-6		
127	R&B 2-7		
128	R&B 2-8		

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
129	BreakBeats 1		
130	BreakBeats 2		
131	BreakBeats 3		
132	BreakBeats 4	PRST:011 Hip Hop Kit2	BPM155
133	BreakBeats 5		
134	BreakBeats 6		
135	BreakBeats 7		
136	BreakBeats 8		
137	Big Beat 1		
138	Big Beat 2		
139	Big Beat 3		
140	Big Beat 4	PRST:005 Rock Kit 2	BPM115
141	Big Beat 5		
142	Big Beat 6		
143	Big Beat 7		
144	Big Beat 8		
145	Drum'n'Bass1		
146	Drum'n'Bass2		
147	Drum'n'Bass3		
148	Drum'n'Bass4	PRST:018 Kit-Euro:Pop	BPM160
149	Drum'n'Bass5		
150	Drum'n'Bass6		
151	Drum'n'Bass7		
152	Drum'n'Bass8		
153	2 Step 1		
154	2 Step 2		
155	2 Step 3		
156	2 Step 4	PRST:018 Kit-Euro:Pop	BPM132
157	2 Step 5		
158	2 Step 6		
159	2 Step 7		
160	2 Step 8		
161	Trance 1		
162	Trance 2		
163	Trance 3		
164	Trance 4	PRST:021 Machine Kit2	BPM136
165	Trance 5		
166	Trance 6		
167	Trance 7		
168	Trance 8		
169	Techno 1		
170	Techno 2		
171	Techno 3		
172	Techno 4	PRST:038 PassionDrums	BPM135
173	Techno 5		
174	Techno 6		
175	Techno 7		
176	Techno 8		
177	Electro 1		
178	Electro 2		
179	Electro 3		
180	Electro 4	PRST:008 909 808 Kit	BPM120
181	Electro 5		
182	Electro 6		
183	Electro 7		
184	Electro 8		
185	Hardcore 1		
186	Hardcore 2		
187	Hardcore 3		
188	Hardcore 4	PRST:022 ArtificalKit	BPM200
189	Hardcore 5		
190	Hardcore 6		
191	Hardcore 7		
192	Hardcore 8		

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
193	House 1		
194	House 2		
195	House 3		
196	House 4	PRST:019 House Kit	BPM125
197	House 5		
198	House 6		
199	House 7		
200	House 8		
201	Disco 1		
202	Disco 2		
203	Disco 3		
204	Disco 4	PRST:003 StandardKit3	BPM120
205	Disco 5		
206	Disco 6		
207	Disco 7		
208	Disco 8		
209	Reggae 1		
210	Reggae 2		
211	Reggae 3		
212	Reggae 4	PRST:034 StudioX Kit2	BPM078
213	Reggae 5		
214	Reggae 6		
215	Reggae 7		
216	Reggae 8		
217	Bossa 1		
218	Bossa 2		
219	Bossa 3		
220	Bossa 4	PRST:001 StandardKit1	BPM120
221	Bossa 5		
222	Bossa 6		
223	Bossa 7		
224	Bossa 8		
225	Latin 1		
226	Latin 2		
227	Latin 3		
228	Latin 4	PRST:001 StandardKit1	BPM090
229	Latin 5		
230	Latin 6		
231	Latin 7		
232	Latin 8		
233	El Samba 1		
234	El Samba 2		
235	El Samba 3		
236	El Samba 4	PRST:020 Nu Technica	BPM120
237	El Samba 5		
238	El Samba 6		
239	El Samba 7		
240	El Samba 8		
241	Tabla Phr 1		
242	Tabla Phr 2		
243	Tabla Phr 3		
244	Tabla Phr 4	PRST:032 Scrh&Voi&Wld	BPM120
245	Tabla Phr 5		
246	Tabla Phr 6		
247	Tabla Phr 7		
248	Tabla Phr 8		
249	Perc Phr 1		
250	Perc Phr 2		
251	Perc Phr 3		
252	Perc Phr 4	PRST:031 Percussion	BPM120
253	Perc Phr 5		
254	Perc Phr 6		
255	Perc Phr 7		
256	Perc Phr 8		

USER (User Group)

Rhythm Pattern No.001-240 are common to Preset Group and UserGroup.
Rhythm Pattern No.241-256 differ on Preset Group and User Group.

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
241	*Eurodance 1		
242	*Eurodance 2		
243	*Eurodance 3		
244	*Eurodance 4	USER:031 *Eurodance	BPM132
245	*Eurodance 5		
246	*Eurodance 6		
247	*Eurodance 7		
248	*Eurodance 8		
249	*Smpl Trig 1		
250	*Smpl Trig 2		
251	*Smpl Trig 3		
252	*Smpl Trig 4	USER:032 *Smpl Trig	BPM120
253	*Smpl Trig 5		
254	*Smpl Trig 6		
255	*Smpl Trig 7		
256	*Smpl Trig 8		

Rhythm Group List

USER (User Group)

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
01	Pop 1	PRST:033 StudioX Kit1	BPM112
02	Pop 2	PRST:034 StudioX Kit2	BPM120
03	Pop 3	PRST:002 StandardKit2	BPM121
04	Pop 4	PRST:020 Nu Technica	BPM098
05	Pop 5	PRST:004 Rock Kit 1	BPM080
06	Pop 6	PRST:001 StandardKit1	BPM118
07	Pop 7	PRST:001 StandardKit1	BPM096
08	Rock 1	PRST:004 Rock Kit 1	BPM120
09	Rock 2	PRST:004 Rock Kit 1	BPM100
10	Fusion	PRST:001 StandardKit1	BPM112
11	Funk	PRST:033 StudioX Kit1	BPM103
12	Jazz	PRST:006 Brash Jz Kit	BPM224
13	HipHop 1	PRST:010 HipHop Kit 1	BPM090
14	HipHop 2	PRST:009 Limiter Kit	BPM090
15	R&B 1	PRST:014 R&B Kit	BPM120
16	R&B 2	PRST:012 HipHop&Latin	BPM090
17	Break Beats	PRST:011 Hip Hop Kit2	BPM155
18	Big Beat	PRST:005 Rock Kit 2	BPM115
19	Drum'n'Bass	PRST:018 Kit-Euro:Pop	BPM160
20	2 Step	PRST:018 Kit-Euro:Pop	BPM132
21	Trance	PRST:021 Machine Kit2	BPM136
22	Techno	PRST:038 PassionDrums	BPM135
23	Electro	PRST:008 909 808 Kit	BPM120
24	Hardcore	PRST:022 ArtificalKit	BPM200
25	House	PRST:019 House Kit	BPM125
26	Disco	PRST:003 StandardKit3	BPM120
27	Reggae	PRST:034 StudioX Kit2	BPM078
28	Bossa	PRST:001 StandardKit1	BPM120
29	Latin	PRST:001 StandardKit1	BPM090
30	EL Samba	PRST:020 Nu Technica	BPM120
31	*Eurodance	USER:031 *Eurodance	BPM132
32	*Smpl Trig	USER:032 *Smpl Trig	BPM120

PRST (Preset Group)

No.	Pattern Name	Recommended Rhythm Set	Recommended Tempo (BPM)
01	Pop 1	PRST:033 StudioX Kit1	BPM112
02	Pop 2	PRST:034 StudioX Kit2	BPM120
03	Pop 3	PRST:002 StandardKit2	BPM121
04	Pop 4	PRST:020 Nu Technica	BPM098
05	Pop 5	PRST:004 Rock Kit 1	BPM080
06	Pop 6	PRST:001 StandardKit1	BPM118
07	Pop 7	PRST:001 StandardKit1	BPM096
08	Rock 1	PRST:004 Rock Kit 1	BPM120
09	Rock 2	PRST:004 Rock Kit 1	BPM100
10	Fusion	PRST:001 StandardKit1	BPM112
11	Funk	PRST:033 StudioX Kit1	BPM103
12	Jazz	PRST:006 Brash Jz Kit	BPM224
13	HipHop 1	PRST:010 HipHop Kit 1	BPM090
14	HipHop 2	PRST:009 Limiter Kit	BPM090
15	R&B 1	PRST:014 R&B Kit	BPM120
16	R&B 2	PRST:012 HipHop&Latin	BPM090
17	Break Beats	PRST:011 Hip Hop Kit2	BPM155
18	Big Beat	PRST:005 Rock Kit 2	BPM115
19	Drum'n'Bass	PRST:018 Kit-Euro:Pop	BPM160
20	2 Step	PRST:018 Kit-Euro:Pop	BPM132
21	Trance	PRST:021 Machine Kit2	BPM136
22	Techno	PRST:038 PassionDrums	BPM135
23	Electro	PRST:008 909 808 Kit	BPM120
24	Hardcore	PRST:022 ArtificalKit	BPM200
25	House	PRST:019 House Kit	BPM125
26	Disco	PRST:003 StandardKit3	BPM120
27	Reggae	PRST:034 StudioX Kit2	BPM078
28	Bossa	PRST:001 StandardKit1	BPM120
29	Latin	PRST:001 StandardKit1	BPM090
30	EL Samba	PRST:020 Nu Technica	BPM120
31	Tabla Phrases	PRST:032 Scrh&Voi&Wld	BPM120
32	Perc Phrases	PRST:031 Percussion	BPM120

About MIDI

MIDI (Musical Instruments Digital Interface) is a standard specification that allows musical data to be exchanged between electronic musical instruments and computers. MIDI With a MIDI cable connecting MIDI devices that are equipped with MIDI connectors, you can play multiple instruments with a single keyboard, have multiple MIDI instruments perform in ensemble, program the settings to change automatically to match the performance as the song progresses, and more.

About MIDI Connectors

The Fantom-XR is equipped with the three types of MIDI connectors, each which works differently.

MIDI IN Connector

This connector receives MIDI messages that are transmitted from external MIDI devices. The Fantom-XR can receive these messages to play notes or select sounds, etc.

MIDI OUT Connector

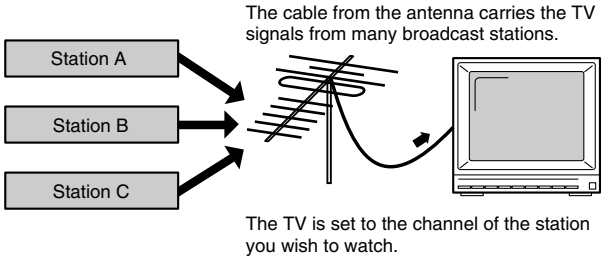
This connector transmits MIDI messages to external MIDI devices.

MIDI THRU Connector

MIDI messages received at MIDI IN are re-transmitted without change from this connector to an external MIDI device. Use this in situations such as when you use multiple MIDI devices simultaneously.

MIDI Channels and Multi-timbral Sound Generators

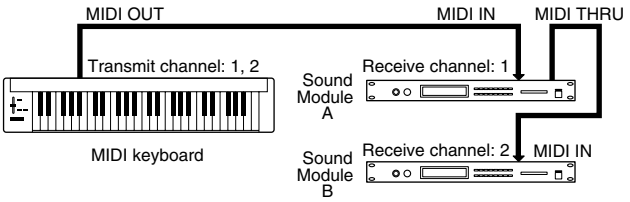
MIDI transmits many types of data over a single MIDI cable. This is made possible by the concept of **MIDI channels**. MIDI channels allow messages intended for a given instrument to be distinguished from messages intended for another instrument. In some ways, MIDI channels are similar to television channels. By changing the channel on a television set, you can view the programs that are being broadcast by different stations. In the same way, MIDI also allows a device to select the information intended for that device out of the variety of information that is being transmitted to it.



MIDI uses sixteen channels; 1 through 16. Set the receiving device so that it will receive only the channel that it needs to receive.

Example:

Set the Fantom-XR to send Channel 1 and Channel 2, then set sound module A to receive only Channel 1 and sound module B only Channel 2. With this setup, you can get an ensemble performance, with, for example, a guitar sound from sound module A and bass from sound module B.



When used as a sound module, the Fantom-XR can receive on up to sixteen MIDI channels. Sound modules like the Fantom-XR which can receive multiple MIDI channels simultaneously to play different sounds on each channel are called **multi-timbral sound modules**.

General MIDI

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

General MIDI 2

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

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

MIDI Implementation

1. Receive Data

■Channel Voice Messages

* Not received in Performance mode when the Receive Switch parameter (PERFORM/PART) is OFF.

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note off velocity:	00H - 7FH (0 - 127)	

* Not received when the Tone Envelope Mode parameter (PATCH/CTRL and RHYTHM/CTRL) is NO-SUS.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note on velocity:	01H - 7FH (1 - 127)	

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = Polyphonic Key Pressure:	00H - 7FH (0 - 127)	

* Not received in Performance mode when the Receive Poly Key Pressure parameter (PERFORM/MIDI) is OFF.

●Control Change

* If the corresponding Controller number is selected for the Patch Control Source 1, 2, 3 or 4 parameter (PATCH/CTRL1-4), the corresponding effect will occur.
* If a Controller number that corresponds to the System Control Source 1, 2, 3 or 4 parameter (SYSTEM/CONTROL) is selected, the specified effect will apply if Patch Control Source 1, 2, 3 or 4 parameter (PATCH/CTRL1-4) is set to SYS-CTRL1, SYS-CTRL2, SYS-CTRL3 or SYS-CTRL4.

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
mm, ll = Bank number:	00 00H - 7F 7FH (bank.1 - bank.16384)	

* Not received in Performance mode when the Receive Bank Select (PERFORM/MIDI) is OFF.
* The Performances, Patches, and Rhythms corresponding to each Bank Select are as follows.
* The SRX series corresponding to each Bank Select are to see the SRX series owner's manual.

BANK SELECT MSB	LSB	PROGRAM NUMBER	GROUP	NUMBER
000		001 - 128	GM Patch	001 - 256
:				
063		001 - 128	GM Patch	001 - 256
085	000	001 - 064	User Performance	001 - 064
	032	001 - 064	Card Performance	001 - 064
	064	001 - 064	Preset Performance	001 - 064
086	000	001 - 032	User Rhythm	001 - 032
	032	001 - 032	Card Rhythm	001 - 032
	064	001 - 040	Preset Rhythm	001 - 040
087	000	001 - 128	User Patch	001 - 128
	001	001 - 128	User Patch	129 - 256
	032	001 - 128	Card Patch	001 - 128
	033	001 - 128	Card Patch	129 - 256
	064	001 - 128	Preset Patch A	001 - 128
	065	001 - 128	Preset Patch B	001 - 128
	:		:	
092	000 -	001 -	SRX Rhythm	001 -
	:		:	
093	000 -	001 -	SRX Patch	001 -
	:		:	
120		001 - 057	GM Rhythm	001 - 009
121	000 -	001 - 128	GM Patch	001 - 256

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Modulation depth:	00H - 7FH (0 - 127)	

* Not received in Performance mode when the Receive Modulation parameter (PERFORM/MIDI) is OFF.

❍Breath type (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Control value:	00H - 7FH (0 - 127)	

❍Foot type (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Control value:	00H - 7FH (0 - 127)	

❍Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Portamento Time:	00H - 7FH (0 - 127)	

* In Performance mode the Part Portament Time parameter (PERFORM/PART) will change.

❍Data Entry (Controller number 6, 38)

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

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

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Volume:	00H - 7FH (0 - 127)	

* Not received in Performance mode when the Receive Volume parameter (PERFORM/MIDI) is OFF.
* In Performance mode the Part Level parameter (PERFORM/PART) will change.

❍Balance (Controller number 8)

Status	2nd byte	3rd byte
BnH	08H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Balance:	00H - 7FH (0 - 127)	

❍Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Panpot:	00H - 40H - 7FH (Left - Center - Right),	

* Not received in Performance mode when the Receive Pan parameter (PERFORM/MIDI) is OFF.
* In Performance mode the Part Pan parameter (PERFORM/PART) will change.

❍Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Expression:	00H - 7FH (0 - 127)	

* Not received when Tone Receive Expression parameter (PATCH/GENERAL or RHYTHM/GENERAL) is OFF.
* Not received in Performance mode when Receive Expression parameter (PERFORM/MIDI) is OFF.

❍Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

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

* Not received when Tone Receive Hold-1 parameter (PATCH/CTRL or RHYTHM/CTRL) is OFF.
* Not received in Performance mode when Receive Hold-1 parameter (PERFORM/MIDI) is OFF.

❍Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

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

* In Performance mode the Part Portamento Switch parameter (PERFORM/PART) will change.

❍Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

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

❍Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

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

❍Legato Foot Switch (Controller number 68)

Status	2nd byte	3rd byte
BnH	44H	vvH

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

* In Performance mode the Part Legato Switch parameter (PERFORM/PART) will change.

❍Hold-2 (Controller number 69)

Status	2nd byte	3rd byte
BnH	45H	vvH

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

* A hold movement isn't done.

❍Resonance (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv= Resonance value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Performance mode the Part Resonance Offset parameter (PERFORM/PART) will change.

❍Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Performance mode the Part Release Time Offset parameter (PERFORM/PART) will change.

❍Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Performance mode the Part Attack Time Offset parameter (PERFORM/PART) will change.

❍Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Performance mode the Part Cutoff Offset parameter (PERFORM/PART) will change.

❍Decay Time (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Decay Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Performance mode the Part Decay Time Offset parameter (PERFORM/PART) will change.

❍Vibrato Rate (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Rate value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Performance mode the Part Vibrato Rate parameter (PERFORM/PART) will change.

❍Vibrato Depth (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Depth Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Performance mode the Part Vibrato Depth parameter (PERFORM/PART) will change.

❍Vibrato Delay (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Delay value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Performance mode the Part Vibrato Delay parameter (PERFORM/PART) will change.

❍General Purpose Controller 5 (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

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

* The Tone Level parameter (PATCH/TVA) of Tone 1 will change.

❍General Purpose Controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

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

* The Tone Level parameter (PATCH/TVA) of Tone 2 will change.

❍General Purpose Controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

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

* The Tone Level parameter (PATCH/TVA) of Tone 3 will change.

❍General Purpose Controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

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

* The Tone Level parameter (PATCH/TVA) of Tone 4 will change.

❍Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

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

* A Note-on received immediately after a Portamento Control message will change continuously in pitch, starting from the pitch of the Source Note Number.
* If a voice is already sounding for a note number identical to the Source Note Number, this voice will continue sounding (i.e., legato) and will, when the next Note-on is received, smoothly change to the pitch of that Note-on.
* The rate of the pitch change caused by Portamento Control is determined by the Portamento Time value.

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

Status	2nd byte	3rd byte
BnH	5BH	vvH

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

* In Performance mode the Part Reverb Send Level parameter (PERFORM/PART) will change.

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

Status	2nd byte	3rd byte
BnH	5DH	vvH

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

* In Performance mode the Part Chorus Send Level parameter (PERFORM/PART) will change.

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

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

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

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended.
When using RPNs, first RPN (Controller numbers 100 and 101; they can be sent in any order) should be sent in order to select the parameter, then
Data Entry (Controller numbers 6 and 38) should be sent to set the value. Once RPN messages are received, Data Entry messages that is received at the same MIDI channel after that are recognized as changing toward the value of the RPN messages. In order not to make any mistakes, transmitting RPN Null is recommended after setting parameters you need.

This device receives the following RPNs.

RPN MSB, LSB	Data entry MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: ignored (processed as 00H) Up to 2 octave can be specified in semitone steps.

* In Performance mode, the Part Bend Range parameter (PERFORM/PART) will change.

00H, 01H	mmH, llH	Channel Fine Tuning mm, ll: 20 00H - 40 00H - 60 00H (-4096 x 100 / 8192 - 0 - +4096 x 100 / 8192 cent)

* In Performance mode, the Part Fine Tune parameter (PERFORM/PART) will change.

00H, 02H	mmH, llH	Channel Coarse Tuning mm: 10H - 40H - 70H (-48 - 0 - +48 semitones) ll: ignored (processed as 00H)

* In Performance mode, the Part Coarse Tune parameter (PERFORM/PART) will change.

00H, 05H	mmH, llH	Modularion Depth Range mm: 00 00H - 06 00H (0 - 16384 x 600 / 16384 cent)

* Not received in Patch mode.

7FH, 7FH	---, ---	RPN null RPN and NRPN will be set as "unspecified." Once this setting has been made, subsequent parameter values that were previously set will not change. mm, ll: ignored

●Program Change

Status	2nd byte
CnH	ppH

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

* Not received in Performance mode when the Receive Program Change parameter (PERFORM/MIDI) is OFF.

●Channel Pressure

Status	2nd byte
DnH	vvH

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

* Not received in Performance mode when the Receive Channel Pressure parameter (PERFORM/MIDI) is OFF.

●Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

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

* Not received when the Tone Receive Bender parameter (PATCH/CTRL) is OFF.
* Not received in Performance mode when the Receive Pitch Bend parameter (PERFORM/MIDI) is OFF.

■Channel Mode Messages

* Not received in Performance mode when the Receive Switch parameter (PERFORM/MIDI) is OFF.

●All Sounds Off (Controller number 120)

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

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

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

●Reset All Controllers (Controller number 121)

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

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

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

Controller	Reset value
Pitch Bend Change	+/-0 (center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Breath Type	0 (min)
Expression	127 (max) However the controller will be at minimum.
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
Hold 2	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

●All Notes Off (Controller number 123)

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

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

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

●OMNI OFF (Controller number 124)

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

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

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

●OMNI ON (Controller number 125)

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

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

* The same processing will be carried out as when All Notes Off is received. OMNI ON will not be turned on.

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm = mono number: 00H - 10H (0 - 16)

* The same processing will be carried out as when All Notes Off is received.
* In Performance mode, the Part Mono/Poly parameter (PERFORM/PART) will change.

●POLY (Controller number 127)

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

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

* The same processing will be carried out as when All Notes Off is received.
* In Performance mode, the Part Mono/Poly parameter (PERFORM/PART) will change.

