Roland®

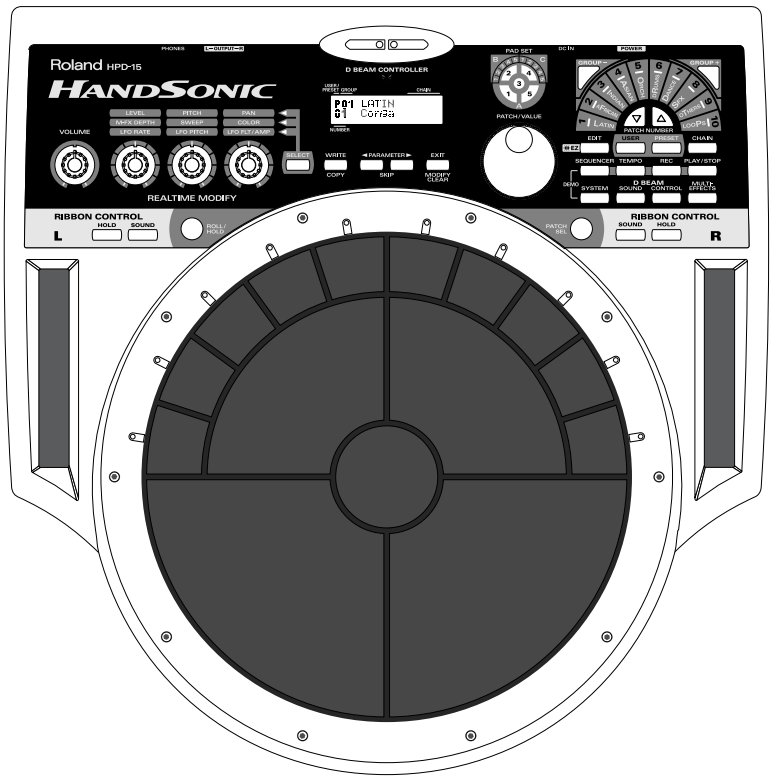
HANDSONIC

HPD-15

Owner's Manual

Thank you, and congratulations on your choice of the Roland HandSonic HPD-15.

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



* The D Beam Controller is provided under license from Interactive Light, Inc.

For the U.K.

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

BLUE: NEUTRAL
BROWN: LIVE

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

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠WARNING and ⚠CAUTION Notices

⚠WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

⚠	The △ symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⃠ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.

- Do not open (or modify in any way) the unit or its AC adaptor.

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

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

⚠WARNING

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

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

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

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

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

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.

- Protect the unit from strong impact.
  (Do not drop it!)

- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts / amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.

- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ CAUTION

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

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

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

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

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

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

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

- Before cleaning the unit, turn off the power and unplug the AC adaptor from the outlet (p. 13).

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

IMPORTANT NOTES

In addition to the items listed under "USING THE UNIT SAFELY" on page 2–3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and / or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Excessive heat can deform or discolor the unit.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.

Maintenance

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

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of loosing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit's memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in the unit's memory or another MIDI device (e.g., a sequencer) once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- This instrument is designed to minimize the extraneous sounds produced when it's played. However, since sound vibrations can be transmitted through floors and walls to a greater degree than expected, take care not to allow these sounds to become a nuisance to neighbors, especially when performing at night and when using headphones.
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use only the specified expression pedal (EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and / or damage to the unit.
- 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.
- Do not strike pads extremely strong. Be careful to prevent your fingers or hands from injury.

Contents

Contents

Features

- The HPD-15 is a compact and lightweight digital hand percussion unit with built-in sound generator, that you can play with your naked hands.

- A pressure-sensitive pad divided into fifteen sections allows you to play full-fledged hand percussion without any other equipment.

- 600 versatile sounds including percussion instruments from around the world with Latin, African, and Asian sounds, as well as drum sets, dance sounds, and sound effects.

- Numerous controllers including ribbons, D Beam , and realtime modify knobs allow you to create realtime changes in the sound.

- Kick trigger units and a hi-hat controller can be connected to create a space-saving drum set.

- Convenient editing functions for the percussionist include an EZ Edit function and a Guide tone (click note).

- Built-in high-quality reverb and multi-effects selected especially for percussion let you produce spacious sounds or invent creative new possibilities.

- Basic rhythm performances are built-in as preset patterns, so that you can enjoy ensemble playing or use the HPD-15 to keep time in place of a metronome.

- A convenience sequencer is provided for recording your performance in realtime — great for practicing or listening to your own playing.

- The HPD-15 can be connected to an external sound module as a MIDI controller, or used as to input drum parts for music data.

How To Use This Manual

This owner's manual is organized as follows.

Quick Start (Chapter 1)

This section is intended for those using the HPD-15 for the first time, and explains how to use various functions in a simple way. Please read Quick Start and follow along by actually operating the HPD-15. This will help you understand most of what you need to know for basic operations.

Advanced Use (Chapter 2 – Chapter 6)

This section explains all functions of the HPD-15 and is divided into specific parts. Basic operations are covered in the Quick Start. The Advanced Use section assumes you already understand basic procedures, so if anything unclear, refer to the "Quick Start."

Chapter 2 Modifying a Patch

This chapter explains how to modify the sounds you play, how to control the sounds, and how to use effects.

Chapter 3 Recording Your Performance (Sequencer)

This chapter explains how to record and play back your performance.

Chapter 4 Changing Patches in the Desired Sequence

This chapter explains the Patch Chain function that lets you switch patches in a desired order.

Chapter 5 Settings for the Entire HPD-15

This chapter explains settings that affect the entire HPD-15, such as screen display, control settings, and how to connect external pads, pedals, or foot switches for use with the HPD-15.

Chapter 6 Connecting MIDI Devices

This chapter explains MIDI-related functions, such as using the HPD-15 to play external sound modules, or saving data on an external device.

Appendices

If you run into problems, refer to "Troubleshooting" to make sure that the settings are correct. If an error message appears during operation, refer to "Messages and Error Messages" and take appropriate action. This section also provides information related to MIDI, backing instrument list, and the MIDI implementation charts.

About the Symbols in This Manual

Words of symbols enclosed in [square brackets] indicate panel buttons or dial.

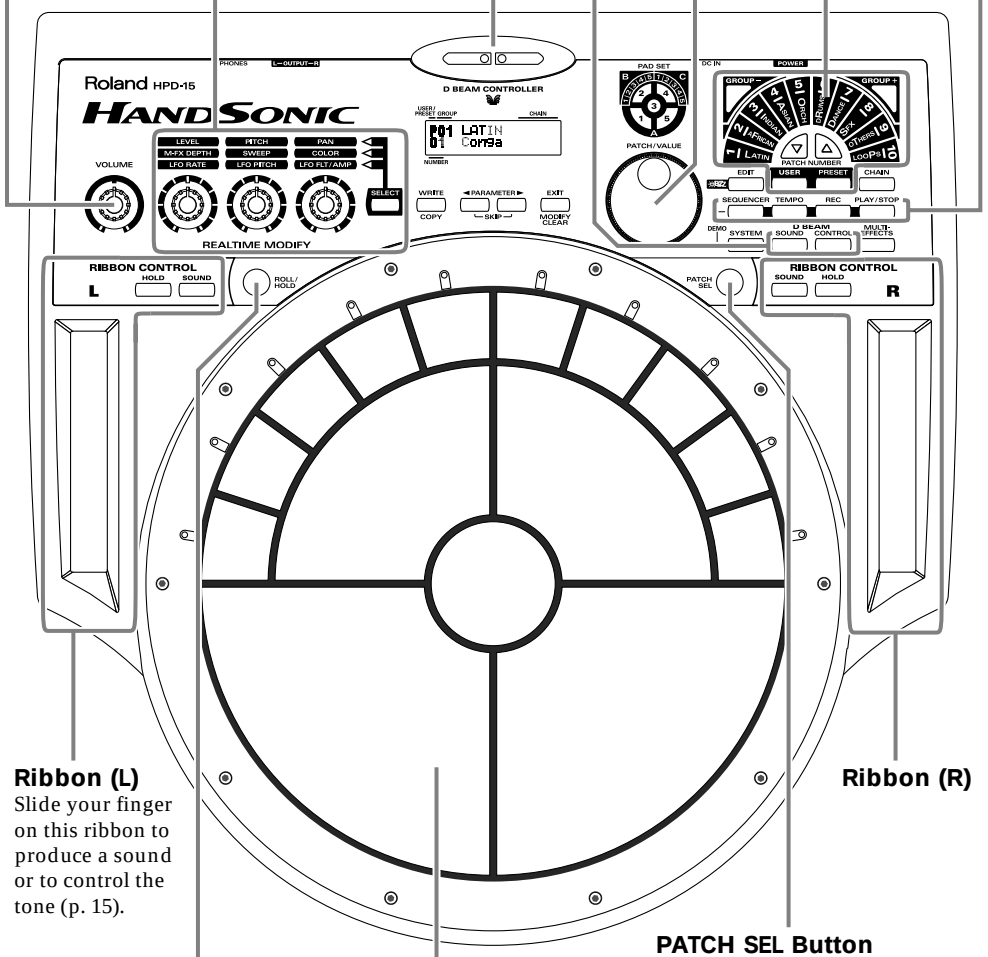
For example, [EDIT] signifies the Edit button.

MEMO

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

Panel Descriptions

Front Panel



VOLUME Knob
Adjusts the volume of the entire HPD-15.
When this knob is turned fully counterclockwise, no sound will be output.

Sequencer Section
You can record and play back your performance (p. 59).

PATCH/VALUE Dial
Turn to select a patch or change the value.

REALTIME MODIFY Section
Turn these knobs to modify the sound (p. 19).

D BEAM
Pass your hand to produce or control the sound (p. 16).

Patch Select Section
Changes the patch (p. 22).

Ribbon (L)
Slide your finger on this ribbon to produce a sound or to control the tone (p. 15).

Ribbon (R)

ROLL/HOLD Button
When this button is lit, the sound will repeat like rolls while pressing a pad (p. 16).

Pad
Strike to produce a sound or press to control the tone (p.15).

PATCH SEL Button
Striking the pad while holding down this button changes the patch (p. 23). This button is used as the shift button of some operations, too.

Rear Panel

TRIGGER INPUT Jack
Connect the kick trigger units, external pads, foot switches (p. 73).

FOOT SWITCH Jack
Connect the optional foot switches (BOSS FS-5U). You can use foot switches to select a patch, to control the sequencer, and so on (p. 71).

MIDI Connectors (IN, OUT/THRU)
Connect the MIDI cable when using the HPD-15 to play external instruments, using the HPD-15 as a sound module, or to save/load the setting data (p. 76).

AC Adaptor Jack
Connect the include AC adaptor.

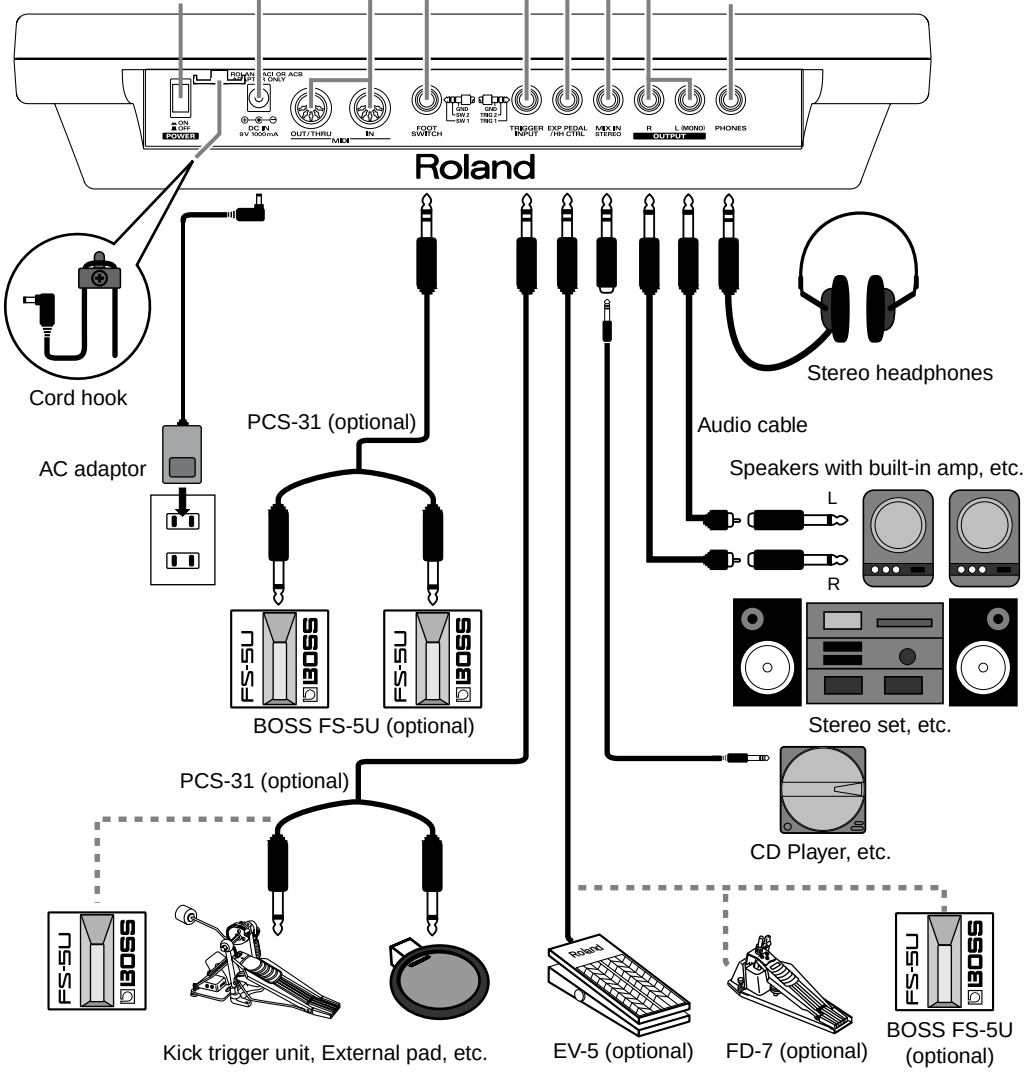
POWER Switch
Turns the power on/off.

EXP PEDAL/HH CTRL Jack
Connect an expression pedal (EV-5), a hi-hat control pedal (FD-7), or a foot switch (p. 72).

MIX IN STEREO Jack
Connect a CD/MD player or use for the expanded input at the live performance. The sound that is input to this jack will be output from the OUTPUT jacks and PHONES jack.

OUTPUT Jacks
Connect to external audio devices or amps. If using monaural sound, plug the cable into the L (MONO) jack only.

PHONES Jack
Connect stereo headphones.
Even if headphones are connected, sound will still be output from the OUTPUT jacks.



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.

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

NOTE
Use only the specified expression pedal (EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

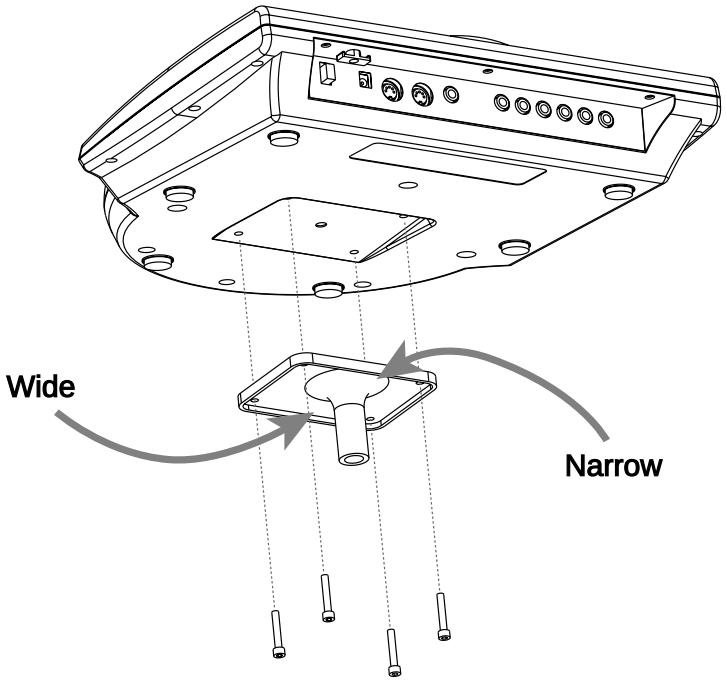
MEMO
For details on connecting MIDI devices, refer to "Chapter 6 Connecting MIDI Devices" (p. 76).

Attaching the HPD-15 to the Stand

1

Attach the stand holder (included with the optional PDS-15) to the HPD-15.

Using the screws provided with the PDS-15, attach the holder so the unit is oriented as shown in the diagram.



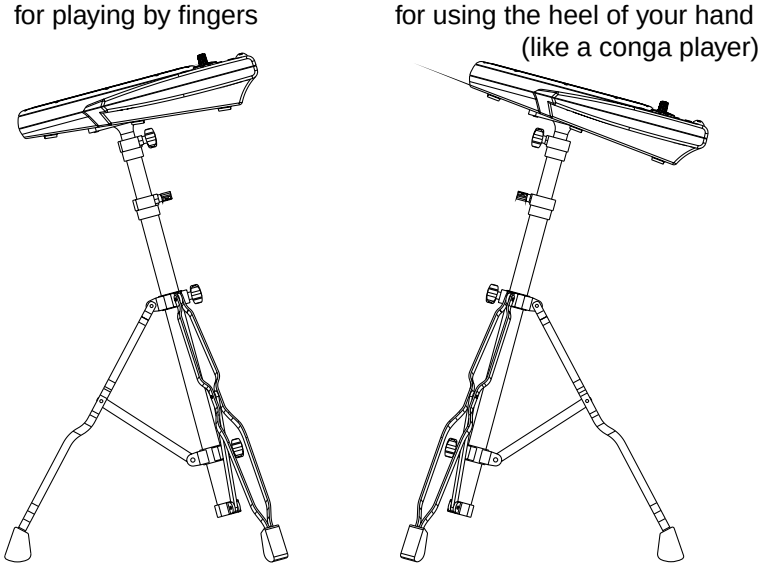
NOTE

Use the screws provided with the PDS-15. Use of other screws may result in damage to the unit.

2

Attach the HPD-15 to the pad stand (PDS-15).

For details on assembling the pad stand and attaching the HPD-15, refer to the owner's manual for the pad stand.



NOTE

If you attach only the screws to the HPD-15 without attaching the stand holder and strike the pads strongly when it is resting on the floor or table, the screw heads may contact the floor or table and scratch it.

NOTE

Do not slope the stand excessively. Be careful that the stand does not lose its balance.

Chapter 1 Quick Start

This chapter explains basic operation of the HPD-15.

For details on modifying sounds and settings, refer to "Chapter 2 Modifying a Patch" (p. 35).

Turning On/Off the Power

* *Once the connections have been completed (p. 11), 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. Make sure that all volume controls on the HPD-15 and connected devices are set to "0."
2. Turn on the device connected to the MIX IN Jack.
3. Turn on the HPD-15's [POWER] switch.
4. Turn on the device connected to the OUTPUT Jacks.
5. Adjust the volume levels for the devices.

Before switching off the power, lower the volume on each of the devices in your system and then TURN OFF the devices in the reverse order to which they were switched on.

NOTE

When turns the power on, be careful not to shut the window of the D Beam (p. 16) until the patch name (p. 21) is displayed. The HPD-15 adjusts the sensitivity of the D Beam automatically when turns the power on.

NOTE

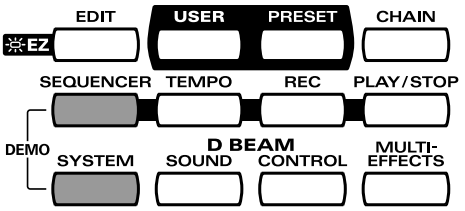
If you connect the hi-hat control pedal (FD-7, optional), do not step on the pedal until the patch name is displayed when the power is turned on. The HPD-15 will check the position of the pedal then.

NOTE

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

Listening to the Demo Song

1 Simultaneously press [SEQUENCER] and [SYSTEM].

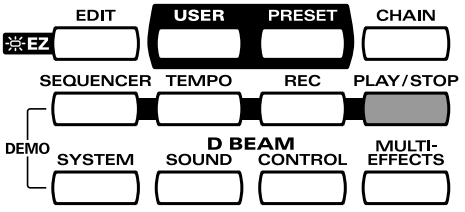



```
HPD-15 DEMO PLAY
 1.TABLECTRIC
```

2 Turn [PATCH/VALUE] or use [PATCH NUMBER ▼] and [PATCH NUMBER ▲] to select the demo song that you wish to hear.

For details on the demo songs, refer to “Demo Song List” (p. 96).

3 Press [PLAY/STOP].



Playback will begin.

To stop playback, press [PLAY/STOP] once again.

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

4 Press [EXIT].

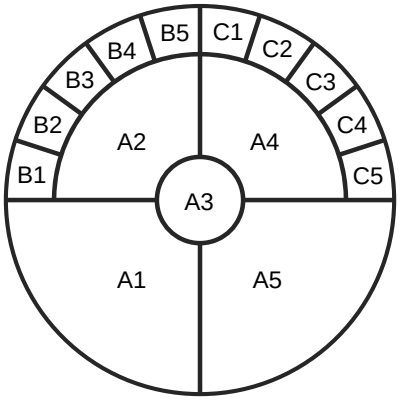
You will return to the previous screen.

Performing

Hit the pads

The pads of the HPD-15 will produce different volume or tones depending on where or how strongly they are struck, and you can also vary the tone and duration of the sounds by continuing to press the pad after striking it or by pressing another pad.

The pads are divided into 15 sections, which are numbered as follows.

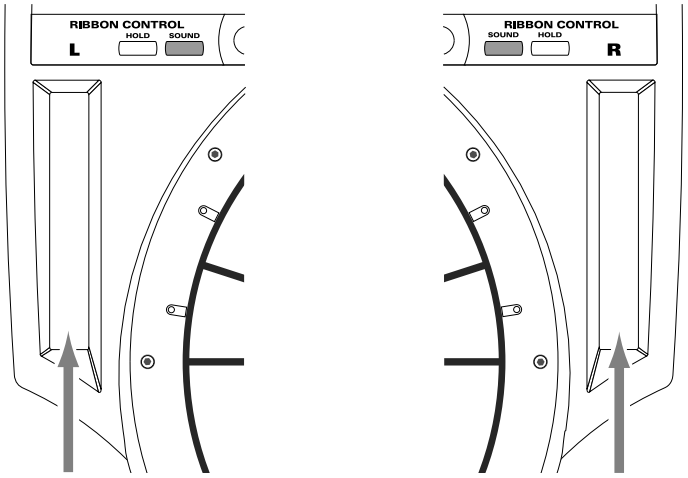


Pad Set

The pads are in sets of five. Pads A1–A5 are referred to as pad set A, pads B1–B5 as pad set B, and pads C1–C5 as pad set C.

Slide Your Finger on the Ribbons

By sliding your finger on the **ribbons** located at the left and right of the HPD-15 you can produce sounds or modify the tone.



NOTE

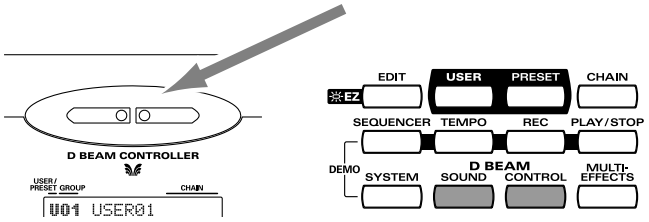
If Ribbon [SOUND] is not lit, sliding your finger on the ribbon will not produce sound. Press [SOUND] to make it light.

MEMO

[HOLD] is used when you control the tone by a ribbon. Refer to “Turning On / Off the Ribbons” (p. 69).

Pass Your Hand over the D Beam

By passing your hand over the **D Beam** located at the top of the panel, you can produce sounds or modify the tone.

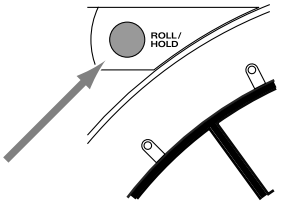


NOTE

If D Beam [SOUND] is not lit, passing your hand over the D Beam will not produce sound. Press [SOUND] to make it light. If there is no sound even though [SOUND] is lit, adjust the sensitivity of the D Beam.

Sustaining the Sound (ROLL / HOLD Button)

1 Press [ROLL / HOLD] (located at the upper left of the pads) to make it light.



NOTE

If D Beam [CONTROL] is not lit, passing your hand over the D Beam will not modify the tone. Press [CONTROL] to make it light.

MEMO

Ribbons, D Beam, connected expression pedal, and connected hi-hat control pedal are called “controller.“

2 Press the pad.

While you press the pad, the sound will be repeated as a roll.

Pressing strongly will increase the volume.

MEMO

To specify the interval at which the sound is repeated, refer to “Specifying the Roll Speed” (p. 55).

The sound of the instruments marked with “*H” in the Instrument List (p. 92) will sustain if you remove your hand from the pad.

NOTE

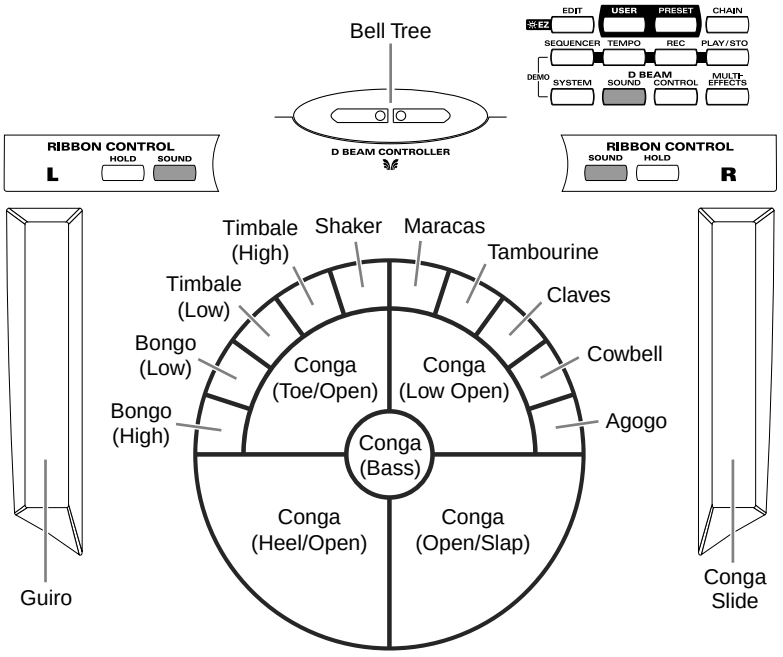
The sound of the instrument assigned to the D Beam, ribbons, external triggers, or pedal will not be repeated.

Playing Various Sounds

Let's use the patch (p. 21) of **P0101 Conga** to hear various sounds from the pads, ribbons, and D Beam.

* *If the following screen is not shown, turn [PATCH/VALUE] until the following screen appears.*

```
P01 LATIN
01  Conga
```



NOTE

If D Beam [SOUND] is not lit, passing your hand over the D Beam will not produce sound. Press [SOUND] to make it light.

NOTE

If [SOUND] located above the ribbon is not lit, rubbing the ribbon will not produce sound. Press [SOUND] to make it light.

Controlling Pad Sounds

Let's use the patch (p. 21) of **P0201 Talking Drm** and use the ribbons, D Beam, and other pads to control the pitch of the pads.

* *If the following screen is not shown, turn [PATCH/VALUE] until the following screen appears.*

```
P02 AFRICAN
01  TalkingDrm
```

While striking the pad, rub the ribbons or move your hand over the D Beam to raise the pitch.

While striking the pad, press one of the pads A1–A5 will also raise the pitch.

NOTE

If D Beam [CONTROL] is not lit, passing your hand over the D Beam will not modify the tone. Press [CONTROL] to make it light.