■System Realtime Message

●Timing Clock

Status
F8H

* This is received when Sync Mode parameter (SYSTEM/SYNC/TEMPO) is MIDI.

●Active Sensing

Status
FEH

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

■System Exclusive Message

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

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

Of the System Exclusive messages received by this device, the Universal Non-realtime messages and the Universal Realtime messages and the Data Request (RQ1) messages and the Data Set (DT1) messages will be set automatically.

●Universal Non-realtime System Exclusive Messages

❍Identity Request Message

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

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH, 7FH)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When this message is received, Identity Reply message (p. 251) will be transmitted.

❍GM1 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI 1 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the Performance mode.
* Not received when the Receive GM1 System On parameter (SYSTEM/MIDI) is OFF.

❍GM2 System On

Status	Data byte	Status
F0H	7EH 7FH 09H 03H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
03H	Sub ID#2 (General MIDI 2 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the Performance mode.
* Not received when the Receive GM2 System On parameter (SYSTEM/MIDI) is OFF.

❍GM System Off

Status	Data byte	Status
F0H	7EH, 7F, 09H, 02H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
02H	Sub ID#2 (General MIDI Off)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will return to the Performance mode.

●Universal Realtime System Exclusive Messages

❍Master Volume

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 01H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
01H	Sub ID#2 (Master Volume)
llH	Master Volume lower byte
mmH	Master Volume upper byte
F7H	EOX (End Of Exclusive)

* The lower byte (llH) of Master Volume will be handled as 00H.
* The Master Level parameter (SYSTEM/SOUND) will change.

❍Master Fine Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 03H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
03H	Sub ID#2 (Master Fine Tuning)
llH	Master Fine Tuning LSB
mmH	Master Fine Tuning MSB
F7H	EOX (End Of Exclusive)

mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.9 [cents])

* The Master Tune parameter (SYSTEM/SOUND) will change.

❍Master Coarse Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 04H, llH, mmH	F7

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
04H	Sub ID#2 (Master Coarse Tuning)
llH	Master Coarse Tuning LSB
mmH	Master Coarse Tuning MSB
F7H	EOX (End Of Exclusive)

llH:	ignored (processed as 00H)
mmH:	28H - 40H - 58H (-24 - 0 - +24 [semitones])

* The Master Key Shift parameter (SYSTEM/SOUND) will change.

●Global Parameter Control

* Not received in Patch mode.

❍Reverb Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 01H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
01H	Slot path LSB (Effect 0101: Reverb)
ppH	Parameter to be controlled.
vvH	Value for the parameter. pp=0 Reverb Type vv = 00H Small Room vv = 01H Medium Room vv = 02H Large Room vv = 03H Medium Hall vv = 04H Large Hall vv = 08H Plate pp=1 Reverb Time vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Chorus Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 02H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
02H	Slot path LSB (Effect 0102: Chorus)
ppH	Parameter to be controlled.
vvH	Value for the parameter. pp=0 Chorus Type vv=0 Chorus1 vv=1 Chorus2 vv=2 Chorus3 vv=3 Chorus4 vv=4 FB Chorus vv=5 Flanger

	pp=1 Mod Rate
	vv= 00H - 7FH 0 - 127
	pp=2 Mod Depth
	vv = 00H - 7FH 0 - 127
	pp=3 Feedback
	vv = 00H - 7FH 0 - 127
	pp=4 Send To Reverb
	vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Channel Pressure

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 01H, 0nH, ppH, rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
01H	Sub ID#2 (Channel Pressure)
0nH	MIDI Channel (00 - 0F)
ppH	Controlled parameter
rrH	Controlled range
	pp=0 Pitch Control
	rr = 28H - 58H -24 - +24 [semitones]
	pp=1 Filter Cutoff Control
	rr = 00H - 7FH -9600 - +9450 [cents]
	pp=2 Amplitude Control
	rr = 00H - 7FH 0 - 200%
	pp=3 LFO Pitch Depth
	rr = 00H - 7FH 0 - 600 [cents]
	pp=4 LFO Filter Depth
	rr = 00H - 7FH 0 - 2400 [cents]
	pp=5 LFO Amplitude Depth
	rr = 00H - 7FH 0 - 100%
F7H	EOX (End Of Exclusive)

❍Controller

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 03H, 0nH, ccH, ppH, rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
03H	Sub ID#2 (Control Change)
0nH	MIDI Channel (00 - 0F)
ccH	Controller number (01 - 1F, 40 - 5F)
ppH	Controlled parameter
rrH	Controlled range
	pp=0 Pitch Control
	rr = 28H - 58H -24 - +24 [semitones]
	pp=1 Filter Cutoff Control
	rr = 00H - 7FH -9600 - +9450 [cents]
	pp=2 Amplitude Control
	rr = 00H - 7FH 0 - 200%
	pp=3 LFO Pitch Depth
	rr = 00H - 7FH 0 - 600 [cents]
	pp=4 LFO Filter Depth
	rr = 00H - 7FH 0 - 2400 [cents]
	pp=5 LFO Amplitude Depth
	rr = 00H - 7FH 0 - 100%
F7H	EOX (End Of Exclusive)

❍Scale/Octave Tuning Adjust

Status	Data byte	Status
F0H	7EH, 7FH, 08H, 08H, ffH, ggH, hhH, ssH...	F7

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
08H	Sub ID#1 (MIDI Tuning Standard)
08H	Sub ID#2 (scale/octave tuning 1-byte form)
ffH	Channel/Option byte 1
	bits 0 to 1 = channel 15 to 16
	bit 2 to 6 = Undefined
ggH	Channel byte 2
	bits 0 to 6 = channel 8 to 14
hhH	Channel byte 3
	bits 0 to 6 = channel 1 to 7
ssH	12 byte tuning offset of 12 semitones from C to B
	00H = -64 [cents]
	40H = 0 [cents] (equal temperament)
	7FH = +63 [cents]
F7H	EOX (End Of Exclusive)

❍Key-based Instrument Controllers

Status	Data byte	Status
F0H	7FH, 7FH, 0AH, 01H, 0nH, kkH, nnH, vvH	F7H

Byte	Explanation	
F0H	Exclusive status	
7FH	ID number (universal realtime message)	
7FH	Device ID (Broadcast)	
0AH	Sub ID#1 (Key-Based Instrument Control)	
01H	Sub ID#2 (Controller)	
0nH	MIDI Channel (00 - 0FH)	
kkH	Key Number	
nnH	Control Number	
vvH	Value	
	nn=07H Level	
	vv = 00H - 7FH	0 - 200% (Relative)
	nn=0AH	Pan
	vv = 00H - 7FH	Left - Right (Absolute)
	nn=5BH	Reverb Send
	vv = 00H - 7FH	0 - 127 (Absolute)
	nn=5D	Chorus Send
	vv = 00H - 7FH	0 - 127 (Absolute)
:	:	
F7	EOX (End Of Exclusive)	

* This parameter affects drum instruments only.

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.
The model ID of the exclusive messages used by this instrument is 00H 6BH.

❍Data Request 1 RQ1 (11H)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested.
When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

status	data byte	status
F0H	41H, dev, 00H, 6BH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (Fantom-XR)
6BH	model ID #2 (Fantom-XR)
11H	command ID (RQ1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
ssH	size MSB
ttH	size
uuH	size
vvH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in **Parameter Address Map** (p. 252).
* For the checksum, refer to (p. 269).
* Not received when the Receive Exclusive parameter (SYSTEM/MIDI) is OFF.

❍**Data set 1 DT1 (12H)**

Status	Data byte	Status
F0H	41H, dev, 00H, 6BH, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 00H - 1FH, 7FH)	
00H	Model ID #1 (Fantom-XR)	
6BH	Model ID #2 (Fantom-XR)	
12H	Command ID (DT1)	
aaH	Address MSB:	upper byte of the starting address of the data to be sent
bbH	Address:	upper middle byte of the starting address of the data to be sent
ccH	Address:	lower middle byte of the starting address of the data to be sent
ddH	Address LSB:	lower byte of the starting address of the data to be sent.
eeH	Data:	the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:	
ffH	Data	
sum	Checksum	
F7H	EOX (End Of Exclusive)	

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in **Parameter Address Map** (p. 252).
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Regarding the checksum, please refer to (p. 269)
* Not received when the Receive Exclusive parameter (SYSTEM/MIDI) is OFF.

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, aaH, bbH, ccH, ddH, ... eeH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 10H - 1FH, 7FH)	
42H	Model ID (GS)	
12H	Command ID (DT1)	
aaH	Address MSB:	upper byte of the starting address of the transmitted data
bbH	Address:	middle byte of the starting address of the transmitted data
ccH	Address LSB:	lower byte of the starting address of the transmitted data
ddH	Data:	the actual data to be transmitted. Multiple bytes of data are transmitted starting from the address.
:	:	
eeH	Data	
sum	Checksum	
F7H	EOX (End Of Exclusive)	

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in **Parameter Address Map** (p. 252).
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Regarding the checksum, please refer to (p. 269)
* Not received when the Receive Exclusive parameter (SYSTEM/MIDI) is OFF.

2. Data Transmission

■Channel Voice Messages

The following messages are transmitted when using the Arpeggio, the Chord Memory function, or the Rhythm function.

* This message is not sent when Tx Note parameter (SYSTEM/MIDI) is OFF.

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note off velocity:	00H - 7FH (0 - 127)	

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note on velocity:	01H - 7FH (1 - 127)	

■System Exclusive Messages

Universal Non-realtime System Exclusive Message" and Data Set 1 (DT1) are the only System Exclusive messages transmitted by the Fantom-XR

●Universal Non-realtime System Exclusive Message

●Identity Reply Message (Fantom-XR)

Receiving Identity Request Message, the Fantom-XR send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 6BH, 01H, 00H, 01H, 03H, 00H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
6BH 01H	Device family code
00H 01H	Device family number code
03H 00H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

●Data Transmission

❍Data set 1 DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 6BH, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation	
F0H	Exclusive status	
41H	ID number (Roland)	
dev	Device ID (dev: 00H - 1FH, 7FH)	
00H	Model ID #1 (Fantom-XR)	
6BH	Model ID #2 (Fantom-XR)	
12H	Command ID (DT1)	
aaH	Address MSB:	upper byte of the starting address of the data to be sent
bbH	Address:	upper middle byte of the starting address of the data to be sent
ccH	Address:	lower middle byte of the starting address of the data to be sent
ddH	Address LSB:	lower byte of the starting address of the data to be sent.
eeH	Data:	the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:	
ffH	Data	
sum	Checksum	
F7H	EOX (End Of Exclusive)	

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in **Parameter Address Map** (p. 252).
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

3. Parameter Address Map

* Transmission of "#" marked address is diviedd to some packets. For example, ABH in hexadecimal notation will be divied to 0AH and 0BH, and is sent/received in this order.
* "<*>" marked adddress or parameters are ignored when the Fantom-XR received them.

1. Fantom-XR (ModelID = 00H 6BH)

Start Address	Description
01 00 00 00	Setup
02 00 00 00	System
10 00 00 00	Temporary Performance
11 00 00 00	Temporary Patch/Rhythm (Performance Mode Part 1)
11 20 00 00	Temporary Patch/Rhythm (Performance Mode Part 2)
:	
14 60 00 00	Temporary Patch/Rhythm (Performance Mode Part 16)
1E 00 00 00	Temporary Rhythm Pattern
1E 01 00 00	Temporary Arpeggio (Performance Mode)
1E 02 00 00	Temporary Chord (Performance Mode)
1E 03 00 00	Temporary Rhythm Group (Performance Mode)
1E 11 00 00	Temporary Arpeggio (Patch Mode)
1E 12 00 00	Temporary Chord (Patch Mode)
1E 13 00 00	Temporary Rhythm Group (Patch Mode)
1F 00 00 00	Temporary Patch/Rhythm (Patch Mode)

❍System

Offset Address	Description
00 00 00	System Common
00 02 00	System Mastering
00 03 00	System External Input

❍Temporary Patch/Rhythm

Offset Address	Description
00 00 00	Temporary Patch
10 00 00	Temporary Rhythm

❍Performance

Offset Address	Description
00 00 00	Performance Common
00 02 00	Performance Common MFX1
00 04 00	Performance Common Chorus
00 06 00	Performance Common Reverb
00 08 00	Performance Common MFX2
00 0A 00	Performance Common MFX3
00 10 00	Performance MIDI (Channel 1)
00 11 00	Performance MIDI (Channel 2)
:	
00 1F 00	Performance MIDI (Channel 16)
00 20 00	Performance Part (Part 1)
00 21 00	Performance Part (Part 2)
:	
00 2F 00	Performance Part (Part 16)
00 60 00	Performance Controller

❍Patch

Offset Address	Description
00 00 00	Patch Common
00 02 00	Patch Common MFX
00 04 00	Patch Common Chorus
00 06 00	Patch Common Reverb
00 10 00	Patch TMT (Tone Mix Table)
00 20 00	Patch Tone (Tone 1)
00 22 00	Patch Tone (Tone 2)
00 24 00	Patch Tone (Tone 3)
00 26 00	Patch Tone (Tone 4)

❍Rhythm

Offset Address	Description
00 00 00	Rhythm Common
00 02 00	Rhythm Common MFX
00 04 00	Rhythm Common Chorus
00 06 00	Rhythm Common Reverb
00 10 00	Rhythm Tone (Key # 21)
00 12 00	Rhythm Tone (Key # 22)
:	
01 3E 00	Rhythm Tone (Key # 108)

❍Arpeggio

Offset Address	Description
00 00 00	Arpeggio Common
00 10 00	Arpeggio Pattern (Note 1)
00 11 00	Arpeggio Pattern (Note 2)
:	
00 1F 00	Arpeggio Pattern (Note 16)

❍Chord

Offset Address	Description
00 00 00	Chord Pattern

❍Rhythm Group

Offset Address	Description
00 00 00	Rhythm Group

❍Setup

Offset Address		Description	
00 00	0000 0aaa	Sound Mode	(0 - 4) PATCH, PERFORM, GM1, GM2, GS
00 01	0aaa aaaa	Performance Bank Select MSB (CC# 0)	(0 - 127)
00 02	0aaa aaaa	Performance Bank Select LSB (CC# 32)	(0 - 127)
00 03	0aaa aaaa	Performance Program Number (PC)	(0 - 127)
00 04	0aaa aaaa	Patch Bank Select MSB (CC# 0)	(0 - 127)
00 05	0aaa aaaa	Patch Bank Select LSB (CC# 32)	(0 - 127)
00 06	0aaa aaaa	Patch Program Number (PC)	(0 - 127)
00 07	0aaa aaaa	(reserve) <*>	
00 08	0aaa aaaa	(reserve) <*>	
00 09	0aaa aaaa	(reserve) <*>	
00 0A	0000 000a	MFX1 Switch	(0 - 1) BYPASS, ON
00 0B	0000 000a	MFX2 Switch	(0 - 1) BYPASS, ON
00 0C	0000 000a	MFX3 Switch	(0 - 1) BYPASS, ON
00 0D	0000 000a	Chorus Switch	(0 - 1) OFF, ON
00 0E	0000 000a	Reverb Switch	(0 - 1) OFF, ON
00 0F	0000 000a	Input Effect Switch	(0 - 1) OFF, ON
00 10	0000 000a	(reserve) <*>	
00 11	0000 000a	(reserve) <*>	
00 12	0000 aaaa	(reserve) <*>	
00 13	0000 0aaa	(reserve) <*>	
00 14	0000 0aaa	(reserve) <*>	
00 15	0000 00aa	(reserve) <*>	
00 16	0000 000a	(reserve) <*>	
00 17	0aaa aaaa	Arp/Ptn Grid	OFF, ON (0 - 8) 04_, 08_, 08L, 08H, 08t, 16_, 16L, 16H, 16t
00 18	0aaa aaaa	Arp/Ptn Duration	(0 - 9) 30, 40, 50, 60, 70, 80, 90, 100, 120, FUL
00 19	0000 000a	Arpeggio Switch	(0 - 1) OFF, ON
00 1A	0aaa aaaa	Arpeggio Bank	(0 - 1) USER, PRESET
00 1B	0aaa aaaa	Arpeggio Style	(0 - 127) 1 - 128
00 1C	0aaa aaaa	Arpeggio Motif	(0 - 11) UP/L, UP/H, UP/_, dn/L, dn/H, dn/_, Ud/L, Ud/H, Ud/_, rn/L, rn/_, PHRASE
00 1D	0000 0aaa	Arpeggio Octave Range	(61 - 67) -3 - +3
00 1E	0000 000a	Arpeggio Hold	(0 - 1) OFF, ON
00 1F	0aaa aaaa	Arpeggio Accent Rate	(0 - 100)
00 20	0aaa aaaa	Arpeggio Velocity	(0 - 127) REAL, 1 - 127
00 21	0000 000a	Rhythm Pattern Switch	(0 - 1) OFF, ON
00 22	0aaa aaaa	Rhythm Pattern Bank	(0 - 1) USER, PRESET
# 00 23	0000 aaaa 0000 bbbb	Rhythm Pattern Style	(0 - 255) 1 - 256
00 25	0000 000a	Rhythm Pattern Group Bank	(0 - 1) USER, PRESET
00 26	0aaa aaaa	Rhythm Pattern Group Number	(0 - 31) 1 - 32
00 27	0aaa aaaa	Rhythm Pattern Accent Rate	(0 - 100)
00 28	0aaa aaaa	Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
00 29	0000 000a	Chord Switch	(0 - 1) OFF, ON
00 2A	0aaa aaaa	Chord Bank	(0 - 1) USER, PRESET
00 2B	00aa aaaa	Chord Form	(0 - 63)
00 2C	0000 000a	(reserve) <*>	
00 2D	0000 000a	(reserve) <*>	
00 2E	0000 000a	(reserve) <*>	
00 2F	0000 000a	(reserve) <*>	
00 30	0aaa aaaa	(reserve) <*>	
00 31	0000 000a	Rolled Chord	(0 - 1) OFF, ON
00 32	0000 00aa	Rolled Chord Type	(0 - 2) UP, DOWN, ALTERNATE
00 33	00aa aaaa	Arpeggio Step	(0 - 32) AUTO, 1 - 32
00 00 00 34	Total Size		

❍System Common

Offset Address		Description	
# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Master Tune	(24 - 2024) -100.0 - 100.0 [cent]
00 04	00aa aaaa	Master Key Shift	(40 - 88) -24 - +24
00 05	0aaa aaaa	Master Level	(0 - 127)
00 06	0000 000a	Scale Tune Switch	(0 - 1) OFF, ON
00 07	0000 000a	Patch Remain	(0 - 1) OFF, ON
00 08	0000 000a	Mix/Parallel	(0 - 1) MIX, PARALLEL
00 09	000a aaaa	Performance Control Channel	(0 - 16) 1 - 16, OFF
00 0A	0000 aaaa	Patch Receive Channel	(0 - 15) 1 - 16
00 0B	0000 aaaa	(reserve) <*>	
00 0C	0aaa aaaa	Patch Scale Tune for C	(0 - 127) -64 - +63
00 0D	0aaa aaaa	Patch Scale Tune for C#	(0 - 127) -64 - +63
00 0E	0aaa aaaa	Patch Scale Tune for D	(0 - 127) -64 - +63
00 0F	0aaa aaaa	Patch Scale Tune for D#	(0 - 127) -64 - +63
00 10	0aaa aaaa	Patch Scale Tune for E	(0 - 127) -64 - +63
00 11	0aaa aaaa	Patch Scale Tune for F	(0 - 127) -64 - +63
00 12	0aaa aaaa	Patch Scale Tune for F#	(0 - 127) -64 - +63
00 13	0aaa aaaa	Patch Scale Tune for G	(0 - 127) -64 - +63
00 14	0aaa aaaa	Patch Scale Tune for G#	(0 - 127) -64 - +63
00 15	0aaa aaaa	Patch Scale Tune for A	(0 - 127) -64 - +63
00 16	0aaa aaaa	Patch Scale Tune for A#	(0 - 127) -64 - +63
00 17	0aaa aaaa	Patch Scale Tune for B	(0 - 127) -64 - +63
00 18	0aaa aaaa	System Control 1 Source	(0 - 97) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT
00 19	0aaa aaaa	System Control 2 Source	(0 - 97) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT
00 1A	0aaa aaaa	System Control 3 Source	(0 - 97) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT
00 1B	0aaa aaaa	System Control 4 Source	(0 - 97) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT
00 1C	0000 000a	Receive Program Change	(0 - 1) OFF, ON
00 1D	0000 000a	Receive Bank Select	(0 - 1) OFF, ON
00 00 00 1E	Total Size		

❍System Mastering

Offset Address		Description	
00 00	0000 000a	Mastering Switch	(0 - 1) OFF, ON
00 01	0aaa aaaa	Low band Attack time	(0 - 100)
00 02	0aaa aaaa	Low band Release time	(0 - 100)
00 03	00aa aaaa	Low band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 04	0000 aaaa	Low band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 05	000a aaaa	Low band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 06	0aaa aaaa	Mid band Attack time	(0 - 100)
00 07	0aaa aaaa	Mid band Release time	(0 - 100)
00 08	00aa aaaa	Mid band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 09	0000 aaaa	Mid band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 0A	000a aaaa	Mid band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 0B	0aaa aaaa	High band Attack time	(0 - 100)
00 0C	0aaa aaaa	High band Release time	(0 - 100)
00 0D	00aa aaaa	High band Threshold	(0 - 36) -36, -35, -34, -33, -32, -31, -30, -29, -28, -27, -26, -25, -24, -23, -22, -21, -20, -19, -18, -17, -16, -15, -14, -13, -12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1, 0 [dB]
00 0E	0000 aaaa	High band Ratio	(0 - 13) 1:1.0, 1:1.1, 1:1.2, 1:1.4, 1:1.6, 1:1.8, 1:2.0, 1:2.5, 1:3.2, 1:4.0, 1:5.6, 1:8.0, 1:16, 1:INF
00 0F	000a aaaa	High band Level	(0 - 24) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 [dB]
00 10	0000 0aaa	Split Freq Low	(0 - 6) 200, 250, 315, 400, 500, 630, 800 [Hz]
00 11	0000 0aaa	Split Freq High	(0 - 6) 2000, 2500, 3150, 4000, 5000, 6300, 8000 [Hz]
00 00 00 12	Total Size		

❍System External Input

Offset Address		Description	
00 00	0aaa aaaa	External Dry Send Level	(0 - 127)
00 01	0aaa aaaa	External Chorus Send Level	(0 - 127)
00 02	0aaa aaaa	External Reverb Send Level	(0 - 127)
00 03	0000 aaaa	External Output Assign	(0 - 1) MFX, DRY
00 04	0000 00aa	External Output MFX Select	(0 - 2) MFX1, MFX2, MFX3
00 05	0000 aaaa	Input Effect Type	(1 - 6)
# 00 06	0000 aaaa 0000 bbbb 0000 cccc		

	0000 dddd	Input Effect Parameter 1	(12768 - 52768) -20000 - +20000
# 00 0A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 3	(12768 - 52768) -20000 - +20000
# 00 12	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 4	(12768 - 52768) -20000 - +20000
# 00 16	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 5	(12768 - 52768) -20000 - +20000
# 00 1A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 7	(12768 - 52768) -20000 - +20000
# 00 22	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 8	(12768 - 52768) -20000 - +20000
# 00 26	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 9	(12768 - 52768) -20000 - +20000
# 00 2A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 11	(12768 - 52768) -20000 - +20000
# 00 32	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 12	(12768 - 52768) -20000 - +20000
# 00 36	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 13	(12768 - 52768) -20000 - +20000
# 00 3A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 15	(12768 - 52768) -20000 - +20000
# 00 42	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 16	(12768 - 52768) -20000 - +20000
# 00 46	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 17	(12768 - 52768) -20000 - +20000
# 00 4A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 19	(12768 - 52768) -20000 - +20000
# 00 52	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Input Effect Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 56	Total Size		

❍Performance Common

Offset Address		Description	
00 00	0aaa aaaa	Performance Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Performance Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Performance Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Performance Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Performance Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Performance Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Performance Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Performance Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Performance Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Performance Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Performance Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Performance Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	00aa aaaa	Solo Part Select	(0 - 16) OFF, 1 - 16
00 0D	000a aaaa	MFX1 Control Channel	(0 - 16) 1 - 16, OFF
00 0E	0000 000a	(reserve) <*>	(1 - 0)
00 0F	0000 000a	(reserve) <*>	(1 - 0)
00 10	0aaa aaaa	Voice Reserve 1	(0 - 64) 0 - 63, FULL
00 11	0aaa aaaa	Voice Reserve 2	(0 - 64) 0 - 63, FULL
00 12	0aaa aaaa	Voice Reserve 3	(0 - 64) 0 - 63, FULL
00 13	0aaa aaaa	Voice Reserve 4	(0 - 64) 0 - 63, FULL
00 14	0aaa aaaa	Voice Reserve 5	(0 - 64) 0 - 63, FULL
00 15	0aaa aaaa	Voice Reserve 6	(0 - 64) 0 - 63, FULL
00 16	0aaa aaaa	Voice Reserve 7	(0 - 64) 0 - 63, FULL
00 17	0aaa aaaa	Voice Reserve 8	(0 - 64) 0 - 63, FULL
00 18	0aaa aaaa	Voice Reserve 9	(0 - 64) 0 - 63, FULL
00 19	0aaa aaaa	Voice Reserve 10	(0 - 64) 0 - 63, FULL
00 1A	0aaa aaaa	Voice Reserve 11	(0 - 64) 0 - 63, FULL
00 1B	0aaa aaaa	Voice Reserve 12	(0 - 64) 0 - 63, FULL
00 1C	0aaa aaaa	Voice Reserve 13	(0 - 64) 0 - 63, FULL
00 1D	0aaa aaaa	Voice Reserve 14	(0 - 64) 0 - 63, FULL
00 1E	0aaa aaaa	Voice Reserve 15	(0 - 64) 0 - 63, FULL
00 1F	0aaa aaaa	Voice Reserve 16	(0 - 64) 0 - 63, FULL
00 20	0aaa aaaa	(reserve) <*>	(0 - 64)
00 21	0aaa aaaa	(reserve) <*>	(0 - 64)
00 22	0aaa aaaa	(reserve) <*>	(0 - 64)
00 23	0aaa aaaa	(reserve) <*>	(0 - 64)
00 24	0aaa aaaa	(reserve) <*>	(0 - 64)
00 25	0aaa aaaa	(reserve) <*>	(0 - 64)
00 26	0aaa aaaa	(reserve) <*>	(0 - 64)
00 27	0aaa aaaa	(reserve) <*>	(0 - 64)
00 28	0aaa aaaa	(reserve) <*>	(0 - 64)
00 29	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2A	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2B	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2C	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2D	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2E	0aaa aaaa	(reserve) <*>	(0 - 64)
00 2F	0aaa aaaa	(reserve) <*>	(0 - 64)
00 30	00aa aaaa	MFX1 Source	(0 - 16) PERFORM, 1 - 16
00 31	00aa aaaa	MFX2 Source	(0 - 16) PERFORM, 1 - 16
00 32	00aa aaaa	MFX3 Source	(0 - 16) PERFORM, 1 - 16
00 33	00aa aaaa	Chorus Source	(0 - 16) PERFORM, 1 - 16
00 34	00aa aaaa	Reverb Source	(0 - 16) PERFORM, 1 - 16
00 35	00aa aaaa	MFX2 Control Channel	(0 - 16) 1 - 16, OFF
00 36	00aa aaaa	MFX3 Control Channel	(0 - 16) 1 - 16, OFF
00 37	0000 aaaa	MFX Structure	(0 - 15) 1 - 16
00 00 00 38	Total Size		

❍Performance Common MFX

Offset Address		Description	
00 00	0aaa aaaa	MFX Type	(0 - 127)
00 01	0aaa aaaa	MFX Dry Send Level	(0 - 127)
00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
00 04	0000 00aa	MFX Output Assign	(0 - 3) A, B, ---, ---
00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127) -63 - +63
00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127) -63 - +63
00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127) -63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127) -63 - +63
00 0D	000a aaaa	MFX Control Assign 1	(0 - 16) OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2	(0 - 16) OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3	(0 - 16) OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4	(0 - 16) OFF, 1 - 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb		

	0000 cccc		
	0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000
# 00 19	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
# 00 1D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
# 00 21	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
# 00 25	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
# 00 29	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
# 00 2D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
# 00 31	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
# 00 35	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
# 00 39	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
# 00 3D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
# 00 41	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
# 00 45	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
# 00 49	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
# 00 4D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
# 00 51	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
# 00 55	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
# 00 59	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
# 00 5D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
# 00 61	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
# 00 65	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
# 00 69	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
# 00 6D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
# 00 71	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
# 00 75	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
# 00 79	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
# 00 7D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
# 01 01	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
# 01 05	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
# 01 09	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
# 01 0D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
00 00 01 11	Total Size		

❍Performance Common Chorus

Offset Address		Description	
00 00	0000 aaaa	Chorus Type	(0 - 3)
00 01	0aaa aaaa	Chorus Level	(0 - 127)
00 02	0000 00aa	Chorus Output Assign	(0 - 3) A, B, ---, ---
00 03	0000 00aa	Chorus Output Select	(0 - 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 1	(12768 - 52768) -20000 - +20000
# 00 08	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 3	(12768 - 52768) -20000 - +20000
# 00 10	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 4	(12768 - 52768) -20000 - +20000
# 00 14	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 5	(12768 - 52768) -20000 - +20000
# 00 18	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 7	(12768 - 52768) -20000 - +20000
# 00 20	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 8	(12768 - 52768) -20000 - +20000
# 00 24	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 9	(12768 - 52768) -20000 - +20000
# 00 28	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 11	(12768 - 52768) -20000 - +20000
# 00 30	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 12	(12768 - 52768) -20000 - +20000
# 00 34	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 13	(12768 - 52768) -20000 - +20000
# 00 38	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 15	(12768 - 52768) -20000 - +20000
# 00 40	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 16	(12768 - 52768) -20000 - +20000
# 00 44	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 17	(12768 - 52768) -20000 - +20000
# 00 48	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 19	(12768 - 52768) -20000 - +20000
# 00 50	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 54	Total Size		

❍Performance Common Reverb

Offset Address		Description	
00 00	0000 aaaa	Reverb Type	(0 - 5)
00 01	0aaa aaaa	Reverb Level	(0 - 127)
00 02	0000 00aa	Reverb Output Assign	(0 - 3) A, B, ---, ---
# 00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 - 52768) -20000 - +20000
# 00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 - 52768) -20000 - +20000
# 00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 - 52768) -20000 - +20000
# 00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 - 52768) -20000 - +20000
# 00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 - 52768) -20000 - +20000
# 00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 - 52768) -20000 - +20000
# 00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 - 52768) -20000 - +20000
# 00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 - 52768) -20000 - +20000
# 00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 - 52768) -20000 - +20000
# 00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 - 52768) -20000 - +20000
# 00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 - 52768) -20000 - +20000
# 00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 - 52768) -20000 - +20000
# 00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 - 52768) -20000 - +20000
# 00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 - 52768) -20000 - +20000
# 00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 53	Total Size		

❍Performance MIDI

Offset Address		Description	
00 00	0000 000a	Receive Program Change	(0 - 1) OFF, ON
00 01	0000 000a	Receive Bank Select	(0 - 1) OFF, ON
00 02	0000 000a	Receive Bender	(0 - 1) OFF, ON
00 03	0000 000a	Receive Polyphonic Key Pressure	(0 - 1) OFF, ON
00 04	0000 000a	Receive Channel Pressure	(0 - 1) OFF, ON
00 05	0000 000a	Receive Modulation	(0 - 1) OFF, ON
00 06	0000 000a	Receive Volume	(0 - 1) OFF, ON
00 07	0000 000a	Receive Pan	(0 - 1) OFF, ON
00 08	0000 000a	Receive Expression	(0 - 1) OFF, ON
00 09	0000 000a	Receive Hold-1	(0 - 1) OFF, ON
00 0A	0000 000a	Phase Lock	(0 - 1) OFF, ON
00 0B	0000 0aaa	Velocity Curve Type	(0 - 4) OFF, 1 - 4
00 00 00 0C	Total Size		

❍Performance Part

Offset Address		Description	
00 00	0000 aaaa	Receive Channel	(0 - 15) 1 - 16
00 01	0000 000a	Receive Switch	(0 - 1) OFF, ON
00 02	0000 0000	(reserve) <*>	(1 - 0)
00 03	0000 0000	(reserve) <*>	(1 - 0)
00 04	0aaa aaaa	Patch Bank Select MSB (CC# 0)	(0 - 127)
00 05	0aaa aaaa	Patch Bank Select LSB (CC# 32)	(0 - 127)
00 06	0aaa aaaa	Patch Program Number (PC)	(0 - 127)
00 07	0aaa aaaa	Part Level (CC# 7)	(0 - 127)
00 08	0aaa aaaa	Part Pan (CC# 10)	(0 - 127) L64 - 63R
00 09	0aaa aaaa	Part Coarse Tune (RPN# 2)	(16 - 112) -48 - +48
00 0A	0aaa aaaa	Part Fine Tune (RPN# 1)	(14 - 114) -50 - +50
00 0B	0000 00aa	Part Mono/Poly (MONO ON/POLY ON)	(0 - 2) MONO, POLY, PATCH
00 0C	0000 00aa	Part Legato Switch (CC# 68)	(0 - 2) OFF, ON, PATCH
00 0D	000a aaaa	Part Pitch Bend Range (RPN# 0)	(0 - 25) 0 - 24, PATCH
00 0E	0000 00aa	Part Portamento Switch (CC# 65)	(0 - 2) OFF, ON, PATCH
# 00 0F	0000 aaaa 0000 bbbb	Part Portamento Time (CC# 5)	(0 - 128) 0 - 127, PATCH
00 11	0aaa aaaa	Part Cutoff Offset (CC# 74)	(0 - 127) -64 - +63
00 12	0aaa aaaa	Part Resonance Offset (CC# 71)	(0 - 127) -64 - +63
00 13	0aaa aaaa	Part Attack Time Offset (CC# 73)	(0 - 127) -64 - +63
00 14	0aaa aaaa	Part Release Time Offset (CC# 72)	(0 - 127) -64 - +63
00 15	0000 0aaa	Part Octave Shift	(61 - 67) -3 - +3
00 16	0aaa aaaa	Part Velocity Sens Offset	(1 - 127) -63 - +63
00 17	0aaa aaaa	Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 18	0aaa aaaa	Keyboard Range Upper	(0 - 127) LOWER - G9
00 19	0aaa aaaa	Keyboard Fade Width Lower	(0 - 127)
00 1A	0aaa aaaa	Keyboard Fade Width Upper	(0 - 127)
00 1B	0000 000a	Mute Switch	(0 - 1) OFF, MUTE
00 1C	0aaa aaaa	Part Dry Send Level	(0 - 127)
00 1D	0aaa aaaa	Part Chorus Send Level (CC# 93)	(0 - 127)
00 1E	0aaa aaaa	Part Reverb Send Level (CC# 91)	(0 - 127)
00 1F	0000 aaaa	Part Output Assign	(0 - 13) MFX, A, B, ---, ---, 1, 2, 3, 4, ---, ---, ---, ---, PATCH
00 20	0000 00aa	Part Output MFX Select	(0 - 2) MFX1, MFX2, MFX3
00 21	0aaa aaaa	Part Decay Time Offset (CC# 75)	(0 - 127) -64 - +63
00 22	0aaa aaaa	Part Vibrato Rate (CC# 76)	(0 - 127) -64 - +63
00 23	0aaa aaaa	Part Vibrato Depth (CC# 77)	(0 - 127) -64 - +63
00 24	0aaa aaaa	Part Vibrato Delay (CC# 78)	(0 - 127) -64 - +63
00 25	0aaa aaaa	Part Scale Tune for C	(0 - 127) -64 - +63
00 26	0aaa aaaa	Part Scale Tune for C#	(0 - 127) -64 - +63
00 27	0aaa aaaa	Part Scale Tune for D	(0 - 127) -64 - +63
00 28	0aaa aaaa	Part Scale Tune for D#	(0 - 127) -64 - +63
00 29	0aaa aaaa	Part Scale Tune for E	(0 - 127) -64 - +63
00 2A	0aaa aaaa	Part Scale Tune for F	(0 - 127) -64 - +63
00 2B	0aaa aaaa	Part Scale Tune for F#	(0 - 127) -64 - +63
00 2C	0aaa aaaa	Part Scale Tune for G	(0 - 127) -64 - +63
00 2D	0aaa aaaa	Part Scale Tune for G#	(0 - 127) -64 - +63
00 2E	0aaa aaaa	Part Scale Tune for A	(0 - 127) -64 - +63
00 2F	0aaa aaaa	Part Scale Tune for A#	(0 - 127) -64 - +63
00 30	0aaa aaaa	Part Scale Tune for B	(0 - 127) -64 - +63
00 00 00 31	Total Size		

❍Performance Controller

Offset Address		Description	
00 00	0000 000a	(reserve) <*>	
00 01	0aaa aaaa	(reserve) <*>	
00 02	0aaa aaaa	(reserve) <*>	
00 03	0aaa aaaa	(reserve) <*>	
00 04	0000 aaaa	(reserve) <*>	
00 05	0aaa aaaa	(reserve) <*>	
00 06	0aaa aaaa	(reserve) <*>	
00 07	0aaa aaaa	(reserve) <*>	
00 08	0aaa aaaa	(reserve) <*>	
00 09	0aaa aaaa	(reserve) <*>	
00 0A	0aaa aaaa	(reserve) <*>	
00 0B	0aaa aaaa	(reserve) <*>	
00 0C	0aaa aaaa	(reserve) <*>	
00 0D	0000 000a	(reserve) <*>	
00 0E	0aaa aaaa	Arp/Ptn Grid	(0 - 8) 04_, 08_, 08L, 08H, 08t,

			16_, 16L, 16H, 16t
	00 0F	0aaa aaaa	Arp/Ptn Duration (0 - 9) 30, 40, 50, 60, 70, 80, 90, 100, 120, FUL
	00 10	0000 000a	Arpeggio Switch (0 - 1) OFF, ON
	00 11	0aaa aaaa	Arpeggio Bank (0 - 1) USER, PRESET
	00 12	0aaa aaaa	Arpeggio Style (0 - 127) 1 - 128
	00 13	0aaa aaaa	Arpeggio Motif (0 - 11) UP/L, UP/H, UP/_, dn/L, dn/H, dn/_, Ud/L, Ud/H, Ud/_, rn/L, rn/_, PHRASE
	00 14	0000 0aaa	Arpeggio Octave Range (61 - 67) -3 - +3
	00 15	0000 000a	Arpeggio Hold (0 - 1) OFF, ON
	00 16	0aaa aaaa	Arpeggio Accent Rate (0 - 100)
	00 17	0aaa aaaa	Arpeggio Velocity (0 - 127) REAL, 1 - 127
	00 18	0000 aaaa	Arpeggio Ctrl Channel (0 - 15) 1 - 16
	00 19	0000 000a	Rhythm Pattern Switch (0 - 1) OFF, ON
	00 1A	0aaa aaaa	Rhythm Pattern Group Bank (0 - 1) USER, PRESET
	00 1B	0aaa aaaa	Rhythm Pattern Group Number (0 - 31) 1 - 32
	00 1C	0aaa aaaa	Rhythm Pattern Accent Rate (0 - 100)
	00 1D	0aaa aaaa	Rhythm Pattern Velocity (0 - 127) REAL, 1 - 127
	00 1E	0000 000a	Chord Switch (0 - 1) OFF, ON
	00 1F	0aaa aaaa	Chord Group (0 - 1) USER, PRESET
	00 20	00aa aaaa	Chord Form (0 - 63)
	00 21	0aaa aaaa	(reserve) <*>
	00 22	0aaa aaaa	(reserve) <*>
	00 23	000a aaaa	Rhythm Pattern Ctrl Channel (0 - 15) 1 - 16
	00 24	0aaa aaaa	(reserve) <*>
	00 25	0aaa aaaa	(reserve) <*>
	00 26	0aaa aaaa	(reserve) <*>
	00 27	0aaa aaaa	(reserve) <*>
	00 28	0aaa aaaa	(reserve) <*>
	00 29	0aaa aaaa	(reserve) <*>
	00 2A	0aaa aaaa	(reserve) <*>
	00 2B	0aaa aaaa	(reserve) <*>
	00 2C	0aaa aaaa	(reserve) <*>
	00 2D	0aaa aaaa	(reserve) <*>
	00 2E	0aaa aaaa	(reserve) <*>
	00 2F	0aaa aaaa	(reserve) <*>
	00 30	0aaa aaaa	(reserve) <*>
	00 31	0aaa aaaa	(reserve) <*>
	00 32	0aaa aaaa	(reserve) <*>
	00 33	0aaa aaaa	(reserve) <*>
	00 34	0aaa aaaa	(reserve) <*>
	00 35	0aaa aaaa	(reserve) <*>
	00 36	0aaa aaaa	(reserve) <*>
	00 37	0aaa aaaa	(reserve) <*>
	00 38	0aaa aaaa	(reserve) <*>
	00 39	0aaa aaaa	(reserve) <*>
	00 3A	0aaa aaaa	(reserve) <*>
	00 3B	0aaa aaaa	(reserve) <*>
	00 3C	0aaa aaaa	(reserve) <*>
	00 3D	0aaa aaaa	(reserve) <*>
	00 3E	0aaa aaaa	(reserve) <*>
	00 3F	0aaa aaaa	(reserve) <*>
	00 40	0aaa aaaa	(reserve) <*>
	00 41	0aaa aaaa	(reserve) <*>
	00 42	0aaa aaaa	(reserve) <*>
	00 43	0aaa aaaa	(reserve) <*>
	00 44	0aaa aaaa	(reserve) <*>
	00 45	0aaa aaaa	(reserve) <*>
	00 46	0aaa aaaa	(reserve) <*>
	00 47	0aaa aaaa	(reserve) <*>
	00 48	0aaa aaaa	(reserve) <*>
	00 49	0aaa aaaa	(reserve) <*>
	00 4A	0aaa aaaa	(reserve) <*>
	00 4B	0aaa aaaa	(reserve) <*>
	00 4C	0aaa aaaa	(reserve) <*>
	00 4D	0aaa aaaa	(reserve) <*>
	00 4E	0aaa aaaa	(reserve) <*>
	00 4F	0aaa aaaa	(reserve) <*>
	00 50	0aaa aaaa	(reserve) <*>
	00 51	0aaa aaaa	(reserve) <*>
	00 52	0aaa aaaa	(reserve) <*>
	00 53	0aaa aaaa	(reserve) <*>
#	00 54	0000 aaaa 0000 bbbb	Recommended Tempo (20 - 250)
	00 56	0000 000a	Rolled Chord (0 - 1) OFF, ON
	00 57	0000 00aa	Rolled Chord Type (0 - 2) UP, DOWN, ALTERNATE
	00 00 00 58	Total Size	