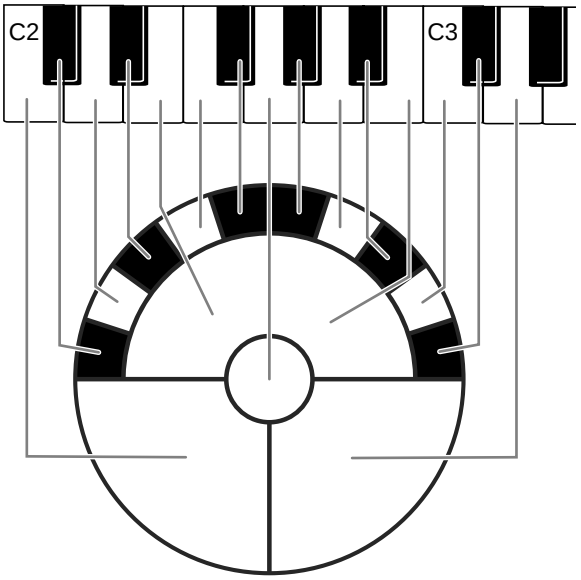
Playing a Scale

You can use the pads to play the sounds of a pitched instrument such a steel drum or marimba.

Let's use the patch (p. 21) of **P0501 Vibraphone** to play a scale.

* *If the following screen is not shown, turn [PATCH/VALUE] until the following screen appears.*

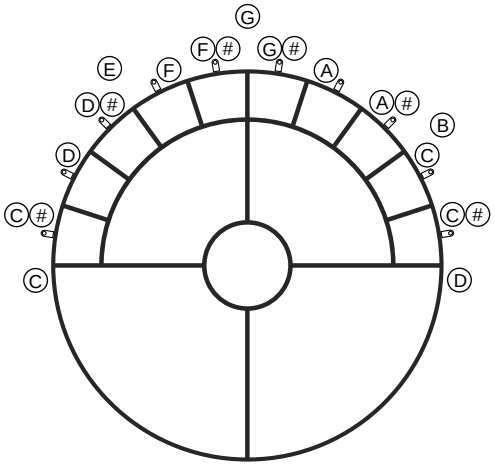
The pads are assigned to the notes of the keyboard as follows.



HINT

Simultaneously striking pads A1–A3 (the left half of pad set A) will produce a "C" chord, and simultaneously striking A3–A5 (the right half) will produce a "G" chord.

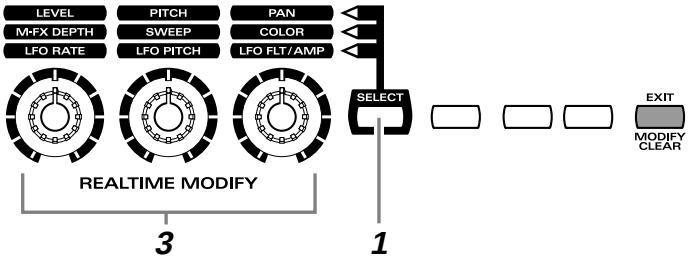
Helpful Use of the Included Label



Using Knobs to Modify the Tone (Realtime Modify)

The sounds of the HPD-15 have various **parameters** that determine the loudness, pitch, and duration, and how the notes are sounded. By modifying the **values** of each parameters, you can vary the tone.

Normally, you will adjust the parameter values to your liking before you perform. However, some of the parameters can be freely modified while you play. This is referred to as "**realtime modify**."



1 Press [SELECT] to select the parameter that you wish to modify.

The indicator at the right of the selected parameter will light.

2 Sound the pad (D Beam, ribbon) for the sound that you wish to modify.

* *The M-FX DEPTH and LFO parameters will apply in the same way to all pads/ribbons/D Beam.*

3 Turn the [REALTIME MODIFY] knob.

The selected parameter and the value being modified will be displayed, and the sound will change.

* *If the multi-effects (p. 20) is off, turning the [M-FX DEPTH] knob makes no modification.*

* *If the LFO Waveform (p. 38) is set to "OFF," turning the [LFO RATE], [LFO PITCH] and [LFO FLT/AMP] knobs makes no modification.*

4 By repeating steps 1–3 you can create numerous variations in the sound.

* *By pressing [EXIT/MODIFY CLEAR] you can cancel any value changes you made (**Modify Clear**).*

MEMO

In Edit mode (p. 35), you can also use Realtime Modify to adjust the parameter values (p. 58).

MEMO

Modify Lock

Hold down [SELECT], and sound the pad (D Beam, ribbon). It will be fixed to the target of modification and other pads cannot become to the target. (The [SELECT] indicator will blink at this time.)
To unlock, hold down [SELECT], and press [EXIT].

NOTE

When you turn the knobs too fast, some noise may be heard from some tones .

MEMO

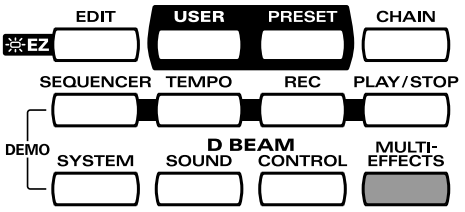
Hold down [EXIT/MODIFY CLEAR], and press [SELECT]. You can excute Modify Clear and cancel the Modify Lock at the same time.

Adding Effects Such as Reverb or Distortion (Multi-Effects)

The HPD-15 contains a multi-effect unit that can apply various effects to the sound.

Turning Multi-Effects On/Off

1 Press [MULTI-EFFECTS].



When the effect is on, [MULTI-EFFECTS] will light.

The sound will change according to the selected type of effect.

For more on multi-effects, refer to “Adjusting the Multi-Effect Settings” (p. 40).

Changing Sounds to Play (Patch Select)

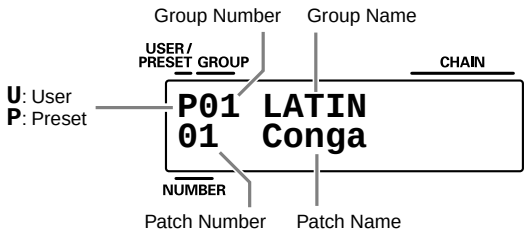
A **patch** contains settings for the pads, controllers, and effects. The HPD-15 contains **80 User patches** that you can rewrite if desired, and **160 Preset patches** that cannot be rewritten. User patches and preset patches are organized into **10 patch groups**.

Names are assigned to preset patch groups.

• GROUP 1	LATIN	Latin-American Percussion instruments
• GROUP 2	AFRICAN	Percussion instruments of Africa and other regions
• GROUP 3	INDIAN	Percussion instruments of India and the Middle East
• GROUP 4	ASIAN	Percussion instruments of Asia
• GROUP 5	ORCH	Orchestral percussion instruments, and mallet instruments (e.g., xylophone, marimba)
• GROUP 6	DRUMS	Drum sets
• GROUP 7	DANCE	Sounds for dance music
• GROUP 8	SFX	Sound effects
• GROUP 9	OTHERS	Melody instruments (e.g., bass, synthesizer), and other sounds
• GROUP 10	LOOPS	Preset patterns are assigned to pads B1–C5. You can listen and compare the preset patterns.

Each patch is assigned a name (**Patch Name**).

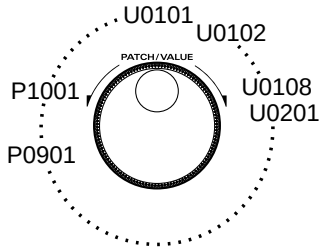
The currently selected group number, patch number, and patch name are displayed in the screen.



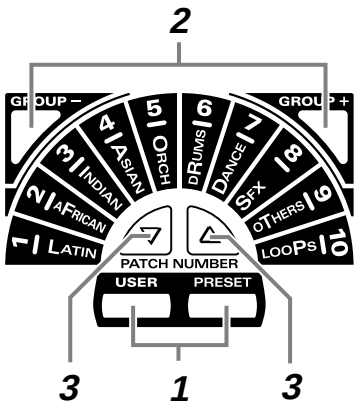
Changing Patches with the Dial

1 Turn [PATCH / VALUE].

The patch will change as shown in the diagram.



Changing Patches with the Panel Switches



1 Press [USER] or [PRESET] to select either user patches or preset patches.

The selected button will light.

2 Use [GROUP -] and [GROUP +] to select the patch group.

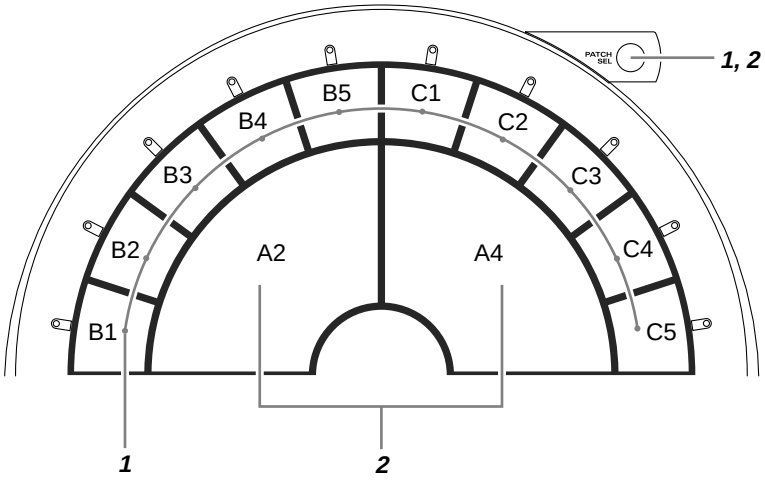
The indicator of the selected patch group will light.

3 Use [PATCH NUMBER ▼] and [PATCH NUMBER ▲] to select the patch number within the patch group.

HINT

If you continue holding a button, the patch groups / numbers will change consecutively (p. 31).

Changing Patches with the Pads (Pad Patch Select)

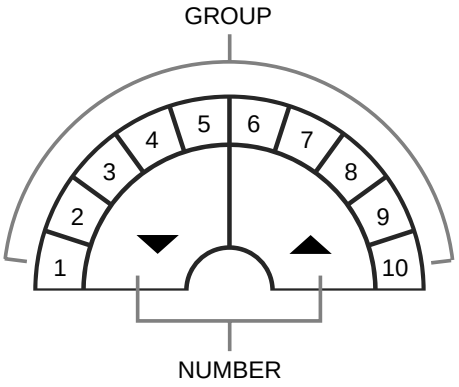


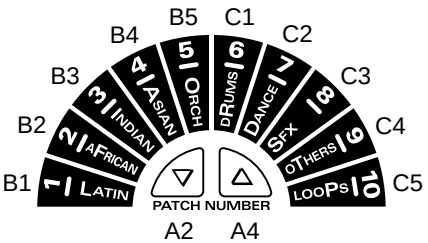
1 Hold down [PATCH SEL], and strike a pad B1–C5 to select a patch group.

2 Hold down [PATCH SEL], and strike pad A2 or A4 to select the patch number.

Striking pad A4 will increase the patch number, and striking A2 will decrease it.

* *Pads B1–C5 correspond to the patch groups, and pads A2 and A4 correspond to [PATCH NUMBER ▼] and [PATCH NUMBER ▲] respectively.*





NOTE

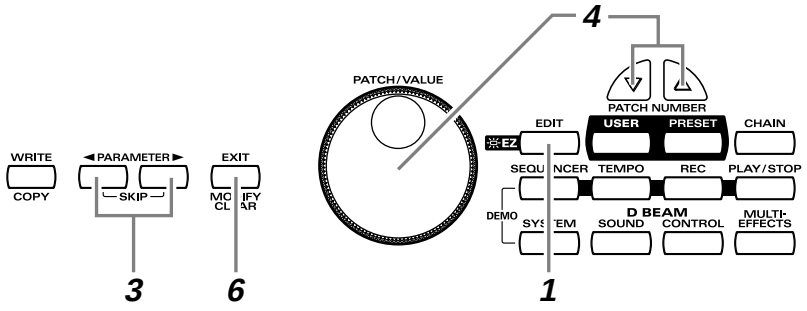
Use the panel switches to change between user patches and preset patches.

MEMO

While you continue holding [PATCH SEL], the indicator for the selected patch group and the indicator beside the pad (B1–C5) corresponding to that group will blink.

Changing the Settings of a Patch (EZ Edit)

The process of modifying a patch is called “editing.” The HPD-15 provides Easy (EZ) Edit mode for making basic settings, and Edit mode for making settings in more detail. This section explains EZ Edit mode.



1 Press [EDIT].

[EDIT] will blink, and you will enter EZ Edit mode.

2 Strike a pad to select the pad set (p. 25) that you wish to modify. You can also select the D Beam or ribbons.

3 Press [◄ PARAMETER] or [PARAMETER ►] to select the parameter that you wish to modify.

4 To modify the value, either turn [PATCH / VALUE] or use [PATCH NUMBER ▼] and [PATCH NUMBER ▲].

5 Repeat steps 2–4 to continue editing.

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

You will return to normal Play mode.

MEMO

To learn how to make more detailed settings, refer to “Chapter 2 Modifying a Patch” (p. 35).

MEMO

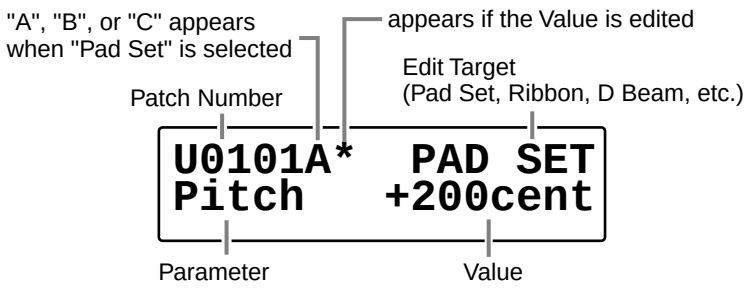
If you press [EDIT] once again, [EDIT] will light and you will be in Edit mode (p. 35).

HINT

You can make your selection rapidly by using the Key Repeat Function (p. 31) or Skip Function (p. 32).

NOTE

The settings you edit will return to the original values when you switch patches. If you wish to keep your changes, refer to “Saving your settings (Write) / Duplicating settings (Copy)” (p. 56).

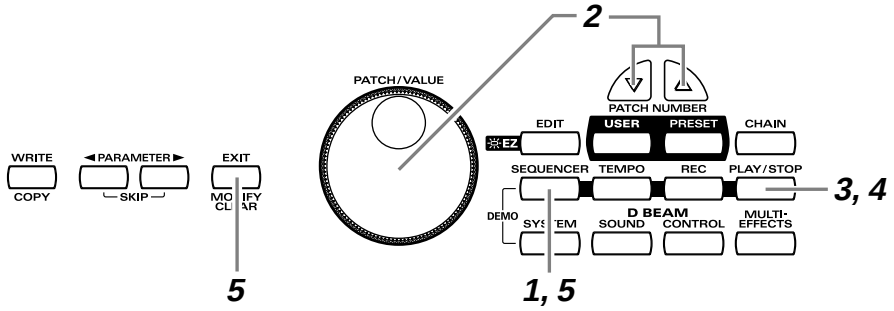


EZ Edit — Parameter List

PAD SET, RIBBON L, RIBBON R, D BEAM, PEDAL, TRIG 1, TRIG 2	Inst	**Selects the instrument for Pad Set A, B, C (Ribbon, D Beam).** Pads can be selected by five sets.	Refer to Pad Set Instrument List (p. 94)
	Level	**Adjusts the volume.**	0 – 127
	Pan	**Adjusts the pan (localization) of the output sound.** **Random:** The pan changes randomly each time the pad is struck. **Alternate:** The pan alternates left and right each time the pad is struck.	L63 – R63, Random, Alternate
	ReverbSend	**Adjusts the reverb depth.**	0 – 127
	Pitch	**Adjusts the pitch of the sound.**	-2400 – +2400
	Decay	**Adjusts the duration (decay time).**	-31 – +31
	MULTI-FX/LFO	**Turns the multi-effects and LFO on/off.** If you select PadData, this will be determined by the on / off setting in Edit mode (p. 36).	OFF, ON, PadData * PadData can be selected for PAD SET.
REVERB	Type	**Selects the type of the reverb.**	Refer to Effect Type List (p. 95)
	Depth	**Adjusts the overall reverb depth.**	0 – 127
MULTI-FX	Type	**Selects the type of the multi-effects.**	Refer to Effect Type List (p. 95)
	Depth	**Adjusts the depth of the multi-effects.**	0 – 127
	FxOut Volume	**Adjusts the output volume of the multi-effects.**	0 – 127
	Fx Rev Send	**Adjusts the depth of reverb applied to the sound processed by the multi-effects.**	0 – 127
PATCH LEV	MasterVolume	**Adjusts the volume of the entire patch.**	0 – 127
PATCH NAME		**Give the pattern a name of up to 10 characters.**	Refer to "Naming a Patch" (p. 55)

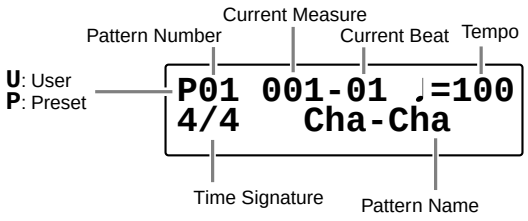
* *About PEDAL, TRIG 1, and TRIG 2, see p. 72–p. 73.*

Playing Back a Preset Pattern



1 Press [SEQUENCER].

[SEQUENCER] will light, and you will enter Sequencer mode.



2 Turn [PATCH/VALUE] to select the pattern.

3 Press [PLAY/STOP].

The selected pattern will play back.

4 To stop playback, press [PLAY/STOP] once again.

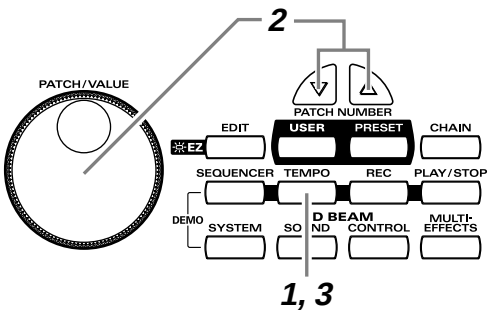
The pattern will stop playing.

5 Press [SEQUENCER] or [EXIT].

You will return to normal Play mode.

For more on preset patterns, refer to “Preset Pattern List” (p. 91).

Changing the Tempo



1 Press [TEMPO].

[TEMPO] will light, current tempo is displayed in the screen.

2 Turn [PATCH/VALUE] to change the tempo.

3 When you have finished making changes, press [TEMPO] once again.

[TEMPO] will go dark, and you will return to the previous screen.

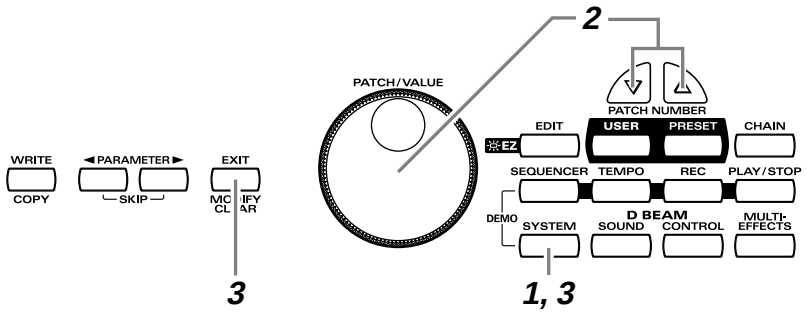
MEMO

The tempo can be changed either when the pattern is playing or stopped.

System Settings

Settings that are shared by all patches are called "**system settings**." Settings such as the display contrast and the D Beam sensitivity are system settings.

Adjusting the Display for Best Visibility (LCD Contrast)



1 Press [SYSTEM].

[SYSTEM] will light, and the following screen will appear.

```
UTILITY
LCD Contrast   5
```

2 Turn [PATCH/VALUE] to adjust the contrast of the display screen.

Increasing the value will darken the display.

3 When you have finished adjusting, press [SYSTEM] or [EXIT].

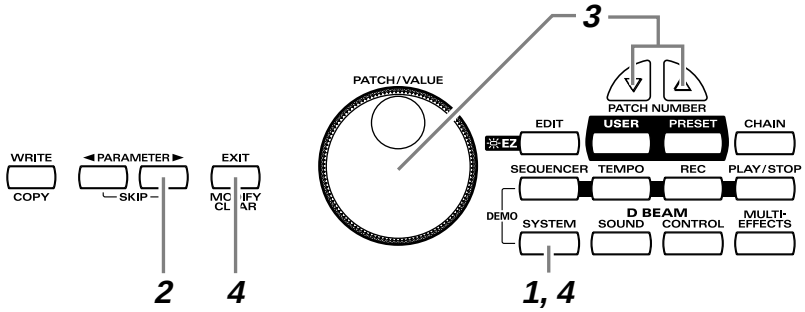
You will return to normal Play mode.

MEMO

When you modify the system setting, the new setting is automatically saved as soon as you make the change. You do not have to operate for the storing.

Adjusting the D Beam Sensitivity

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



1 Press [SYSTEM].

[SYSTEM] will light.

2 Press [PARAMETER ►] to display the following screen.

```
CONTROLLER
DBEAM Sens    100
```

3 Place your hand about 20 inches (50 cm) above the D Beam, and turn [PATCH/VALUE] to adjust the sensitivity.

Move the meter at the upper right of the screen to the center line as shown in right screen. The D Beam will respond as far as the position where your hand was when you made the adjustment.

```
CONTROLLER          CONTROLLER
DBEAM Sens    100   DBEAM Sens     64
```

4 When you have finished adjusting, press [SYSTEM] or [EXIT].

You will return to normal Play mode.

MEMO

The HPD-15 adjusts the sensitivity of the D Beam automatically when turns the power on.

HINT

You can make your selection rapidly by using the Key Repeat Function (p. 31) or Skip Function (p. 32).

HINT

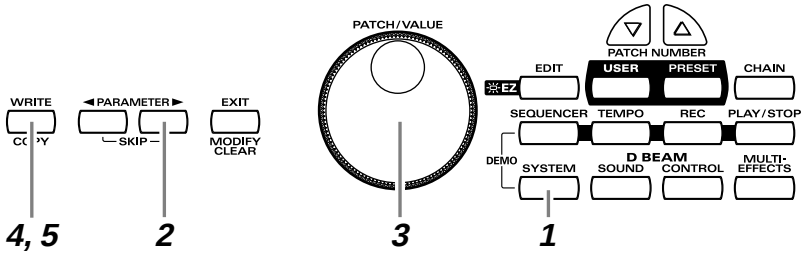
The sensitivity of the D Beam will be less in a dark location. In such locations, it is a good idea to make the adjustment with your hand approximately 12 inches (30 cm) above the D Beam.

MEMO

For details on other system parameters, refer to "Chapter 5 Settings for the entire HPD-15" (p. 67).

If the Sound or Operation Is not as You Expect

If, as you modify the settings, the sound or operation is no longer as you expect and you are unable to restore the correct settings, you can execute the **Factory Reset** operation to reset all settings to their factory condition.



1 Press [SYSTEM].

[SYSTEM] will light.

2 Hold down [PARAMETER ►] to access the following screen.

```
FACTORY RESET
SYSTEM   [WRITE]
```

3 Turn [PATCH / VALUE] to select "ALL."

```
FACTORY RESET
ALL      [WRITE]
```

4 Press [WRITE].

The following screen will appear.

```
Are You Sure?
    [WRITE/EXIT]
```

5 If you wish to execute factory reset, press [WRITE].

After the data has been initialized, the following screen will appear.

```
P01 LATIN
01  Conga
```

* *If you decide not to execute, press [EXIT].*

NOTE

When you execute factory reset, the edited contents will be lost.

HINT

You can make your selection rapidly by using the Skip function (p. 32).

MEMO

It is also possible to initialize specific data, such as only the patches or only the system settings. For details, refer to "Restoring the Factory Settings" (p. 85).

Rapidly Selecting Parameters or Values

Key Repeat Function

This can also be used when selecting either parameters or values, and when selecting patch groups or patch numbers.

1 Press and hold either [◄ PARAMETER], [PARAMETER ►], [PATCH NUMBER ▼], [PATCH NUMBER ▲], [GROUP -], or [GROUP +].

The parameter, value, patch number, or group will change consecutively.

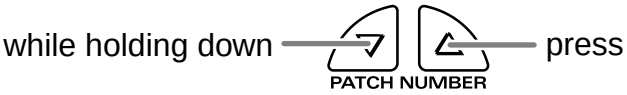
Turbo Repeat Function

This function can also be used when selecting a value or patch number.

1 Hold down [PATCH NUMBER ▲], and press [PATCH NUMBER ▼].

The value (value or patch number) will increase rapidly.

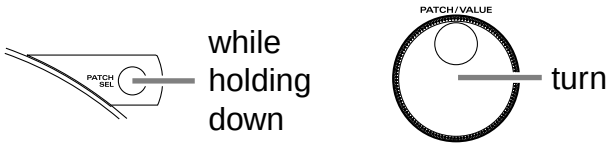
1 Hold down [PATCH NUMBER ▼], and press [PATCH NUMBER ▲].



The value (value or patch number) will decrease rapidly.

Turbo Function of the Dial

1 Hold down [PATCH SEL], and turn [PATCH / VALUE].



If you are changing the value, the value will change in 10 steps.

MEMO

When you select the instrument or adjust the pitch, you can use the Skip function (p. 32) instead of the Turbo repeat function.

Skip Function

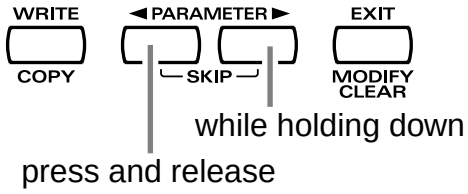
You can rapidly select parameters or values.

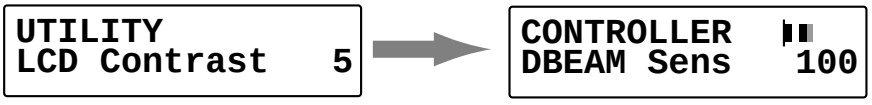
Skipping Parameters

Parameters are grouped into several **categories** according to the content that is being edited. By using the skip function you can jump to the first parameter of the category.

1

Hold down [PARAMETER ►], and press and release [◄ PARAMETER].

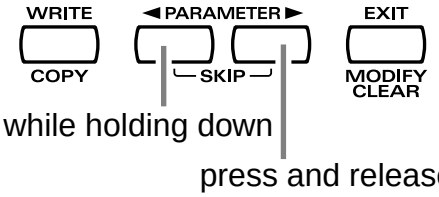


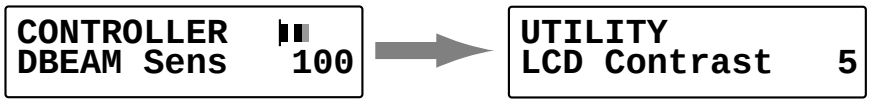


The first parameter of the next category will be shown.

1

Hold down [◄ PARAMETER], and press and release [PARAMETER ►].





The first parameter of the previous category will be shown.

Skipping Values

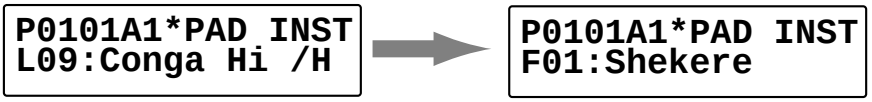
When selecting an instrument or setting the pitch, you can make the value jump.

Instruments (sounds) are grouped into several categories. By using the skip function you can jump to the first sound in each group.

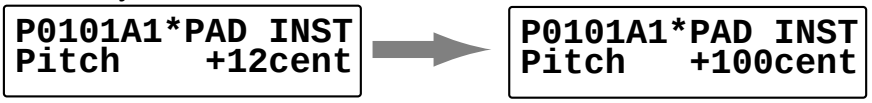
The pitch value can be changed in steps of 100 cent (one semitone).