❍Arpeggio Common

Offset Address		Description	
#	00 00	0000 aaaa 0000 bbbb	End Step (1 - 32)
	00 02	0aaa aaaa	Arpeggio Name 1 (32 - 127)
	00 03	0aaa aaaa	Arpeggio Name 2 (32 - 127)
	00 04	0aaa aaaa	Arpeggio Name 3 (32 - 127)
	00 05	0aaa aaaa	Arpeggio Name 4 (32 - 127)
	00 06	0aaa aaaa	Arpeggio Name 5 (32 - 127)
	00 07	0aaa aaaa	Arpeggio Name 6 (32 - 127)
	00 08	0aaa aaaa	Arpeggio Name 7 (32 - 127)
	00 09	0aaa aaaa	Arpeggio Name 8 (32 - 127)
	00 0A	0aaa aaaa	Arpeggio Name 9 (32 - 127)
	00 0B	0aaa aaaa	Arpeggio Name 10 (32 - 127)
	00 0C	0aaa aaaa	Arpeggio Name 11 (32 - 127)
	00 0D	0aaa aaaa	Arpeggio Name 12 (32 - 127)
	00 0E	0aaa aaaa	(reserve) <*>
	00 0F	0aaa aaaa	(reserve) <*>
	00 10	0aaa aaaa	(reserve) <*>
	00 11	0aaa aaaa	(reserve) <*>
	00 00 00 12	Total Size	

❍Arpeggio Pattern

Offset Address		Description	
#	00 00	0000 aaaa 0000 bbbb	Original Note (0 - 128)
#	00 02	0000 aaaa 0000 bbbb	Step1 Data (0 - 128)
#	00 04	0000 aaaa 0000 bbbb	Step2 Data (0 - 128)
#	00 06	0000 aaaa 0000 bbbb	Step3 Data (0 - 128)
#	00 08	0000 aaaa 0000 bbbb	Step4 Data (0 - 128)
#	00 0A	0000 aaaa 0000 bbbb	Step5 Data (0 - 128)
#	00 0C	0000 aaaa 0000 bbbb	Step6 Data (0 - 128)
#	00 0E	0000 aaaa 0000 bbbb	Step7 Data (0 - 128)
#	00 10	0000 aaaa 0000 bbbb	Step8 Data (0 - 128)
#	00 12	0000 aaaa 0000 bbbb	Step9 Data (0 - 128)
#	00 14	0000 aaaa 0000 bbbb	Step10 Data (0 - 128)
#	00 16	0000 aaaa 0000 bbbb	Step11 Data (0 - 128)
#	00 18	0000 aaaa 0000 bbbb	Step12 Data (0 - 128)
#	00 1A	0000 aaaa 0000 bbbb	Step13 Data (0 - 128)
#	00 1C	0000 aaaa 0000 bbbb	Step14 Data (0 - 128)
#	00 1E	0000 aaaa 0000 bbbb	Step15 Data (0 - 128)
#	00 20	0000 aaaa 0000 bbbb	Step16 Data (0 - 128)
#	00 22	0000 aaaa 0000 bbbb	Step17 Data (0 - 128)
#	00 24	0000 aaaa 0000 bbbb	Step18 Data (0 - 128)
#	00 26	0000 aaaa 0000 bbbb	Step19 Data (0 - 128)
#	00 28	0000 aaaa 0000 bbbb	Step20 Data (0 - 128)
#	00 2A	0000 aaaa 0000 bbbb	Step21 Data (0 - 128)
#	00 2C	0000 aaaa 0000 bbbb	Step22 Data (0 - 128)
#	00 2E	0000 aaaa 0000 bbbb	Step23 Data (0 - 128)
#	00 30	0000 aaaa 0000 bbbb	Step24 Data (0 - 128)
#	00 32	0000 aaaa 0000 bbbb	Step25 Data (0 - 128)
#	00 34	0000 aaaa 0000 bbbb	Step26 Data (0 - 128)
#	00 36	0000 aaaa 0000 bbbb	Step27 Data (0 - 128)
#	00 38	0000 aaaa 0000 bbbb	Step28 Data (0 - 128)
#	00 3A	0000 aaaa 0000 bbbb	Step29 Data (0 - 128)
#	00 3C	0000 aaaa 0000 bbbb	Step30 Data (0 - 128)
#	00 3E	0000 aaaa 0000 bbbb	Step31 Data (0 - 128)
#	00 40	0000 aaaa 0000 bbbb	Step32 Data (0 - 128)
	00 00 00 42	Total Size	

❍Chord Pattern

Offset Address		Description	
	00 00	0000 000a	Chord Note1 (0 - 1) OFF, ON
	00 01	0000 000a	Chord Note2 (0 - 1) OFF, ON
	00 02	0000 000a	Chord Note3 (0 - 1) OFF, ON
	00 03	0000 000a	Chord Note4 (0 - 1) OFF, ON
	00 04	0000 000a	Chord Note5 (0 - 1) OFF, ON
	00 05	0000 000a	Chord Note6 (0 - 1) OFF, ON
	00 06	0000 000a	Chord Note7 (0 - 1) OFF, ON
	00 07	0000 000a	Chord Note8 (0 - 1) OFF, ON
	00 08	0000 000a	Chord Note9 (0 - 1) OFF, ON
	00 09	0000 000a	Chord Note10 (0 - 1) OFF, ON
	00 0A	0000 000a	Chord Note11 (0 - 1) OFF, ON
	00 0B	0000 000a	Chord Note12 (0 - 1) OFF, ON
	00 0C	0000 000a	Chord Note13 (0 - 1) OFF, ON
	00 0D	0000 000a	Chord Note14 (0 - 1) OFF, ON
	00 0E	0000 000a	Chord Note15 (0 - 1) OFF, ON
	00 0F	0000 000a	Chord Note16 (0 - 1) OFF, ON
	00 10	0000 000a	Chord Note17 (0 - 1) OFF, ON
	00 11	0000 000a	Chord Note18 (0 - 1) OFF, ON
	00 12	0000 000a	Chord Note19 (0 - 1) OFF, ON
	00 13	0000 000a	Chord Note20 (0 - 1) OFF, ON
	00 14	0000 000a	Chord Note21 (0 - 1) OFF, ON
	00 15	0000 000a	Chord Note22 (0 - 1) OFF, ON
	00 16	0000 000a	Chord Note23 (0 - 1) OFF, ON
	00 17	0000 000a	Chord Note24 (0 - 1) OFF, ON

00 18	0000 000a	Chord Note25	(0 - 1) OFF, ON
00 19	0000 000a	Chord Note26	(0 - 1) OFF, ON
00 1A	0000 000a	Chord Note27	(0 - 1) OFF, ON
00 1B	0000 000a	Chord Note28	(0 - 1) OFF, ON
00 1C	0000 000a	Chord Note29	(0 - 1) OFF, ON
00 1D	0000 000a	Chord Note30	(0 - 1) OFF, ON
00 1E	0000 000a	Chord Note31	(0 - 1) OFF, ON
00 1F	0000 000a	Chord Note32	(0 - 1) OFF, ON
00 20	0000 000a	Chord Note33	(0 - 1) OFF, ON
00 21	0000 000a	Chord Note34	(0 - 1) OFF, ON
00 22	0000 000a	Chord Note35	(0 - 1) OFF, ON
00 23	0000 000a	Chord Note36	(0 - 1) OFF, ON
00 24	0000 000a	Chord Note37	(0 - 1) OFF, ON
00 25	0000 000a	Chord Note38	(0 - 1) OFF, ON
00 26	0000 000a	Chord Note39	(0 - 1) OFF, ON
00 27	0000 000a	Chord Note40	(0 - 1) OFF, ON
00 28	0000 000a	Chord Note41	(0 - 1) OFF, ON
00 29	0000 000a	Chord Note42	(0 - 1) OFF, ON
00 2A	0000 000a	Chord Note43	(0 - 1) OFF, ON
00 2B	0000 000a	Chord Note44	(0 - 1) OFF, ON
00 2C	0000 000a	Chord Note45	(0 - 1) OFF, ON
00 2D	0000 000a	Chord Note46	(0 - 1) OFF, ON
00 2E	0000 000a	Chord Note47	(0 - 1) OFF, ON
00 2F	0000 000a	Chord Note48	(0 - 1) OFF, ON
00 30	0000 000a	Chord Note49	(0 - 1) OFF, ON
00 31	0000 000a	Chord Note50	(0 - 1) OFF, ON
00 32	0000 000a	Chord Note51	(0 - 1) OFF, ON
00 33	0000 000a	Chord Note52	(0 - 1) OFF, ON
00 34	0000 000a	Chord Note53	(0 - 1) OFF, ON
00 35	0000 000a	Chord Note54	(0 - 1) OFF, ON
00 36	0000 000a	Chord Note55	(0 - 1) OFF, ON
00 37	0000 000a	Chord Note56	(0 - 1) OFF, ON
00 38	0000 000a	Chord Note57	(0 - 1) OFF, ON
00 39	0000 000a	Chord Note58	(0 - 1) OFF, ON
00 3A	0000 000a	Chord Note59	(0 - 1) OFF, ON
00 3B	0000 000a	Chord Note60	(0 - 1) OFF, ON
00 3C	0000 000a	Chord Note61	(0 - 1) OFF, ON
00 3D	0000 000a	Chord Note62	(0 - 1) OFF, ON
00 3E	0000 000a	Chord Note63	(0 - 1) OFF, ON
00 3F	0000 000a	Chord Note64	(0 - 1) OFF, ON
00 40	0000 000a	Chord Note65	(0 - 1) OFF, ON
00 41	0000 000a	Chord Note66	(0 - 1) OFF, ON
00 42	0000 000a	Chord Note67	(0 - 1) OFF, ON
00 43	0000 000a	Chord Note68	(0 - 1) OFF, ON
00 44	0000 000a	Chord Note69	(0 - 1) OFF, ON
00 45	0000 000a	Chord Note70	(0 - 1) OFF, ON
00 46	0000 000a	Chord Note71	(0 - 1) OFF, ON
00 47	0000 000a	Chord Note72	(0 - 1) OFF, ON
00 48	0000 000a	Chord Note73	(0 - 1) OFF, ON
00 49	0000 000a	Chord Note74	(0 - 1) OFF, ON
00 4A	0000 000a	Chord Note75	(0 - 1) OFF, ON
00 4B	0000 000a	Chord Note76	(0 - 1) OFF, ON
00 4C	0000 000a	Chord Note77	(0 - 1) OFF, ON
00 4D	0000 000a	Chord Note78	(0 - 1) OFF, ON
00 4E	0000 000a	Chord Note79	(0 - 1) OFF, ON
00 4F	0000 000a	Chord Note80	(0 - 1) OFF, ON
00 50	0000 000a	Chord Note81	(0 - 1) OFF, ON
00 51	0000 000a	Chord Note82	(0 - 1) OFF, ON
00 52	0000 000a	Chord Note83	(0 - 1) OFF, ON
00 53	0000 000a	Chord Note84	(0 - 1) OFF, ON
00 54	0000 000a	Chord Note85	(0 - 1) OFF, ON
00 55	0000 000a	Chord Note86	(0 - 1) OFF, ON
00 56	0000 000a	Chord Note87	(0 - 1) OFF, ON
00 57	0000 000a	Chord Note88	(0 - 1) OFF, ON
00 58	0000 000a	Chord Note89	(0 - 1) OFF, ON
00 59	0000 000a	Chord Note90	(0 - 1) OFF, ON
00 5A	0000 000a	Chord Note91	(0 - 1) OFF, ON
00 5B	0000 000a	Chord Note92	(0 - 1) OFF, ON
00 5C	0000 000a	Chord Note93	(0 - 1) OFF, ON
00 5D	0000 000a	Chord Note94	(0 - 1) OFF, ON
00 5E	0000 000a	Chord Note95	(0 - 1) OFF, ON
00 5F	0000 000a	Chord Note96	(0 - 1) OFF, ON
00 60	0000 000a	Chord Note97	(0 - 1) OFF, ON
00 61	0000 000a	Chord Note98	(0 - 1) OFF, ON
00 62	0000 000a	Chord Note99	(0 - 1) OFF, ON
00 63	0000 000a	Chord Note100	(0 - 1) OFF, ON
00 64	0000 000a	Chord Note101	(0 - 1) OFF, ON
00 65	0000 000a	Chord Note102	(0 - 1) OFF, ON
00 66	0000 000a	Chord Note103	(0 - 1) OFF, ON
00 67	0000 000a	Chord Note104	(0 - 1) OFF, ON
00 68	0000 000a	Chord Note105	(0 - 1) OFF, ON
00 69	0000 000a	Chord Note106	(0 - 1) OFF, ON
00 6A	0000 000a	Chord Note107	(0 - 1) OFF, ON
00 6B	0000 000a	Chord Note108	(0 - 1) OFF, ON
00 6C	0000 000a	Chord Note109	(0 - 1) OFF, ON
00 6D	0000 000a	Chord Note110	(0 - 1) OFF, ON
00 6E	0000 000a	Chord Note111	(0 - 1) OFF, ON
00 6F	0000 000a	Chord Note112	(0 - 1) OFF, ON
00 70	0000 000a	Chord Note113	(0 - 1) OFF, ON
00 71	0000 000a	Chord Note114	(0 - 1) OFF, ON
00 72	0000 000a	Chord Note115	(0 - 1) OFF, ON
00 73	0000 000a	Chord Note116	(0 - 1) OFF, ON
00 74	0000 000a	Chord Note117	(0 - 1) OFF, ON
00 75	0000 000a	Chord Note118	(0 - 1) OFF, ON
00 76	0000 000a	Chord Note119	(0 - 1) OFF, ON
00 77	0000 000a	Chord Note120	(0 - 1) OFF, ON
00 78	0000 000a	Chord Note121	(0 - 1) OFF, ON
00 79	0000 000a	Chord Note122	(0 - 1) OFF, ON
00 7A	0000 000a	Chord Note123	(0 - 1) OFF, ON
00 7B	0000 000a	Chord Note124	(0 - 1) OFF, ON
00 7C	0000 000a	Chord Note125	(0 - 1) OFF, ON
00 7D	0000 000a	Chord Note126	(0 - 1) OFF, ON
00 7E	0000 000a	Chord Note127	(0 - 1) OFF, ON
00 7F	0000 000a	Chord Note128	(0 - 1) OFF, ON
01 00	0aaa aaaa	Chord Pattern Name 1	(32 - 127)
01 01	0aaa aaaa	Chord Pattern Name 2	(32 - 127)
01 02	0aaa aaaa	Chord Pattern Name 3	(32 - 127)
01 03	0aaa aaaa	Chord Pattern Name 4	(32 - 127)
01 04	0aaa aaaa	Chord Pattern Name 5	(32 - 127)
01 05	0aaa aaaa	Chord Pattern Name 6	(32 - 127)
01 06	0aaa aaaa	Chord Pattern Name 7	(32 - 127)
01 07	0aaa aaaa	Chord Pattern Name 8	(32 - 127)
01 08	0aaa aaaa	Chord Pattern Name 9	(32 - 127)
01 09	0aaa aaaa	Chord Pattern Name 10	(32 - 127)
01 0A	0aaa aaaa	Chord Pattern Name 11	(32 - 127)
01 0B	0aaa aaaa	Chord Pattern Name 12	(32 - 127)
01 0C	0aaa aaaa	(reserve) <*>	
01 0D	0aaa aaaa	(reserve) <*>	
01 0E	0aaa aaaa	(reserve) <*>	
01 0F	0aaa aaaa	(reserve) <*>	
00 00 01 10	Total Size		

❍Rhythm Group

Offset Address		Description	
00 00	0aaa aaaa	Rhythm Group Name 1	(32 - 127)
00 01	0aaa aaaa	Rhythm Group Name 2	(32 - 127)
00 02	0aaa aaaa	Rhythm Group Name 3	(32 - 127)
00 03	0aaa aaaa	Rhythm Group Name 4	(32 - 127)
00 04	0aaa aaaa	Rhythm Group Name 5	(32 - 127)
00 05	0aaa aaaa	Rhythm Group Name 6	(32 - 127)
00 06	0aaa aaaa	Rhythm Group Name 7	(32 - 127)
00 07	0aaa aaaa	Rhythm Group Name 8	(32 - 127)
00 08	0aaa aaaa	Rhythm Group Name 9	(32 - 127)
00 09	0aaa aaaa	Rhythm Group Name 10	(32 - 127)
00 0A	0aaa aaaa	Rhythm Group Name 11	(32 - 127)
00 0B	0aaa aaaa	Rhythm Group Name 12	(32 - 127)
00 0C	0aaa aaaa	(reserve) <*>	

	Offset Address		Description	
	00 0D	0aaa aaaa	(reserve) <*>	
	00 0E	0aaa aaaa	(reserve) <*>	
	00 0F	0aaa aaaa	(reserve) <*>	
	00 10	0aaa aaaa	(reserve) <*>	
	00 11	0aaa aaaa	(reserve) <*>	
	00 12	0aaa aaaa	(reserve) <*>	
	00 13	0aaa aaaa	Note 1 Mode	(2 - 3) PTN-START, PTN-STOP
	00 14	0aaa aaaa	(reserve) <*>	
	00 15	0aaa aaaa	Note 1 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 16	0000 000a	Note 1 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 17	0000 aaaa 0000 bbbb	Note 1 Rhythm Pattern Number	(0 - 255)
	00 19	0aaa aaaa	Note 2 Mode	(2 - 3) PTN-START, PTN-STOP
	00 1A	0aaa aaaa	(reserve) <*>	
	00 1B	0aaa aaaa	Note 2 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 1C	0000 000a	Note 2 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 1D	0000 aaaa 0000 bbbb	Note 2 Rhythm Pattern Number	(0 - 255)
	00 1F	0aaa aaaa	Note 3 Mode	(2 - 3) PTN-START, PTN-STOP
	00 20	0aaa aaaa	(reserve) <*>	
	00 21	0aaa aaaa	Note 3 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 22	0000 000a	Note 3 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 23	0000 aaaa 0000 bbbb	Note 3 Rhythm Pattern Number	(0 - 255)
	00 25	0aaa aaaa	Note 4 Mode	(2 - 3) PTN-START, PTN-STOP
	00 26	0aaa aaaa	(reserve) <*>	
	00 27	0aaa aaaa	Note 4 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 28	0000 000a	Note 4 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 29	0000 aaaa 0000 bbbb	Note 4 Rhythm Pattern Number	(0 - 255)
	00 2B	0aaa aaaa	Note 5 Mode	(2 - 3) PTN-START, PTN-STOP
	00 2C	0aaa aaaa	(reserve) <*>	
	00 2D	0aaa aaaa	Note 5 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 2E	0000 000a	Note 5 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 2F	0000 aaaa 0000 bbbb	Note 5 Rhythm Pattern Number	(0 - 255)
	00 31	0aaa aaaa	Note 6 Mode	(2 - 3) PTN-START, PTN-STOP
	00 32	0aaa aaaa	(reserve) <*>	
	00 33	0aaa aaaa	Note 6 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 34	0000 000a	Note 6 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 35	0000 aaaa 0000 bbbb	Note 6 Rhythm Pattern Number	(0 - 255)
	00 37	0aaa aaaa	Note 7 Mode	(2 - 3) PTN-START, PTN-STOP
	00 38	0aaa aaaa	(reserve) <*>	
	00 39	0aaa aaaa	Note 7 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 3A	0000 000a	Note 7 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 3B	0000 aaaa 0000 bbbb	Note 7 Rhythm Pattern Number	(0 - 255)
	00 3D	0aaa aaaa	Note 8 Mode	(2 - 3) PTN-START, PTN-STOP
	00 3E	0aaa aaaa	(reserve) <*>	
	00 3F	0aaa aaaa	Note 8 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 40	0000 000a	Note 8 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 41	0000 aaaa 0000 bbbb	Note 8 Rhythm Pattern Number	(0 - 255)
	00 43	0aaa aaaa	Note 9 Mode	(2 - 3) PTN-START, PTN-STOP
	00 44	0aaa aaaa	(reserve) <*>	
	00 45	0aaa aaaa	Note 9 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 46	0000 000a	Note 9 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 47	0000 aaaa 0000 bbbb	Note 9 Rhythm Pattern Number	(0 - 255)
	00 49	0aaa aaaa	Note 10 Mode	(2 - 3) PTN-START, PTN-STOP
	00 4A	0aaa aaaa	(reserve) <*>	
	00 4B	0aaa aaaa	Note 10 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 4C	0000 000a	Note 10 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 4D	0000 aaaa 0000 bbbb	Note 10 Rhythm Pattern Number	(0 - 255)
	00 4F	0aaa aaaa	Note 11 Mode	(2 - 3) PTN-START, PTN-STOP
	00 50	0aaa aaaa	(reserve) <*>	
	00 51	0aaa aaaa	Note 11 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 52	0000 000a	Note 11 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 53	0000 aaaa 0000 bbbb	Note 11 Rhythm Pattern Number	(0 - 255)
	00 55	0aaa aaaa	Note 12 Mode	(2 - 3) PTN-START, PTN-STOP
	00 56	0aaa aaaa	(reserve) <*>	
	00 57	0aaa aaaa	Note 12 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 58	0000 000a	Note 12 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 59	0000 aaaa 0000 bbbb	Note 12 Rhythm Pattern Number	(0 - 255)
	00 5B	0aaa aaaa	Note 13 Mode	(2 - 3) PTN-START, PTN-STOP
	00 5C	0aaa aaaa	(reserve) <*>	
	00 5D	0aaa aaaa	Note 13 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 5E	0000 000a	Note 13 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 5F	0000 aaaa 0000 bbbb	Note 13 Rhythm Pattern Number	(0 - 255)
	00 61	0aaa aaaa	Note 14 Mode	(2 - 3) PTN-START, PTN-STOP
	00 62	0aaa aaaa	(reserve) <*>	
	00 63	0aaa aaaa	Note 14 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 64	0000 000a	Note 14 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 65	0000 aaaa 0000 bbbb	Note 14 Rhythm Pattern Number	(0 - 255)
	00 67	0aaa aaaa	Note 15 Mode	(2 - 3) PTN-START, PTN-STOP
	00 68	0aaa aaaa	(reserve) <*>	
	00 69	0aaa aaaa	Note 15 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 6A	0000 000a	Note 15 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 6B	0000 aaaa 0000 bbbb	Note 15 Rhythm Pattern Number	(0 - 255)
	00 6D	0aaa aaaa	Note 16 Mode	(2 - 3) PTN-START, PTN-STOP
	00 6E	0aaa aaaa	(reserve) <*>	
	00 6F	0aaa aaaa	Note 16 Rhythm Pattern Velocity	(0 - 127) REAL, 1 - 127
	00 70	0000 000a	Note 16 Rhythm Pattern Group	(0 - 1) USER, PRESET
#	00 71	0000 aaaa 0000 bbbb	Note 16 Rhythm Pattern Number	(0 - 255)
	00 00 00 73	Total Size		

❍Patch Common

Offset Address		Description	
00 00	0aaa aaaa	Patch Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Patch Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Patch Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Patch Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Patch Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Patch Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Patch Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Patch Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Patch Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Patch Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Patch Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Patch Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	Patch Category	(0 - 127)
00 0D	0000 000a	(reserve) <*>	
00 0E	0aaa aaaa	Patch Level	(0 - 127)
00 0F	0aaa aaaa	Patch Pan	(0 - 127) L64 - 63R
00 10	0000 000a	Patch Priority	(0 - 1) LAST, LOUDEST
00 11	0aaa aaaa	Patch Coarse Tune	(16 - 112) -48 - +48
00 12	0aaa aaaa	Patch Fine Tune	(14 - 114) -50 - +50
00 13	0000 0aaa	Octave Shift	(61 - 67) -3 - +3
00 14	0000 00aa	Stretch Tune Depth	(0 - 3) OFF, 1 - 3
00 15	0aaa aaaa	Analog Feel	(0 - 127)
00 16	0000 000a	Mono/Poly	(0 - 1) MONO, POLY
00 17	0000 000a	Legato Switch	(0 - 1) OFF, ON
00 18	0000 000a	Legato Retrigger	(0 - 1) OFF, ON
00 19	0000 000a	Portamento Switch	(0 - 1) OFF, ON
00 1A	0000 000a	Portamento Mode	(0 - 1) NORMAL, LEGATO
00 1B	0000 000a	Portamento Type	(0 - 1) RATE, TIME
00 1C	0000 000a	Portamento Start	(0 - 1) PITCH, NOTE
00 1D	0aaa aaaa	Portamento Time	(0 - 127)
00 1E	0000 000a	(reserve) <*>	
# 00 1F	0000 aaaa 0000 bbbb	(reserve) <*>	
00 21	0000 000a	(reserve) <*>	
00 22	0aaa aaaa	Cutoff Offset	(1 - 127) -63 - +63
00 23	0aaa aaaa	Resonance Offset	(1 - 127) -63 - +63
00 24	0aaa aaaa	Attack Time Offset	(1 - 127) -63 - +63
00 25	0aaa aaaa	Release Time Offset	(1 - 127) -63 - +63
00 26	0aaa aaaa	Velocity Sens Offset	(1 - 127) -63 - +63
00 27	0000 aaaa	Patch Output Assign	(0 - 13) MFX, A, B, ---, ---, ---, 1, 2, 3, 4, ---, ---, ---, ---, TONE
00 28	0000 000a	TMT Control Switch	(0 - 1) OFF, ON
00 29	00aa aaaa	Pitch Bend Range Up	(0 - 48)
00 2A	00aa aaaa	Pitch Bend Range Down	(0 - 48)
00 2B	0aaa aaaa	Matrix Control 1 Source	(0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
00 2C	00aa aaaa	Matrix Control 1 Destination 1	(0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
00 2D	0aaa aaaa	Matrix Control 1 Sens 1	(1 - 127) -63 - +63
00 2E	00aa aaaa	Matrix Control 1 Destination 2	(0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME

	00 2F	0aaa aaaa	Matrix Control 1 Sens 2 (1 - 127) -63 - +63
	00 30	00aa aaaa	Matrix Control 1 Destination 3 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 31	0aaa aaaa	Matrix Control 1 Sens 3 (1 - 127) -63 - +63
	00 32	00aa aaaa	Matrix Control 1 Destination 4 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 33	0aaa aaaa	Matrix Control 1 Sens 4 (1 - 127) -63 - +63
	00 34	0aaa aaaa	Matrix Control 2 Source (0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
	00 35	00aa aaaa	Matrix Control 2 Destination 1 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 36	0aaa aaaa	Matrix Control 2 Sens 1 (1 - 127) -63 - +63
	00 37	00aa aaaa	Matrix Control 2 Destination 2 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 38	0aaa aaaa	Matrix Control 2 Sens 2 (1 - 127) -63 - +63
	00 39	00aa aaaa	Matrix Control 2 Destination 3 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 3A	0aaa aaaa	Matrix Control 2 Sens 3 (1 - 127) -63 - +63
	00 3B	00aa aaaa	Matrix Control 2 Destination 4 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 3C	0aaa aaaa	Matrix Control 2 Sens 4 (1 - 127) -63 - +63
	00 3D	0aaa aaaa	Matrix Control 3 Source (0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
	00 3E	00aa aaaa	Matrix Control 3 Destination 1 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 3F	0aaa aaaa	Matrix Control 3 Sens 1 (1 - 127) -63 - +63
	00 40	00aa aaaa	Matrix Control 3 Destination 2 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 41	0aaa aaaa	Matrix Control 3 Sens 2 (1 - 127) -63 - +63
	00 42	00aa aaaa	Matrix Control 3 Destination 3 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 43	0aaa aaaa	Matrix Control 3 Sens 3 (1 - 127) -63 - +63
	00 44	00aa aaaa	Matrix Control 3 Destination 4 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 45	0aaa aaaa	Matrix Control 3 Sens 4 (1 - 127) -63 - +63
	00 46	0aaa aaaa	Matrix Control 4 Source (0 - 109) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT-ENV, TVF-ENV, TVA-ENV
	00 47	00aa aaaa	Matrix Control 4 Destination 1 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 48	0aaa aaaa	Matrix Control 4 Sens 1 (1 - 127) -63 - +63
	00 49	00aa aaaa	Matrix Control 4 Destination 2 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 4A	0aaa aaaa	Matrix Control 4 Sens 2 (1 - 127) -63 - +63
	00 4B	00aa aaaa	Matrix Control 4 Destination 3 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 4C	0aaa aaaa	Matrix Control 4 Sens 3 (1 - 127) -63 - +63
	00 4D	00aa aaaa	Matrix Control 4 Destination 4 (0 - 34) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT-LFO1, PIT-LFO2, TVF-LFO1, TVF-LFO2, TVA-LFO1, TVA-LFO2, PAN-LFO1, PAN-LFO2, LFO1-RATE, LFO2-RATE, PIT-ATK, PIT-DCY, PIT-REL, TVF-ATK, TVF-DCY, TVF-REL, TVA-ATK, TVA-DCY, TVA-REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4, TIME
	00 4E	0aaa aaaa	Matrix Control 4 Sens 4 (1 - 127) -63 - +63
	00 00 00 4F		Total Size

❍Patch Common MFX

	Offset Address		Description
	00 00	0aaa aaaa	MFX Type (0 - 127)
	00 01	0aaa aaaa	MFX Dry Send Level (0 - 127)
	00 02	0aaa aaaa	MFX Chorus Send Level (0 - 127)
	00 03	0aaa aaaa	MFX Reverb Send Level (0 - 127)
	00 04	0000 00aa	MFX Output Assign (0 - 3) A, B, ---, ---
	00 05	0aaa aaaa	MFX Control 1 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 06	0aaa aaaa	MFX Control 1 Sens (1 - 127) -63 - +63
	00 07	0aaa aaaa	MFX Control 2 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 08	0aaa aaaa	MFX Control 2 Sens (1 - 127) -63 - +63
	00 09	0aaa aaaa	MFX Control 3 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0A	0aaa aaaa	MFX Control 3 Sens (1 - 127) -63 - +63
	00 0B	0aaa aaaa	MFX Control 4 Source (0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
	00 0C	0aaa aaaa	MFX Control 4 Sens (1 - 127) -63 - +63
	00 0D	000a aaaa	MFX Control Assign 1 (0 - 16) OFF, 1 - 16
	00 0E	000a aaaa	MFX Control Assign 2 (0 - 16) OFF, 1 - 16
	00 0F	000a aaaa	MFX Control Assign 3 (0 - 16) OFF, 1 - 16
	00 10	000a aaaa	MFX Control Assign 4 (0 - 16) OFF, 1 - 16
#	00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 - 52768) -20000 - +20000
#	00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 - 52768) -20000 - +20000
#	00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 - 52768) -20000 - +20000
#	00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 - 52768) -20000 - +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 - 52768) -20000 - +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6 (12768 - 52768)

			-20000 - +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
# 00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
# 00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
# 00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
# 00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
# 00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
# 00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
# 00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
# 00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
# 00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
# 00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
# 00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
# 00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
# 00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
# 00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
# 00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
# 00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
# 00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
# 00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
# 00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
# 00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
# 00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
# 01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
# 01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
# 01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
# 01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
00 00 01 11	Total Size		

❍Patch Common Chorus

Offset Address	Description		
00 00	0000 aaaa	Chorus Type	(0 - 3)
00 01	0aaa aaaa	Chorus Level	(0 - 127)
00 02	0000 00aa	Chorus Output Assign	(0 - 3) A, B, ---, ---
00 03	0000 00aa	Chorus Output Select	(0 - 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1	(12768 - 52768) -20000 - +20000
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 3	(12768 - 52768) -20000 - +20000
# 00 10	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 4	(12768 - 52768) -20000 - +20000
# 00 14	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 5	(12768 - 52768) -20000 - +20000
# 00 18	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 7	(12768 - 52768) -20000 - +20000
# 00 20	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 8	(12768 - 52768) -20000 - +20000
# 00 24	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 9	(12768 - 52768) -20000 - +20000
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 11	(12768 - 52768) -20000 - +20000
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 12	(12768 - 52768) -20000 - +20000
# 00 34	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 13	(12768 - 52768) -20000 - +20000
# 00 38	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 15	(12768 - 52768) -20000 - +20000
# 00 40	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 16	(12768 - 52768) -20000 - +20000
# 00 44	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 17	(12768 - 52768) -20000 - +20000
# 00 48	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 19	(12768 - 52768) -20000 - +20000
# 00 50	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 54	Total Size		

❍Patch Common Reverb

Offset Address	Description		
00 00	0000 aaaa	Reverb Type	(0 - 5)
00 01	0aaa aaaa	Reverb Level	(0 - 127)
00 02	0000 00aa	Reverb Output Assign	(0 - 3) A, B, ---, ---
# 00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 - 52768) -20000 - +20000
# 00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 - 52768) -20000 - +20000

#	00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 - 52768) -20000 - +20000
#	00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 - 52768) -20000 - +20000
#	00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 - 52768) -20000 - +20000
#	00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 - 52768) -20000 - +20000
#	00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 - 52768) -20000 - +20000
#	00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 - 52768) -20000 - +20000
#	00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 - 52768) -20000 - +20000
#	00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 - 52768) -20000 - +20000
#	00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 - 52768) -20000 - +20000
#	00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 - 52768) -20000 - +20000
#	00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 - 52768) -20000 - +20000
#	00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 - 52768) -20000 - +20000
#	00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 - 52768) -20000 - +20000
#	00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 - 52768) -20000 - +20000
#	00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	(12768 - 52768) -20000 - +20000
#	00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 - 52768) -20000 - +20000
#	00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 53		Total Size		

❍Patch TMT (Tone Mix Table)

Offset Address		Description	
00 00	0000 aaaa	Structure Type 1 & 2	(0 - 9) 1 - 10
00 01	0000 00aa	Booster 1 & 2	(0 - 3) 0, +6, +12, +18 [dB]
00 02	0000 aaaa	Structure Type 3 & 4	(0 - 9) 1 - 10
00 03	0000 00aa	Booster 3 & 4	(0 - 3) 0, +6, +12, +18 [dB]
00 04	0000 00aa	TMT Velocity Control	(0 - 3) OFF, ON, RANDOM, CYCLE
00 05	0000 000a	TMT1 Tone Switch	(0 - 1) OFF, ON
00 06	0aaa aaaa	TMT1 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 07	0aaa aaaa	TMT1 Keyboard Range Upper	(0 - 127) LOWER - G9
00 08	0aaa aaaa	TMT1 Keyboard Fade Width Lower	(0 - 127)
00 09	0aaa aaaa	TMT1 Keyboard Fade Width Upper	(0 - 127)
00 0A	0aaa aaaa	TMT1 Velocity Range Lower	(1 - 127) 1 - UPPER
00 0B	0aaa aaaa	TMT1 Velocity Range Upper	(1 - 127) LOWER - 127
00 0C	0aaa aaaa	TMT1 Velocity Fade Width Lower	(0 - 127)
00 0D	0aaa aaaa	TMT1 Velocity Fade Width Upper	(0 - 127)
00 0E	0000 000a	TMT2 Tone Switch	(0 - 1) OFF, ON
00 0F	0aaa aaaa	TMT2 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 10	0aaa aaaa	TMT2 Keyboard Range Upper	(0 - 127) LOWER - G9
00 11	0aaa aaaa	TMT2 Keyboard Fade Width Lower	(0 - 127)
00 12	0aaa aaaa	TMT2 Keyboard Fade Width Upper	(0 - 127)
00 13	0aaa aaaa	TMT2 Velocity Range Lower	(1 - 127) 1 - UPPER
00 14	0aaa aaaa	TMT2 Velocity Range Upper	(1 - 127) LOWER - 127
00 15	0aaa aaaa	TMT2 Velocity Fade Width Lower	(0 - 127)
00 16	0aaa aaaa	TMT2 Velocity Fade Width Upper	(0 - 127)
00 17	0000 000a	TMT3 Tone Switch	(0 - 1) OFF, ON
00 18	0aaa aaaa	TMT3 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 19	0aaa aaaa	TMT3 Keyboard Range Upper	(0 - 127) LOWER - G9
00 1A	0aaa aaaa	TMT3 Keyboard Fade Width Lower	(0 - 127)
00 1B	0aaa aaaa	TMT3 Keyboard Fade Width Upper	(0 - 127)
00 1C	0aaa aaaa	TMT3 Velocity Range Lower	(1 - 127) 1 - UPPER
00 1D	0aaa aaaa	TMT3 Velocity Range Upper	(1 - 127) LOWER - 127
00 1E	0aaa aaaa	TMT3 Velocity Fade Width Lower	(0 - 127)
00 1F	0aaa aaaa	TMT3 Velocity Fade Width Upper	(0 - 127)
00 20	0000 000a	TMT4 Tone Switch	(0 - 1) OFF, ON
00 21	0aaa aaaa	TMT4 Keyboard Range Lower	(0 - 127) C-1 - UPPER
00 22	0aaa aaaa	TMT4 Keyboard Range Upper	(0 - 127) LOWER - G9
00 23	0aaa aaaa	TMT4 Keyboard Fade Width Lower	(0 - 127)
00 24	0aaa aaaa	TMT4 Keyboard Fade Width Upper	(0 - 127)
00 25	0aaa aaaa	TMT4 Velocity Range Lower	(1 - 127) 1 - UPPER
00 26	0aaa aaaa	TMT4 Velocity Range Upper	(1 - 127) LOWER - 127
00 27	0aaa aaaa	TMT4 Velocity Fade Width Lower	(0 - 127)
00 28	0aaa aaaa	TMT4 Velocity Fade Width Upper	(0 - 127)
00 00 00 29		Total Size	

❍Patch Tone

Offset Address		Description	
00 00	0aaa aaaa	Tone Level	(0 - 127)
00 01	0aaa aaaa	Tone Coarse Tune	(16 - 112) -48 - +48
00 02	0aaa aaaa	Tone Fine Tune	(14 - 114) -50 - +50
00 03	000a aaaa	Tone Random Pitch Depth	(0 - 30) 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
00 04	0aaa aaaa	Tone Pan	(0 - 127) L64 - 63R
00 05	000a aaaa	Tone Pan Keyfollow	(54 - 74) -100 - +100
00 06	00aa aaaa	Tone Random Pan Depth	(0 - 63)
00 07	0aaa aaaa	Tone Alternate Pan Depth	(1 - 127) L63 - 63R
00 08	0000 000a	Tone Env Mode	(0 - 1) NO-SUS, SUSTAIN
00 09	0000 00aa	Tone Delay Mode	(0 - 3) NORMAL, HOLD, KEY-OFF-NORMAL, KEY-OFF-DECAY
# 00 0A	0000 aaaa 0000 bbbb	Tone Delay Time	(0 - 149) 0 - 127, MUSICAL-NOTES
00 0C	0aaa aaaa	Tone Dry Send Level	(0 - 127)
00 0D	0aaa aaaa	Tone Chorus Send Level (MFX)	(0 - 127)
00 0E	0aaa aaaa	Tone Reverb Send Level (MFX)	(0 - 127)
00 0F	0aaa aaaa	Tone Chorus Send Level (non MFX)	(0 - 127)
00 10	0aaa aaaa	Tone Reverb Send Level (non MFX)	(0 - 127)
00 11	0000 aaaa	Tone Output Assign	(0 - 12) MFX, A, B, ---, ---, 1, 2, 3, 4, ---, ---, ---, ---
00 12	0000 000a	Tone Receive Bender	(0 - 1) OFF, ON
00 13	0000 000a	Tone Receive Expression	(0 - 1) OFF, ON
00 14	0000 000a	Tone Receive Hold-1	(0 - 1) OFF, ON
00 15	0000 000a	Tone Receive Pan Mode	(0 - 1) CONTINUOUS, KEY-ON
00 16	0000 000a	Tone Redamper Switch	(0 - 1) OFF, ON
00 17	0000 00aa	Tone Control 1 Switch 1	(0 - 2) OFF, ON, REVERSE
00 18	0000 00aa	Tone Control 1 Switch 2	(0 - 2) OFF, ON, REVERSE
00 19	0000 00aa	Tone Control 1 Switch 3	(0 - 2) OFF, ON, REVERSE
00 1A	0000 00aa	Tone Control 1 Switch 4	(0 - 2) OFF, ON, REVERSE
00 1B	0000 00aa	Tone Control 2 Switch 1	(0 - 2) OFF, ON, REVERSE
00 1C	0000 00aa	Tone Control 2 Switch 2	(0 - 2) OFF, ON, REVERSE
00 1D	0000 00aa	Tone Control 2 Switch 3	(0 - 2) OFF, ON, REVERSE
00 1E	0000 00aa	Tone Control 2 Switch 4	(0 - 2) OFF, ON, REVERSE
00 1F	0000 00aa	Tone Control 3 Switch 1	(0 - 2) OFF, ON, REVERSE
00 20	0000 00aa	Tone Control 3 Switch 2	(0 - 2) OFF, ON, REVERSE
00 21	0000 00aa	Tone Control 3 Switch 3	(0 - 2) OFF, ON, REVERSE
00 22	0000 00aa	Tone Control 3 Switch 4	(0 - 2) OFF, ON, REVERSE
00 23	0000 00aa	Tone Control 4 Switch 1	(0 - 2) OFF, ON, REVERSE
00 24	0000 00aa	Tone Control 4 Switch 2	(0 - 2) OFF, ON, REVERSE
00 25	0000 00aa	Tone Control 4 Switch 3	(0 - 2) OFF, ON, REVERSE
00 26	0000 00aa	Tone Control 4 Switch 4	(0 - 2) OFF, ON, REVERSE
00 27	0000 00aa	Wave Group Type	(0 - 3) INT, SRX, SAMPLE, MULTISAMPLE
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number R	(0 - 16384) OFF, 1 - 16384
00 34	0000 00aa	Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 35	0000 000a	Wave FXM Switch	(0 - 1) OFF, ON
00 36	0000 00aa	Wave FXM Color	(0 - 3)