1 While pressing [PATCH NUMBER ▲], press and release [PATCH NUMBER ▼].

Pad Inst (p. 36) select screen



Pitch adjust screen

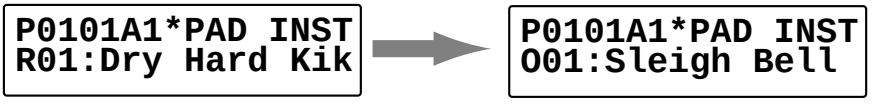


If you are selecting instruments, the first sound in the next group will be displayed.

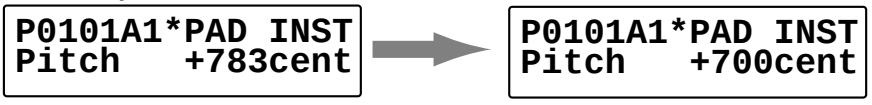
If you are setting the pitch, the value will increase in 100 cent steps.

1 While pressing [PATCH NUMBER ▼], press and release [PATCH NUMBER ▲].

Pad Inst (p. 36) select screen



Pitch adjust screen



If you are selecting instruments, the first sound in the previous group will be displayed.

If you are setting the pitch, the value will decrease in 100 cent steps.

Try to Play the Conga

Let's try to play the conga using the HPD-15.

Use the patch **P0101 Conga**.

- Open (**O**)

  Strike the pad A5 or A4, and remove the hand immediately.
- Closed 1 (**C1**)

  Strike the pad A5 and do not remove the hand.
- Closed 2 (**C2**)

  While pressing the pad A1 by the left hand, strike the pad A5.
- Open Slap (**OS**)

  Strike the edge of the pad A5 powerfully and remove the hand immediately.
- Closed Slap (**CS**)

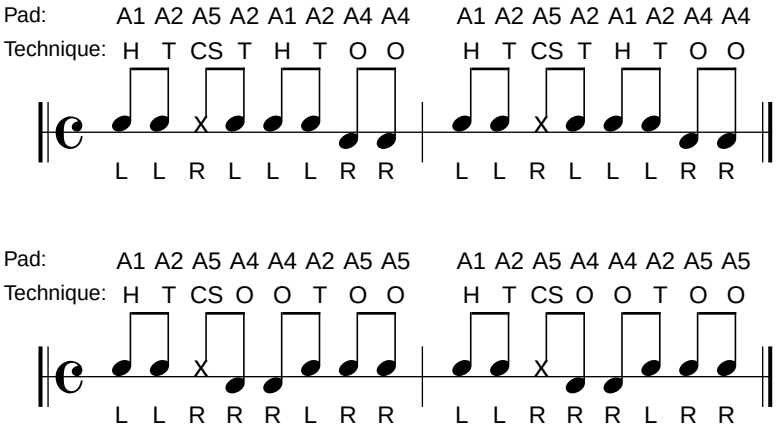
  While pressing the pad A1 by the left hand, strike the edge of the pad A5.
- Heel (**H**)

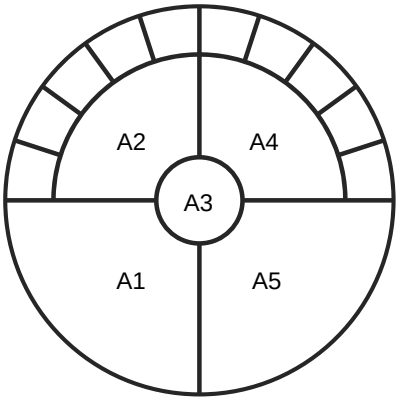
  Strike the pad A1 by the heel of the left hand.
- Toe (**T**)

  While pressing the PAD A1 by the heel of the left hand, strike the pad A2 by the toe of the same hand.
- Pitch Bend (**PB**)

  While pressing the pad A3, strike the pad A5.

Conga - Basic Rhythm





L: left hand

R: right hand

Chapter 2 Modifying a Patch

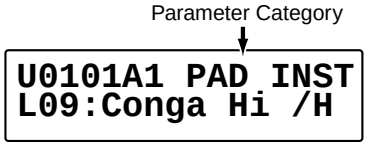
This chapter explains **Edit mode**, where you can make detailed settings.

Basic procedure in Edit Mode

1. Press [EDIT] to make it blink; you will enter EZ Edit mode.

2. Once again press [EDIT] to make it light; you will enter Edit mode.

* *The **parameter category** will be displayed in the upper right of the screen.*



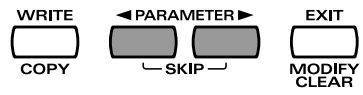
3. Strike a pad to select the pad (D Beam, ribbon) that you wish to edit.

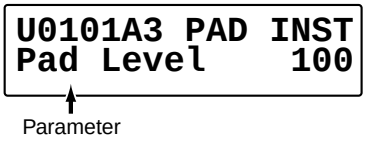
Pad A3 is selected

D Beam is selected

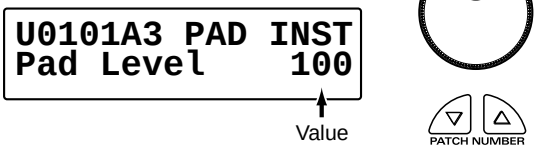
Ribbon (right) is selected

4. Press [◄ PARAMETER] or [PARAMETER ►] to select the parameter that you wish to modify.



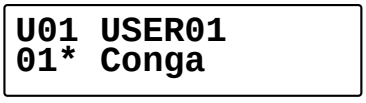


5. To modify the value, either turn [PATCH/VALUE] or use [PATCH NUMBER ▼] and [PATCH NUMBER ▲].



6. Repeat steps 3–5 to continue editing.

7. When you are finished editing, press [EXIT] or [EDIT]. [EDIT] will go dark, and you will return to normal Play mode.



HINT

You can make your selection rapidly (p. 31). You can also use realtime modify to change the value (p. 58).

NOTE

The settings you edit will return to the original values when you switch patches. If you wish to keep your changes, refer to “Saving Your Settings (Write) / Duplicating Settings (Copy)” (p. 56).

HINT

If you edit the settings of a user patch, you can keep your changes in the same patch by pressing [WRITE] twice.

MEMO

When you change a value, an “*” will appear beside the patch number in the screen, indicating that the data is being edited. If you switch patches or perform the Write or Copy operation (p. 56), the “*” will disappear.

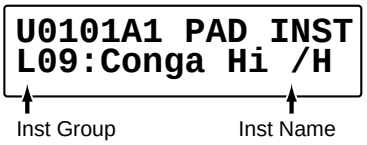
Adjusting Sounds

Select the sound that you wish to play by using the pads, D Beam, or ribbons. You can also adjust the pitch or duration of the sound.

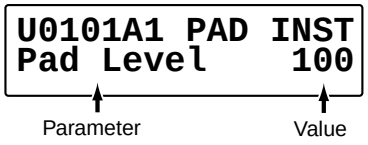
* *Some parameters have relation to the parameters in EZ Edit mode. If there are problems (e.g., no sound), check the parameters in EZ Edit mode.*

Parameter Category: PAD INST

(Inst select screen)



(Other value select screen)



(Inst) : Refer to Instrument List (p. 92)

Selects the sound (instrument.)

* *You can jump to the first sound in each instrument group by using the Skip function (p. 33).*

Pad Level: 0–127

Adjusts the volume.

Pan: L63–Center–R63, Random, Alternate

Adjusts the pan (localization) of the output sound.

Random: The pan changes randomly each time the pad is struck.

Alternate: The pan alternates left and right each time the pad is struck.

Reverb Send: 0–127

Adjusts the depth of the reverberation.

Pitch: -2400–+2400cent

Adjusts the pitch.

100 cents is a semitone.

* *You can change the pitch in steps of 100 cent by using the Skip function (p. 33).*

Decay: -31–+31

Adjusts the duration (decay time.)

* *Some sounds do not change the duration.*

Color: -31–+31

Adjusts the tone.

Sweep: -31–+31

Changes the pitch.

Positive (+) values will cause the pitch to change from high to low. Negative (-) values will cause the pitch to change from low to high.

MULTI-FX/LFO: OFF, ON

Turns the multi-effects and LFO on or off.

TrigMode: Shot, Gate, Trig (Pad) Move, MovGate, Touch, TchGate, Scrape, Scrp1wy (D Beam, Ribbon)

Selects how the sound will be played.

- Pad

  Shot * : When you strike the pad, the sound will play for the duration specified for that particular sound.

  Gate * : The sound will play while you continue pressing the pad. This is effective when you have selected a sustaining sound.

  Trig: The sound will play when you strike the pad, and will stop when you strike the pad once again. This is effective when you have selected a sustaining sound.

- D Beam, Ribbon

  Move: The sound will play when you place your hand above (or touch with your finger) and move.

  MovGate: The sound will play when you place your hand above (or touch with your finger) and move. If a sustaining sound is selected, the sound will continue playing until you stop your hand or finger.

  Touch: The sound will play when you place your hand above (or touch with your finger).

  TchGate: The sound will play when you place your hand above (or touch with your finger). If a sustaining sound is selected, it will continue playing until you move your hand or finger away.

  Scrape * : The sound will play when you move your hand or finger. This is used to play sounds such as guiro.

- only D Beam

  Scrp1wy * : The sound will play continuously when you move your hand. The sound will play for only one direction.

* *Pedal can be specified the value marked with "*."*

VeloCurve: Linear, Exp1–2, Log1–2, Spline, Loud1–2, Fix1–16

Selects how striking force will affect the volume.

Linear: This is the normal setting and most natural correspondence between velocity and volume change.

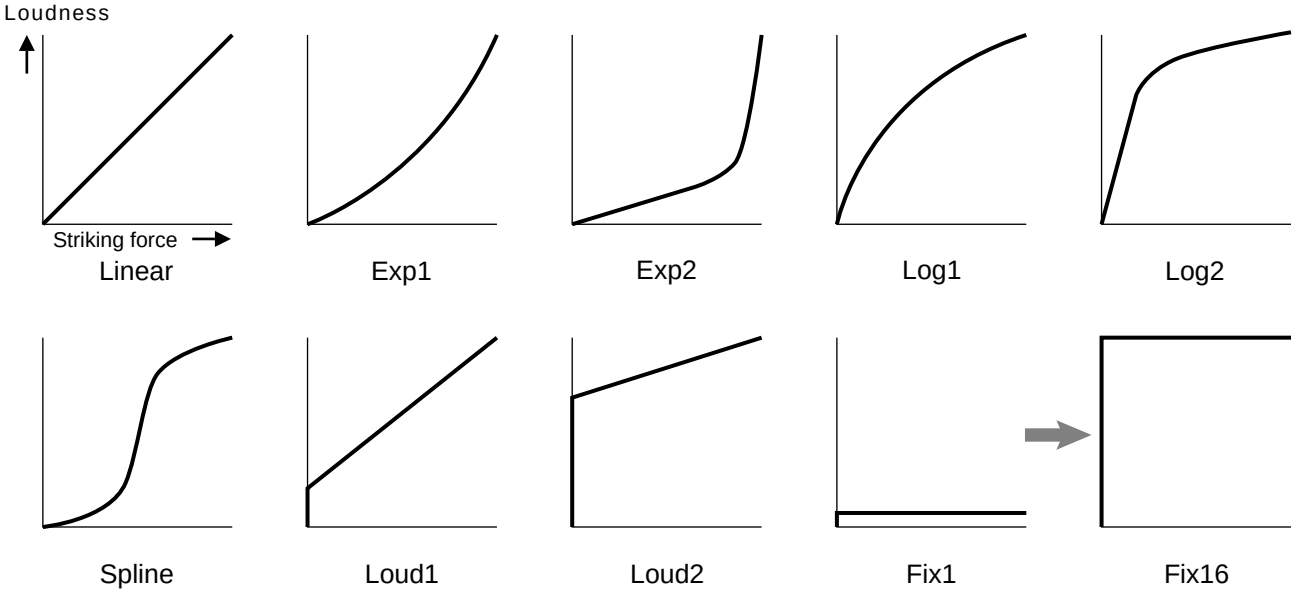
Exp1, Exp2: Compared to Linear, a wider volume change will occur for stronger hits.

Log1, Log2: Compared to Linear, a wider volume change will occur for softer hits.

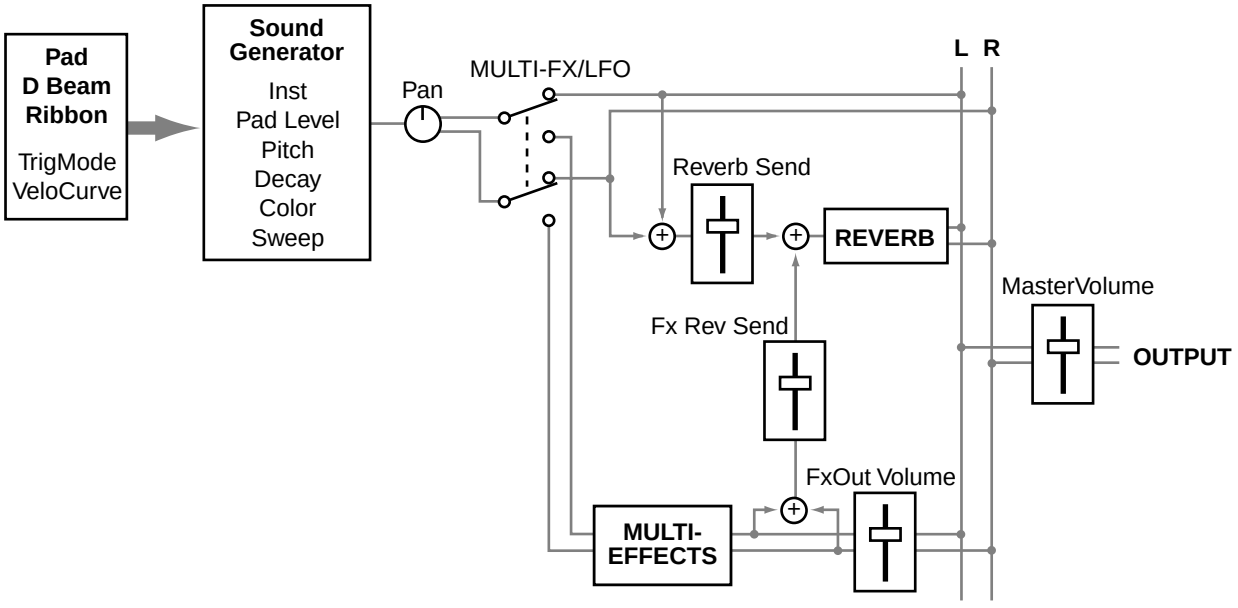
Spline: Variation in striking force will produce extreme change.

Loud1, Loud2: Variation in striking force will produce little change, and a constant volume will be maintained.

Fix1–16: The sound will play at a fixed volume regardless of how strongly you strike. Fix1 will produce the lowest volume, and Fix16 will produce the highest volume.



Edit Parameters Block Diagram



Adding Cyclic Change to the Tone

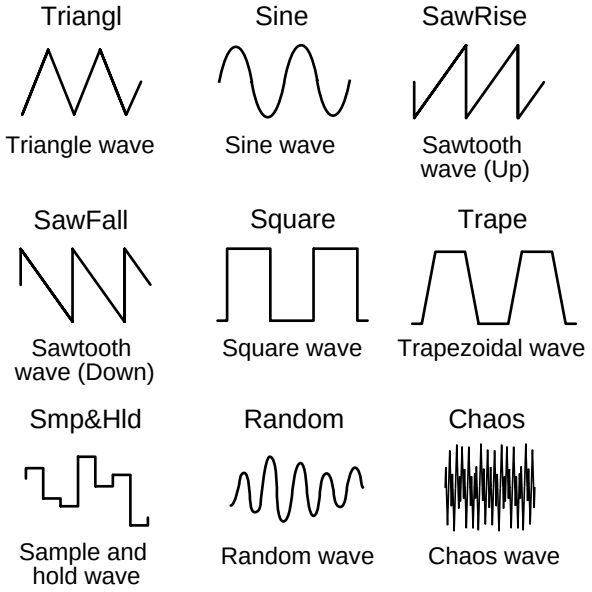
You can use the **LFO** (Low Frequency Oscillator) to cyclically change the pitch, volume, etc.

* *The LFO will apply to all pads / D Beam / ribbons.*

Parameter Category: PAD LFO

Waveform: OFF, Triangl, Sine, SawRise, SawFall, Square, Trape, Smp&Hld, Random, Chaos

Selects the waveform of the LFO. If you select OFF, there will be no change, and the following parameters will not be displayed.



Rate: 0–127

Adjusts the modulation rate of the LFO waveform.

PitchDepth: 0–127

Adjusts the depth of the pitch modulation.

FilterDepth: 0–127

Adjusts the depth of the modulation in tone.

AmpDepth: 0–127

Adjusts the depth of the modulation in volume.

EffectDepth: 0–127

Adjusts the depth of modulation for the effect parameter. For details on the parameter that will be modulated, refer to “Adjusting Multi-Effect Settings” (p. 40).

Realtime2: PITCH, EFFECT

Selects the LFO parameter which is modified by turning the middle realtime modify knob. You can modify the PitchDepth if you select the PITCH, or the EffectDepth if you select the EFFECT.

NOTE

This parameter is effective only when the bottom indicator that at the upper right of the Realtime Modify knobs is lit by pressing [SELECT].

Realtime3: FILTER, AMP

Selects the LFO parameter which is modified by turning the right realtime modify knob. You can modify the FilterDepth if you select the FILTER, or the AmpDepth if you select the AMP.

NOTE

This parameter is effective only when the bottom indicator that at the upper right of the Realtime Modify knobs is lit by pressing [SELECT].

Effect Settings

You can add reverberation to the sound to create the sensation of playing in a hall or on stage, apply distortion to the sound, or add depth, spaciousness, and modulation.

* *The effect will apply to all pads / D Beam / ribbons.*

Adjusting the Reverb Settings

Reverb adds reverberation to the sound to simulate a spacious ambience.

Parameter Category: REVERB

```
U0101 REVERB/DLY
Type#        Room1
```

Type: Refer to REVERB/DELAY Type (p. 95)

Selects the preset setting of reverb.

If you wish to make even more detailed settings, adjust the algorithm and parameters below. When you change a value, a "#" will appear beside the "Type."

Algo: OFF, Room1–2, Stage, Plate, Hall1–2, Delay, PanDly

Selects the type (algorithm) of reverb. If you select OFF no reverb will be applied, and the following parameters will not be displayed.

- **Room1**: Simulation of the reverberation in a room
- **Room2**: Brighter reverb than Room1
- **Stage**: Simulation of on-stage reverberation
- **Plate**: Simulation of a metal plate reverb
- **Hall1**: Simulation of a larger space than Room
- **Hall2**: Brighter reverb than Hall1
- **Delay**: Standard delay (Echo)
- **PanDly**: Delay that pans (moves) the reflection between left and right

Level: 0–127

Adjusts the volume of the reverberation (or delay sound).

Time: 0–127

If Algo is Room1–Hall2, this adjusts the duration of the reverberation. If Algo is Delay or PanDly, this adjusts the delay time.

HF Damp: 200Hz–8kHz, THRU

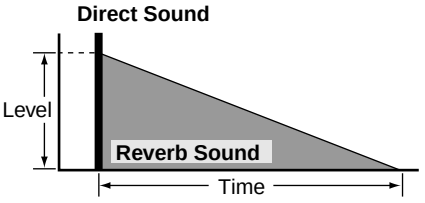
Adjusts the currently at which the high range of the reverberation will be cut. As you lower the frequency, more of the high range will be cut, producing a softer sound. If you do not wish to cut the high range, set this to THRU.

Dly Feedback: 0–127

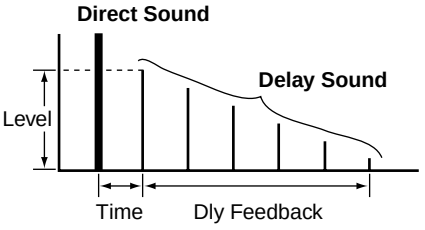
Adjusts the number of times that the delay sound will be repeated.

* *This will be displayed only if Algo is Delay or PanDly.*

Algo: Room1–2, Stage, Plate, Hall1–2



Algo: Delay, PanDly



NOTE

If you change the "Type," the algorithm of the reverb and the values of the parameters will be changed to the setting of each type.

Adjusting the Multi-Effect Settings

Multi-effect (M-FX) allows you to select different **algorithms** to obtain a variety of effects.

Parameter Category: MULTI-FX

Type: Refer to MULTI-FX Type (p. 95)

Selects the preset setting of multi-effects.

If you wish to make even more detailed settings, adjust the algorithm below and parameters on the following pages. When you change a value, a "#" will appear beside the "Type."

Algo:

Selects the algorithm of the effect. The parameters and values will differ depending on the algorithm.

Stereo EQ: Stereo Equalizer (Modify the tone)

CompLimiter: Compressor/Limiter (Make the volume more consistent)

Enhancer: Enhancer (Add sparkle to the sound)

Spectrum: Spectrum (Add character to the sound)

Isolator: Isolator (Cut off a specific frequency range)

DynamicFltr: Dynamic Filter (Modify the tone according to the volume)

Sustainer: Sustainer (Increase the duration of the sound)

Overdrive: Overdrive (Mildly distort the sound)

Distortion: Distortion (Severely distort the sound)

Lo-Fi: Lo-Fi (Simulate a "low-fidelity" sound)

RingModltr: Ring Modulator (Give the sound a metallic character)

Stereo Cho: Stereo Chorus (Add depth and spaciousness to the sound)

TetraChorus: Tetra Chorus (Layer chorus sounds to create more spaciousness)

Tremolo Cho: Tremolo Chorus (Cyclically modulate the volume to create spaciousness)

Space D: Space D (Add transparent spaciousness)

Stereo Fln: Stereo Flanger (Add metallic resonance to the sound)

StepFlanger: Step Flanger (Add metallic resonance while shifting the pitch by steps)

Phaser: Phaser (Give the sound a "swooshing" character)

FbackPitch: Feedback Pitch Shifter (Shift the pitch)

StereoDelay: Stereo Delay (Delay the sound)

Mod Delay: Modulation Delay (Delay the sound while modulating it)

TimeCtrlDly: Time Control Delay (Control the delay and pitch in realtime)

3TapDlySht: 3-tap delay short (Delay the sound in three directions)

3TapDlyLng: 3-tap delay Long

4TapDlySht: 4-tap delay short (Produce four delayed sounds)

4TapDlyLng: 4-tap delay Long

AdvanceRev: Advanced Reverb (Add reverb to the sound)

GateReverb: Gate Reverb (Sharply cut the reverberation)

The parameters of each algorithm are explained on the following pages.

MEMO

In the explanation on the following pages, the value of parameters marked with "RTM" can be controlled by [M-FX DEPTH] of the Realtime Modify (p. 19).

* *If you modify the MULTI-FX DEPTH in EZ Edit Mode (p. 25), the value of these parameters will be changed.*

MEMO

In the explanation on the following pages, the value of parameters marked with "LFO" can be controlled by the LFO. For details, refer to "Adding Cyclic Change to the Tone" (p. 38).

MEMO

In the explanation on the following pages, the value of parameters marked by "Ctrl1, Ctrl2, Ctrl3" can be controlled by the pads, D Beam, and ribbons. For details, refer to the section on **CtrlTx: MFX Ctrl 1–3** in "Controlling the tone" (p. 52).

FxOut Volume:

Adjusts output volume of the multi-effects.

Fx Rev Send:

Adjusts the depth of reverb applied to the sound processed by the multi-effects.

NOTE

If you change the "Type," the algorithm of the effect and the values of the parameters will be changed to the setting of each type.

Stereo Equalizer (Stereo EQ)

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

Low Freq: 100Hz, 200Hz, 400Hz

Selects the frequency of the low range.

Low EQ: -15–+15dB

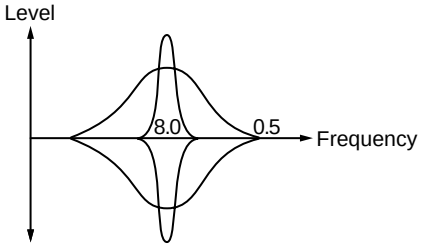
Adjusts the level of the low frequency.

Mid1Freq: 100Hz–12.5kHz Ctrl3

Adjusts the frequency of mid range 1.

Mid 1 Q: 0.5, 1.0, 2.0, 4.0, 8.0

Adjusts the width of the area around the Mid1Freq that will be affected by the Level setting. Higher values of Q will result in a narrower area being affected.



Mid 1 EQ: -15–+15dB LFO, Ctrl1

Adjusts the level for the area specified by the Mid1Freq and Q settings.

Mid2Freq: 100Hz–12.5kHz

Adjusts the frequency of mid range 2.

Mid 2 Q: 0.5, 1.0, 2.0, 4.0, 8.0

Adjusts the width of the area around the Mid2Freq that will be affected by the Level setting. Higher values of Q will result in a narrower area being affected.

Mid 2 EQ: -15–+15dB Ctrl2

Adjusts the level for the area specified by the Mid2Freq and Q settings.

HighFreq: 4kHz, 8kHz, 12.5kHz

Selects the frequency of the high range.

High EQ: -15–+15dB

Adjusts the level of the high frequency.

TotalLevel: -15–+15dB RTM

Adjusts the output level.

Compressor/Limiter (CompLimiter)

The Compressor/Limiter compresses signals that exceed a specified volume level, smoothing out unevenness in volume and preventing distortion from occurring.

Threshold: 0–127

Adjusts the volume at which compression will begin.

Ratio: 1:1–100:1, infinite:1 LFO, Ctrl1

Adjusts the compression ratio.

Attack: 0–127 Ctrl2

Adjusts the attack time of an input sound.

Release: 0–127 Ctrl3

Adjusts the time from when the volume falls below the Threshold Level until compression is no longer applied.

Pan: L63–Center–R63

Adjusts the stereo location of the output sound.

TotalLevel: -15–+15dB RTM

Adjusts the output level.

Enhancer

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

Sens: 0–127 LFO, Ctrl1

Adjusts the sensitivity of the enhancer.

Mix: 0–127 RTM, Ctrl2

Adjusts the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Low EQ: -15–+15dB

Adjusts the level of the low frequency range.

High EQ: -15–+15dB Ctrl3

Adjusts the level of the high frequency range.

Spectrum

Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies. It is similar to an equalizer, but has 5 frequency points fixed at locations most suitable for adding character to the sound.

Band 1: -15–+15dB

Adjusts the 500 Hz level.

Band 2: -15–+15dB LFO, Ctrl1

Adjusts the 1 kHz level.

Band 3: -15–+15dB

Adjusts the 1.25 kHz level.

Band 4: -15–+15dB Ctrl2

Adjusts the 3.15 kHz level.

Band 5: -15–+15dB

Adjusts the 4 kHz level.

Width: 1–5 Ctrl3

Simultaneously adjusts the width of the adjusted areas for all the frequency bands.

Pan: L63–Center–R63

Adjusts the stereo location of the output sound.

TotalLevel: -15–+15dB RTM

Adjusts the output level.

Isolator

The Isolator is a stronger version of an equalizer, and is able to completely cut a specific frequency range.

Low Level: 0–127 Ctrl3

Adjusts the level of the low frequency.

Mid Level: 0–127 LFO, Ctrl1

Adjusts the level of the middle frequency.

High Level: 0–127 Ctrl2

Adjusts the level of the high frequency.

Pan: L63–Center–R63

Adjusts the stereo location of the output sound.

TotalLevel: -15–+15dB RTM

Adjusts the output level.

Dynamic Filter (DynamicFltr)

The Dynamic Filter varies the tone by moving a filter according to the volume.

Filter Type: LPF, BPF

Selects the type of filter.

LPF: The wah effect will be applied over a wide frequency range.

BPF: The wah effect will be applied over a narrow frequency range.

Sens: 0–127 Ctrl2

Adjusts the sensitivity with which the filter is controlled.