				1 - 4
	00 37	000a aaaa	Wave FXM Depth	(0 - 16)
	00 38	0000 000a	Wave Tempo Sync	(0 - 1) OFF, ON
	00 39	00aa aaaa	Wave Pitch Keyfollow	(44 - 84) -200 - +200
	00 3A	000a aaaa	Pitch Env Depth	(52 - 76) -12 - +12
	00 3B	0aaa aaaa	Pitch Env Velocity Sens	(1 - 127) -63 - +63
	00 3C	0aaa aaaa	Pitch Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 3D	0aaa aaaa	Pitch Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 3E	000a aaaa	Pitch Env Time Keyfollow	(54 - 74) -100 - +100
	00 3F	0aaa aaaa	Pitch Env Time 1	(0 - 127)
	00 40	0aaa aaaa	Pitch Env Time 2	(0 - 127)
	00 41	0aaa aaaa	Pitch Env Time 3	(0 - 127)
	00 42	0aaa aaaa	Pitch Env Time 4	(0 - 127)
	00 43	0aaa aaaa	Pitch Env Level 0	(1 - 127) -63 - +63
	00 44	0aaa aaaa	Pitch Env Level 1	(1 - 127) -63 - +63
	00 45	0aaa aaaa	Pitch Env Level 2	(1 - 127) -63 - +63
	00 46	0aaa aaaa	Pitch Env Level 3	(1 - 127) -63 - +63
	00 47	0aaa aaaa	Pitch Env Level 4	(1 - 127) -63 - +63
	00 48	0000 0aaa	TVF Filter Type	(0 - 6) OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	00 49	0aaa aaaa	TVF Cutoff Frequency	(0 - 127)
	00 4A	00aa aaaa	TVF Cutoff Keyfollow	(44 - 84) -200 - +200
	00 4B	0000 0aaa	TVF Cutoff Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 4C	0aaa aaaa	TVF Cutoff Velocity Sens	(1 - 127) -63 - +63
	00 4D	0aaa aaaa	TVF Resonance	(0 - 127)
	00 4E	0aaa aaaa	TVF Resonance Velocity Sens	(1 - 127) -63 - +63
	00 4F	0aaa aaaa	TVF Env Depth	(1 - 127) -63 - +63
	00 50	0000 0aaa	TVF Env Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 51	0aaa aaaa	TVF Env Velocity Sens	(1 - 127) -63 - +63
	00 52	0aaa aaaa	TVF Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 53	0aaa aaaa	TVF Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 54	000a aaaa	TVF Env Time Keyfollow	(54 - 74) -100 - +100
	00 55	0aaa aaaa	TVF Env Time 1	(0 - 127)
	00 56	0aaa aaaa	TVF Env Time 2	(0 - 127)
	00 57	0aaa aaaa	TVF Env Time 3	(0 - 127)
	00 58	0aaa aaaa	TVF Env Time 4	(0 - 127)
	00 59	0aaa aaaa	TVF Env Level 0	(0 - 127)
	00 5A	0aaa aaaa	TVF Env Level 1	(0 - 127)
	00 5B	0aaa aaaa	TVF Env Level 2	(0 - 127)
	00 5C	0aaa aaaa	TVF Env Level 3	(0 - 127)
	00 5D	0aaa aaaa	TVF Env Level 4	(0 - 127)
	00 5E	000a aaaa	Bias Level	(54 - 74) -100 - +100
	00 5F	0aaa aaaa	Bias Position	(0 - 127) C-1 - G9
	00 60	0000 00aa	Bias Direction	(0 - 3) LOWER, UPPER, LOWER&UPPER, ALL
	00 61	0000 0aaa	TVA Level Velocity Curve	(0 - 7) FIXED, 1 - 7
	00 62	0aaa aaaa	TVA Level Velocity Sens	(1 - 127) -63 - +63
	00 63	0aaa aaaa	TVA Env Time 1 Velocity Sens	(1 - 127) -63 - +63
	00 64	0aaa aaaa	TVA Env Time 4 Velocity Sens	(1 - 127) -63 - +63
	00 65	000a aaaa	TVA Env Time Keyfollow	(54 - 74) -100 - +100
	00 66	0aaa aaaa	TVA Env Time 1	(0 - 127)
	00 67	0aaa aaaa	TVA Env Time 2	(0 - 127)
	00 68	0aaa aaaa	TVA Env Time 3	(0 - 127)
	00 69	0aaa aaaa	TVA Env Time 4	(0 - 127)
	00 6A	0aaa aaaa	TVA Env Level 1	(0 - 127)
	00 6B	0aaa aaaa	TVA Env Level 2	(0 - 127)
	00 6C	0aaa aaaa	TVA Env Level 3	(0 - 127)
	00 6D	0000 aaaa	LFO1 Waveform	(0 - 12) SIN, TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H, CHS, VSIN, STEP
#	00 6E	0000 aaaa 0000 bbbb	LFO1 Rate	(0 - 149) 0 - 127, MUSICAL-NOTES
	00 70	0000 0aaa	LFO1 Offset	(0 - 4) -100, -50, 0, +50, +100
	00 71	0aaa aaaa	LFO1 Rate Detune	(0 - 127)
	00 72	0aaa aaaa	LFO1 Delay Time	(0 - 127)
	00 73	000a aaaa	LFO1 Delay Time Keyfollow	(54 - 74) -100 - +100
	00 74	0000 00aa	LFO1 Fade Mode	(0 - 3) ON-IN, ON-OUT, OFF-IN, OFF-OUT
	00 75	0aaa aaaa	LFO1 Fade Time	(0 - 127)
	00 76	0000 000a	LFO1 Key Trigger	(0 - 1) OFF, ON
	00 77	0aaa aaaa	LFO1 Pitch Depth	(1 - 127) -63 - +63
	00 78	0aaa aaaa	LFO1 TVF Depth	(1 - 127) -63 - +63
	00 79	0aaa aaaa	LFO1 TVA Depth	(1 - 127) -63 - +63
	00 7A	0aaa aaaa	LFO1 Pan Depth	(1 - 127) -63 - +63
	00 7B	0000 aaaa	LFO2 Waveform	(0 - 12) SIN, TRI, SAW-UP, SAW-DW, SQR, RND, BEND-UP, BEND-DW, TRP, S&H, CHS, VSIN, STEP
#	00 7C	0000 aaaa 0000 bbbb	LFO2 Rate	(0 - 149) 0 - 127, MUSICAL-NOTES
	00 7E	0000 0aaa	LFO2 Offset	(0 - 4) -100, -50, 0, +50, +100
	00 7F	0aaa aaaa	LFO2 Rate Detune	(0 - 127)
	01 00	0aaa aaaa	LFO2 Delay Time	(0 - 127)
	01 01	000a aaaa	LFO2 Delay Time Keyfollow	(54 - 74) -100 - +100
	01 02	0000 00aa	LFO2 Fade Mode	(0 - 3) ON-IN, ON-OUT, OFF-IN, OFF-OUT
	01 03	0aaa aaaa	LFO2 Fade Time	(0 - 127)
	01 04	0000 000a	LFO2 Key Trigger	(0 - 1) OFF, ON
	01 05	0aaa aaaa	LFO2 Pitch Depth	(1 - 127) -63 - +63
	01 06	0aaa aaaa	LFO2 TVF Depth	(1 - 127) -63 - +63
	01 07	0aaa aaaa	LFO2 TVA Depth	(1 - 127) -63 - +63
	01 08	0aaa aaaa	LFO2 Pan Depth	(1 - 127) -63 - +63
	01 09	0000 aaaa	LFO Step Type	(0 - 1)
	01 0A	0aaa aaaa	LFO Step1	(28 - 100) -36 - +36
	01 0B	0aaa aaaa	LFO Step2	(28 - 100) -36 - +36
	01 0C	0aaa aaaa	LFO Step3	(28 - 100) -36 - +36
	01 0D	0aaa aaaa	LFO Step4	(28 - 100) -36 - +36
	01 0E	0aaa aaaa	LFO Step5	(28 - 100) -36 - +36
	01 0F	0aaa aaaa	LFO Step6	(28 - 100) -36 - +36
	01 10	0aaa aaaa	LFO Step7	(28 - 100) -36 - +36
	01 11	0aaa aaaa	LFO Step8	(28 - 100) -36 - +36
	01 12	0aaa aaaa	LFO Step9	(28 - 100) -36 - +36
	01 13	0aaa aaaa	LFO Step10	(28 - 100) -36 - +36
	01 14	0aaa aaaa	LFO Step11	(28 - 100) -36 - +36
	01 15	0aaa aaaa	LFO Step12	(28 - 100) -36 - +36
	01 16	0aaa aaaa	LFO Step13	(28 - 100) -36 - +36
	01 17	0aaa aaaa	LFO Step14	(28 - 100) -36 - +36
	01 18	0aaa aaaa	LFO Step15	(28 - 100) -36 - +36
	01 19	0aaa aaaa	LFO Step16	(28 - 100) -36 - +36
	00 00 01 1A		Total Size	

❍Rhythm Common

Offset Address		Description	
00 00	0aaa aaaa	Rhythm Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Rhythm Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Rhythm Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Rhythm Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Rhythm Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Rhythm Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Rhythm Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Rhythm Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Rhythm Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Rhythm Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Rhythm Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Rhythm Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0aaa aaaa	Rhythm Level	(0 - 127)
00 0D	0000 000a	(reserve) <*>	
# 00 0E	0000 aaaa 0000 bbbb	(reserve) <*>	
00 10	0000 000a	(reserve) <*>	
00 11	0000 aaaa	Rhythm Output Assign	(0 - 13) MFX, A, B, ---, ---, 1, 2, 3, 4, ---, ---, ---, ---, TONE
00 00 00 12		Total Size	

❍Rhythm Common MFX

Offset Address		Description	
00 00	0aaa aaaa	MFX Type	(0 - 127)
00 01	0aaa aaaa	MFX Dry Send Level	(0 - 127)
00 02	0aaa aaaa	MFX Chorus Send Level	(0 - 127)
00 03	0aaa aaaa	MFX Reverb Send Level	(0 - 127)
00 04	0000 00aa	MFX Output Assign	(0 - 3) A, B, ---, ---
00 05	0aaa aaaa	MFX Control 1 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 06	0aaa aaaa	MFX Control 1 Sens	(1 - 127) -63 - +63
00 07	0aaa aaaa	MFX Control 2 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 08	0aaa aaaa	MFX Control 2 Sens	(1 - 127) -63 - +63
00 09	0aaa aaaa	MFX Control 3 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens	(1 - 127) -63 - +63
00 0B	0aaa aaaa	MFX Control 4 Source	(0 - 101) OFF, CC01 - CC31, CC33 - CC95, BEND, AFT, SYS1 - SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens	(1 - 127) -63 - +63
00 0D	000a aaaa	MFX Control Assign 1	(0 - 16) OFF, 1 - 16
00 0E	000a aaaa	MFX Control Assign 2	(0 - 16) OFF, 1 - 16
00 0F	000a aaaa	MFX Control Assign 3	(0 - 16) OFF, 1 - 16
00 10	000a aaaa	MFX Control Assign 4	(0 - 16) OFF, 1 - 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1	(12768 - 52768) -20000 - +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2	(12768 - 52768) -20000 - +20000

#	00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3	(12768 - 52768) -20000 - +20000
#	00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4	(12768 - 52768) -20000 - +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5	(12768 - 52768) -20000 - +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6	(12768 - 52768) -20000 - +20000
#	00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7	(12768 - 52768) -20000 - +20000
#	00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8	(12768 - 52768) -20000 - +20000
#	00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 - 52768) -20000 - +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 - 52768) -20000 - +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 - 52768) -20000 - +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12	(12768 - 52768) -20000 - +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 - 52768) -20000 - +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 - 52768) -20000 - +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 - 52768) -20000 - +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 - 52768) -20000 - +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 - 52768) -20000 - +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 - 52768) -20000 - +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 - 52768) -20000 - +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 - 52768) -20000 - +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21	(12768 - 52768) -20000 - +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 - 52768) -20000 - +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 - 52768) -20000 - +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 - 52768) -20000 - +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 - 52768) -20000 - +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 - 52768) -20000 - +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 - 52768) -20000 - +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 - 52768) -20000 - +20000
#	01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 - 52768) -20000 - +20000
#	01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 - 52768) -20000 - +20000
#	01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 - 52768) -20000 - +20000
#	01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 - 52768) -20000 - +20000
	00 00 01 11	Total Size		

❍Rhythm Common Chorus

Offset Address		Description	
00 00	0000 aaaa	Chorus Type	(0 - 3)
00 01	0aaa aaaa	Chorus Level	(0 - 127)
00 02	0000 00aa	Chorus Output Assign	(0 - 3) A, B, ---, ---
00 03	0000 00aa	Chorus Output Select	(0 - 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1	(12768 - 52768) -20000 - +20000
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2	(12768 - 52768) -20000 - +20000
# 00 0C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 3	(12768 - 52768) -20000 - +20000
# 00 10	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 4	(12768 - 52768) -20000 - +20000
# 00 14	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 5	(12768 - 52768) -20000 - +20000
# 00 18	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 6	(12768 - 52768) -20000 - +20000
# 00 1C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 7	(12768 - 52768) -20000 - +20000
# 00 20	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 8	(12768 - 52768) -20000 - +20000
# 00 24	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 9	(12768 - 52768) -20000 - +20000
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 10	(12768 - 52768) -20000 - +20000
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 11	(12768 - 52768) -20000 - +20000
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 12	(12768 - 52768) -20000 - +20000
# 00 34	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 13	(12768 - 52768) -20000 - +20000
# 00 38	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 14	(12768 - 52768) -20000 - +20000
# 00 3C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 15	(12768 - 52768) -20000 - +20000
# 00 40	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 16	(12768 - 52768) -20000 - +20000
# 00 44	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 17	(12768 - 52768) -20000 - +20000
# 00 48	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 18	(12768 - 52768) -20000 - +20000
# 00 4C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 19	(12768 - 52768) -20000 - +20000
# 00 50	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 20	(12768 - 52768) -20000 - +20000
00 00 00 54	Total Size		

❍Rhythm Common Reverb

Offset Address		Description	
00 00	0000 aaaa	Reverb Type	(0 - 5)

	00 01	0aaa aaaa	Reverb Level	(0 - 127)
	00 02	0000 00aa	Reverb Output Assign	(0 - 3) A, B, ---, ---
#	00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 - 52768) -20000 - +20000
#	00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 - 52768) -20000 - +20000
#	00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 - 52768) -20000 - +20000
#	00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 - 52768) -20000 - +20000
#	00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 - 52768) -20000 - +20000
#	00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 - 52768) -20000 - +20000
#	00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 - 52768) -20000 - +20000
#	00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 - 52768) -20000 - +20000
#	00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 - 52768) -20000 - +20000
#	00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 - 52768) -20000 - +20000
#	00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 - 52768) -20000 - +20000
#	00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 - 52768) -20000 - +20000
#	00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 - 52768) -20000 - +20000
#	00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 - 52768) -20000 - +20000
#	00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 - 52768) -20000 - +20000
#	00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 - 52768) -20000 - +20000
#	00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 - 52768) -20000 - +20000
#	00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	(12768 - 52768) -20000 - +20000
#	00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 - 52768) -20000 - +20000
#	00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 - 52768) -20000 - +20000
	00 00 00 53	Total Size		

❍Rhythm Tone

Offset Address		Description	
00 00	0aaa aaaa	Tone Name 1	(32 - 127) 32 - 127 [ASCII]
00 01	0aaa aaaa	Tone Name 2	(32 - 127) 32 - 127 [ASCII]
00 02	0aaa aaaa	Tone Name 3	(32 - 127) 32 - 127 [ASCII]
00 03	0aaa aaaa	Tone Name 4	(32 - 127) 32 - 127 [ASCII]
00 04	0aaa aaaa	Tone Name 5	(32 - 127) 32 - 127 [ASCII]
00 05	0aaa aaaa	Tone Name 6	(32 - 127) 32 - 127 [ASCII]
00 06	0aaa aaaa	Tone Name 7	(32 - 127) 32 - 127 [ASCII]
00 07	0aaa aaaa	Tone Name 8	(32 - 127) 32 - 127 [ASCII]
00 08	0aaa aaaa	Tone Name 9	(32 - 127) 32 - 127 [ASCII]
00 09	0aaa aaaa	Tone Name 10	(32 - 127) 32 - 127 [ASCII]
00 0A	0aaa aaaa	Tone Name 11	(32 - 127) 32 - 127 [ASCII]
00 0B	0aaa aaaa	Tone Name 12	(32 - 127) 32 - 127 [ASCII]
00 0C	0000 000a	Assign Type	(0 - 1) MULTI, SINGLE
00 0D	000a aaaa	Mute Group	(0 - 31) OFF, 1 - 31
00 0E	0aaa aaaa	Tone Level	(0 - 127)
00 0F	0aaa aaaa	Tone Coarse Tune	(0 - 127) C-1 - G9
00 10	0aaa aaaa	Tone Fine Tune	(14 - 114) -50 - +50
00 11	000a aaaa	Tone Random Pitch Depth	(0 - 30) 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
00 12	0aaa aaaa	Tone Pan	(0 - 127) L64 - 63R
00 13	00aa aaaa	Tone Random Pan Depth	(0 - 63)
00 14	0aaa aaaa	Tone Alternate Pan Depth	(1 - 127) L63 - 63R
00 15	0000 000a	Tone Env Mode	(0 - 1) NO-SUS, SUSTAIN
00 16	0aaa aaaa	Tone Dry Send Level	(0 - 127)
00 17	0aaa aaaa	Tone Chorus Send Level	(0 - 127)
00 18	0aaa aaaa	Tone Reverb Send Level	(0 - 127)
00 19	0aaa aaaa	Tone Chorus Send Level (non MFX)	(0 - 127)
00 1A	0aaa aaaa	Tone Reverb Send Level (non MFX)	(0 - 127)
00 1B	0000 aaaa	Tone Output Assign	(0 - 12) MFX, A, B, ---, ---, ---, 1, 2, 3, 4, ---, ---, ---, ---
00 1C	00aa aaaa	Tone Pitch Bend Range	(0 - 48)
00 1D	0000 000a	Tone Receive Expression	(0 - 1) OFF, ON
00 1E	0000 000a	Tone Receive Hold-1	(0 - 1) OFF, ON
00 1F	0000 000a	Tone Receive Pan Mode	(0 - 1) CONTINUOUS, KEY-ON
00 20	0000 00aa	WMT Velocity Control	(0 - 2) OFF, ON, RANDOM
00 21	0000 000a	WMT1 Wave Switch	(0 - 1) OFF, ON
00 22	0000 00aa	WMT1 Wave Group Type	(0 - 3) INT, SRX, SAMPLE, MULTISAMPLE
# 00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number R	(0 - 16384) OFF, 1 - 16384
00 2F	0000 00aa	WMT1 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 30	0000 000a	WMT1 Wave FXM Switch	(0 - 1) OFF, ON
00 31	0000 00aa	WMT1 Wave FXM Color	(0 - 3) 1 - 4
00 32	000a aaaa	WMT1 Wave FXM Depth	(0 - 16)
00 33	0000 000a	WMT1 Wave Tempo Sync	(0 - 1) OFF, ON
00 34	0aaa aaaa	WMT1 Wave Coarse Tune	(16 - 112) -48 - +48
00 35	0aaa aaaa	WMT1 Wave Fine Tune	(14 - 114) -50 - +50
00 36	0aaa aaaa	WMT1 Wave Pan	(0 - 127) L64 - 63R
00 37	0000 000a	WMT1 Wave Random Pan Switch	(0 - 1) OFF, ON
00 38	0000 00aa	WMT1 Wave Alternate Pan Switch	(0 - 2) OFF, ON, REVERSE
00 39	0aaa aaaa	WMT1 Wave Level	(0 - 127)
00 3A	0aaa aaaa	WMT1 Velocity Range Lower	(1 - 127) 1 - UPPER
00 3B	0aaa aaaa	WMT1 Velocity Range Upper	(1 - 127) LOWER - 127
00 3C	0aaa aaaa	WMT1 Velocity Fade Width Lower	(0 - 127)
00 3D	0aaa aaaa	WMT1 Velocity Fade Width Upper	(0 - 127)
00 3E	0000 000a	WMT2 Wave Switch	(0 - 1) OFF, ON
00 3F	0000 00aa	WMT2 Wave Group Type	(0 - 3) INT, SRX, SAMPLE, MULTISAMPLE
# 00 40	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Group ID	(0 - 16384) OFF, 1 - 16384
# 00 44	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number L (Mono)	(0 - 16384) OFF, 1 - 16384
# 00 48	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number R	(0 - 16384) OFF, 1 - 16384
00 4C	0000 00aa	WMT2 Wave Gain	(0 - 3) -6, 0, +6, +12 [dB]
00 4D	0000 000a	WMT2 Wave FXM Switch	(0 - 1) OFF, ON
00 4E	0000 00aa	WMT2 Wave FXM Color	(0 - 3) 1 - 4
00 4F	000a aaaa	WMT2 Wave FXM Depth	(0 - 16)
00 50	0000 000a	WMT2 Wave Tempo Sync	(0 - 1) OFF, ON
00 51	0aaa aaaa	WMT2 Wave Coarse Tune	(16 - 112) -48 - +48
00 52	0aaa aaaa	WMT2 Wave Fine Tune	(14 - 114) -50 - +50
00 53	0aaa aaaa	WMT2 Wave Pan	(0 - 127) L64 - 63R
00 54	0000 000a	WMT2 Wave Random Pan Switch	(0 - 1) OFF, ON
00 55	0000 00aa	WMT2 Wave Alternate Pan Switch	(0 - 2) OFF, ON, REVERSE
00 56	0aaa aaaa	WMT2 Wave Level	(0 - 127)
00 57	0aaa aaaa	WMT2 Velocity Range Lower	(1 - 127) 1 - UPPER
00 58	0aaa aaaa	WMT2 Velocity Range Upper	(1 - 127) LOWER - 127
00 59	0aaa aaaa	WMT2 Velocity Fade Width Lower	(0 - 127)
00 5A	0aaa aaaa	WMT2 Velocity Fade Width Upper	(0 - 127)
00 5B	0000 000a	WMT3 Wave Switch	(0 - 1) OFF, ON
00 5C	0000 00aa	WMT3 Wave Group Type	(0 - 3)

			INT, SRX, SAMPLE, MULTISAMPLE
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Group ID (0 - 16384) OFF, 1 - 16384
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Number L (Mono) (0 - 16384) OFF, 1 - 16384
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT3 Wave Number R (0 - 16384) OFF, 1 - 16384
	00 69	0000 00aa	WMT3 Wave Gain (0 - 3) -6, 0, +6, +12 [dB]
	00 6A	0000 000a	WMT3 Wave FXM Switch (0 - 1) OFF, ON
	00 6B	0000 00aa	WMT3 Wave FXM Color (0 - 3) 1 - 4
	00 6C	000a aaaa	WMT3 Wave FXM Depth (0 - 16)
	00 6D	0000 000a	WMT3 Wave Tempo Sync (0 - 1) OFF, ON
	00 6E	0aaa aaaa	WMT3 Wave Coarse Tune (16 - 112) -48 - +48
	00 6F	0aaa aaaa	WMT3 Wave Fine Tune (14 - 114) -50 - +50
	00 70	0aaa aaaa	WMT3 Wave Pan (0 - 127) L64 - 63R
	00 71	0000 000a	WMT3 Wave Random Pan Switch (0 - 1) OFF, ON
	00 72	0000 00aa	WMT3 Wave Alternate Pan Switch (0 - 2) OFF, ON, REVERSE
	00 73	0aaa aaaa	WMT3 Wave Level (0 - 127)
	00 74	0aaa aaaa	WMT3 Velocity Range Lower (1 - 127) 1 - UPPER
	00 75	0aaa aaaa	WMT3 Velocity Range Upper (1 - 127) LOWER - 127
	00 76	0aaa aaaa	WMT3 Velocity Fade Width Lower (0 - 127)
	00 77	0aaa aaaa	WMT3 Velocity Fade Width Upper (0 - 127)
	00 78	0000 000a	WMT4 Wave Switch (0 - 1) OFF, ON
	00 79	0000 00aa	WMT4 Wave Group Type (0 - 3) INT, SRX, SAMPLE, MULTISAMPLE
#	00 7A	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Group ID (0 - 16384) OFF, 1 - 16384
#	00 7E	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Number L (Mono) (0 - 16384) OFF, 1 - 16384
#	01 02	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT4 Wave Number R (0 - 16384) OFF, 1 - 16384
	01 06	0000 00aa	WMT4 Wave Gain (0 - 3) -6, 0, +6, +12 [dB]
	01 07	0000 000a	WMT4 Wave FXM Switch (0 - 1) OFF, ON
	01 08	0000 00aa	WMT4 Wave FXM Color (0 - 3) 1 - 4
	01 09	000a aaaa	WMT4 Wave FXM Depth (0 - 16)
	01 0A	0000 000a	WMT4 Wave Tempo Sync (0 - 1) OFF, ON
	01 0B	0aaa aaaa	WMT4 Wave Coarse Tune (16 - 112) -48 - +48
	01 0C	0aaa aaaa	WMT4 Wave Fine Tune (14 - 114) -50 - +50
	01 0D	0aaa aaaa	WMT4 Wave Pan (0 - 127) L64 - 63R
	01 0E	0000 000a	WMT4 Wave Random Pan Switch (0 - 1) OFF, ON
	01 0F	0000 00aa	WMT4 Wave Alternate Pan Switch (0 - 2) OFF, ON, REVERSE
	01 10	0aaa aaaa	WMT4 Wave Level (0 - 127)
	01 11	0aaa aaaa	WMT4 Velocity Range Lower (1 - 127) 1 - UPPER
	01 12	0aaa aaaa	WMT4 Velocity Range Upper (1 - 127) LOWER - 127
	01 13	0aaa aaaa	WMT4 Velocity Fade Width Lower (0 - 127)
	01 14	0aaa aaaa	WMT4 Velocity Fade Width Upper (0 - 127)
	01 15	000a aaaa	Pitch Env Depth (52 - 76) -12 - +12
	01 16	0aaa aaaa	Pitch Env Velocity Sens (1 - 127) -63 - +63
	01 17	0aaa aaaa	Pitch Env Time 1 Velocity Sens (1 - 127) -63 - +63
	01 18	0aaa aaaa	Pitch Env Time 4 Velocity Sens (1 - 127) -63 - +63
	01 19	0aaa aaaa	Pitch Env Time 1 (0 - 127)
	01 1A	0aaa aaaa	Pitch Env Time 2 (0 - 127)
	01 1B	0aaa aaaa	Pitch Env Time 3 (0 - 127)
	01 1C	0aaa aaaa	Pitch Env Time 4 (0 - 127)
	01 1D	0aaa aaaa	Pitch Env Level 0 (1 - 127) -63 - +63
	01 1E	0aaa aaaa	Pitch Env Level 1 (1 - 127) -63 - +63
	01 1F	0aaa aaaa	Pitch Env Level 2 (1 - 127) -63 - +63
	01 20	0aaa aaaa	Pitch Env Level 3 (1 - 127) -63 - +63
	01 21	0aaa aaaa	Pitch Env Level 4 (1 - 127) -63 - +63
	01 22	0000 0aaa	TVF Filter Type (0 - 6) OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	01 23	0aaa aaaa	TVF Cutoff Frequency (0 - 127)
	01 24	0000 0aaa	TVF Cutoff Velocity Curve (0 - 7) FIXED, 1 - 7
	01 25	0aaa aaaa	TVF Cutoff Velocity Sens (1 - 127) -63 - +63
	01 26	0aaa aaaa	TVF Resonance (0 - 127)
	01 27	0aaa aaaa	TVF Resonance Velocity Sens (1 - 127) -63 - +63
	01 28	0aaa aaaa	TVF Env Depth (1 - 127) -63 - +63
	01 29	0000 0aaa	TVF Env Velocity Curve Type (0 - 7) FIXED, 1 - 7
	01 2A	0aaa aaaa	TVF Env Velocity Sens (1 - 127) -63 - +63
	01 2B	0aaa aaaa	TVF Env Time 1 Velocity Sens (1 - 127) -63 - +63
	01 2C	0aaa aaaa	TVF Env Time 4 Velocity Sens (1 - 127) -63 - +63
	01 2D	0aaa aaaa	TVF Env Time 1 (0 - 127)
	01 2E	0aaa aaaa	TVF Env Time 2 (0 - 127)
	01 2F	0aaa aaaa	TVF Env Time 3 (0 - 127)
	01 30	0aaa aaaa	TVF Env Time 4 (0 - 127)
	01 31	0aaa aaaa	TVF Env Level 0 (0 - 127)
	01 32	0aaa aaaa	TVF Env Level 1 (0 - 127)
	01 33	0aaa aaaa	TVF Env Level 2 (0 - 127)
	01 34	0aaa aaaa	TVF Env Level 3 (0 - 127)
	01 35	0aaa aaaa	TVF Env Level 4 (0 - 127)
	01 36	0000 0aaa	TVA Level Velocity Curve (0 - 7) FIXED, 1 - 7
	01 37	0aaa aaaa	TVA Level Velocity Sens (1 - 127) -63 - +63
	01 38	0aaa aaaa	TVA Env Time 1 Velocity Sens (1 - 127) -63 - +63
	01 39	0aaa aaaa	TVA Env Time 4 Velocity Sens (1 - 127) -63 - +63
	01 3A	0aaa aaaa	TVA Env Time 1 (0 - 127)
	01 3B	0aaa aaaa	TVA Env Time 2 (0 - 127)
	01 3C	0aaa aaaa	TVA Env Time 3 (0 - 127)
	01 3D	0aaa aaaa	TVA Env Time 4 (0 - 127)
	01 3E	0aaa aaaa	TVA Env Level 1 (0 - 127)
	01 3F	0aaa aaaa	TVA Env Level 2 (0 - 127)
	01 40	0aaa aaaa	TVA Env Level 3 (0 - 127)
	01 41	0000 000a	One Shot Mode (0 - 1) OFF, ON
	01 42	0aaa aaaa	Aftertouch Time Ctrl Sens (1 - 127) -63 - +63
00	00 01 43	Total Size	

2. GS (Model ID = 42H)

❍System Parameter

Start Address		Description	
# 40 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Master Tune	(24 - 2024) -100.0 - 100.0 [cent]
40 00 04	0aaa aaaa	Master Volume	(0 - 127)
40 00 05	0aaa aaaa	Master Key Shift	(40 - 88) -24 - +24 [semitone]
40 00 06	0aaa aaaa	Master Pan	(1 - 127) L63 - 63R
40 00 7F	0aaa aaaa	Mode Set	(0, 127) GS-RESET, GS-EXIT

❍Common Parameter

Start Address		Description	
40 01 10	0aaa aaaa	Voice Reserve 1	(0 - 24)
40 01 11	0aaa aaaa	Voice Reserve 2	(0 - 24)
40 01 12	0aaa aaaa	Voice Reserve 3	(0 - 24)
40 01 13	0aaa aaaa	Voice Reserve 4	(0 - 24)
40 01 14	0aaa aaaa	Voice Reserve 5	(0 - 24)
40 01 15	0aaa aaaa	Voice Reserve 6	(0 - 24)
40 01 16	0aaa aaaa	Voice Reserve 7	(0 - 24)
40 01 17	0aaa aaaa	Voice Reserve 8	(0 - 24)
40 01 18	0aaa aaaa	Voice Reserve 9	(0 - 24)
40 01 19	0aaa aaaa	Voice Reserve 10	(0 - 24)
40 01 1A	0aaa aaaa	Voice Reserve 11	(0 - 24)
40 01 1B	0aaa aaaa	Voice Reserve 12	(0 - 24)
40 01 1C	0aaa aaaa	Voice Reserve 13	(0 - 24)
40 01 1D	0aaa aaaa	Voice Reserve 14	(0 - 24)
40 01 1E	0aaa aaaa	Voice Reserve 15	(0 - 24)
40 01 1F	0aaa aaaa	Voice Reserve 16	(0 - 24)
40 01 30	0aaa aaaa	Reverb Macro	(0 - 7)
40 01 31	0aaa aaaa	Reverb Character	(0 - 7)
40 01 32	0aaa aaaa	Reverb Pre-LPF	(0 - 7)
40 01 33	0aaa aaaa	Reverb Level	(0 - 127)
40 01 34	0aaa aaaa	Reverb Time	(0 - 127)
40 01 35	0aaa aaaa	Reverb Delay Feedback	(0 - 127)
40 01 36	0aaa aaaa	Reverb Send Level to Chorus<*>	(0 - 127)
40 01 38	0aaa aaaa	Chorus Macro	(0 - 7)
40 01 39	0aaa aaaa	Chorus Pre-LPF	(0 - 7)
40 01 3A	0aaa aaaa	Chorus Level	(0 - 127)
40 01 3B	0aaa aaaa	Chorus Feedback	(0 - 127)
40 01 3C	0aaa aaaa	Chorus Delay	(0 - 127)
40 01 3D	0aaa aaaa	Chorus Rate	(0 - 127)
40 01 3E	0aaa aaaa	Chorus Depth	(0 - 127)
40 01 3F	0aaa aaaa	Chorus Send Level to Reverb	(0 - 127)

❍Part Parameter

Start Address		Description	
# 40 1x 00	0aaa aaaa 0aaa aaaa	Tone Number CC#00 Value Tone Number PC Value	(0 - 127) (0 - 127)
40 1x 02	0aaa aaaa	Rx. Channel	(0 - 16) 1 - 16, OFF
40 1x 03	0000 000a	Rx. Pitch Bend	(0 - 1) OFF, ON
40 1x 04	0000 000a	Rx. Channel Pressure	(0 - 1) OFF, ON
40 1x 05	0000 000a	Rx. Program Change	(0 - 1) OFF, ON
40 1x 06	0000 000a	Rx. Control Change	(0 - 1) OFF, ON
40 1x 07	0000 000a	Rx. Poly Pressure	(0 - 1) OFF, ON
40 1x 08	0000 000a	Rx. Note Message	(0 - 1) OFF, ON
40 1x 09	0000 000a	Rx. RPN	(0 - 1) OFF, ON
40 1x 0A	0000 000a	Rx. NRPN	(0 - 1) OFF, ON
40 1x 0B	0000 000a	Rx. Modulation	(0 - 1) OFF, ON
40 1x 0C	0000 000a	Rx. Volume	(0 - 1) OFF, ON
40 1x 0D	0000 000a	Rx. Panpot	(0 - 1) OFF, ON
40 1x 0E	0000 000a	Rx. Expression	(0 - 1) OFF, ON
40 1x 0F	0000 000a	Rx. Hold-1	(0 - 1) OFF, ON
40 1x 10	0000 000a	Rx. Portamento	(0 - 1) OFF, ON
40 1x 11	0000 000a	Rx. Sostenuto	(0 - 1) OFF, ON
40 1x 12	0000 000a	Rx. Soft	(0 - 1) OFF, ON

	40 1x 13	0aaa aaaa	Mono / Poly Mode (0 - 1) MODE, POLY
	40 1x 14	0aaa aaaa	Assign Mode<*> (0 - 2) SINGLE, LIMITED-MULTI, FULL-MULTI
	40 1x 15	0aaa aaaa	Use for Rhythm Part (0 - 2) OFF, MAP1, MAP2
	40 1x 16	0aaa aaaa	Pitch Key Shift (40 - 88) -24 - +24 [semitone]
#	40 1x 17	0000 aaaa 0000 bbbb	Pitch Offset Fine (8 - 248) -12.0 - +12.0 [Hz]
	40 1x 19	0aaa aaaa	Part Level (CC# 7) (0 - 127)
	40 1x 1A	0aaa aaaa	Velocity Sens Depth (0 - 127) -64 - +63
	40 1x 1B	0aaa aaaa	Velocity Sens Offset (0 - 127) -64 - +63
	40 1x 1C	0aaa aaaa	Part Panpot (CC# 10) (0 - 127) RANDOM, L63 - 63R
	40 1x 1D	0aaa aaaa	Keyboard Range Low (0 - 127)
	40 1x 1E	0aaa aaaa	Keyboard Range High (0 - 127)
	40 1x 1F	0aaa aaaa	CC1 Controller Number (0 - 95)
	40 1x 20	0aaa aaaa	CC2 Controller Number (0 - 95)
	40 1x 21	0aaa aaaa	Chorus Send Level (CC# 93) (0 - 127)
	40 1x 22	0aaa aaaa	Reverb Send Level (CC# 93) (0 - 127)
	40 1x 23	0000 000a	Rx. Bank Select<*> (0 - 1) OFF, ON
	40 1x 24	0000 000a	Rx. Bank Select LSB<*> (0 - 1) OFF, ON
	40 1x 30	0aaa aaaa	Tone Modify 1 (Vibrato Rate) (0 - 127) -64 - +63
	40 1x 31	0aaa aaaa	Tone Modify 2 (Vibrato Depth) (0 - 127) -64 - +63
	40 1x 32	0aaa aaaa	Tone Modify 3 (TVF Cutoff Freq.) (0 - 127) -64 - +63
	40 1x 33	0aaa aaaa	Tone Modify 4 (TVF Resonance) (0 - 127) -64 - +63
	40 1x 34	0aaa aaaa	Tone Modify 5 (TVF&TVA Env. Attack) (0 - 127) -64 - +63
	40 1x 35	0aaa aaaa	Tone Modify 6 (TVF&TVA Env. Decay) (0 - 127) -64 - +63
	40 1x 36	0aaa aaaa	Tone Modify 7 (TVF&TVA ENv. Release) (0 - 127) -64 - +63
	40 1x 37	0aaa aaaa	Tone Modify 8 (Vibrato Delay) (0 - 127) -64 - +63
	40 1x 40	0aaa aaaa	Scale Tuning C (0 - 127) -64 - +63 [cent]
	40 1x 41	0aaa aaaa	Scale Tuning C# (0 - 127) -64 - +63 [cent]
	40 1x 42	0aaa aaaa	Scale Tuning D (0 - 127) -64 - +63 [cent]
	40 1x 43	0aaa aaaa	Scale Tuning D# (0 - 127) -64 - +63 [cent]
	40 1x 44	0aaa aaaa	Scale Tuning E (0 - 127) -64 - +63 [cent]
	40 1x 45	0aaa aaaa	Scale Tuning F (0 - 127) -64 - +63 [cent]
	40 1x 46	0aaa aaaa	Scale Tuning F# (0 - 127) -64 - +63 [cent]
	40 1x 47	0aaa aaaa	Scale Tuning G (0 - 127) -64 - +63 [cent]
	40 1x 48	0aaa aaaa	Scale Tuning G# (0 - 127) -64 - +63 [cent]
	40 1x 49	0aaa aaaa	Scale Tuning A (0 - 127) -64 - +63 [cent]
	40 1x 4A	0aaa aaaa	Scale Tuning A# (0 - 127) -64 - +63 [cent]
	40 1x 4B	0aaa aaaa	Scale Tuning B (0 - 127) -64 - +63 [cent]
	40 2x 00	0aaa aaaa	Mod Pitch Control (40 - 88) -24 - +24 [semitone]
	40 2x 01	0aaa aaaa	Mod TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 02	0aaa aaaa	Mod Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 03	0aaa aaaa	Mod LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 04	0aaa aaaa	Mod LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 05	0aaa aaaa	Mod LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 06	0aaa aaaa	Mod LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 07	0aaa aaaa	Mod LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 08	0aaa aaaa	Mod LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 09	0aaa aaaa	Mod LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 0A	0aaa aaaa	Mod LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 10	0aaa aaaa	Bend Pitch Control (64 - 88) 0 - 24 [semitone]
	40 2x 11	0aaa aaaa	Bend TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 12	0aaa aaaa	Bend Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 13	0aaa aaaa	Bend LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 14	0aaa aaaa	Bend LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 15	0aaa aaaa	Bend LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 16	0aaa aaaa	Bend LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 17	0aaa aaaa	Bend LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 18	0aaa aaaa	Bend LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 19	0aaa aaaa	Bend LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 1A	0aaa aaaa	Bend LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 20	0aaa aaaa	CAf Pitch Control (40 - 88) -24 - +24 [semitone]
	40 2x 21	0aaa aaaa	CAf TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 22	0aaa aaaa	CAf Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 23	0aaa aaaa	CAf LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 24	0aaa aaaa	CAf LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 25	0aaa aaaa	CAf LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 26	0aaa aaaa	CAf LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 27	0aaa aaaa	CAf LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 28	0aaa aaaa	CAf LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 29	0aaa aaaa	CAf LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 2A	0aaa aaaa	CAf LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 30	0aaa aaaa	PAf Pitch Control (40 - 88) -24 - +24 [semitone]
	40 2x 31	0aaa aaaa	PAf TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 32	0aaa aaaa	PAf Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 33	0aaa aaaa	PAf LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 34	0aaa aaaa	PAf LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 35	0aaa aaaa	PAf LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 36	0aaa aaaa	PAf LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 37	0aaa aaaa	PAf LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 38	0aaa aaaa	PAf LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 39	0aaa aaaa	PAf LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 3A	0aaa aaaa	PAf LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 40	0aaa aaaa	CC1 Pitch Control (40 - 88) -24 - +24 [semitone]
	40 2x 41	0aaa aaaa	CC1 TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 42	0aaa aaaa	CC1 Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 43	0aaa aaaa	CC1 LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 44	0aaa aaaa	CC1 LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 45	0aaa aaaa	CC1 LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 46	0aaa aaaa	CC1 LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 47	0aaa aaaa	CC1 LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 48	0aaa aaaa	CC1 LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 49	0aaa aaaa	CC1 LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 4A	0aaa aaaa	CC1 LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 50	0aaa aaaa	CC2 Pitch Control (40 - 88) -24 - +24 [semitone]
	40 2x 51	0aaa aaaa	CC2 TVF Cutoff Control (0 - 127) -9600 - +9600 [cent]
	40 2x 52	0aaa aaaa	CC2 Amplitude Control (0 - 127) -100.0 - +100.0 [%]
	40 2x 53	0aaa aaaa	CC2 LFO1 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 54	0aaa aaaa	CC2 LFO1 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 55	0aaa aaaa	CC2 LFO1 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 56	0aaa aaaa	CC2 LFO1 TVA Depth (0 - 127) 0 - 100.0 [%]
	40 2x 57	0aaa aaaa	CC2 LFO2 Rate Control (0 - 127) -10.0 - +10.0 [Hz]
	40 2x 58	0aaa aaaa	CC2 LFO2 Pitch Control (0 - 127) 0 - 600 [cent]
	40 2x 59	0aaa aaaa	CC2 LFO2 TVF Depth (0 - 127) 0 - 2400 [cent]
	40 2x 5A	0aaa aaaa	CC2 LFO2 TVA Depth (0 - 127) 0 - 100.0 [%]

x: BLOCK NUMBER (0-F)
Part 1 (MIDI ch = 1) x = 1
Part 2 (MIDI ch = 2) x = 2
: : :
Part 9 (MIDI ch = 9) x = 9
Part10 (MIDI ch = 10) x = 0
Part11 (MIDI ch = 11) x = A
Part12 (MIDI ch = 12) x = B
: : :
Part16 (MIDI ch = 16) x = F

❍Drum Setup Parameter

Start Address		Description	
	41 m0 00	0aaa aaaa	Drum Map Name 1 (32 - 127) 32 - 127 [ASCII]
	41 m0 01	0aaa aaaa	Drum Map Name 2 (32 - 127) 32 - 127 [ASCII]
	41 m0 02	0aaa aaaa	Drum Map Name 3 (32 - 127) 32 - 127 [ASCII]
	41 m0 03	0aaa aaaa	Drum Map Name 4 (32 - 127) 32 - 127 [ASCII]
	41 m0 04	0aaa aaaa	Drum Map Name 5 (32 - 127) 32 - 127 [ASCII]
	41 m0 05	0aaa aaaa	Drum Map Name 6 (32 - 127) 32 - 127 [ASCII]
	41 m0 06	0aaa aaaa	Drum Map Name 7 (32 - 127) 32 - 127 [ASCII]
	41 m0 07	0aaa aaaa	Drum Map Name 8 (32 - 127) 32 - 127 [ASCII]
	41 m0 08	0aaa aaaa	Drum Map Name 9 (32 - 127) 32 - 127 [ASCII]
	41 m0 09	0aaa aaaa	Drum Map Name 10 (32 - 127) 32 - 127 [ASCII]
	41 m0 0A	0aaa aaaa	Drum Map Name 11 (32 - 127) 32 - 127 [ASCII]
	41 m0 0B	0aaa aaaa	Drum Map Name 12 (32 - 127) 32 - 127 [ASCII]
	41 m1 rr	0aaa aaaa	Play Note Number (0 - 127)
	41 m2 rr	0aaa aaaa	Level (0 - 127)
	41 m3 rr	0aaa aaaa	Assign Group Number (0 - 127) NON, 1 - 127
	41 m4 rr	0aaa aaaa	Panpot (0 - 127) RAMDOM, L63 - 63R
	41 m5 rr	0aaa aaaa	Reverb Send Level (0 - 127) 0.0 - 1.0
	41 m6 rr	0aaa aaaa	Chorus Send Level (0 - 127) 0.0 - 1.0
	41 m7 rr	0000 000a	Rx. Note Off (0 - 1) OFF, ON
	41 m8 rr	0000 000a	Rx. Note On (0 - 1) OFF, ON

m: Map number (0 = MAP1, 1 = MAP2)
rr: drum part note number (00H-7FH)

4. Supplementary Material

■Decimal and Hexadecimal Table

(An "H" is appended to the end of numbers in hexadecimal notation.)
In MIDI documentation, data values and addresses/sizes of Exclusive messages, etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

D	H	D	H	D	H	D	H
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

D: decimal
H: hexadecimal

* Decimal values such as MIDI channel, bank select, and program change are listed as one greater than the values given in the above table.
* A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128+bb.
* In the case of values which have a +/- sign, 00H = -64, 40H = +/-0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = +/-0, and 7F 7FH = +8191. For example, if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128+bb - 64 x 128.
* Data marked "Use nibbled data" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16+b.