Manual: 0–127 RTM, LFO, Ctrl1

Adjusts the center frequency from which the effect is applied.

Peak: 0–127 Ctrl3

Adjusts the amount of the wah effect that will occur in the area of the center frequency. Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range.

Pan: L63–Center–R63

Adjusts the stereo location of the output sound.

Sustainer

The Sustainer restrains loud levels and boosts low levels, making the sound more consistent and sustaining the sound.

Attack: 0–127 LFO, Ctrl1

Adjusts the attack time of an input sound.

Sustain: 0–127 Ctrl2

Adjusts the degree of boost.

Pan: L63–Center–R63 Ctrl3

Adjusts the stereo location of the output sound.

TotalLevel: -15–+15dB RTM

Adjusts the output level.

Overdrive

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

Drive: 0–127 RTM, LFO, Ctrl1

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Character: 1–4

Selects the character of distortion. Increasing the value will make more sound pressure.

Pan: L63–Center–R63 Ctrl2

Adjusts the stereo location of the output sound.

Distortion

This effect produces a more intense distortion than Overdrive.

Drive: 0–127 RTM, LFO, Ctrl1

Adjusts the degree of distortion. The volume will change together with the degree of distortion.

Character: 1–4

Selects the character of distortion. Increasing the value will make more sound pressure.

Pan: L63–Center–R63 Ctrl2

Adjusts the stereo location of the output sound.

Lo-Fi

This effect intentionally degrades the audio quality to simulate a Lo-Fi sound.

Bit Down: 0–7 Ctrl3

Lowers the audio quality. The audio quality will worsen as this setting is increased.

S-Rate Down: 32, 16, 8, 4 Ctrl2

Coarsens the output signal. The sound will become coarser as this setting is lowered.

Low EQ: -15–+15dB

Adjusts the level of the low frequency.

High EQ: -15–+15dB RTM, LFO, Ctrl1

Adjusts the level of the high frequency.

Output: Mono, Stereo

Specifies how the sound will be output. With a setting of "Mono," the output sound will be monaural.

Ring Modulator (RingModltr)

A ring modulator add the amplitude modulation to the sound, giving a metallic character.

Frequency: 0–127 Ctrl1

Adjusts the frequency for modulation.

Character: 0–127 LFO, Ctrl2

Adjusts the tone. The high-frequency range will change.

Effect Level: 0–127 RTM, Ctrl3

Adjusts the output level of effect sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Stereo Chorus (Stereo Cho)

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

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the processed sound is heard.

Rate: 0.05–10.0Hz LFO, Ctrl1

Adjusts the rate of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Phase: 0–180deg

Adjusts the spatial spread of the sound.

Filter Type: OFF, LPF, HPF

Selects the type of filter.

OFF: A filter will not be used. Cutoff will not be displayed.

LPF: Cut the frequency range above the cutoff frequency.

HPF: Cut the frequency range below the cutoff frequency.

Cutoff: 200–8kHz Ctrl3

Adjusts the basic frequency of the filter.

Effect Level: 0–127 RTM

Adjusts the output level of chorus sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Tetra Chorus (TetraChorus)

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

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the chorus sound is heard.

Rate: 0.05–10.0Hz LFO, Ctrl1

Adjusts the rate of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Pre Delay Dev: 0–20

Adjusts the differences in Pre Delay between each chorus sound.

Depth Dev: -20–+20

Adjusts the difference in modulation depth between each chorus sound.

Pan Deviation: 0–20 Ctrl3

Adjusts the difference in stereo location between each chorus sound. With a setting of 0, all chorus sounds will be in the center. Increasing the value will cause the chorus sound to be panned more expansively.

Effect Level: 0–127 RTM

Adjusts the output level of chorus sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Tremolo Chorus (Tremolo Cho)

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

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the chorus sound is heard.

Cho Rate: 0.05–10.0Hz LFO

Adjusts the modulation speed of the chorus effect.

Cho Depth: 0–127

Adjusts the modulation depth of the chorus effect.

Trm Phase: 0–180deg Ctrl3

Adjusts the spread of the tremolo effect.

Trm Rate: 0.05–10.0Hz Ctrl1

Adjusts the modulation speed of the tremolo effect.

Trm Depth: 0–127 Ctrl2

Adjusts the modulation depth of the tremolo effect.

Effect Level: 0–127 RTM

Adjusts the output level of tremolo chorus sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Space D

Space D is a multiple chorus that applies two-phase modulation in stereo. This is a chorus with a transparent character and minimal sense of modulation.

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the processed sound is heard.

Rate: 0.05–10.0Hz LFO, Ctrl1

Adjusts the rate of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Phase: 0–180deg Ctrl3

Adjusts the spatial spread of the sound.

Tone: -15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM

Adjusts the output level of chorus sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Stereo Flanger (Stereo Fln)

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.

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the flanger sound is heard.

Rate: 0.05–10.0Hz LFO, Ctrl1

Adjusts the rate of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Feedback: -98–+98% Ctrl3

Adjusts the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase.

Phase: 0–180deg

Adjusts the spatial spread of the sound.

Filter Type: OFF, LPF, HPF

Selects the type of filter.

OFF: A filter will not be used. Cutoff will not be displayed.

LPF: Cut the frequency range above the cutoff frequency.

HPF: Cut the frequency range below the cutoff frequency.

Cutoff: 200–8kHz

Adjusts the basic frequency of the filter.

Effect Level: 0–127 RTM

Adjusts the output level of flanger sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Step Flanger (StepFlanger)

The Step Flanger effect 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.

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the flanger sound is heard.

Rate: 0.05–10.0Hz Ctrl3

Adjusts the rate of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Feedback: -98–+98%

Adjusts the amount (%) of the flanger sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.

Phase: 0–180deg

Adjusts the spatial spread of the sound.

Step Rate: 0.05–10.0Hz, note-value LFO, Ctrl1

Adjusts the rate (period) of pitch change. This parameter can be set as a note-value of the tempo of the sequencer. In this case, specify the value of the desired note.

Effect Level: 0–127 RTM

Adjusts the output level of flanger sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Phaser

A phaser adds a phase-shifted sound to the original sound, producing a twisting modulation that creates spaciousness and depth.

Manual: 100–8kHz

Adjusts the basic frequency from which the sound will be modulated.

Rate: 0.05–10.0Hz LFO, Ctrl3

Adjusts the frequency (period) of modulation.

Depth: 0–127 Ctrl2

Adjusts the depth of modulation.

Resonance: 0–127 Ctrl1

Adjusts the amount of feedback for the phaser.

Mix: 0–127 RTM

Adjusts the ratio with which the phase-shifted sound is combined with the direct sound.

Pan: L63–Center–R63

Adjusts the stereo location of the output sound.

Feedback Pitch Shifter (FbackPitch)

A Pitch Shifter shifts the pitch of the original sound. This pitch shifter allows the pitch shifted sound to be fed back into the effect.

Coarse: -24–+12semi LFO, Ctrl1

Adjusts the pitch of the pitch shifted sound in semitone steps (-2–+1 octaves).

Fine: -100–+100cent

Makes fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100–+100 cents). One cent is 1/100th of a semitone.

Pan: L63–Center–R63 Ctrl3

Adjusts the stereo location of the pitch shifted sound.

Pre Delay: 0.0–500ms

Adjusts the time delay from when the direct sound begins until the pitch shifted sound is heard.

Mode: 1–5

Lower settings of this parameter will result in faster response. Higher settings will result in slower response, but steadier pitch.

Feedback: -98–+98% Ctrl2

Adjusts the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Tone: -15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM

Adjusts the output level of pitch shifted sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Stereo Delay (StereoDelay)

This is a stereo delay.

Delay Left: 0.0–500ms

DelayRight: 0.0–500ms

Adjusts the time from the original sound until when the delay sound is heard.

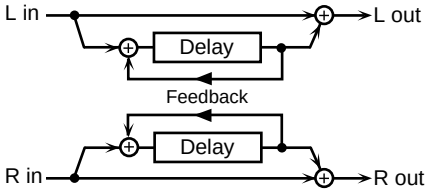
Feedback: -98–+98% Ctrl1

Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

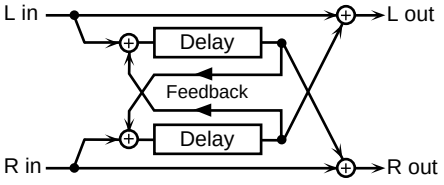
Fbk Mode: NORMAL, CROSS

Selects the way in which delay sound is fed back into the effect.

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.



CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.



Phase L: NORMAL, INVERSE

Phase R: NORMAL, INVERSE

Selects the phase of the left/right delay sound.

NORMAL: Phase is not changed.

INVERSE: Phase is inverted.

HF Damp: 200Hz–8kHz, THRU Ctrl2

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to THRU.

Tone:-15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM, LFO, Ctrl3

Adjusts the output level of delay sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Modulation Delay (Mod Delay)

This effect adds modulation to the delayed sound, producing an effect similar to a flanger.

Delay Left: 0.0–500ms

DelayRight: 0.0–500ms

Adjusts the time from the original sound until when the right delay sound is heard.

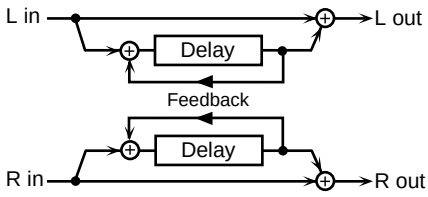
Feedback: -98–+98% Ctrl2

Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

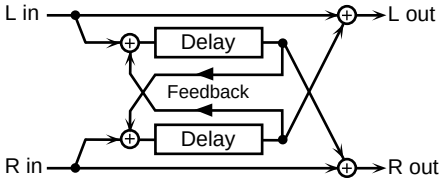
Fbk Mode: NORMAL, CROSS

Selects the way in which delay sound is fed back into the effect.

NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.



CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.



Rate: 0.05–10.0Hz LFO, Ctrl1

Adjusts the rate of modulation.

Depth: 0–127 Ctrl3

Adjusts the depth of modulation.

Phase: 0–180deg

Adjusts the spatial spread of the sound.

HF Damp: 200Hz–8kHz, THRU

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to THRU.

Tone:-15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM

Adjusts the output level of delay sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Time Control Delay (TimeCtrlDly)

This effect allows you to use pads / D Beam / ribbons to control the delay time and pitch in realtime. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.

Delay: 200–1000ms LFO, Ctrl1

Adjusts the time delay from the direct sound until when each delay sound is heard.

Acceleration: 0–15

Adjusts the time over which the delay time will change from the current setting to a newly specified setting. The rate of change for the delay time directly affects the rate of pitch change.

Feedback: -98–+98% Ctrl2

Adjusts the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

HF Damp: 200Hz–8kHz, THRU

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to THRU.

Pan: L63–Center–R63 Ctrl3

Adjusts the stereo location of the delay sound.

Tone: -15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM

Adjusts the output level of delay sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

3-Tap Delay (3TapDlySht/3TapDlyLng)

The 3-Tap Delay produces three delay sounds; center, left and right. The delay time can be specified as a note value of the tempo of the sequencer.

* *There is no difference between **Sht** and **Lng** but the length of the delay time.*

Delay C: 20–600ms (Sht), 200–1000ms (Lng), note-value

Delay L: 20–600ms (Sht), 200–1000ms (Lng), note-value

Delay R: 20–600ms (Sht), 200–1000ms (Lng), note-value

Adjusts the time delay from the direct sound until when the delay sound is heard. This parameter can be set as a note-value of the tempo of the sequencer. In this case, specify the value of the desired note.

Feedback: -98–+98%

Adjusts the proportion (%) of the center delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

Center Level: 0–127 LFO, Ctrl1

Left Level: 0–127 Ctrl2

Right Level: 0–127 Ctrl3

Adjusts the volume of each delay sound.

HF Damp: 200Hz–8kHz, THRU

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to THRU.

Tone: -15–+15

Adjusts the tone quality. Positive (+) settings will emphasize the high range, and negative (-) settings will emphasize the low range.

Effect Level: 0–127 RTM

Adjusts the output level of delay sound.

Direct Level: 0–127

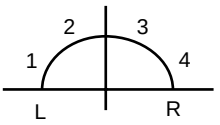
Adjusts the output level of direct sound.

4-Tap Delay (4TapDlySht/4TapDlyLng)

The 4-Tap Delay has four delays. Each of the delay time parameters can be specified as a note value of the tempo of the sequencer.

* *There is no difference between **Sht** and **Lng** but the length of the delay time.*

The stereo location of each delay sound is as follows.



Delay 1: 20–600ms (Sht), 200–1000ms (Lng), note-value

Delay 2: 20–600ms (Sht), 200–1000ms (Lng), note-value

Delay 3: 20–600ms (Sht), 200–1000ms (Lng), note-value

Delay 4: 20–600ms (Sht), 200–1000ms (Lng), note-value

Adjusts the time delay from the direct sound until when each delay sound is heard. These parameters can be set as a note-value of the tempo of the sequencer. In this case, specify the value of the desired note.

Level 1: 0–127 LFO, Ctrl1

Level 2: 0–127 Ctrl2

Level 3: 0–127 Ctrl3

Level 4: 0–127

Adjusts the volume of each delay sound.

Feedback: -98–+98%

Adjusts the proportion (%) of the delay 1 sound that is fed back into the effect. Negative (-) settings will invert the phase.

HF Damp: 200Hz–8kHz, THRU

Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to THRU.

Effect Level: 0–127 RTM

Adjusts the output level of delay sound.

Direct Level: 0–127

Adjusts the output level of direct sound.

Advanced Reverb (AdvanceRev)

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

Type: ROOM1–2, STAGE, PLATE, HALL1–2

Selects the type of Reverb effect.

- **Room1**: Simulation of the reverberation in a room
- **Room2**: Brighter reverb than Room1
- **Stage**: Simulation of on-stage reverberation
- **Plate**: Simulation of a metal plate reverb
- **Hall1**: Simulation of a larger space than Room
- **Hall2**: Brighter reverb than Hall1

PreDelay: 0.0–100ms

Adjusts the time delay from when the direct sound begins until the reverb sound is heard.

Time: 0–127 Ctrl2

Adjusts the time length of reverberation.

HF Damp: 200Hz–8kHz, THRU Ctrl3

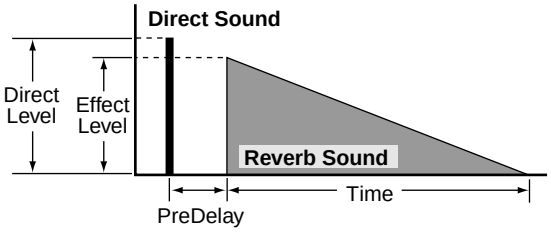
Adjusts the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to THRU.

Effect Level: 0–127 RTM, LFO, Ctrl1

Adjusts the output level of reverb sound.

Direct Level: 0–127

Adjusts the output level of direct sound.



Gate Reverb (GateReverb)

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

Type: NORMAL, REVERSE, SWEEP1, SWEEP2

Selects the type of reverb.

- **NORMAL**: conventional gate reverb
- **REVERSE**: backwards reverb
- **SWEEP1**: the reverberant sound moves from right to left
- **SWEEP2**: the reverberant sound moves from left to right

PreDelay: 0.0–100ms Ctrl2

Adjusts the time delay from when the direct sound begins until the reverb sound is heard.

Gate Time: 5–500ms Ctrl3

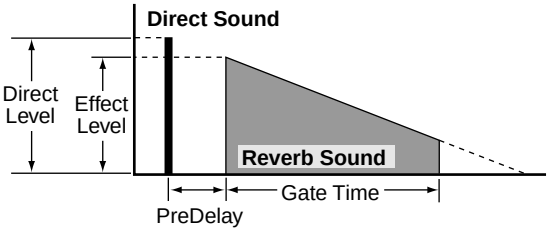
Adjusts the time from when the reverb is heard until when it disappears.

Effect Level: 0–127 RTM, LFO, Ctrl1

Adjusts the output level of reverb sound.

Direct Level: 0–127

Adjusts the output level of direct sound.



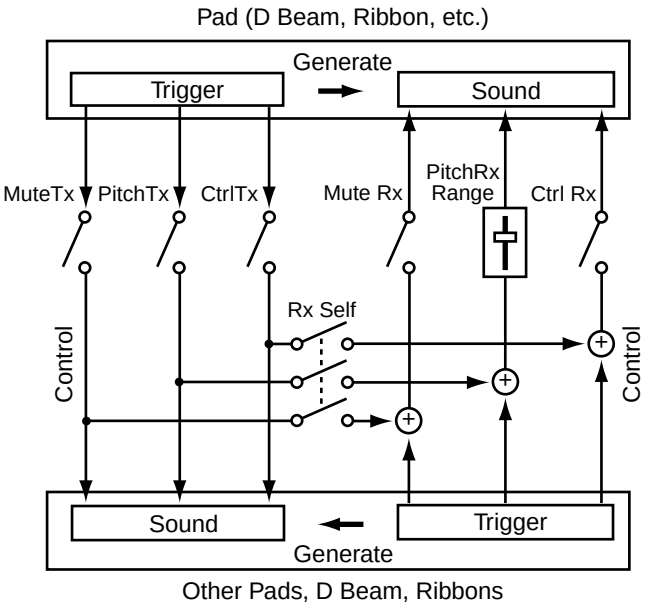
Controlling the Tone

By pressing on a pad or moving your hand over the D Beam or a ribbon, you can control the tone of other pads or controllers.

Parameter Category: PAD CTRL

```
U0101A1 PAD CTRL
MuteRx          ON
```

Control Parameters Block Diagram



Mute Rx: OFF, ON

Specifies how mute signals (to cut the note) will be received. If you select ON, signals from other pads or controllers will mute the note.

* *Mute may have no effect for some sounds.*

PitchRxRange: -24–OFF–+24, Rdm

Specifies how pitch control signals will be received. With positive (+) settings, pitch control signals will raise the pitch. With negative (-) settings, pitch control signals will lower the pitch. If you select Rdm, the pitch will change randomly each time a signal is received. If you select OFF, the pitch will not change even if signals are received.

Ctrl Rx: OFF, ON

Specifies whether control signals other than mute, pitch, and roll will be received. If you select ON, signals from other pads or controllers will affect the tone.

* *"MFX Ctrl" and LFO control signals are received even if this parameter is set to "OFF."*

Roll Rx: OFF, ON

Specifies whether the sound will be repeated when [ROLL / HOLD] is lit.

* *The Controllers other than pads will be displayed as "---" and cannot be set.*

Rx Self: OFF, ON

Specifies whether or not the transmitted control signal will itself be received.

MuteTx: OFF, ON

Specifies transmission for mute signals. If you select ON, you will be able to cut the notes of pads or controllers.

* *Mute may have no effect for some sounds.*

PitchTx: OFF, ON

Specifies transmission for pitch control signals. If you select ON, you will be able to modify the pitch of pads or controllers.

CtrlTx: OFF, LFO Pitch, LFO Fltr, LFO Amp, MFX Ctrl1–3 (Pad)

OFF, Level -, Level +, Decay -, Decay +, Cutoff, Resonance, Color 1–2, RevSend -, RevSend +, LFO Rate, LFO Pitch, LFO Fltr, LFO Amp, LFO Pc&Rt, LFO Ft&Rt, LFO Am&Rt, MFX Ctrl1–3, RollSpeed, Tempo -, Tempo +, TurnTable (D Beam, Ribbon, Pedal)

Play/Stop (D Beam, Pedal)

Specifies transmission for control signals other than mute and pitch.

Level -, Level +:

Modifies the volume.

Decay -, Decay +:

Modifies the duration (decay time.)

Cutoff:

Modifies the cutoff frequency of the filter. The character of the high-frequency range will change.

Resonance:

Modifies the resonance of the filter. The range near the filter cutoff frequency will be emphasized.

Color 1–2:

Simultaneously changes the filter cutoff frequency and resonance. The tonal character will change.

RevSend -, RevSend +:

Modifies the depth of the reverberation.

LFO Rate * :

Modifies the modulation rate of the LFO waveform.

LFO Pitch * :

Modifies the depth of the pitch modulation produced by the LFO.

LFO Fltr * :

Modifies the depth of the tonal change produced by the LFO.

LFO Amp * :

Modifies the depth of the volume change produced by the LFO.

LFO Pc&Rt * :

Modifies the depth of the pitch modulation produced by the LFO and the speed of modulation.

LFO Ft&Rt * :

Modifies the depth of the tonal change produced by the LFO and the speed of modulation.

LFO Am&Rt * :

Modifies the depth of the volume change produced by the LFO and the speed of modulation.

MFX Ctrl1–3 * :

Modifies the parameter value of the multi-effect. The parameter that will be controlled will depend on the selected effect. Please refer to “Adjusting Multi-Effect Settings” (p. 40). If you select MFX Ctrl1, parameters marked by “Ctrl1” can be controlled. The same applies to MFX Ctrl2–3.

RollSpeed * :

Changes the speed at which the roll will repeat. The same effect can be obtained even if [ROLL / HOLD] is not lit.

Tempo -, Tempo +:

Adjusts the tempo of the sequencer.

TurnTable * :

An effect will be produced as though you were manually rotating the turntable of a record player.

Play/Stop:

Controls sequencer play / stop. This is the same operation as pressing [PLAY / STOP] on the panel.

* *This cannot control sequencer start/stop in the Recording Stand-by Mode (p. 59).*

MEMO

When CtrlTx is set to any value marked with a "*," the effect can be obtained even with pads (ribbons, D Beam, etc.) for which Ctrl Rx has been set to OFF.

CtrlIrType: Posit, Speed

Specifies how the D Beam, ribbon, and pedal will transmit signals. If you select Posit, the transmitted signal will change according to the position at which your hand is located relative to the controller. If you select Speed, the transmitted signal will change according to the speed at which you move your hand.

* *The pad will be displayed as “---” and cannot be set.*

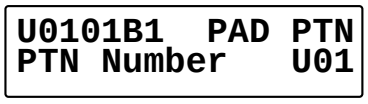
Using a Pad to Start a Pattern

You can play a sequencer pattern by striking a pad (B1–B5, C1–C5).

NOTE

Pads A1–A5, the D Beam, and the ribbon controllers can not play patterns.

Parameter Category: PAD PTN



PTN Number:

Selects a pattern. If a pattern is not selected, this will be displayed as "OFF."

* *For pads A1–A5, the D-beam, and the ribbons, "---" will be displayed, and a pattern cannot be selected.*

If a pattern is selected, the indicator beside the pad will go red. It will blink while the pattern is playing back.

* *If you change the patch while a pattern is playing back, you can stop the pattern by pressing [PLAY/STOP].*

Tempo:

Sets the tempo of the pattern.

When using a pad to start a pattern, the tempo which is set to the pattern (p. 60) is ignored.

* *If you change the "PTN Number," the tempo which is set to the selected pattern will be set to the value of this parameter.*

Level:

Adjusts the volume at which the pattern will sound.

MEMO

For details on a pattern, refer to "Chapter 3 Recording Your Performance (Sequencer)" (p. 59).

Set the Volume of the Entire Patch

You can set the volume of the patch to adjust the volume balance between patches.

Parameter Category: PATCH LEV

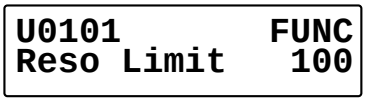
MasterVolume: 0–127

Settings for Other Functions

Parameter Category: FUNC

Limiting the Resonance

You can set an upper limit for the resonance of the filter.



Reso Limit: 50–126, OFF

NOTE

If you select OFF, the tonal change produced by the filter will be greater, but loud sounds may be produced unexpectedly.

Adjusting the Sensitivity of the Pads

You can adjust the sensitivity of the pads as suitable for your playing style.

PadSnsType: Hand1–2, Fing1–2

If you are striking the pads with your hand, select Hand; if with your fingers, select Fing. "2" is more sensitive than "1."

MEMO

If you are using sticks to strike the pad, select Fing1 or Fing2.

Specifying the Roll Speed

You can specify the speed at which notes will be repeated when you press [ROLL / HOLD].

Roll Speed: 1.0–50, 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32, 1/48

1–50:

The selected number of notes will be repeated each second.

1/2–1/48:

The notes will be played at note value intervals relative to the sequencer tempo (p. 27, p. 60).

Setting for MIDI Transmission

For details, refer to p. 76.

Parameter Category: PAD MIDI

Note No. : OFF, 0:C - –127:G 9

Sets the MIDI note number that each pad will transmit. If you select “OFF,” no MIDI note message will be transmitted.

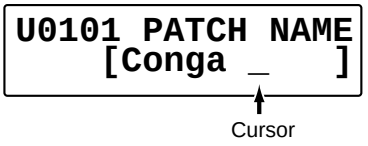
Gate Time: 0.1–8.0sec

For each pad, you can specify the length of time the note will “hold” during transmission from the MIDI OUT.

Naming a Patch

Each patch can be given a name (**Patch Name**) of up to 10 characters.

Parameter Category: PATCH NAME



Use [◄ PARAMETER] or [PARAMETER ►] to move the cursor to left or right, and turn [PATCH / VALUE] to select the desired characters.

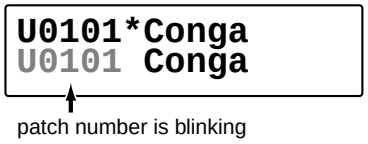
Characters May Be Used in a Name

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789!#$%&"’^‘_+-*/=
<>()[]{},.:;?@→←¥| (Blank)

Saving Your Settings (Write)

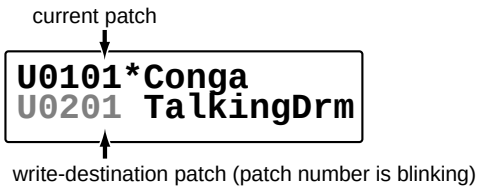
The settings you modify will be lost if you switch patches or turn off the power. If you wish to keep your changes, you must execute the write operation.

1. Press [WRITE].



2. Turn [PATCH / VALUE] to select the write-destination patch.

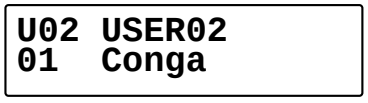
* *If you wish to overwrite the data onto the currently selected patch, simply proceed to step 3.*



* *It is not possible to select a preset patch as the write-destination.*

3. Press [WRITE].

The settings will be written into the selected patch. After the data has been written, the write-destination patch will be selected.



* *If you decide not to execute the write operation, press [EXIT].*

MEMO

For details on selecting patches, refer to “Chapter 1 Quick Start,” in the section “Changing Sounds to Play (Patch Select)” (p. 21).

NOTE

Never turn the power off while a writing process. If you turned the power off, the data will be damaged.

Duplicating Settings (Copy)

Patch or pad settings can be copied to another patch, pad, or controller. You can also exchange settings between two patches.

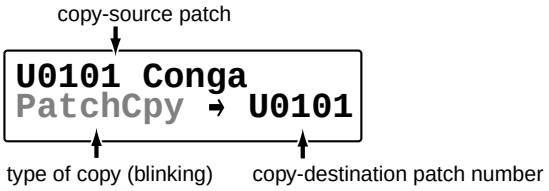
Basic Procedure for Copy

We will explain the basic copy procedure using the example of copying patch settings (Patch Copy).

1. Press [WRITE].

2. [PARAMETER ►] twice.

The following screen will appear.



3. Turn [PATCH / VALUE] to select the type of copy.

For details on the types of copy, refer to the next page.

4. Use [◄ PARAMETER] / [PARAMETER ►] to make the copy-source / copy-destination patch numbers blink.

5. Turn [PATCH / VALUE] to select the copy-source / copy-destination patches.

* *It is not possible to select a preset patch as the write-destination.*

6. Press [WRITE] to execute the copy.

* *If you decide not to execute the copy operation, press [EXIT].*

7. Press [EXIT] to end the procedure.

You will return to the previous screen.