<Example 1> What is the decimal expression of 5AH?
From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?
From the preceding table, since 12H = 18 and 34H = 52
18 x 128+52 = 2356

<Example 3> What is the decimal expression of the nibbled value 0A 03 09 0D?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16+3) x 16+9) x 16+13 = 41885

<Example 4> What is the nibbled expression of the decimal value 1258?

```
16 ) 1258
16 )   78 ...10
16 )    4 ...14
        0 ... 4
```

Since from the preceding table, 0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH, the result is: 00 04 0E 0AH.

■Examples of Actual MIDI Messages

<Example 1> 92 3E 5F
9n is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example 2> CE 49
CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74.

<Example 3> EA 00 28
EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 12+80 = 8192) is 0, so this Pitch Bend Value is
28 00H - 40 00H = 40 x 12+80 - (64 x 12+80) = 5120 - 8192 = -3072

If the Pitch Bend Sensitivity is set to 2 semitones, -8192 (00 00H) will cause the pitch to change -200 cents, so in this case -200 x (-3072) ÷ (-8192) = -75 cents of Pitch Bend is being applied to MIDI channel 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F
BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

B3	64 00	MIDI ch.4, lower byte of RPN parameter number:00H
(B3)	65 00	(MIDI ch.4) upper byte of RPN parameter number: 00H
(B3)	06 0C	(MIDI ch.4) upper byte of parameter value:0CH
(B3)	26 00	(MIDI ch.4) lower byte of parameter value:00H
(B3)	64 7F	(MIDI ch.4) lower byte of RPN parameter number: 7FH
(B3)	65 7F	(MIDI ch.4) upper byte of RPN parameter number: 7FH

In other words, the above messages specify a value of 0C 00H for RPN parameter number 00 00H on MIDI channel 4, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to +/-12 semitones (1 octave). (On GS sound generators the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B3) 64 7F (B3) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound generator will then misinterpret the data. Take care to give each event its own status.

* It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN = 96, and about 5 ticks for TPQN = 480).

* TPQN: Ticks Per Quarter Note

■Example of an Exclusive Message and Calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted Exclusive message.

●How to calculate the checksum (hexadecimal numbers are indicated by "H")

The checksum is a value derived by adding the address, size, and checksum itself and inverting the lower 7 bits.
Here's an example of how the checksum is calculated. We will assume that in the Exclusive message we are transmitting, the address is aa bb cc ddH and the data or size is ee ffH.

aa + bb + cc + dd + ee + ff = sum
sum ÷ 128 = quotient ... remainder
128 - remainder = checksum

<Example> Setting CHORUS TYPE of PERFORMANCE COMMON to DELAY (DT1)

According to the **Parameter Address Map** (p. 252), the start address of Temporary Performance is 10 00 00 00H, the offset address of CHORUS at PERFORMANCE COMMON is 04 00H, and the address of CHORUS TYPE is 00 00H. Therefore the address of CHORUS TYPE of PERFORMANCE COMMON is;

```
   10 00 00 00H
         04 00H
+)       00 00H
   10 00 04 00H
```

DELAY has the value of 02H.
So the system exclusive message should be sent is;

F0	41	10	00 6B	12	10 00 04 00	02	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (Fantom-XR) (5) Command ID (DT1)(6) End of Exclusive

Then calculate the checksum.

10H + 00H + 04H + 00H + 02H = 16 + 0 + 4 + 0 + 2 = 22 (sum)
22 (sum) ÷ 128 = 0 (quotient) ... 22 (remainder)
checksum = 128 - 22 (remainder) = 106 = 6AH

This means that F0 41 10 00 6B 12 10 00 04 00 02 6A F7 is the message should be sent.

■The Scale Tune Feature

(address: 40 1x 40)
The scale Tune feature allows you to finely adjust the individual pitch of the notes from C through B. Though the settings are made while working with one octave, the fine adjustments will affect all octaves. By making the appropriate Scale Tune settings, you can obtain a complete variety of tuning methods other than equal temperament. As examples, three possible types of scale setting are explained below.

❍Equal Temperament

This method of tuning divides the octave into 12 equal parts. It is currently the most widely used form of tuning, especially in occidental music. On the Fantom-XR, the default settings for the Scale Tune feature produce equal temperament.

❍Just Temperament (Tonic of C)

The principal triads resound much more beautifully than with equal temperament, but this benefit can only be obtained in one key. If transposed, the chords tend to become ambiguous. The example given involves settings for a key in which C is the keynote.

❍Arabian Scale

By altering the setting for Scale Tune, you can obtain a variety of other tunings suited for ethnic music. For example, the settings introduced below will set the unit to use the Arabian Scale.

Example Settings

Note name	Equal Temperament	Just Temperament (Key-tone 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

The values in the table are given in cents. Convert these values to hexadecimal, and transmit them as Exclusive data.
For example, to set the tune (C-B) of the Part 1 Arabian Scale, send the following data:

F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 76 F7

■ASCII Code Table

Patch Name and Performance Name, etc., of MIDI data are described the ASCII code in the table below.

D	H	Char	D	H	Char	D	H	Char
32	20H	SP	64	40H	@	96	60H	`
33	21H	!	65	41H	A	97	61H	a
34	22H	"	66	42H	B	98	62H	b
35	23H	#	67	43H	C	99	63H	c
36	24H	$	68	44H	D	100	64H	d
37	25H	%	69	45H	E	101	65H	e
38	26H	&	70	46H	F	102	66H	f
39	27H	'	71	47H	G	103	67H	g
40	28H	(	72	48H	H	104	68H	h
41	29H	)	73	49H	I	105	69H	i
42	2AH	*	74	4AH	J	106	6AH	j
43	2BH	+	75	4BH	K	107	6BH	k
44	2CH	,	76	4CH	L	108	6CH	l
45	2DH	-	77	4DH	M	109	6DH	m
46	2EH	.	78	4EH	N	110	6EH	n
47	2FH	/	79	4FH	O	111	6FH	o
48	30H	0	80	50H	P	112	70H	p
49	31H	1	81	51H	Q	113	71H	q
50	32H	2	82	52H	R	114	72H	r
51	33H	3	83	53H	S	115	73H	s
52	34H	4	84	54H	T	116	74H	t
53	35H	5	85	55H	U	117	75H	u
54	36H	6	86	56H	V	118	76H	v
55	37H	7	87	57H	W	119	77H	w
56	38H	8	88	58H	X	120	78H	x
57	39H	9	89	59H	Y	121	79H	y
58	3AH	:	90	5AH	Z	122	7AH	z
59	3BH	;	91	5BH	[	123	7BH	{
60	3CH	<	92	5CH	\	124	7CH	|
61	3DH	=	93	5DH	]	125	7DH	}
62	3EH	>	94	5EH	^			
63	3FH	?	95	5FH	_			

D: decimal
H: hexadecimal

* "SP" is space.

<Bank Select and Program Change Correspondence Chart>

Patch

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	001–128	87	0	1–128
	129–256	87	1	1–128
CARD	001–128	87	32	1–128
	129–256	87	33	1–128
PR-A	001–128	87	64	1–128
PR-B	001–128	87	65	1–128
PR-C	001–128	87	66	1–128
PR-D	001–128	87	67	1–128
PR-E	001–128	87	68	1–128
PR-F	001–128	87	69	1–128
PR-G	001–128	87	70	1–128
PR-H	001–128	87	71	1–128
GM(2)	001–256	121	0–	1–128
XP-A (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
:	:	:	:	:
XP-B (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
:	:	:	:	:
XP-C (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
:	:	:	:	:
XP-D (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
::	:	:	:	:
XP-E (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
::	:	:	:	:
XP-F (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
::	:	:	:	:

* *The XP groups vary depending on the Wave Expansion Board(s) you've installed. For information about an SRX series board, refer to the Owner's Manual that came with it.*

Rhythm Set

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	001–032	86	0	1–32
CARD	001–032	86	32	1–32
PRST	001–040	86	64	1–40
GM(2)	001–009	120	---	1–57
XP-A (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-B (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-C (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-D (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-E (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-F (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:

* *The XP groups vary depending on the Wave Expansion Board(s) you've installed. For information about an SRX series board, refer to the Owner's Manual that came with it.*

Performance

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	01–64	85	0	1–64
CARD	01–64	85	32	1–64
PRST	01–64	85	64	1–64

* *To switch multitimbres, the external MIDI device's transmit channel needs to be matched up with the Control Channel of the Fantom-XR. (P.156)*

Model Fantom-XR

MIDI Implementation Chart

Date : Mar. 3, 2004
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	X	1–16	
Channel	Changed	X	1–16	
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M = 1)	* 2
	Altered	**********		
Note Number :	True Voice	0–127 *4 **********	0–127 0–127	
Velocity	Note On	O *4	O	
	Note Off	O *4	O	
After Touch	Key's	X	O *1	
	Channel's	X	O *1	
Pitch Bend		X	O *1	
Control Change	0, 32	X	O *1	Bank select
	1	X	O *1	Modulation
	2	X	O	Breath type
	4	X	O	Foot type
	5	X	O	Portamento time
	6, 38	X	O	Data entry
	7	X	O *1	Volume
	8	X	X	Balance
	10	X	O *1	Panpot
	11	X	O *1	Expression
	16	X	X	General purpose controller 1
	17	X	X	General purpose controller 2
	18	X	X	General purpose controller 3
	19	X	X	General purpose controller 4
	64	X	O *1	Hold 1
	65	X	O	Portamento
	66	X	O	Sostenuto
	67	X	O	Soft
	68	X	O	Legato foot switch
	69	X	O	Hold 2
	70	X	X	Sound variation
	71	X	O	Resonance
	72	X	O	Release time
	73	X	O	Attack time
	74	X	O	Cutoff
	75	X	O	Decay time
	76	X	O	Vibrato rate
	77	X	O	Vibrato depth
	78	X	O	Vibrato delay
	80	X	O (Tone 1 Level)	General purpose controller 5
	81	X	O (Tone 2 Level)	General purpose controller 6
	82	X	O (Tone 3 Level)	General purpose controller 7
	83	X	O (Tone 4 Level)	General purpose controller 8
	84	X	O	Portamento control
	91	X	O (Reverb)	General purpose effects 1
	92	X	X	Tremolo
	93	X	O (Chorus)	General purpose effects 3
	94	X	X	Celeste
	95	X	X	Phaser
	1–31, 64–95	X	O	General purpose controller
	98, 99	X	X	NRPN LSB, MSB
	100, 101	X	O	RPN LSB, MSB
Program Change	: True Number	X **********	O *1 0–127	Program No. 1–128
System Exclusive		O *3	O *1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	O	
	: Commands	X	X	
Aux Messages	: All Sound Off	X	O	
	: Reset All Controllers	X *3	O	
	: Local On/Off	X	X	
	: All Notes Off	X *3	O (123–127)	
	: Active Sensing	X	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1. * 3 Transmitted when Tx Edit Data is ON, or when RQ1 is received. * 4 Transmitted when Tx Note is ON, and Arpeggio, Chord Memory, or Rhythm Pattern is ON.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Specifications

Fantom-XR:
128 Voices Synthesizer/Sampling Module
(Conforms to General MIDI 2 System)

Sound Generator Section

Maximum Polyphony

128 voices (shared with the sampling section)

Parts

16 parts

Wave Memory

128 M bytes (16-bit linear equivalent)

Waveforms

1,480

Preset Memory

Patches: 1,024 + 256 (GM2)
Rhythm Sets: 40 + 9 (GM2)
Performances: 64

User Memory

Patches: 256
Rhythm Sets: 32
Performances: 64

Card Memory (PC card)

Patches: 256
Rhythm Sets: 32
Performances: 64

Effects

Multi-Effects: 3 systems, 78 types
Chorus: 3 types
Reverb: 5 types
Input Effect: 6 types
Mastering Effect: 3 bands Compressor

Sampling Section

Data Format

16-bit linear (File Type: .WAV/.AIFF)

Sampling Frequency

44.1 kHz (fixed)

Maximum Sampling Time

- When sampling memory isn't expanded (16 MB)
  mono: 180 sec. approx., stereo: 90 sec. approx.
- When sampling memory is expanded with DIMM (528 MB)
  mono: 104 min. approx., stereo: 52 min. approx.

Number of Samples

User memory: 2,000 (maximum total approximately 16 MB)
Card memory: 7,000 (PC card)

Others

Arpeggio

Preset: 128
User: 128

Rhythm Pattern

Preset: 256 (32 groups)
User: 256 (32 groups)

Chord Memory

Preset: 64
User: 64

Display

Graphic 160 x 48 dots backlit LCD

Connectors

Headphones Jack
A (MIX) Output Jacks (L/MONO, R): 1/4 inch phone type
B Output Jacks (L, R): 1/4 inch phone type
Input Jacks (L/MONO/MIC, R): 1/4 inch phone type
MIDI Connectors (IN, OUT, THRU)
USB Connector (supports file transfer (mass storage class) and MIDI)
Digital Audio Interface (COAXIAL INPUT/OUTPUT)
AC Inlet

Expansion Slots

- Expansion of waveforms and patchs for the internal sound generator
  SRX expansion boards: 6 slots
- Expansion of sampling memory
  DIMM: 1 slot (supports 128 MB, 256 MB, 512 MB (3.3 V))

External Storage Device

PC Card: 1 slot (supports SmartMedia and CompactFlash using a PC card adapter)

Power Supply

AC 117 V, AC 230 V, AC 240 V (50/60 Hz)
AC 220 V (60 Hz)

Power Consumption

13 W

Dimensions

481 (W) x 335 (D) x 44 (H) mm
18-15/16 (W) x 13-3/16 (D) x 1-3/4 (H) inches

Weight

3.75 kg / 8 lbs 5 oz

Accessories

Owner's Manual
Sample Data (Audio) CD
CD-ROM (Editor, USB MIDI driver)
PC Card Protector (and 2 screws)
Power Cord

Options

Wave Expansion Board: SRX Series

* *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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MEMO

List of newly added patches

Patches added by the FANTOM-XR Sample Tools Expansion

PR-I (Preset I Group)

No.	Name	Voices	Category
001	Grand X	2	AC.PIANO
002	Punch Piano	2	AC.PIANO
003	AbandonedPno	2	AC.PIANO
004	Ballad 88	4	AC.PIANO
005	Cosmo Grand	5	AC.PIANO
006	Crossed EP	4	EL.PIANO
007	Dry Suitcase	2	EL.PIANO
008	Chuk EP	3	EL.PIANO
009	FXM EP	2	EL.PIANO
010	Bumpy EP	2	EL.PIANO
011	Organic FM	5	EL.PIANO
012	Simply Wurly	2	EL.PIANO
013	VintageClav	2	KEYBOARDS
014	Clockworx V1	4	BELL
015	Noisemaker	4	MALLET
016	Organ Oz	4	ORGAN
017	Vitamin B	4	ORGAN
018	Chorusd C	3	ORGAN
019	B Keyclick	4	ORGAN
020	Split Bars	3	ORGAN
021	MultiFunk	4	ORGAN
022	SmokeyWater	3	ORGAN
023	Transistor	2	ORGAN
024	R&Bacoustic	2	AC.GUITAR
025	Surf Gtr	2	EL.GUITAR
026	FunkyCountry	2	EL.GUITAR
027	PedalSteel	2	EL.GUITAR
028	Strat-Egic	2	EL.GUITAR
029	SmoothDrive	2	DIST.GUITAR
030	BluesTubes	2	DIST.GUITAR
031	Capt.Fingerz	2	DIST.GUITAR
032	ChunkyCrunch	1	DIST.GUITAR
033	Guitar Rip	3	DIST.GUITAR
034	RockDriver	3	BASS
035	Filter Slap	1	BASS
036	PowerUp Bass	4	SYNTH BASS
037	Plastic3Bass	3	SYNTH BASS
038	Matrix Bass	4	SYNTH BASS
039	Big Pedal	2	SYNTH BASS
040	DawgBass	2	SYNTH BASS
041	SF Bass	2	SYNTH BASS
042	Deep Funk Bs	3	SYNTH BASS
043	Sqr Pressure	4	SYNTH BASS
044	House Bass	4	SYNTH BASS
045	String Exp	6	STRINGS
046	Flap Strings	2	STRINGS
047	70`s TV Show	7	STRINGS
048	Dynam`Orch	6	ORCHESTRA
049	HollywdBrass	8	ORCHESTRA
050	Full Monty	8	ORCHESTRA
051	Hero`s Theme	8	ORCHESTRA
052	MultiHits	3	HIT&STAB
053	Stab Dance	3	HIT&STAB
054	ElectroTango	4	HIT&STAB
055	Power of Pan	5	FLUTE
056	FantomAxxe	2	HARD LEAD
057	Talking Mess	2	HARD LEAD
058	DT Lead	2	HARD LEAD
059	No Fidelity	2	HARD LEAD
060	Razid Lead	2	HARD LEAD
061	Tricycle	2	HARD LEAD
062	Phuture Saw	7	HARD LEAD
063	Intense Lead	4	HARD LEAD
064	Shining	6	HARD LEAD
065	Fat Eurolead	5	HARD LEAD
066	Wave-o-Shapo	2	HARD LEAD
067	DC Sidebands	2	HARD LEAD
068	SeeAttic	2	HARD LEAD
069	Retro Mono	2	HARD LEAD
070	Vintage Duck	2	SOFT LEAD
071	LivinginSine	2	SOFT LEAD
072	SoloSaber	2	SOFT LEAD
073	Lethargy	4	SOFT LEAD
074	Soul Lead	2	SOFT LEAD
075	Vari-D Solo	3	SOFT LEAD
076	Chifferkla4	3	SOFT LEAD
077	Sawdust	3	TECHNO SYNTH
078	Phasing Arp	5	TECHNO SYNTH
079	Acid Empire	3	TECHNO SYNTH
080	Classic TB	3	TECHNO SYNTH
081	Techno Wave	2	TECHNO SYNTH
082	Transylvania	4	TECHNO SYNTH
083	Ventil8or	6	PULSATING
084	Encounter	4	PULSATING
085	Wah-Wah-Wah	2	PULSATING
086	Moby'sReveng	3	PULSATING
087	FiltredDream	6	PULSATING
088	Space Slice	2	PULSATING
089	Art of Trnce	8	PULSATING
090	Vocopanner	2	PULSATING
091	Corrugated	2	PULSATING
092	MightyPulses	4	PULSATING
093	Magic Rays	1	PULSATING
094	CosmicVoices	4	PULSATING
095	TargetX	1	PULSATING
096	Mean Martian	2	SYNTH FX
097	Transmission	4	SYNTH FX
098	Lektromachin	2	SYNTH FX
099	AlienRadio	2	SYNTH FX
100	SacredSecret	6	OTHER SYNTH
101	Angelbreeze	5	OTHER SYNTH
102	Dream Viva	3	OTHER SYNTH
103	MorningRises	6	OTHER SYNTH
104	Dig-A-Logue	3	OTHER SYNTH
105	ContactSport	3	OTHER SYNTH
106	Lunar Dance	4	OTHER SYNTH
107	Cassiopeia	5	BRIGHT PAD
108	PhazeSinger	4	BRIGHT PAD
109	EvocativePad	4	BRIGHT PAD
110	Panta Rhei	4	BRIGHT PAD
111	Thats Epic!	7	BRIGHT PAD
112	Holy Breath	6	BRIGHT PAD
113	Microcosm	6	BRIGHT PAD
114	Magesty Pad	3	BRIGHT PAD
115	Native Pad	4	SOFT PAD
116	Swap Pad	6	SOFT PAD
117	Alphaphase	5	SOFT PAD
118	ThickCarpet	2	SOFT PAD
119	Starchild	6	SOFT PAD
120	Silky Pad	4	SOFT PAD
121	Sineshine	4	SOFT PAD
122	Careless Vox	2	VOX
123	SiSi Choir	4	VOX
124	FX Orchestra	6	BEAT&GROOVE
125	AnalogMotion	4	BEAT&GROOVE
126	InstaGroove	4	BEAT&GROOVE
127	Radio Beats	4	BEAT&GROOVE
128	Auto RnB	4	BEAT&GROOVE

For the USA

DECLARATION OF CONFORMITY
Compliance Information Statement

Model Name :	Fantom-XR
Type of Equipment :	Synthesizer/Sampler Module
Responsible Party :	Roland Corporation U.S.
Address :	5100 S. Eastern Avenue, Los Angeles, CA 90040-2938
Telephone :	(323) 890-3700

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.

Tested To Comply With FCC Standards

FOR HOME OR OFFICE USE

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Information

When you need repair service, call your nearest Roland Service Center or authorized Roland distributor in your country as shown below.

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100011 CHINA
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Jakarta Pusat
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Austrian Office
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PL-03664 Warszawa POLAND
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4050-465, Porto, PORTUGAL
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SAUDI ARABIA

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As of January 15, 2005 (ROLAND)