MEMO

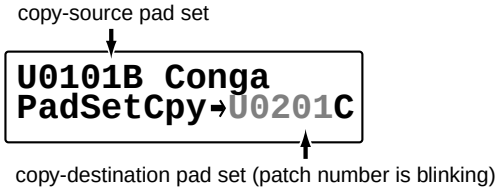
For details on selecting patches, refer to “Chapter 1 Quick Start,” in the section “Changing Sounds to Play (Patch Select)” (p. 21).

NOTE

Never turn the power off while a copying process. If you turned the power off, the data will be damaged.

Copying a Pad Set (Pad Set Copy)

You can copy the settings of a pad set to another pad set. You can also copy to a different pad set of the same patch.

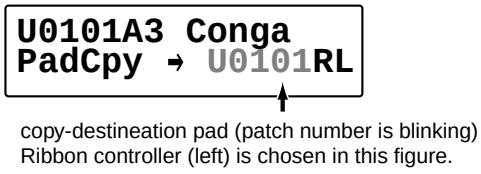


1. In step 3 of "Basic Procedure for Copy" (p. 56), select **PadSetCpy**.
2. After selecting the patch in step 5, strike a pad to select a pad set.

* *"PAD MIDI Note No." cannot be copied.*

Copying Pad/D Beam/Ribbon Settings (Pad Copy)

Pad / D Beam / ribbon settings can be copied to another pad / D Beam / ribbon.

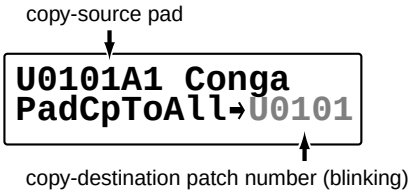


1. In step 3 of "Basic Procedure for Copy" (p. 56), select **PadCpy**.
2. After selecting the patch in step 5, strike a pad (D Beam, ribbon) to select it.

* *"PAD MIDI Note No." cannot be copied.*

Copying Pad/D Beam/Ribbon Settings to All Pads (Pad Copy to All)

You can copy the settings of one pad / D Beam / ribbon to every pad / D Beam / ribbon.

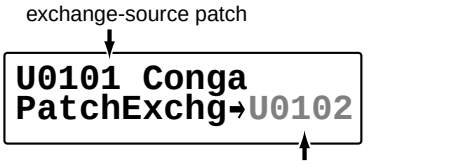


1. In step 3 of "Basic Procedure for Copy" (p. 56), select **PadCpToAll**.
2. After selecting the patch in step 5, strike a pad (D Beam, ribbon) to select it.

* *"PAD MIDI Note No." cannot be copied.*

Exchanging Patch Settings (Patch Exchange)

You can exchange the settings of two patches.



1. In step 3 of "Basic Procedure for Copy" (p. 56), select **PatchExchg**.

Copying a Value to All Pads

1. Hold down [PATCH SEL], and press [WRITE] in Edit mode.

   The displayed value of the parameter is copied to every pad and controller.

```
  Value -→ All
Pad Level    100
```

* *Following parameters can be copied only among either pads or controllers.*

PAD INST	**TrigMode**
PAD CTRL	**Rx Self**
	Mute Tx
	Pitch Tx
	Ctrl Tx
PAD PTN	**Number**
	Tempo
	Level

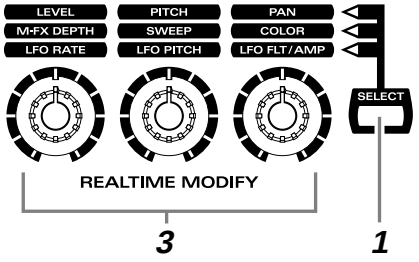
* ***PAD MIDI Note No.*** *cannot be copied.*

NOTE

The value you copied in this procedure will return to the original values when you switch patches. If you wish to keep your changes, refer to “Saving Your Settings (Write) / Duplicating Settings (Copy)” (p. 56).

Using Realtime Modify to Adjust Values

In Edit mode, you can use realtime modify (p. 19) to adjust values.



HINT

This is effective when used on parameters that have a wide range of adjustment, such as Pitch.

1. Press [SELECT] to select the parameter that you wish to edit.
2. Strike the pad you wish to modify, to select it. You can also select the D Beam or a ribbon.
3. Turn the [REALTIME MODIFY] knob.

   The selected parameter and the modified value will be displayed, and the sound will also change.

```
RTM
A3* PITCH    +750
```

parameter value

If you wish to move to the parameter set screen, hold down [PATCH SEL] located at the upper right of the pad and turn the knob. You will jump to the selected parameter set screen.

MEMO

In the case of M-FX DEPTH, you will jump to the “Type” select screen.

NOTE

The values you edit in this procedure will not return to the original values by pressing [EXIT / MODIFY CLEAR].

Chapter 3 Recording Your Performance (Sequencer)

You can record your performance in the **sequencer**.

On the HPD-15, your performance will be recorde exactly as you play it (**Realtime Recording**).

The HPD-15's sequencer consists of four **parts** (Percussion 1, Percussion 2, Melody 1, Melody 2). The collective performance of these four parts is called a **pattern**.

Preset patterns (pattern P01–P99)

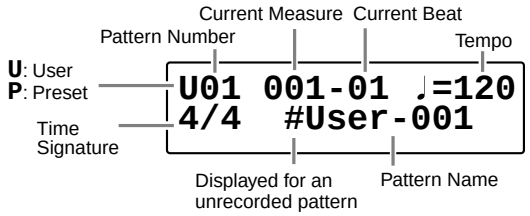
What the various parts should play has already been recorded.

User patterns (pattern U01–U99)

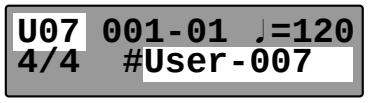
These are patterns that you can record.

Basic Settings for Recording

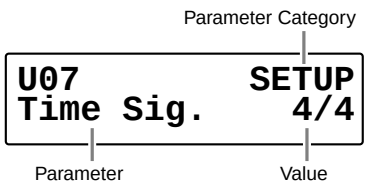
1. Press [SEQUENCER] to make it light; you will enter the Sequencer mode.



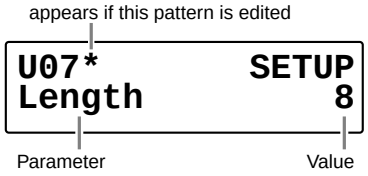
2. Turn [PATCH/VALUE] to select the user pattern for recording your performance.



3. Press [◄ PARAMETER] or [PARAMETER ►] to select the pattern/click parameter that you wish to set.

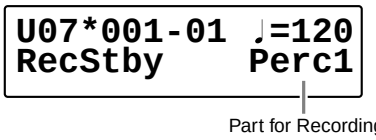


4. Turn [PATCH/VALUE] to make settings for the pattern or click.



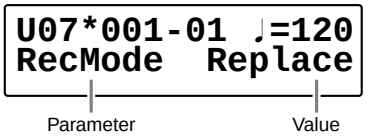
5. Press [REC] and you will enter the **Recording Stand-by Mode**.

[PLAY/STOP] will blink.



* *If you press [REC] once again, you will return the previous screen.*

6. Press [◄ PARAMETER] or [PARAMETER ►] to select the recording parameter in the Recording Stand-by Mode.



7. Turn [PATCH/VALUE] to make settings for the recording.

8. Press [PLAY/STOP] to start the recording.

While the recording, [PLAY/STOP] will light.

* *It is possible to start/stop the recording by the foot switch (p. 71), but it is not possible by the D Beam or pedal (p. 53).*

9. When you are finished recording, press [PLAY/STOP] once again.

[REC] and [PLAY/STOP] will go dark, and the recording will stop.

10. Naming the pattern, press [WRITE].

MEMO

How to naming a pattern is the same as naming a patch. Refer to "Naming a Patch" (p. 55).

NOTE

It is not possible to record to a preset pattern.

* *To return to normal Play mode, Press [SEQUENCER] or [EXIT]; [SEQUENCER] will go dark.*

Settings for the Pattern

Category		Parameter		Value
SETUP		Time Sig.	**Specifying the Time Signature** Numerator: Number of beats per measure Denominator: Basic note value ** It is not possible to change after the pattern is recorded.*	Numerator: 1 – 13 Denominator: 2, 4, 8, 16
		Length	**Specifying the Length (Number of Measures) of the Pattern** When "Replace" is selected for the RecMode (p. 62), it is not necessary to specify the Length. Recording will continue until you press [PLAY / STOP], and the number of measures recorded will automatically become the "Length" setting. ** It is not possible to change while the pattern is playing back.*	1 – 999
		Tempo	**Specifying the Tempo of the Pattern** When "Ext" is selected for the Seq Sync (p. 68), "MIDI" (♩=MID) will appear.	20 – 240, (MIDI)
		PlayType	**Choosing a Playing Method** Loop: After the pattern is played back to the end, playback then repeats and continues until [PLAY / STOP] is pressed. OneShot: Playback stops once the end of the pattern is reached. Tap: Each time the [PLAY / STOP] is pressed (or pad is struck; refer to p. 54), the sounds contained in a pattern are played back one at a time in sequence. TapVelo: Tap playback with changes of the volume depending on how strongly the pad are struck. ** It is not possible to change while the pattern is playing back.*	Loop, OneShot, Tap, TapVelo
		Reset Time	**Specifying the Time to Return the Pattern to the Beginning** In Tap playback, this returns the pattern to the beginning if the set time interval elapses without the pad being hit again. If it is set to "OFF," this function will be disabled.	OFF, 0.1 – 4.0s
		Quick Play	**Ignoring a pause at the beginning of the pattern** If "ON" is selected, this starts playback of the pattern from the first note even if a pause is left at the beginning of the pattern.	OFF, ON
		TransposeMl1 TransposeMl2	**Adjusting the Pitch of Melody Parts** This transposes the key of the melody parts in semitone steps. Ml1: Melody Part 1, Ml2: Melody Part 2	-24 – +24
PART		Select	**Selecting the Part** ** You can use the pads to sound the tone of the part in the part screen.*	Perc1, Perc2, Melo1, Melo2
	PERC1, PERC2	(Patch)	**Selecting the Patch Played by the Part**	
		Level	**Adjusting the Volume of the Part**	0 – 127
		Reverb Send	**Adjusting the Depth of Reverb Applied to the Part** (when the effect is off)	0 – 127
		MULTI-FX/LFO	**Turning the Multi-Effects On/Off for the Part** ** The same type of the effect which is selected in Play mode will be selected. It is different from the type which is set in the patch selected for the Part.*	OFF, ON
	MELO1, MELO2	Inst	**Selecting the Instrument of the Part**	1 – 54 (refer to p. 94)
		Level	**Adjusting the Volume of the Part**	0 – 127
		Pan	**Adjusting the Pan (Localization) of the Part**	L63 – Center – R63
		Bend Range	**Adjusting the Amount of Change in Pitch** This adjusts the amount of change in pitch with pitch bend at maximum level in semitone steps.	0 – 24
		Reverb Send	**Adjusting the Depth of Reverb Applied to the Part** (when the effect is off)	0 – 127
		MULTI-FX/LFO	**Turning the Multi-Effects On/Off for the Part**	OFF, ON
		PadNote	**Specifying the Note of Each Pad** You can use the pads to record patterns if you have no MIDI keyboards. This parameter specifies the note of each pad in this case. Strike (Sound) the pad (D Beam, ribbon) to select it that you wish to specify the note.	C-1 – G9

Settings for the Click, and others

Category	Parameter		Value
CLICK	Intrvl	**Specifying the Interval**	1/2, 1/4, 3/8, 1/8, 1/12, 1/16, 3-2 Son, 2-3 Son, 3-2 Rumba, 2-3 Rumba, 6/8 Clave
	Inst	**Selecting a Sound**	Click, Sticks, Metronome, Claves, WoodBlock, Triangle, Cowbell, Conga, TalkingDrum, Maracas, Cabasa, Cuica, Agogo, Tambourine, Snaps, 909Snare, 808Cowbell
	Level	**Adjusting the Volume**	0 – 127
	Pan	**Adjusting the Pan (Localization)**	L63 – Center – R63
	Reverb Send	**Adjusting the Depth of Reverb** Using the reverb makes the click more comfotable to listen to.	0 – 127
	Mode	**Turning the Click On/Off** OFF: Click doesn't sound while the playback / recording. REC Only: Click sounds while the recording. REC/PLAY: Click sounds while the playback / recording.	OFF, REC Only, REC/PLAY
	PlyCountIn	**Adding a Count Sound Before Playback** OFF: Playback will begin without a count-in. 1Meas: Playback begins after a 1-measure count-in. 2Meas: Playback begins after a 2-measure count-in.	OFF, 1Meas, 2Meas
	RecCountIn	**Adding a Count Sound Before Recording** OFF: Recording will begin without a count-in. 1Meas: Recording begins after a 1-measure count-in. 2Meas: Recording begins after a 2-measure count-in.	OFF, 1Meas, 2Meas
MEMORY	Available	**Checking the Remaining Amount of Memory** The remaining amount of memory is displayed.	(only displayed)
PATTERN NAME		**Changing the Pattern Name** How to changing the name is same as naming a patch. Refer to "Naming a Patch" (p. 55).	(up to 10 characters)

Settings for the Recording (Set in the Recording Stand-by mode)

Parameter		Value
RecStby	**Specifying the Part** Perc1, Perc2: Percussion Part 1, Percussion Part 2 Melo1, Melo2: Melody Part 1, Melody Part 2 Import: Select this when you will record multiple Parts simultaneously by using an external sequencer. Each Part will receive the data from specified MIDI channel (p. 78). ** When you select Perc1, Perc2, Melo1, or Melo2, all channel data is received. You do not need to change the channel of the MIDI deveice connected to the HPD-15.*	Perc1, Perc2, Melo1, Melo2, Import
RecMode	**Specifying the Recording Method** Loop All: The entire pattern will be repeated, and on each pass your performance will be added, ("over-dubbed") and mixed with what you did previously. Loop 1, Loop 2, Loop 4, Loop 8: This determines the length of the section you are recording, and 1, 2, 4 or 8 measure section will repeat. Replace: Recording will continue until you press [PLAY / STOP]. Any previously recorded data for all Parts will be erased.	Loop All, Loop 1, Loop 2, Loop 4, Loop 8, Replace
Quantize	**Regularizing the Timing of Performance Data When Recording** This corrects inaccuracies of timing while you record. 1/8–1/64: Data will be quantized to the note of the tempo of the sequencer. OFF: The pattern is recorded with the timing used in performance.	1/8, 1/12, 1/16, 1/24, 1/32, 1/48, 1/64, OFF
HitPadStart	**Specifying How to Start the Recording** OFF: Recording starts when [PLAY / STOP] is pressed. ON: Recording starts when you start the performance on pads / D Beam / ribbons.	OFF, ON

MEMO

You can start recording by pressing [PLAY / STOP] at every screen above.

Rehearsal Function

The rehearsal function is a feature that temporarily suspends recording during recording. This allows you to practice the phrase while Loop recording is in progress.

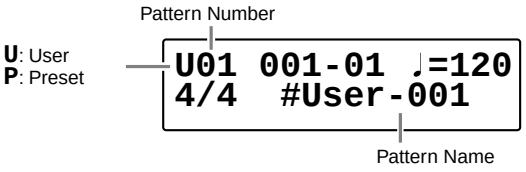
1. Start recording.
2. Press [REC] while recording.
   [REC] will blink, and the rehearsal function will be on.
   Performances cannot be recorded.
3. Press [REC] to resume recording.
   [REC] will light and the rehearsal function will be off.

NOTE

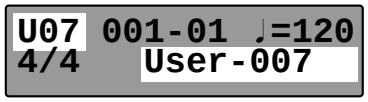
Using the controllers (D Beam, ribbons, pad pressure, etc.) too much will increase the consumption of memories. If you wish to reduce the data, refer to the explanation of “Data Thin” in “Settings for the Controllers” (p. 69).

Basic Settings for Playing Back

1. Press [SEQUENCER] to make it light; you will enter the Sequencer mode.



2. Turn [PATCH / VALUE] to select the pattern that you wish to play back.



3. Press [PLAY / STOP] to start playing back.
   While the playing back, [PLAY / STOP] will light.
4. Press [PLAY / STOP] once again to stop playback.
   [PLAY / STOP] will go dark, and the pattern returns you to the beginning of the pattern.

MEMO

After step 2, if you nedd, make settings for the pattern or click. For details on making settings, refer to "Basic Settings for Recording," in step 3–5 (p. 59).

* *To return to normal Play mode, Press [SEQUENCER] or [EXIT]; [SEQUENCER] will go dark.*

Pause

1. Hold down [PATCH SEL], and Press [PLAY / STOP] during playback of a pattern.
   Playback will stop.
2. Press [PLAY / STOP] once again to begin playback again.
   Playback begins from the beginning of the measure.

Fast-Forward and Rewind

When playback of pattern is stopped, you can do the following.

- Advance to the next measure
  Press [GROUP +].
- Return to the previous measure
  Press [GROUP -].
- Advance to the end of the pattern
  Hold down [PATCH SEL], and press [GROUP +].
- Return to the beginning of the pattern
  Hold down [PATCH SEL], and press [GROUP -].

Synchronizing with an External MIDI device (MIDI Sync)

You can play the sequencer of the HPD-15 with an external MIDI device. For details, refer to "Chapter 6 Connecting MIDI Devices" (p. 76).

Changing the Settings of Pattern

You can modify the length of the pattern, tempo, or the instrument of the part.

1. Select the pattern you wish to modify the settings.
2. Press [◄ PARAMETER] or [PARAMETER ►] to select the parameter.
3. Turn [PATCH / VALUE] to modify the value.

* *If you wish to keep your changes, refer to next "Saving the Changed Settings."*

MEMO

You can change the tempo by pressing [TEMPO] and turning [PATCH / VALUE] (p. 27).

NOTE

It is not possible to change the time signature (Time Sig.) of the recorded patterns.

Saving the Changed Settings

1. Press [WRITE] in Sequencer mode.

2. Press [WRITE] once again.
   The modified settings are saved.

* *If you decide not to execute, press [EXIT].*

You can write the modified settings to another pattern. For details, refer to "Editing a Pattern" (p. 64).

NOTE

It is not possible to write the modification to a preset pattern. If you press [WRITE] at a preset pattern, copy-destination select screen will appear.

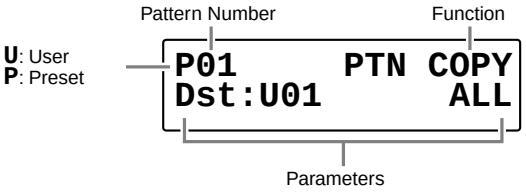
Editing a Pattern

You can edit either copy / delete the patterns or erase the part.

Basic Settings for Editing

1. Press [WRITE] in Sequencer mode.

when [WRITE] is pressed at the preset pattern



when [WRITE] is pressed at the user pattern

2. Press [◄ PARAMETER] or [PARAMETER ►] to select the editing function or parameter.

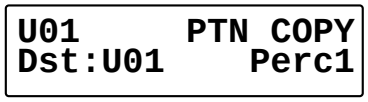
3. Turn [PATCH / VALUE] to set the value.

4. Press [WRITE] to execute.

* *If you decide not to execute, press [EXIT].*

Copying a Pattern

You can copy selected part of currently selected pattern.



Dst: U01–U99

Select the copy-destination user pattern.

ALL, Perc1, Perc2, Melo1, Melo2

Select the part that you wish to copy.

ALL: All parts are copied.

Perc1: Percussion Part 1 is copied.

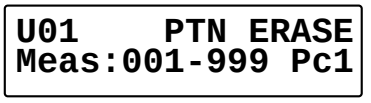
Perc2: Percussion Part 2 is copied.

Melo1: Melody Part 1 is copied.

Melo2: Melody Part 2 is copied.

Erasing Parts

You can erase performance data from specified measures of a part or pattern. The erased position will become blank measures.



Meas: ALL, 001–999-001–999

ALL: This erases the data from all measures.

001–999-001–999: This erases the data from specified area.

ALL, Pc1, Pc2, Ml1, Ml2

Select the part to be erased.

ALL: All parts are erased.

Pc1: Percussion Part 1 is erased.

Pc2: Percussion Part 2 is erased.

Ml1: Melody Part 1 is erased.

Ml2: Melody Part 2 is erased.

Connecting Two Patterns

You can connect the currently selected pattern to the end of the selected pattern.

Dst Pattern: U01–U99

Select the append-destination pattern.

Deleting a Pattern

You can delete specified measures from a pattern. Later measures are moved forward.

Meas: ALL, 001–999-001–999

ALL: This deletes all measures.

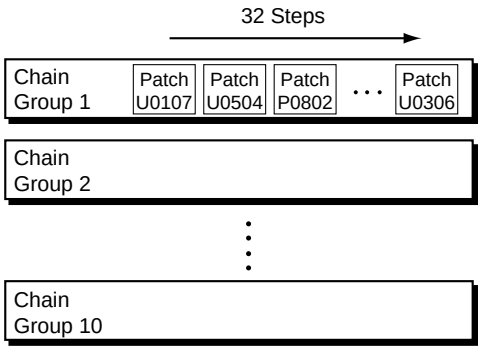
001–999-001–999: This deletes the specified measures.

NOTE

It is not possible to select a preset pattern as the copy / append-destination, or execute the erase / delete at a preset pattern.

Chapter 4 Changing Patches in the Desired Sequence

This allow you to step through the patches of your choice and in the order you want. The HPD-15 lets you create and store 10 different groups of up to 32 steps each.



Creating a Patch Chain (Chain Edit)

1. Press [CHAIN].

[CHAIN] will light, and you will enter Chain Play mode.

```
U01 CHAIN  01---
01  Conga
```

2. Press [EDIT].

[EDIT] will light, and you will enter Chain Edit mode.

```
CHAIN EDIT 01-01
  (EMPTY CHAIN)
```

3. Press [GROUP -] or [GROUP +] to select the chain group which you wish to edit.

```
CHAIN EDIT 05-01
  (EMPTY CHAIN)
```

4. Turn [PATCH / VALUE] or use Pad Patch Select (p. 23) to select the patch that will be selected first.

```
CHAIN EDIT 05-01
U0201 TalkingDrm
```

5. Press [PATCH NUMBER ▲] to move to the next step.

```
CHAIN EDIT 05-02
-----[LOOP]-----
```

6. Turn [PATCH / VALUE] or use Pad Patch Select (p. 23) to select the patch.

7. Repeat Steps 5–6 to continue editing.

8. Press [EDIT] or [EXIT].

[EDIT] will go dark, and you will return to Chain Play mode.

```
U02 CHAIN  05-01
01  TalkingDrm
```

MEMO

When you modify the setting of a patch chain, the new setting is automatically saved as soon as you make the change.If you need to return to the factory settings, refer to “Restoring the Factory Settings” (p. 85).

Specifying the Last Step of the Patch Chain

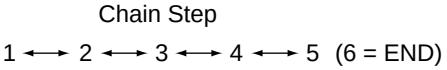
Specify one of the following as the last step in the patch chain. If you have specified patched up to step 32, you can specify it at step 33.

NOTE

It is not possible to specify a patch at step 33.

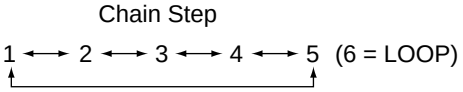
END:

When you reach the last step, the progression of steps will end.



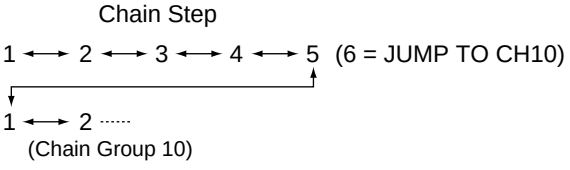
LOOP:

If you advance a step from the last step, you will return to step 1.



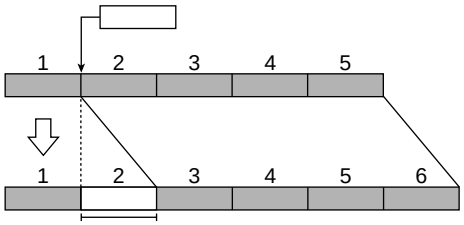
JUMP TO CH01–10:

If you advance a step from the last step, you will jump to step 1 of the specified chain group.



Inserting a Chain Step

This operation inserts a patch into the specified location of a chain.



NOTE

A maximum of 32 steps can be set in a chain. If the chain already contains 32 steps, the patch at step 32 will be deleted.

1. Press [PATCH NUMBER ▼] or [PATCH NUMBER ▲] to select the step in which the patch is to be inserted.
2. Press [PARAMETER ►].

```
01-02 InsertStep
OK? [WRITE/EXIT]
```

3. Press [WRITE].

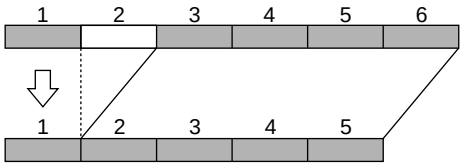
   The step is inserted with the same patch, and later steps are each moved back one place.

* *If you decide not to execute, press [EXIT].*

4. Turn [PATCH / VALUE] to select the patch in the new step.

Deleting a Chain Step

This operation deletes an unneeded patch from a chain.



1. Press [PATCH NUMBER ▼] or [PATCH NUMBER ▲] to select the step from which the patch is to be deleted.
2. Press [◄ PARAMETER].

```
01-02 DeleteStep
OK? [WRITE/EXIT]
```

3. Press [WRITE].

   The step is deleted, and later steps are each moved forward one place.

* *If you decide not to execute, press [EXIT].*

Playing with a Patch Chain (Chain Play)

1. Press [CHAIN].

   [CHAIN] will light, and you will enter Chain Play mode.

```
U01 CHAIN  01-01
01  Conga
```

2. Press [GROUP +] or [GROUP -] to select the chain group to be used. You can select the chain group by striking a pad B1–C5 while holding down [PATCH SEL]. Pads B1–C5 correspond to chain groups 1–10 respectively.

```
U02 CHAIN  05-01
01  TalkingDrm
```

MEMO

In the case of a chain group which has no patch, "--" will be displayed at the upper right of the screen.

3. Press [PATCH NUMBER ▼] or [PATCH NUMBER ▲] or turn [PATCH / VALUE] to call up the patches to be used in each selected step in the chain. You can call up the patches by striking a pad A2 or A4 while holding down [PATCH SEL]. Striking the pad A2 will decrease the chain step, and striking the pad A4 will increase it.

```
U05 CHAIN  05-02
01  Vibraphone
```

4. When the performance is finished, press [CHAIN]; you will return to normal Play mode.

   [CHAIN] will go dark.

* *[EXIT/MODIFY CLEAR] operates as modify clear (p. 19), and cannot make Chain Play mode off.*

HINT

You can use foot switches to call up patch chains. For details, refer to "Settings for the Foot Switches" (p. 71).

Chapter 5 Settings for the Entire HPD-15

Settings that affect the entire HPD-15 are called **system settings**. This chapter explains how to modify the system settings (**System Edit**).

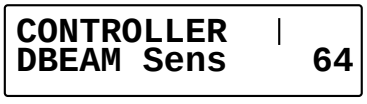
Settings for basic operation

1. Press [SYSTEM] to make it light; you will enter System Edit mode.

* *The upper line of the screen will show the **parameter category**, and the lower line will show the parameter and value.*

2. Press [◄ PARAMETER] or [PARAMETER ►] to select the parameter that you wish to modify.

3. Turn [PATCH/VALUE] to modify the value.



4. Repeat steps 2–3 to continue system edit.

5. When you finished editing, press [EXIT] or [SYSTEM]. [SYSTEM] will go dark, and you will return to normal Play mode.

HINT

You can make your selection rapidly. See p. 31.

MEMO

When you modify the system setting, the new setting is automatically saved as soon as you make the change. You do not have to operate for the storing. If you need to return to the factory settings, refer to “Restoring the Factory Settings” (p. 85).

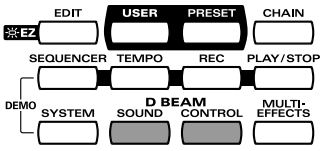
Settings for the Basic Operation

Category	Parameter		Value
UTILITY	LCD Contrast	**Adjusting the Contrast of the Display** Increasing the value will darken the display.	1 – 16
	Beep Level	**Adjusting the Volume of the Operating Sound** When set to "0," no operating sound will be heard.	0 – 15
	MasterTune	**Tuning the Instruments** This adjusts the pitch of instruments marked with "*T" in the Instrument List (p. 92) and backing instruments (p. 94). ** 440.0Hz is the standard tuning.*	415.3 – 466.2 (Hz)
	Pad Chase	**Specifying How a Pad Will be Selected for Editing** OFF: The pad last struck in Play mode will be edited. This is convenient when you wish to compare the response with other pads. If you hold down [PATCH SEL] and strike a pad, the pad you struck will be edited. ON: The pad you strike will be selected for editing each time.	OFF, ON
	Power ON	**Specifying the Patch Selected at Power-On** RESET: Patch P0101 will always be selected. LAST: The patch last-selected when the power was turned off will be selected.	RESET, LAST
	Dial Lock	**Locking Patch Selection From the Dial** If this is turned "ON," turning [PATCH / VALUE] will not change the patch. This lets you prevent the patch from being accidently changed when you touch the dial during a performance.	OFF, ON
	Roll Sync	**Synchronizing Rolls Between Pads** OFF: The roll will start when you press the pad, and will not synchronize with other pads. ON: Rolls of other pads will synchronize to the roll of the first-pressed pad.	OFF, ON
	Seq Sync	**Synchronizing the Internal Sequencer with an External MIDI Device** Int: The HPD-15's tempo setting will be used for playback / recording. When shipped from factory, this setting is selected. Ext: The HPD-15's sequencer will operate in accordance with tempo data (MIDI Clock) from the external device. Remote: The HPD-15 will obey start / pause / stop messages from an external device, but will playback according to its own tempo setting.	Int, Ext, Remote

Settings for the Controllers

Category	Parameter		Value
CONTROLLER	DBEAM Sens	**Adjusting the Sensitivity of the D Beam** Place your hand at the height at which you want the D Beam to start to take effect (about 20 inches = 50cm), and adjust the setting so that the meter in the upper right of the screen is at the center line. When the power is turned on, this will be adjusted automatically according to the brightness of the surroundings.	0 – 127
	DBEAM Trim	**Adjusting the D Beam Response** Make adjustments so that the D Beam triggers sound and outputs control data smoothly. Adjust the setting so that the meter in the upper right of the screen moves smoothly when you move your hand up or down.	1 – 5
	Data Thin	**Reducing the Transmitted Data** This function allows you to prevent an excessive amount of data from being transmitted from the controllers (pads, D Beam, ribbons, hi-hat control pedal, etc.) to the internal sequencer or via the MIDI OUT. This will be used if you wish to conserve sequencer memory, it will cause tonal changes to become rougher. OFF: Data sent from the controllers is not reduced. 1: This reduce the data sent from the controllers. 2: This reduce the data sent from the controllers. This setting results in even less data than when "1" is selected. ** When you want to make smooth changes in pitch control with Hi-Hat control Pedal, set this to "1" or "OFF."*	OFF, 1, 2

Turning On/Off the D Beam



Pressing D Beam [SOUND] turns on/off the producing sound by using the D Beam.

When D Beam [SOUND] is not lit, passing your hand over the D Beam will not produce sound.

Pressing D Beam [CONTROL] turns on/off the controlling the tone by using the D Beam.

When D Beam [CONTROL] is not lit, passing your hand over the D Beam will transmit no control signals (p. 52).

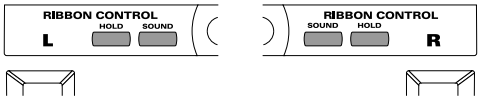
MEMO

You can set these settings on each patch.

NOTE

When you control the tone too fast, some noise may be heard from some tones.

Turning On/Off the Ribbons



Pressing ribbon [SOUND] turns on/off the producing sound by using the ribbons.

When ribbon [SOUND] is not lit, sliding your finger on the ribbon will not produce sound.

Press ribbon [HOLD] to make it light; if you move your finger away, the control signal keeps the value which is transmitted at the location where you move it away.

MEMO

You can set these settings on each patch.

NOTE

When you control the tone too fast, some noise may be heard from some tones.

Setting the Pad Sensitivity

If you wish to make more detailed settings, set the following parameters.

Category	Parameter		Value
PAD	Sens	**Adjusting the Sensitivity** Increasing this value will raise the sensitivity and produce the larger sound even if the striking force is the same.	1 – 16
	Threshold	**Setting Minimum Levels** A trigger signal to be transmitted only when the pad is struck harder than a specified force. This allows you to prevent the pad from picking up extraneous vibrations from neighboring pads. If the striking force is less than the threshold, the pad will not sound. ** To have the unit sound even when struck lightly, set the threshold as low as possible.*	1 – 16
	Mask Time	**Preventing Double Triggering** Once a pad has been hit, any additional trigger signals occuring within the specified Mask Time will be ignored. ** Increasing this value will lose certain notes if you play very fast. Set this value as short as possible.*	0 – 64ms
	Pressure Sens	**Adjusting Pad Pressure Sensitivity** Adjust the sensitivity of pad to pressure. Increasing the value will increase the sensitivity, so that it will be easier to transmit mute or pitch control signals.	1 – 16
	Edge Level	**Adjusting the Volume of the Edge Sound** Adjust the volume of the sound that is heard when you strike the edge of pads A1 or A5.	1 – 16
	Edge Area	**Adjusting the Edge Area** Adjust the size of the area that will trigger the edge sound of pads A1 or A5. Increasing this value will broaden the area that triggers the edge sound.	1 – 16

To set Sens, Threshold, Mask Time, and Pressure Sens, strike the pad that you wish to set. The selected pad number will appear in the display.

Using the Foot Switches to Control the Tone / Sequencer

You can connect two foot switches (BOSS FS-5U, optional) to the FOOT SWITCH jack with the special cable (PCS-31, optional). See p. 11.

Settings for the Foot Switches

Category	Parameter		Value
FOOT SW FUNCTION	SW 1, SW 2	**Specifying the Function of the Foot Switch** Specify the function of the foot switches connected to the FOOT SWITCH jack. OFF: No function is assigned to the foot switch. PATCH DOWN: In normal Play mode, this goes back to the previous patch number. In Chain Play mode, this goes back to the previous chain step. In Sequencer Play mode, this goes back to the previous pattern number. PATCH UP: In normal Play mode, this advances to the next patch number. In Chain Play mode, this advances to the next chain step. In Sequencer Play mode, this advances to the next pattern. REV OFF/ON: This turns the reverb on / off. M-FX OFF/ON: This turns the multi-effects on / off. ROLL/HOLD: This turns the [ROLL / HOLD] (p. 16) on / off. PLAY/STOP: Play / stop the sequencer. Mdfy SEL DN: Select the parameter that will be adjusted by realtime modify (p. 19). The indicator that at the upper right of the realtime modify knobs will move from top to bottom. This is the same operation as pressing [SELECT]. Mdfy SEL UP: Select the parameter that will be adjusted by realtime modify (p. 19). The indicator that at the upper right of the realtime modify knobs will move from bottom to top; the opposite of pressing [SELECT] (Mdfy SEL DN).	OFF, PATCH DOWN, PATCH UP, REV OFF/ON, M-FX OFF/ON, ROLL/HOLD, PLAY/STOP, Mdfy SEL DN, Mdfy SEL UP

MEMO

The white plug of the PCS-31 is the SW 1, and the red one is the SW 2.

MEMO

If you connect one foot switch with a monaural cable, you can use it as the SW 1. It is not possible to use the SW 2 in this case.

MEMO

You can use the pedal switch DP-2 (optional) as the SW 1. It is not possible to use the SW 2 in this case.

Using the Pedal to Control the Hi-Hat / Tone

You can use a expression pedal / hi-hat control pedal connected to the EXP PEDAL / HH CTRL jack to control the tone or play the hi-hat with continuous control from open to closed positions.

Settings for the Pedal

Category	Parameter		Value
PEDAL	Select	**Specifying the Pedal** Select the type of the pedal that connected to the EXP PEDAL / HH CTRL jack. EXP PEDAL: Select this when connecting an expression pedal (EV-5: optional). HI-HAT: Select this when connecting a hi-hat control pedal (FD-7: optional). SW +, SW -: Select this when connecting a foot switch. Select either SW + or SW - so that the sound will play when you press it. * *If you connect a foot switch, you cannot use the half-open hi-hat.*	EXP PEDAL, HI-HAT, SW +, SW -

NOTE

Use only the specified expression pedal (EV-5; sold separately). By connecting any other expression pedals, you risk causing malfunction and / or damage to the unit.

Using a Pedal to Control the Hi-Hat Continuously

1. In Edit mode, assign the instrument marked with "*F" in the Instrument List (p. 92) to the pad which you wish to use as the hi-hat.

```
P0606A3*PAD INST
R70:13" Hi-Hat
```

2. Depress the pedal connected to the EXP PEDAL / HH CTRL jack to display the pedal setting screen, and select PEDAL(A1)–PEDAL(C5) (the pad which is assigned the hi-hat sound in step 1) to PadInst of the pedal.

```
P0606PL*PAD INST
PEDAL(A3)
```

You can use the pedal to play the hi-hat with continuous control from open to closed positions and trigger the "foot close" hi-hat sound.

* *PEDAL(A1)–PEDAL(C5) appear last when you select the instruments.*

NOTE

If you connect the hi-hat control pedal (FD-7, optional), do not step on the pedal until the patch name is displayed when the power is turned on. The HPD-15 will check the position of the pedal then.

Using the External Pads/Kick Trigger Unit to Trigger a Sound

You can connect two external pads (PD-7, PD-9, PD-80, PD-80R, PD-100, or PD-120; optional) or kick trigger units (KD-7, KD-80, or KD-120; optional) to the TRIGGER INPUT jack with the special cable (PCS-31, optional). See p. 11.

Settings for the External Pads / Kick Trigger Unit

Category	Parameter		Value
TRIGGER INPUT	InputMode	**Select Whether or Not You Will Use Rim Shots** Select whether you will connect a pad that allows rim shots to be played, or whether you will connect two pads. HD/RM: Select this if connecting a pad that allows rim shots to be played (PD-7, PD-9, PD-80R, PD-120). TRIGx2: Select this if connecting two pads or kick pedals. ** If two pads are connected, it will not be possible to play rim shots.*	HD/RM, TRIGx2
	Trig Type	**Select the Type of the Connecting Pad** PD-5, PD-7, PD-9, PD-80, PD-80R, PD-100, PD-120: Select this when connecting each pad. P-1, P-2: Select this when connecting a pad made by another manufacturer. KD-7, KD-80, KD-120: Select this when connecting each kick trigger unit. K-1, K-2: Select this when connecting a kick pad made by another manufacturer. KICK, SNARE, TOM, FLOOR: Select this when using an acoustic drum trigger. SW +, SW -: Select this when connecting a foot switch. Select either SW + or SW - so that the sound will play when you press it.	PD-5, PD-7, PD-9, PD-80, PD-80R, PD-100, PD-120, P-1, P-2, KD-7, KD-80, KD-120, K-1, K-2, KICK, SNARE, TOM, FLOOR, SW +, SW -

MEMO

When you connect two pads with the PCS-31, the white plug of the PCS-31 is the TRIG 1, and the red one is the TRIG 2.

NOTE

To use the external pad for rim shots, connect with the PCS-33. In this case, it is not possible to use two external pads.

MEMO

When using a pad made by another manufacturer, first select "PD-7" and try playing the pad. If, with this setting, the pad striking force does not produce a stable volume, try a setting of "P-1." A setting of "P-2" will be even more stable, but the interval from when the pad is struck until the sound is heard will be slightly (approximately 0.003 seconds) longer.

(For a kick, select "KD-7," and if the result is not stable, try "K-1" or "K-2.")

If you wish to make even more detailed settings, refer to the explanation in the following section "More Detailed Settings for the External Pads/Kick Trigger Units." Normally you don't need to adjust these parameters, but you may use them if you wish to make more accurate settings for your playing style.

More Detailed Settings for the External Pads / Kick Trigger Unit

When you are using pads made by other manufacturers, try adjusting the following parameters.

Category	Parameter		Value
TRIGGER INPUT	Trig Sens	**Adjusting the Sensitivity** Increasing this value will raise the sensitivity and produce the larger sound even if the striking force is the same.	1 – 16
	Curve	**Selecting How Striking Force Will Affect the Volume** (see figure on p. 37) Adjusts this curve until the response feels as natural as possible. Linear: This is the normal setting and most natural correspondence between velocity and volume change when using the PD-5 / 7 / 9 / 80 / 80R / 100 / 120. Exp1, Exp2: Compared to Linear, a wider volume change will occur for stronger hits. Log1, Log2: Compared to Linear, a wider volume change will occur for softer hits. Spline: Variation in striking force will produce extreme change. Loud1, Loud2: Variation in striking force will produce little change, and a constant volume will be maintained. When using drum triggers, these settings help maintain stable levels.	Linear, Exp1, Exp2, Log1, Log2, Spline, Loud1, Loud2
	Threshold	**Setting Minimum Levels** A trigger signal to be transmitted only when the pad is struck harder than a specified force. This allows you to prevent the pad from picking up extraneous vibrations from neighboring pads. If the striking force is less than the threshold, the pad will not sound. ** To have the unit sound even when struck lightly, set the threshold as low as possible.*	1 – 16
	Scan Time	**Adjusting the Trigger Signal Detection Time** By adjusting the amount of time between the striking of the pad and detection of that strike, you can achieve the correct detection of striking force if your pad have rather long attack times. ** To maximize the speed at which sounds are triggered, set this time as short as possible.*	1 – 3ms
	Retrig Cancel	**Cancelling Incorrect Triggering** Increasing this value will eliminate multiple soundings from single strike. ** If this value is extremely high, individual notes may drop out more readily when you strike repeatedly or play rolls, so set the value as low as possible.*	1 – 16
	Mask Time	**Preventing Double Triggering** Once a pad has been hit, any additional trigger signals occuring within the specified Mask Time will be ignored. ** Increasing this value will lose certain notes if you play very fast. Set this time as short as possible.*	0 – 64ms
	X-Talk Rate	**Preventing Vibrations from Other Pads** When two pads are mounted on the same stand, the vibration produced by hitting one pad may trigger the sound from another pad unintentionally (This is called crosstalk.) Increasing this value will prevent such problems. ** If this value is too high, then when two pads are struck simultaneously, the sound from the pad that is struck more weakly may be omitted.* ** In some cases, you can prevent crosstalk between two pads you have connected by increasing the distance between the pads.*	OFF, 20 – 80%
	Rim Sens	**Setting Rim Sensitivity** When using a pad that can be used rim shots, you can adjust the sensitivity of the rim. Increasing this value will raise the sensitivity of the rim. With a setting of "OFF," omly the head will sound. ** Increasing the value excessively may cause the rim instrument to sound as well when the head is struck.*	OFF, 1 – 15

Setting the Sound of the External Pads / Kick Trigger Unit

The settings of the sound of the external pads or the kick trigger unit on each patch are same as the pads / D Beam / ribbons. Refer to “Chapter 2 Modifying a Patch” (p. 35).

MEMO

Some parameters are not possible to be set the external pads or kick trigger units.

MIDI Settings

Parameter Catgory: MIDI

For details on MIDI Settings, refer to “Chapter 6 Connecting MIDI Devices” (p. 76).

Restoring Settings to Their Default Values (Factory Reset)

Parameter Category: FACTORY RESET

For details on factory reset, refer to “Restoring the Factory Settings” (p. 85).

Chapter 6 Connecting MIDI Devices

There are many possibilities when using MIDI, such as:

Use the HPD-15 to play external instruments

Use the HPD-15 as a sound module

Use an external sequencer to record/play back the performance on the HPD-15.

Use an external sequencer to save/load patch data, pattern data, etc. (Bulk dump)

MEMO

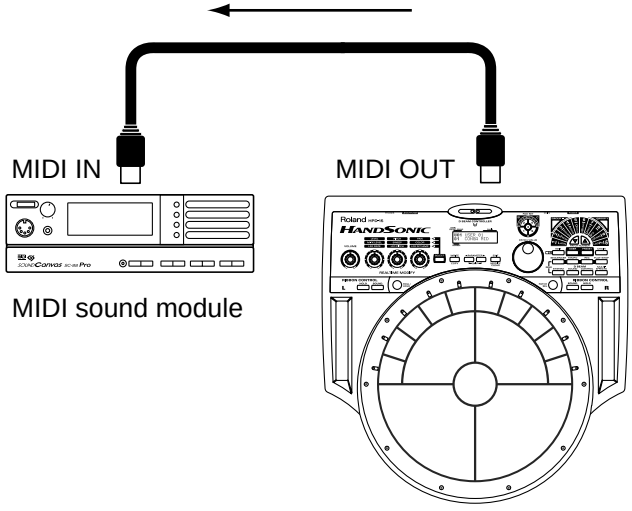
For more on MIDI, refer to "About MIDI" (p. 88).

Using the HPD-15 to Play External Instruments

Make settings for using the pads, D Beam, and ribbons to play external MIDI sound modules.

By making these settings, you can simultaneously play the HPD-15 and external sound modules.

Use a MIDI cable to connect the HPD-15's MIDI OUT connector to the MIDI IN connector of the external MIDI sound module.



Setting for MIDI Transmission

1. Press [EDIT] twice, and you will enter Edit mode.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the MIDI setting screen.

Note Number setting display

```
U0101A1 PAD MIDI
Note No.  60:C 4
```

Gate Time setting display

```
U0101A1 PAD MIDI
Gate Time 0.1sec
```

HINT

You can make your selection rapidly by using the Skip Function (p. 32).

3. Strike a pad to select the pad (D Beam, ribbon) that you wish to edit.

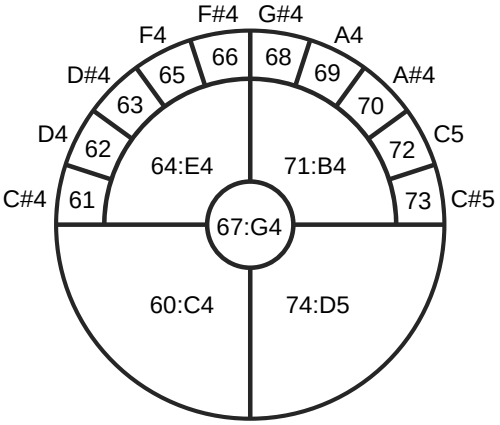
```
U0101C5 PAD MIDI
Note No.  73:C#5
```

4. Turn [PATCH/VALUE] to modify the value.
5. Repeat steps 3–4 to continue setting on each pad.
6. When you are finished editing, press [EDIT] or [EXIT].

Note No.: OFF, 0:C-1 –127:G 9

Set the MIDI note number that each pad will transmit. If you select "OFF," no MIDI note message will be transmitted.

Note Number of Each Pad (Factory Settings)

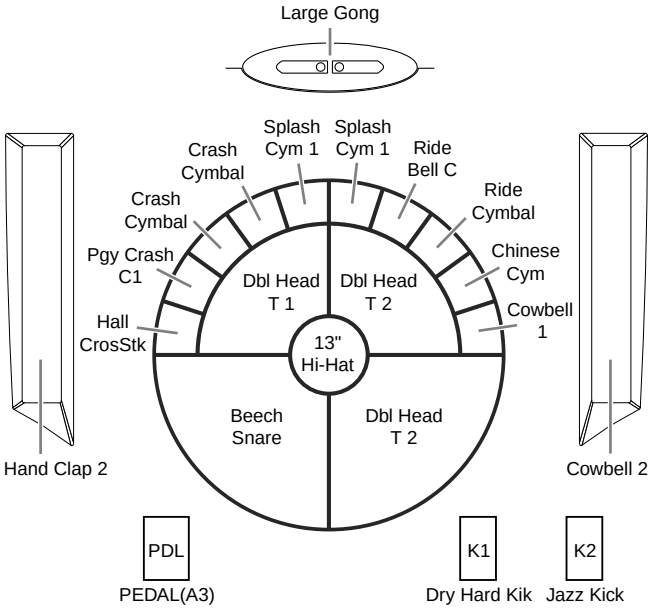


D Beam	79:G5
Ribbon L	59:B3
Ribbon R	78:F#5
Trigger 1	77:F5
Trigger 2	57:A3
Pedal	58:A#3

Setting the Note Number When Connecting to the Drum Sound Module

Select the patch of **P0606 Studio**, specify the Note No. as below.

Pad	Instrument	Note No.	TD-10 Pad	Note No.	TD-8 Pad	Note No.	GM Percussion
A1	Beech Snare	38	Snare Head	38	Snare Head	38	Acoustic Snare
A2	Dbl Head T 1	45	Tom 2 Head	48	Tom 1 Head	45	Low Tom
A3	13" Hi-Hat	46	Hi-Hat Head	46	Hi-Hat Head	46	Open Hi-Hat
A4	Dbl Head T 2	43	Tom 3 Head	45	Tom 2 Head	43	High Floor Tom
A5	Dbl Head T 2	41	Tom 4 Head	41	Tom 3 Head	41	Low Floor Tom
B1	Hall CrosStk	37	Cross Stick	37	Cross Stick	37	Side Stick
B2	Pgy Crash C1	52	Crash 2 Rim	52	Crash 2 Rim	52	Chinese Cymbal
B3	Crash Cymbal	49	Crash 1 Head	49	Crash 1 Head	49	Crash Cymbal 1
B4	Crash Cymbal	57	Crash 2 Head	57	Crash 2 Head	57	Crash Cymbal 2
B5	Splash Cym 1	55	Crash 1 Rim	55	Crash 1 Rim	55	Splash Cymbal
C1	Splash Cym 1	32	Aux 1 Rim	32	Aux 2	54	Tambourine
C2	Ride Bell C	53	Ride Rim	53	Ride Rim	53	Ride Bell
C3	Ride Cymbal	51	Ride Head	51	Ride Head	51	Ride Cymbal 1
C4	Chinese Cym	33	Aux 2 Head	59	Ride Edge	59	Ride Cymbal 2
C5	Cowbell 1	34	Aux 2 Rim	90	Tiny Gong	42	Close Hi-Hat
D Beam	Large Gong	84	Bell Tree	91	Gong	58	Vibraslap
Ribbon L	Hand Clap 2	74	Giro Long 1	39	Clap	39	Hand Clap
Ribbon R	Cowbell 2	56	Cowbell	56	Cowbell	56	Cowbell
Trigger 1	Dry Hard Kik	36	Kick Head	36	Kick 1	36	Bass Drum 1
Trigger 2	Jazz Kick	35	Kick Rim	35	Kick 2	35	Acoustic Bass Drum
Pedal	PEDAL(A3)	44	Foot Pedal	44	Foot Pedal	44	Pedal Hi-Hat



NOTE

Do not change the note numbers in the patch that is used for the recording to the external sequencer. The pattern cannot be played back correctly if they are changed.

Gate Time: 0.1–8.0sec

For each pad, you can specify the length of time the note will "hold" during transmission from the MIDI OUT.

MEMO

Gate Time settings are valid if the pad trigger mode (TrigMode) is set to "Shot." For details on trigger mode, refer to "Adjusting Sounds" (p. 36).

NOTE

The settings you edit will return to the original values when you switch patches. If you wish to keep your changes, refer to "Saving Your Settings (Write) / Duplicating Settings (Copy)" (p. 56).

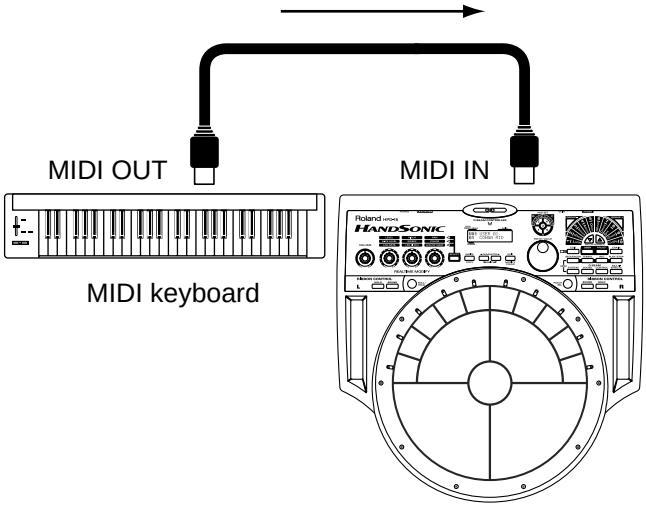
Setting the MIDI Channels

For setting the MIDI channel, refer to "Using the HPD-15 As a Sound Module" (p. 78). Performance on the pads is transmitted on the channel setting for the "Pad CH."

Using the HPD-15 As a Sound Module

Make settings for playing the HPD-15 as a sound module from a MIDI keyboard or other device.

Use a MIDI cable to connect the HPD-15's MIDI IN connector to the MIDI OUT connector of an external keyboard, sequencer, etc.



Setting the MIDI Channel for a Part

For each part, you can specify the channel on which the HPD-15 will receive and transmit MIDI messages.

1. Press [SYSTEM] and make it light.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the following screen.

3. Turn [PATCH/VALUE] to specify the channel.

Pad CH: 1–16, OFF

Specify the channel on which performance data of the pad controller section (pads, D Beam, ribbons, external triggers) will be transmitted and received. Normally you will set this to channel 10.

Perc 1 CH: 1–16, OFF

Specify the channel for percussion part 1 of the internal sequencer. Normally you will set this to channel 11.

Perc 2 CH: 1–16, OFF

Specify the channel for percussion part 2 of the internal sequencer. Normally you will set this to channel 12.

Melo 1 CH: 1–16, OFF

Specify the channel for melody part 1 of the internal sequencer. Normally you will set this to channel 5.

Melo 2 CH: 1–16, OFF

Specify the channel for melody part 2 of the internal sequencer. Normally you will set this to channel 6.

MEMO

At a setting of "1" through "16," MIDI messages will be transmitted and received on that channel. A setting of "OFF" lets you turn off transmission and reception for that part, so that notes are not received.

* *When you are finished setting, press [SYSTEM] or [EXIT].*

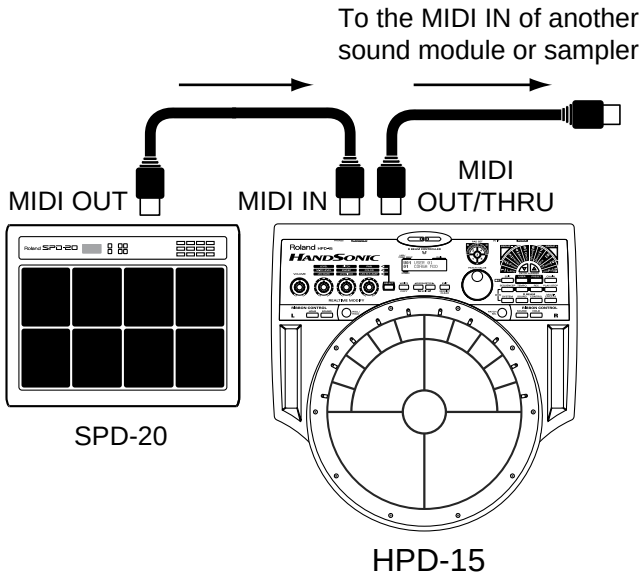
MEMO

For more on synchronization with external sequencer, refer to "Synchronizing the Internal Sequencer with an External MIDI Device" in "Settings for the Basic Operation" (p. 68).

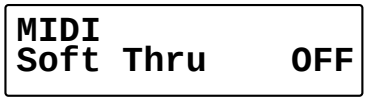
Using with the Roland SPD-20 (SOFT THRU)

This section explains how you can use the Roland SPD-20 (a MIDI controller) together with the HPD-15 to play internal sounds and an external sound module.

Performance data of the HPD-15 and performance data of the SPD-20 will both be sent to the external sound module.



1. Press [SYSTEM] to make it light.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the following screen.



3. Turn [PATCH / VALUE] to select ON / OFF.
4. When you are finished setting, press [SYSTEM] or [EXIT].

Soft Thru: OFF, ON

The messages (except for System Exclusive) received at the MIDI IN will also be transmitted from the MIDI OUT / THRU connector when Soft Thru is set to "ON."

HINT

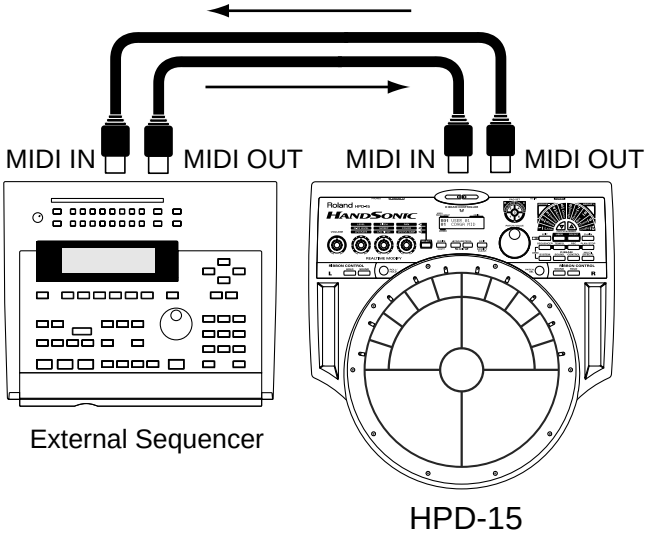
If this setting is not used, leave it "OFF" as the trigger response of the pads will be faster.

Using a Sequencer or a Computer to Record / Play Back the Performance on the HPD-15

HPD-15 performance data can be saved on an external sequencer or computer.

For details on the settings for the recording, refer to "Using the HPD-15 to Play External Instruments" (p. 76), for details on the settings for the playing back, refer to "Using the HPD-15 As a Sound Module" (p. 78).

Use MIDI cables to connect the HPD-15's MIDI OUT connector to the MIDI IN connector of the external sequencer, and connect the HPD-15's MIDI IN connector to the MIDI OUT connector of the external sequencer.



NOTE

When you make connections as shown, turn off Local Control (p. 80) and Soft Thru. For details, refer to "Cutting the Connection Between the Sound Generator and the Pad Controller (Local Control)" (p. 80).

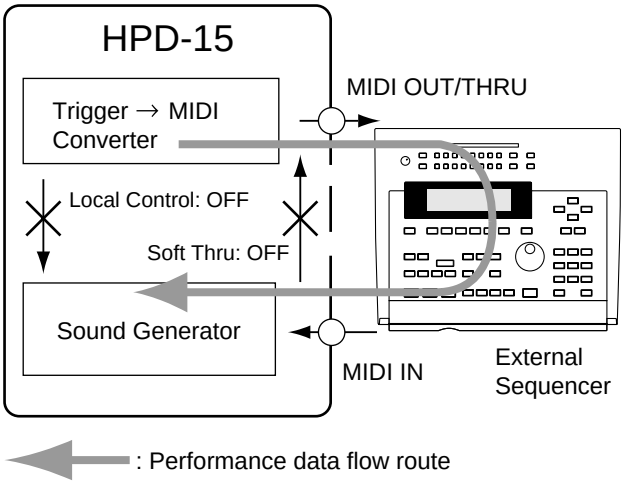
NOTE

When you use an external sequencer for Loop recording, it may not be possible to completely play back the modifications of the tone controlled by realtime modify.

Cutting the Connection Between the Sound Generator and the Pad Controller (Local Control)

This setting is required when you wish to record your pad performance on an external MIDI sequencer.

The performance data from the pad, rather than being sent directly to the sound module section (Local Control Off), is first sent to the external sequencer, and then on to the HPD-15's sound module.



NOTE

If you make connections and record as shown, with a setting of Local On, duplicate notes will be re-transmitted to the HPD-15 and will not be played correctly. If you turn on Soft Thru (p. 79) and make connections as shown in the diagram, MIDI messages will create a loop, and the system will not play correctly. Be sure to turn off Soft Thru as well.

1. Press [SYSTEM] to make it light.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the following screen.

3. Turn [PATCH / VALUE] to select ON / OFF.
4. When you are finished setting, press [SYSTEM] or [EXIT].

LocalControl: OFF, ON

NOTE

When Local Control is set to "OFF," the internal sound generator does not sound, even when the pad is struck.

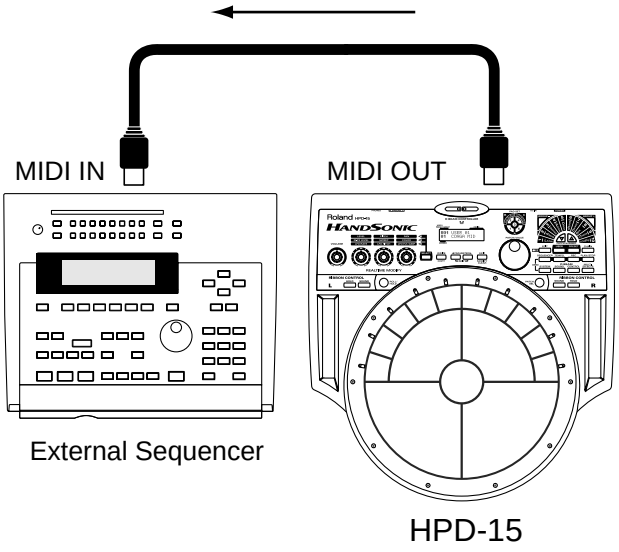
Saving Data to an External MIDI Instrument

The data in the HPD-15 can be transmitted either singly or collectively to a sequencer (or another HPD-15). The operation of transmitting this data is called a "Bulk Dump"; receiving this data is called a "Bulk Load."

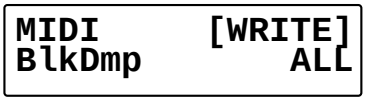
Transmitting (Bulk Dump)

The HPD-15 transmits stored data to a sequencer.

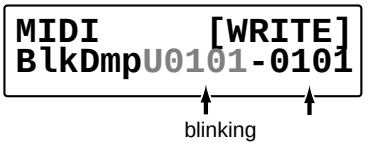
Use a MIDI cable to connect the HPD-15's MIDI OUT connector to the MIDI IN connector of the external sequencer or the other HPD-15.



1. Press [SYSTEM] to make it light.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the following screen.



or



3. Turn [PATCH / VALUE] to select the contents that you wish to transmit.
4. Put the receiving sequencer in record mode. When you wish to transmit to another HPD-15, put the receiving HPD-15 in play mode.

MEMO

Refer to the owner's manual of the receiving device.

5. Press [WRITE] to begin data transmitting.

* *If you wish to stop transmission, press [EXIT].*

BlkDmp: ALL, SYS, SEQ ALL, PATCH ALL, GROUP01–10, U0101–1008, TEMPORARY, U0101–1008-U0101–1008

ALL:

Transmit all settings.

* *The settings of the current patch which is not written into memory (TEMPORARY) will not be transmitted.*

SYS:

Transmit system settings (p. 67).

SEQ ALL:

Transmit all data for the user patterns (p. 59) of the sequencer.

PATCH ALL:

Transmit all user patch settings.

GROUP01–10:

Transmit the settings of all patches in the selected patch group.

U0101–1008:

Transmit the settings of the selected user patch.

TEMPORARY:

Transmit the settings of the current patch. This allows you to transmit the state of the settings before pressing [WRITE] to write them into memory.

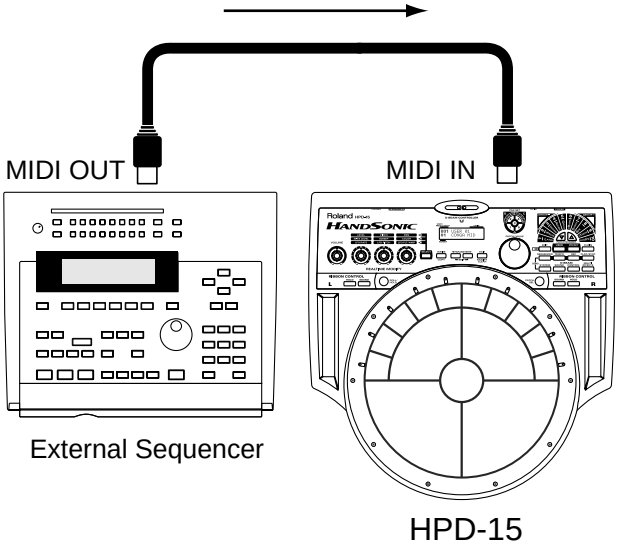
U0101–1008-U0101–1008:

Transmit the settings of the specified area of user patches.

Receiving (Bulk Load)

The HPD-15 receives data that was stored in a sequencer.

Use a MIDI cable to connect the HPD-15's MIDI IN connector to the MIDI OUT connector of the external sequencer or the other HPD-15. Set the HPD-15 play mode.



Send the data from the external sequencer to the HPD-15. The transmitted settings are reproduced.

NOTE

When data is received, the data that was previously in the HPD-15's memory will be lost.

NOTE

Never turn the power off while receiving the bulk data and writing the data into memory. If the power is turned off, the data will be lost.

NOTE

Select "Int" for the "Seq Sync" in system settings (p. 68). If you select other than "Int," the internal sequencer will begin playback and won't receive the data.

Setting the Device ID

The setting described here is necessary only when you wish to transmit separate data to two or more HPD-15 units at the same time. Do not change this setting in any other case.

At the factory settings, the Device ID is set to "17."

1. Press [SYSTEM] and make it light.
2. Press [◄ PARAMETER] or [PARAMETER ►] to display the following screen.

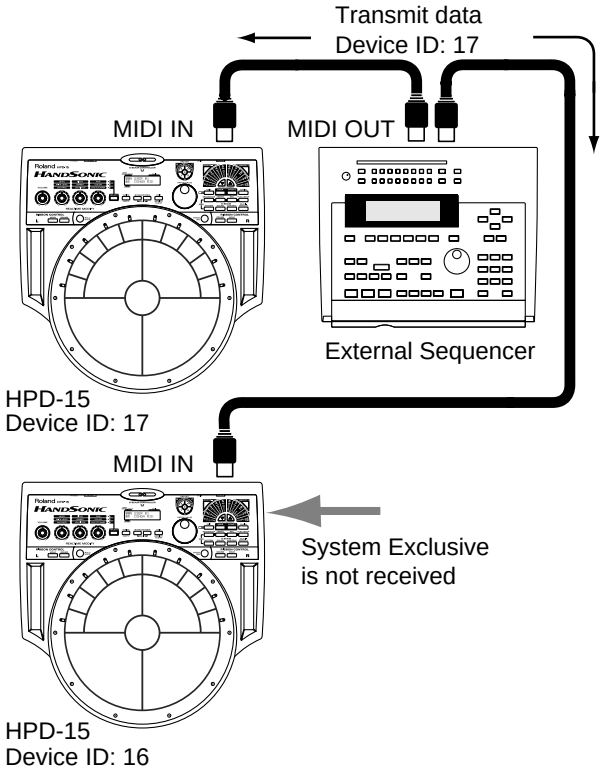
```
MIDI
Device ID      17
```

3. Turn [PATCH / VALUE] to change the Device ID.
4. When you are finished modifying, press [SYSTEM] or [EXIT].

DEVICE ID: 1–32

Example:

Suppose that when data was saved via bulk dump, the HPD-15's Device ID was set to "17." When re-transmitting this data back to the HPD-15, it won't receive if the Device ID is set to something other than "17."



NOTE

If you lose track of the Device ID setting that was used when saving data via a bulk dump, it will no longer be possible to reload the bulk data that was saved.

Program Change Number List (User Patches)

Bank Select: 1

Patch Number	Program Change Number	Patch Number	Program Change Number
U0101	1	U0601	41
U0102	2	U0602	42
U0103	3	U0603	43
U0104	4	U0604	44
U0105	5	U0605	45
U0106	6	U0606	46
U0107	7	U0607	47
U0108	8	U0608	48
U0201	9	U0701	49
U0202	10	U0702	50
U0203	11	U0703	51
U0204	12	U0704	52
U0205	13	U0705	53
U0206	14	U0706	54
U0207	15	U0707	55
U0208	16	U0708	56
U0301	17	U0801	57
U0302	18	U0802	58
U0303	19	U0803	59
U0304	20	U0804	60
U0305	21	U0805	61
U0306	22	U0806	62
U0307	23	U0807	63
U0308	24	U0808	64
U0401	25	U0901	65
U0402	26	U0902	66
U0403	27	U0903	67
U0404	28	U0904	68
U0405	29	U0905	69
U0406	30	U0906	70
U0407	31	U0907	71
U0408	32	U0908	72
U0501	33	U1001	73
U0502	34	U1002	74
U0503	35	U1003	75
U0504	36	U1004	76
U0505	37	U1005	77
U0506	38	U1006	78
U0507	39	U1007	79
U0508	40	U1008	80

* *Program change numbers of the preset patches are written in the Preset Patch List (p. 90).*

Troubleshooting

This chapter outlines points to check if you experience problems, and what to do about them.

Problems With the Overall Sound

Intended Sound Not Produced

Are the pad sensitivity settings correct?

Make sure that the following parameters are set to correct value.

System Settings:

PAD Sens (p. 70), DBEAM Sens (p. 69)

Patch Settings:

PadSnsType (p. 54), TrigMode (p. 36)

NOTE

The HPD-15 adjusts the sensitivity of the D Beam autmatically for the brightness of its location when the power is turned on. Do not shut the window of the D Beam until the patch name is displayed.

NOTE

If you connect the hi-hat control pedal (FD-7, optional), the HPD-15 check the position of the pedal when the power is turned on. Do not step on the pedal until the patch name is displayed.

No Sound

Has the [VOLUME] knob (p. 10) turned fully counterclockwise?

Turn the [VOLUME] knob clockwise.

Has the left realtime modify knob (p. 19) turned fully counterclockwise?

Press [SELECT] to make the upper indicator light. Then turn the left realtime modify knob ([LEVEL]) clockwise to increase the level.

Are the PAD SET Level (p. 25), Pad Level (p. 36), and MasterVolume (p. 54) in the patch lowered?

Raise the values.

Are the Effect Level, Direct Level, and FxOut Volume (p. 40) in the multi-effects lowered?

Raise the values.

Is "Off" selected for the Pad Inst? (p. 36)

Select a instrument other than "Off."

Is "OFF" selected for the Local Control? (p. 80)

Select "ON."

Is not the [SOUND] button of D Beam or ribbon light?

Press [SOUND] to make it light.

Are the cables connected to the correct jacks?

Connect the cables to the OUTPUT jacks.

The Volume Level of the Instrument Connected to OUTPUT Jacks is Too Low

Could you be using a connection cable that contains a resistor?

Use a connection cable that does not contain a resistor.

Sound Does Not Stop

Is the [ROLL/HOLD] button light? (p. 16)

Press [ROLL / HOLD] to make it dark.

Is "Gate" or "Trig" selected for the "TrigMode?" (p. 36)

Select "Shot."

Is the window of the D Beam shut? (p. 16)

Be careful not to shut the window of the D Beam.

Modification Does not Change the Sound

Is the selected pad correct?

The pad which is hit last becomes edit target.

Is "OFF" selected for the "Pad Chase?" (p. 68)

When "OFF" is selected, edit target does not change. Select "ON" for the Pad Chase or Strike the pad to select it while holding down [PATCH SEL].

Is Modify Lock (p. 19) on?

When the [SELECT] indicator is blinking, there is a pad which is fixed to the target of modification. Hold down [SELECT], and press [EXIT] to unlock.

Multi-Effects / Reverb / LFO Does not Applied

Is not the [MULTI-EFFECTS] button light? (p. 20)

Press [MULTI-EFFECTS] to make it light.

Is "OFF" selected for the REVERB Type (p. 25) or MULTI-FX/LFO (p. 25, p. 36) ?

Select a setting other than "OFF."

Is the Reverb Send in the PAD SET or PAD (p. 25, p. 36) lowered?

Raise the values.

MIDI-related Problems

No Sound when using an external controller (sequencer, keyboard etc.)

Is the MIDI cable connected properly? (p. 78)

Is the MIDI channel correct? Or is the channelset to "OFF?"

Select the correct MIDI channel (p. 78).

Bulk Dump Is Not Transmitted

Is the MIDI cable connected properly?

If you wish to save a bulk dump on an external device, connect the HPD-15's MIDI OUT/THRU connector to the external sequencer's MIDI IN connector (p. 80).

Has the "No reception of MIDI Exclusive Messages" setting been selected on the external MIDI device?

Refer to the owner's manual for the external MIDI device.

Sequencer-related Problems

No Sound When [PLAY/STOP] is Pressed

Is it a blank pattern that is being played back?

Play back a pattern containing performance data.

Is "Ext" selected for the "Seq Sync?" (p. 68)

Select "Int."

Playback Stops Immediately After Beginning

Is "Tap" or "TapVelo" selected for the pattern's PlayType?

Select "Loop" or "OneShot" (p. 60).

"Tap" and "TapVelo" refer to the convenient playback function in Pad Pattern (tapping the pad causes the pattern to be played back).

Restoring the Factory Settings

You can restore patch and pad settings as well as pattern data stored in the HPD-15 to the settings in effect when the unit was shipped from the factory.

NOTE

All data and settings in the restored part are lost. Follow the procedures described in “Bulk Dump” (p. 80) to save any data and settings you need to keep to an external MIDI device.

Procedure for Factory Reset

1. Press [SYSTEM].

2. Press [PARAMETER ►] to display the following screen.

HINT

You can make your selection rapidly by using the Skip Function (p. 32).

3. Turn [PATCH/VALUE] to select the part that you wish to restore.

4. Press [WRITE] to execute factory reset.

* *If you decide not to execute, press [EXIT].*

FACTORY RESET:SYSTEM, CHAIN ALL, PATCH ALL, PTN ALL, ALL

SYSTEM:

Restores all system settings (p. 67) to their factory presets.

CHAIN ALL:

Erases all patch chain (p. 65) settings.

PATCH ALL:

Restores all user patch (p. 21) settings to their factory presets.

PTN ALL:

Erases all user pattern (p. 59) data and restores sequencer settings (p. 60–p. 62) to their factory presets.

ALL:

Restores all settings to their factory presets.

NOTE

While executing factory reset, do not turn the power off. Data in the HPD-15’s memory will be corrupted.

Messages and Error Messages

This section lists the messages (error messages) that the HPD-15 produces and explains the meaning of each message, giving you to appropriate action to take.

Error Messages

```
  System Error!
```

A problem has occured with the internal system. Contact your dealer or a nearby Roland service center.

```
Memory Damaged!!
Reset    [WRITE]
```

Data in the HPD-15's memory is corrupted. Press [WRITE] to execute factory reset

NOTE

If you turned the power off when the HPD-15 is writing data into memory, the data will be damaged. Never turn the power off while the HPD-15 is executing a writing process.

```
No Enough Memory
Aborted!  [EXIT]
```

Pattern recording or editing could not be carried out because there was not enough internal memory. Press [EXIT].

Try deleting patterns that are no longer needed (p. 64).

```
 Empty Pattern!
   Aborted!
```

This pattern contains no performance data; it cannot be edited.

```
PTN Write Error!
```

Writing a pattern data failed.

```
Max 999 Measures
Aborted!  [EXIT]
```

The maximum number of measures that can be recorded to one pattern has been exceeded; no further recording or editing that adds measures can be carried out. Press exit.

```
PRESET PATTERN!!
 Select User PTN
```

This is a Preset pattern; it cannot be edited or recorded. Select a User pattern.

```
No Empty Pattern
```

There are no empty patterns for recording.

Delete unneeded pattern or select a recorded pattern that can be used for recording.

```
 Data Overload!
        [EXIT]
```

Pattern contained an excessive amount of data, and as a result could not be played back or recorded. Press [EXIT].

Try eliminating a part that has too much data.

```
  BULK Receive
Error!    [EXIT]
```

Reception of bulk dump failed. Press [EXIT].

Make sure that all MIDI cables are firmly connected (p. 81).

```
 Checksum Error!
        [EXIT]
```

The checksum value of a system exclusive message was incorrect. Press [EXIT].

Correct the checksum value.

MIDI Buffer Full

A large amount of MIDI messages were received in a short time, and could not be processed completely.

Confirm that the external MIDI device is properly connected (p. 78). If the problem persists, reduce the amount of MIDI messages sent to the HPD-15.

MIDI Offline!!

A MIDI cable was disconnected. (Or communication with the external MIDI device stopped for some reason.)

Make sure that MIDI cables have not been pulled out or broken.

Device ID is Different!

Due to an incorrect Device ID, the system exclusive message could not be received.

Set the correct Device ID. (p. 82)

Messages

**Now Writing.....
KEEP POWER ON!!**

The HPD-15 is writing data into memory. Do not turn the power off.

**Now Copying.....
KEEP POWER ON!!**

The HPD-15 is copying data. Do not turn the power off.

**Now Exchange....
KEEP POWER ON!!**

The HPD-15 is executing an exchange function. Do not turn the power off.

**Now Executing...
KEEP POWER ON!!**

The HPD-15 is executing a process. Do not turn the power off.

**Now Resetting...
KEEP POWER ON!!**

The HPD-15 is restoring the factory settings. Do not turn the power off.

**BULK DATA
Transmitting...**

Bulk data is now being transmitted.

**BULK Receiving..
KEEP POWER ON!!**

Bulk data is now being received. Do not turn the power off.

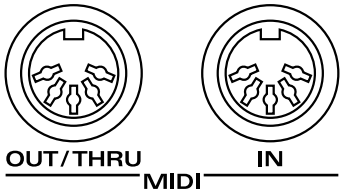
About MIDI

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.

While using only pads with the HPD-15, there is no need to have any detailed knowledge of MIDI. For those who wish to use MIDI keyboards to record patterns on the HPD-15, use it as a sound module with external sequencers, or learn the HPD-15 at a more advanced level, the following explains such matters related to MIDI.

About MIDI Connectors

The HPD-15 is equipped with the two types of MIDI connectors, each which works differently.



MIDI IN Connector

This connector receives messages from external MIDI devices (keyboards, sequencers controllers etc.) to play the HPD-15's instruments or change its settings.

MIDI OUT/THRU Connector

The HPD-15 uses both the MIDI OUT and MIDI THRU connector are combined. The "Soft Thru" setting (p. 79) changes the function. As shipped from the factory, this is set to "Soft Thru OFF."

Soft Thru OFF

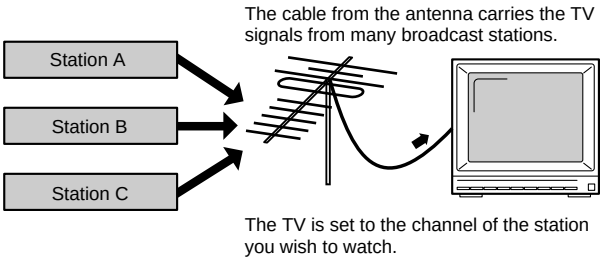
This connector transmits MIDI messages to external MIDI devices. MIDI messages received at MIDI IN are not transmitted.

Soft Thru ON

HPD-15's MIDI messages and MIDI messages received at MIDI IN are transmitted from this connector.

MIDI Channels and Multi-timbral Sound Sources

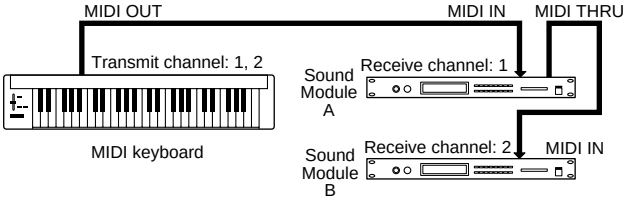
MIDI transmits many types of data over a single MIDI cable. This is made possible by the concept of MIDI channels which allow a device to distinguish the data that is or is not intended for it. In some ways, MIDI channels are similar to television channels. By changing the channel on a television set, 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:

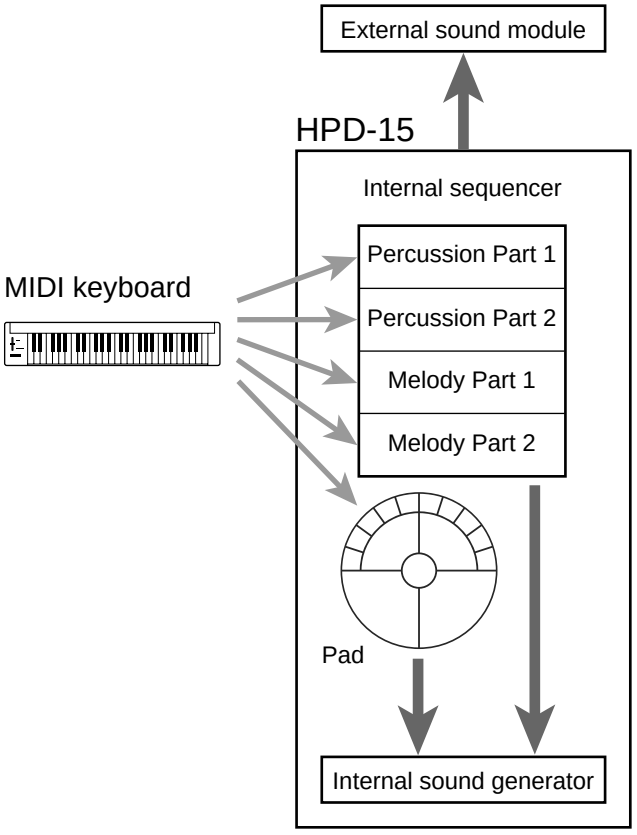
Set MIDI keyboard to send Channel 1 and Channel 2, then set sound module A to receive only Channel 1 and sound module B only Channel 2. With this setup, you can get an ensemble performance, with, for example, a guitar sound from sound module A and bass from sound module B.



When used as a sound module, the HPD-15 can receive on up to five of the sixteen MIDI channels. Sound modules like the HPD-15 which can receive multiple MIDI channels simultaneously to play different sounds on each channel are called "multi-timbral sound modules."

How the Internal Sequencer Operates

A sequencer is an electronic instrument used for recording and playback of performances. The HPD-15 features such a sequencer function. The HPD-15 comes with built-in performance patterns (Preset patterns) which can be used for drum practice and other purposes. You can also create your own patterns.



For playback, the performance data that has been recorded to the sequencer is sent to the sound generator, which produces the sound. The data for each of the sequencer's parts causes the corresponding part in the internal sound generator to be played. When performance data is recorded, the performance data from pads and MIDI keyboards is sent to the sequencer; the data recorded here is then sent to the sound module for playback.

Preset Patch List

#: Patch Change via MIDI (Bank No.) - (Program No.)

LATIN

#		
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P0907	Saw Wave	3-19
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P0911	Calliope	3-23
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P1003	AfricaLoop	3-27
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P1005	Asian Loop	3-29
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P1007	Dance Loop	3-31
P1008	Shot & Tap	3-32

Preset Pattern List

PlayType: Loop

P01 Cha-Cha
P02 ChaChaLite
P03 MamboBreak
P04 ComparSlow
P05 ComparFast
P06 SonMontuno
P07 Merengue
P08 Latin 6/8
P09 Mozambique
P10 Salsa
P11 Salsa-Med
P12 Guaguanco
P13 6/8 Groove
P14 Descarga1
P15 Descarga2
P16 Baion
P17 BahiaGroov
P18 Samba-Med
P19 SambaSao
P20 Slow Samba
P21 Samba-Roda
P22 SambaBasic
P23 EscolaRthm
P24 GyilliSong
P25 PotDrumPtn
P26 Djembeat
P27 2Bt-Afro
P28 12/8-Afro
P29 Funky Afro
P30 7Bt-Clay
P31 4Bt-Clay
P32 4BtRl-Clay
P33 TurkMarch
P34 BellyDance
P35 Arabic10Bt
P36 Arabic4Bt
P37 Silkroad
P38 Tabla-Med
P39 Tabla-Slow
P40 Bhairavi
P41 Kashimir
P42 Santoor
P43 IndianFolk
P44 DholakBeat
P45 BengalRthm
P46 BanglaBeat
P47 Madal Seq.
P48 5Bt-Indian
P49 7Bt-Indian
P50 4Bt-Indian
P51 Spanish-12
P52 Asian-12/8
P53 MATSURISM
P54 OHAYASHI 1
P55 OHAYASHI 2
P56 SamulNori1
P57 SamulNori2
P58 China-Mood
P59 Polynesian
P60 Javanese
P61 Balinese
P62 ForestSong
P63 FILTERTIV
P64 Sevenate
P65 A.O.R.
P66 AcidFusion
P67 ElecFusion
P68 Fusion-3/4
P69 HardFusion
P70 Funk
P71 JazzFunk
P72 LatinJazz
P73 AfroJazz
P74 Reggae
P75 Mambo w/b
P76 Salsa w/b
P77 Samba w/b
P78 Carrib
P79 House
P80 TechnoPop
P81 Locomotive
P82 KiddyDisco
P83 Night-Bird
P84 Drops

PlayType: OneShot

P85 LatinFill1
P86 LatinFill2
P87 Cha-Fill1
P88 Cha-Fill2
P89 Cha-Fill3
P90 Ending1
P91 Ending2
P92 Ending3

PlayType: Tap

P93 SantoorTap
P94 BassTap1
P95 BassTap2
P96 AcoGuitTap
P97 AdlibTap
P98 WahGtTap
P99 CodeMenu (C, C_m, C_{m7}, C_{maj7}, C_6, C_{dim}, C_{7sus4}, C_7)

Instrument List

*M: Mute switching sound

*P: Responds to positional sensing when assigned to pad A1 or A5.

*D: The ribbons / D Beam will produce different tones depending on the direction of the movement of your hand when TirgMode is set to "Move" or "MovGate." The pads can switch the sound when TrigMode is set to "Gate" or "Trig."

*F: These are hi-hat sounds that can be controlled by the hi-hat control pedal (FD-7, optional).

*H: The sound will sustain by pressing [ROLL / HOLD] button when TrigMode is set to "Gate" or "Trig."

*T: The pitch of these sounds can be adjusted by MasterTune in system setting.

LATIN

No.	Inst	Remarks
L01	Bongo Hi	*M, *P
L02	Bongo Hi / H	*M, *P
L03	Bongo Hi / T	*M
L04	Bongo Hi Cls	
L05	Bng HiHndSlp	
L06	Bongo Lo	
L07	R-8 Bongo Hi	
L08	R-8 Bongo Lo	
L09	Conga Hi / H	*M, *P
L10	Conga Hi / T	*M
L11	Conga Hi	*M, *P
L12	CongaHiOpSlp	
L13	Conga Hi Cls	
L14	CongaHiClSlp	
L15	Conga HiHeel	
L16	Conga Hi Toe	
L17	Conga HiBass	
L18	Conga Slide	
L19	Conga Lo / H	*M, *P
L20	Conga Lo / T	*M
L21	Conga Lo	*M, *P
L22	CongaLoOpSlp	
L23	Conga Lo Cls	
L24	CongaLoClSlp	
L25	Conga LoHeel	
L26	Conga Lo Toe	
L27	Conga LoBass	
L28	R-8 Conga Hi	*M
L29	R-8Cng HiCls	
L30	R-8 Conga Lo	
L31	Cowbell 1	*M
L32	Cowbell 1 Mt	
L33	Cowbell 2	
L34	Cowbell 3	
L35	Claves 1	
L36	Claves 2	
L37	Guiro Long	
L38	Guiro Short	
L39	Guiro LngSht	*M
L40	Guiro 1notch	
L41	Maracas	
L42	Shaker 1	
L43	Shaker 2	
L44	Shaker 3	
L45	Tambourine 1	
L46	Tambourine 2	
L47	Timbale Hi	*P
L48	Timbale HiRm	
L49	Timble+Crash	
L50	Timbale Lo	*P
L51	Timbale LoRm	
L52	TimblHiPaila	*M
L53	TmblHiPilaMt	
L54	TimblLoPaila	*M
L55	TmblLoPilaMt	
L56	Timbl Hi Hnd	*M
L57	TimblHiHndMt	
L58	Timbl Lo Hnd	*M
L59	TimblLoHndMt	
L60	Vibra-slap	
L61	Steel Drum 1	*T
L62	Steel Drum 2	*T
L63	Agogo 1 Hi	
L64	Agogo 1 Lo	
L65	Agogo 1 HiLo	*M, *D
L66	Agogo 2 Hi	
L67	Agogo 2 Lo	
L68	Agogo 2 HiLo	*M, *D
L69	Agogo 3	
L70	Cabasa	
L71	Cuica 1	*M, *D
L72	Cuica 1 Open	*M
L73	Cuica 1 Mut1	
L74	Cuica 1 Mut2	
L75	Cuica 2	*M, *D
L76	Cuica 2 Open	*M
L77	Cuica 2 Mut1	
L78	Cuica 2 Mut2	
L79	Pandeiro	*M
L80	Pandeiro Mut	
L81	Pandeiro Slp	
L82	Pandeiro Lo	*M
L83	Pand Lo Mut	
L84	Pand Lo Slp	
L85	R-8 Surdo	*M, *P
L86	R-8 Surdo Mt	*P
L87	R-8 Surdo Rm	
L88	Surdo	*M, *P
L89	Surdo Mute	*P
L90	Tamborim	*M, *P
L91	Tamborim Mut	*P
L92	Tamborim Slp	
L93	Tamborim 2	
L94	Whistle Long	
L95	Whistle Shrt	
L96	Whstl LngSht	*M, *D
L97	Caxixi	
L98	Berimbau	*M, *T
L99	Berimbau Mut	*T
I01	Berimbau Up	*T
I02	Berimbau Dn	*T
I03	BerimbauUpDn	*D, *T
I04	Caixa	*P
I05	Caixa Rim	
I06	Caixa Roll	
I07	Rain Stick	
I08	RainStk Soft	
I09	SambaBateria	
I10	Space Conga	*M, *P
I11	SpaceCng Bas	
I12	E.Conga	*M, *P
I13	E.Conga Bass	
I14	DR-55 Claves	
I15	CR-78 Cowbel	
I16	CR-78 MetalB	
I17	CR-78 Guiro	
I18	CR-78 Tambrn	
I19	CR-78 Maracs	
I20	CR-78 Bongo	
I21	CR-78 Claves	
I22	TR-808 Conga	
I23	TR-808 Clavs	
I24	TR-808 Marcs	
I25	TR-808 Cow	

AFRICAN

F01	Shekere	
F02	Djembe / H	*M, *P
F03	Djembe / T	*M
F04	Djembe	*M, *P
F05	Djembe Mute	*P
F06	Djembe Slap	
F07	Djembe Bass	
F08	SmallDjmb / H	*M, *P
F09	SmallDjmb / T	*M
F10	Small Djembe	*M, *P
F11	SmallDjmb Mt	*P
F12	SmallDjmbSlp	
F13	SmallDjmb Bs	
F14	TalkingDrm 1	
F15	TalkingDrm 2	
F16	TalkingDrm 3	
F17	Afro Drum 1	
F18	Afro Drum 2	
F19	Afro Dr Flam	
F20	Afro Dr Rttl	
F21	Metal Casta	
F22	PotDrm 1 Lo	
F23	PotDrm 1 Hi	
F24	PotDrm 1 Acc	
F25	PotDrm 2	*M
F26	PotDrm 2 Mut	
F27	PotDrm 2 Lng	
F28	PotDrm 2 Sht	
F29	PotDrm 3 Slp	
F30	PotDrm 3 Bas	*D
F31	PotDrm 3 BsE	
F32	Kalimba	*T
F33	Log Drum	
F34	Gyilli A	*T
F35	Gyilli D	*T
F36	Gyilli G	*T
F37	Gyilli C	*T
F38	Gyilli Hi G	*T
F39	Gyli GlissUp	*T
F40	Gyli GlissDn	*T
F41	Gyli GlsUpDn	*D, *T
F42	Balaphone A	*T
F43	Balaphone F#	*T
F44	Balaphone E	*T
F45	Balaphone B	*T
F46	Balphn GlsUp	*T
F47	Balphn GlsDn	*T
F48	Balphn UpDn	*D, *T
F49	Balaphone 2	*T
F50	Afro Zither	*T
F51	Afro Feet	
F52	Afro Stomp	
F53	Hand Drum	*M
F54	Hand Drum Bs	
F55	MonguDrm Hi	*M, *P
F56	MngDrm Hi Bs	
F57	MonguDrm Lo	*P
F58	Clapstick	
F59	Boomerang	
F60	Bamboo	
F61	Bloom Bell	

INDIAN

I01	Sarna Bell	
I02	Tabla Na	
I03	Tabla Tin	
I04	Tabla Tun	
I05	Tabla Ti	
I06	Tabla TinNa	*P
I07	Tabla TiNa	*P
I08	Tabla TunTin	*M
I09	Tabla 2 Te	
I10	Baya Slide	
I11	Baya Gin	
I12	Baya Ka	
I13	Baya Ge	
I14	Baya GeKa	*P
I15	Dholak Ga	
I16	Dholak Ta	
I17	Dholak Tun	
I18	Dholak Na	
I19	Dholak TunNa	*P
I20	Madal Da	
I21	Madal Din	
I22	Madal Ta	
I23	Madal DinTa	*P
I24	Khole	
I25	Dhol Ga	*M
I26	Dhol Slide	
I27	Dhol Ka	
I28	Dhol Da	
I29	Sitar	*T
I30	Sitar Gliss	*T
I31	Santoor Lowr	*T
I32	Santoor Uppr	*T
I33	Tambura	*T
I34	Tambura Dron	*H, *T
I35	Bell Tree	
I36	Sagat Open	
I37	Sagat Closed	
I38	Sagat OpCls	*M
I39	Darbuka1 Dom	*P
I40	Darbuka1 Tak	
I41	Darbuka2	
I42	Doira Dun	*P
I43	Doira Tik	
I44	Doholla Dom	*P
I45	Doholla Sak	
I46	Doholla Tak	
I47	Doholla Roll	
I48	Doholla Stop	
I49	Dohol RolStp	*M, *D
I50	Rek Dom	*P
I51	Rek Tek	
I52	Rek Open	
I53	Rek Trill	
I54	Bendir	
I55	Dawul	
I56	HmrDlcmr Lwr	*T
I57	HmrDlcmr Upr	*T

ASIAN

A01	Biwa	*T
A02	Atarigane	
A03	Hyoshigi	
A04	Ohkawa	
A05	Tsuzumi Hi	
A06	Tsuzumi Lo	
A07	Shime Taiko1	
A08	Shime Taiko2	
A09	MatsuriTaiko	*P
A10	Matsuri TkRm	
A11	Buk	*P
A12	Buk Rim	
A13	Jang-Gu	
A14	Jing	*M
A15	Jing Mute	
A16	Gengari	*M
A17	Gengari Mute	
A18	Ban Gu 1	
A19	Ban Gu 2	
A20	Ban Gu 3	
A21	Gu Roll	
A22	Gu High	
A23	Gu Roll-Stop	*M, *D
A24	Tang Gu	*M
A25	Tang Gu Mute	
A26	Hu Yin Luo	*M
A27	HuYinLuo Mut	
A28	Nao Bo	
A29	Xiao Bo	
A30	Large TamTam	
A31	Large Gong	
A32	Small Gong	
A33	Bend Gong	
A34	Yang Qin	*T
A35	Finger Cym	*M
A36	Fingr Cym Mt	
A37	Rama Cymbal	
A38	Chenchen Opn	
A39	Chenchen Cls	
A40	Chenchn OpCl	*M
A41	Bali Cym Opn	
A42	Bali Cym Cls	
A43	BaliCym OpCl	*M
A44	Thai Gong	
A45	JawsHarp Opn	

A46	JawsHarp Wow	
A47	JawsHrp OpWo	*M, *D
A48	Bonang	*T
A49	Gender	*T
A50	Saron	*T
A51	Angklung	
A52	Gamelan 1	*T
A53	Gamelan 2	*T

ORCH

O01	Sleigh Bell	
O02	Tree Chimes	
O03	Triangle	*M
O04	Triangle Mut	
O05	Castanets	
O06	Wood Block	
O07	WdBlock HiLo	*M, *D
O08	Slapstick	
O09	Concert BsDr	*M
O10	Conc BsDrMut	
O11	Timpani	*T
O12	Perc Hit	*T
O13	Orch Hit 1	*T
O14	Orch Hit 2	*T
O15	DrmMaj Whstl	
O16	Glockenspiel	*T
O17	Vibraphone	*T
O18	Xylophone	*T
O19	Marimba 1	*T
O20	Marimba 2	*T
O21	Bass Marimba	*T
O22	Celesta	*T
O23	Tubular Bell	*T
O24	Glass	*T
O25	Iron Hammer	

DRUMS

R01	Dry Hard Kik	
R02	Jazz Kick	
R03	Vintage Kick	
R04	26" Deep Kik	
R05	Wood Beatr K	
R06	HipHop Kick	
R07	Plastic Kick	
R08	Electronic K	
R09	TR-808 Kick	
R10	808 Boom Kik	
R11	TR-909 Kick	
R12	CR-78 Kick	
R13	Beech Snare	*P
R14	BeechS RmSht	
R15	Loose S Hrd	*P
R16	Loose S Rim	
R17	Concert Snr	
R18	Concrt S Rol	
R19	Concrt S Buz	
R20	Hi Piccolo S	
R21	L.A. Snare	
R22	Brush Snare	*M
R23	Brush Rol S1	
R24	Brush Rol S2	
R25	Brush Swsh S	*P
R26	Brush Slp S1	
R27	Brush Slp S2	
R28	House Dopn'S	
R29	Swing Snare	
R30	Quinto Snare	*P
R31	Electronic S	
R32	TR-808 Snare	
R33	TR-909 Snare	
R34	CR-78 Snare	
R35	Amb CrossStk	
R36	Hall CrosStk	
R37	Stick Hit	
R38	Sticks	
R39	TR-808 Stick	
R40	TR-909 Stick	
R41	CR-78 Stick	
R42	Metal Stick	
R43	Vintage Tom1	
R44	Vintage Tom2	
R45	Dbl Head T 1	
R46	Dbl Head T 2	
R47	Room Tom 1	
R48	Room Tom 2	
R49	Brush Slp T1	
R50	Brush Slp T2	
R51	Electronic T	
R52	2-Tone ElecT	
R53	Bright ElecT	
R54	TR-808 Tom	
R55	TR-909 Tom	
R56	909 Whack T	
R57	Pure CHH	*P
R58	PureCHH Edge	
R59	Pure HalfOHH	
R60	Pure OHH	
R61	Tamburn CHH	
R62	Tamburn OHH	
R63	TR-808 CHH	*P
R64	808 CHH Edge	
R65	TR-808 OHH	*P
R66	808 OHH Edge	
R67	TR-909 CHH	
R68	TR-909 OHH	
R69	Pure Hi-Hat	*F
R70	13" Hi-Hat	*F
R71	Hand Cym HH	*F
R72	Tambourin HH	*F
R73	Maracas HH	*F
R74	Chenchen HH	*F
R75	TR-808 HiHat	*F
R76	TR-909 HiHat	*F
R77	Metal 808 HH	*F
R78	Metal 909 HH	*F
R79	Crash Cymbal	
R80	Chinese Cym	
R81	Szl ChineseC	
R82	Splash Cym 1	
R83	Splash Cym 2	
R84	Pgy Crash C1	
R85	Ride Cymbal	
R86	Ride Bell C	
R87	Ride X Bell	
R88	Sizzl Ride C	
R89	Sizzl Rd Bel	
R90	Pgy Ride Cym	
R91	Brush Ride C	
R92	Brsh Szl RdC	
R93	Hand Cymbals	
R94	Mallet Cymbl	
R95	TR-808 Cymbl	
R96	TR-606 Cymbl	
R97	Wheel Pedal	
R98	KickCymbal 1	
R99	KickCymbal 2	
r01	KickCymbal 3	
r02	Voice Kick	
r03	Voice Snare	
r04	Voice Hi-Hat	*F

DANCE

D01	TR-808 Clap	
D02	Hand Clap 1	
D03	Hand Clap 2	
D04	Hand Clap 3	
D05	Afro Clap	
D06	Scratch Push	
D07	Scratch Pull	
D08	ScrhPushPull	*D
D09	Scrch Stereo	
D10	Scr BsDr Psh	
D11	Scr BsDr Pul	
D12	Scr Bs PshPl	*D
D13	Jungle Cymbl	
D14	Dance Shaker	
D15	Trash body	*P
D16	Trash edge	
D17	Trash lid	
D18	Trash bottom	
D19	High-Q 1	*D
D20	High-Q 2	
D21	Rev High-Q	
D22	Air Blip	
D23	Techno Snap	
D24	Organ Chord	*H, *T
D25	Dist Guitar	*H, *T
D26	Auh Voice	*H, *T
D27	Techno Chord	*H, *T
D28	Techno Scene	*T
D29	Synth Hit	
D30	Distort Hit	*T
D31	Techno Hit	*T
D32	Philly Hit	*T
D33	Funk Hit	*T
D34	Funny Hit	*T
D35	Cuica Hit	
D36	Rev Cuica Ht	
D37	Thin Beef	
D38	Bounce	
D39	Dist Swish	
D40	PCM Press	
D41	Reverse Beat	
D42	Monster Drum	
D43	Can Drum	
D44	Jungle Rol K	
D45	Jungle Rol S	

SFX

S01	Burt	
S02	Boing	*M
S03	ReverseBoing	
S04	Tom Noise	
S05	Laser	*M
S06	ReverseLaser	
S07	Toy Gun	
S08	Eddy	
S09	Congerin	
S10	Moment	
S11	Toy Chat	
S12	Second Tick	
S13	Drip	
S14	Click	
S15	Metronm Bell	
S16	Metronm Clk	
S17	R-8 Spark	
S18	Anvil	
S19	Chop	
S20	Metal 1	
S21	Metal 2	
S22	Crash	
S23	Shot 1	
S24	Shot 2	
S25	Shot 3	
S26	Shot 4	
S27	Noise Acc 1	
S28	Noise Acc 2	
S29	Noise Acc 3	
S30	Noise Acc 4	
S31	Random Noiz1	
S32	Random Noiz2	
S33	Random Noiz3	
S34	Random Noiz4	
S35	White Noise	*H, *T
S36	Pink Noise	*H, *T
S37	Rev Vibraslp	
S38	RevSitar Gls	
S39	Rev Bend Gng	
S40	Rev Voice K	
S41	Rev Voice S	
S42	Cabasa 1shot	
S43	Matsuri	
S44	Uut?	
S45	Drop	
S46	Emergency	
S47	Woody 1	
S48	Woody 2	
S49	Punch	
S50	Metallic Lid	
S51	Glass Crash	
S52	Door Close	
S53	Bomb	
S54	Reverse Bomb	
S55	Explosion	
S56	Thunder	
S57	Stream	
S58	Snaps	
S59	Foot Step	
S60	Human Whistl	
S61	Chiki!	
S62	Hey!	
S63	Voice Ahhh	
S64	Rev Voc Ahhh	

OTHERS

T01	Ac.Piano	*H, *T
T02	E.Piano	*H, *T
T03	60's EP	*H, *T
T04	Soft FM EP	*H, *T
T05	Clavinet	*H, *T
T06	Even Bar	*H, *T
T07	Organ	*H, *T
T08	Nylon Guitar	*H, *T
T09	Steel Guitar	*H, *T
T10	Jazz Guitar	*H, *T
T11	Clean Guitar	*H, *T
T12	Muted Guitar	*H, *T
T13	Pop Guitar	*H, *T
T14	Funk Guitar	*H, *T
T15	Overdrive Gt	*H, *T
T16	Heavy Guitar	*H, *T
T17	Muted DistGt	*H, *T
T18	Rock Rhythm	*H, *T
T19	Wah Gtr Dn 1	
T20	Wah Gtr Up 1	
T21	Wah Gtr Dn 2	
T22	Wah Gtr Up 2	
T23	Cut Gtr Dn	
T24	Cut Gtr Up	
T25	Gtr Scratch1	
T26	Rev Gtr Scr1	
T27	Gtr Scrach2	
T28	Rev Gtr Scr2	
T29	Bass Slide	
T30	Rev Bs Slide	
T31	Acoustic Bs	*T
T32	E.AcousticBs	*T
T33	Fingered Bs	*T
T34	Funk Bass	*T
T35	Pick Bass	*T
T36	Muted PickBs	*T
T37	Fretless Bs	*T
T38	Slap Bass	*T
T39	Synth Bass	*T
T40	TB-303 Bass	*T
T41	SH-101 Bass	*T
T42	Orch Strings	*H, *T
T43	Syn Strings	*H, *T
T44	OB Strings	*H, *T
T45	Brass Hit L	*H, *T
T46	Brass Hit S	*T
T47	Brass Hit LS	*M, *H, *T
T48	Brass Fall	*T
T49	Octave Brass	*H, *T
T50	Poly Brass	*H, *T
T51	Tenor Sax	*H, *T
T52	Flute	*H, *T
T53	Sine Wave	*H, *T
T54	Saw Wave 1	*H, *T
T55	Saw Wave 2	*H, *T
T56	Square Wave	*H, *T
T57	Buzzer	*H, *T
T58	Beep	*H, *T
T59	JU-2 Sub OSC	*H, *T
T60	Poly OSC	*H, *T
T61	Juno Rave	*H, *T
T62	JP Hoover	*H, *T
T63	Feedback Wav	*H, *T
T64	Atmosphere	*H, *T
T65	Syn Calliope	*H, *T
T66	Fantasia	*H, *T
T67	Thick Pad	*H, *T
T68	80's PolySyn	*H, *T
T69	Off	

(Pedal Only)

PEDAL(A1)
:
PEDAL(C5)

Pad Set Instrument List

No.	Name
1	Conga
2	Conga II
3	Bongo
4	Timbales
5	Paila Lo
6	Paila Hi
7	Giro&Cowbel
8	Latin Perc 1
9	Latin Perc 2
10	Latin Perc 3
11	Agogo
12	Cuica
13	Surdo
14	Pandeiro
15	Tamborim
16	Caixa
17	Berimbau
18	Space Conga
19	808 Latin A
20	808 Latin B
21	808 Latin C
22	Djembe S
23	Djembe L
24	TalkingDrum
25	TalkingDrmII
26	Pot Drum A
27	Pot Drum B
28	Pot Drum C
29	Afro Drum
30	MonguDrum
31	Balaphon
32	Gyilli
33	Tabla
34	Dholak
35	Madal
36	Dhol
37	Darabukka
38	Rek
39	Doholla
40	Doira
41	JAPAN
42	MATSURI
43	CHINA
44	Yang Qin
45	Korean4Drm A
46	Korean4Drm B
47	Korean4Drm C
48	Gender
49	Bonang
50	Saron
51	Gamelan
52	Bali Cymbal
53	Thai Gong
54	Asian Cymbal
55	Timpani
56	Orch Hit
57	Drum Basic 1
58	Drum Basic 2
59	Brush Drum
60	Elec.Drum
61	Elec.Tom 1
62	Elec.Tom 2
63	TR-808 Drum
64	TR-909 Drum
65	CrashCymSet
66	RideCymSet
67	Jazz Drum
68	BrushRideSet
69	Timpani&S.D.
70	OrchPerc
71	CymbalSet
72	Junk Drums
73	JunkCymbal 1
74	JunkCymbal 2
75	Brush Box
76	Claps
77	Scratches
78	Trash Beat
79	StreetRhythm
80	LatinHouseDr
81	Dance Drum 1
82	Dance Drum 2
83	Dance Drum 3
84	AnalogPerc.
85	LaserWave
86	Metal SFX 1
87	Metal SFX 2
88	Metal SFX 3
89	Industrial 1
90	Industrial 2
91	Industrial 3
92	OneShotSFX 1
93	OneShotSFX 2
94	Long SFX 1
95	Long SFX 2
96	SFX & Hit
97	Forest SFX
98	GrandBlue 1
99	GrandBlue 2

Backing Instrument List

Program Change No.	Display	Inst Name
1	Ac.Piano	Acoustic Piano
2	E.Piano	Electric Piano
3	FM+SA EP	FM+SA E.Piano
4	60's EP	60's E.Piano
5	St.FM EP	St.FM E.Piano
6	Br.FM EP	Bright FM E.Piano
7	Clav.	Clavinet
8	Celesta	Celesta
9	Glcknspl	Glockenspiel
10	Vibraphn	Vibraphone
11	Marimba	Marimba
12	Xylophon	Xylophone
13	Tublrbel	Tubular-bells
14	Organ 1	Organ 1
15	Organ 2	Organ 2
16	Nylon Gt	Nylon Guitar
17	Steel Gt	Steel Guitar
18	Jazz Gt	Jazz Guitar
19	Clean Gt	Clean Guitar
20	ChorusGt	Chorus Guitar
21	Muted Gt	Muted Guitar
22	Pop Gt	Pop Guitar
23	Funk Gt	Funk Guitar
24	OvrdrvGt	Overdrive Guitar
25	Heavy Gt	Heavy Guitar
26	MutDstGt	Muted Distortion Guitar
27	RokRhytm	Rock Rhythm
28	Wah Gt	Wah Guitar
29	Aco.Bass	Acoustic Bass
30	El.Ac.Bs	Electric Acoustic Bass
31	FingerBs	Fingered Bass
32	FunkBass	Funk Bass
33	PickBass	Pick Bass
34	MutPikBs	Muted Pick Bass
35	FrtlesBs	Fretless Bass
36	SlapBass	Slap Bass
37	Saw Bass	Saw Bass
38	TB303 Bs	TB303 Bass
39	SH101 Bs	SH101 Bass
40	Syn.Str.	Synth Strings
41	OB Str.	OB Strings
42	Brass 1	Brass 1
43	Brass 2	Brass 2
44	Syn. Brs	Synth Brass
45	Poly Brs	Poly Brass
46	TenorSax	Tenor Sax
47	Flute	Flute
48	Saw Wave	Saw Wave
49	Calliope	Synth Calliope
50	Fantasia	Fantasia
51	ThickPad	Thick Pad
52	80'sPoly	80's Poly Synth
53	Kalimba	Kalimba
54	SteelDrm	Steel Drums

Effect Type List

* *REVERB/DELAY Type and MULTI-FX Type are common to EZ Edit mode and Edit mode.*

REVERB/DELAY Type

OFF	No reverb
WarmRoom	Room reverb featuring a milder ambiance
DarkRoom	Room reverb that imparts a darker mood
BrightRoom	Room reverb featuring a rougher, gritty feeling
Club	Room reverb that lends a relaxed ambiance to the sound
GymStage	Simulates the reverberation of a gymnasium
Underground	Reverb that makes sounds seem to be coming from under the ground
ThinPlate	Plate reverb with slow decay
ThickPlate	Plate reverb with rapid decay
EmptyHall	Reverberation of an unoccupied hall
BigTube	Reverb resembling that produced within a large tube
RichAmb	Reverb with rich reflections
ShortDelay	Single delay with short delay time
MedDelay	Adds a slight repeat of the sound
LongDelay	Effect resembling mountain echoes
PanDelaySht	Single delay with panned delayed sound
PanDelayMed	Delayed sound with added lateral breadth
PanDelayLng	Delayed sound that crosses between the left and right sides

MULTI-FX Type

Low Boost	Boosts the low end
Low Cut	Cuts the low end
Mid Boost	Boosts the midrange
Mid Cut	Cuts the midrange
High Boost	Boosts the high end
High Cut	Cuts the high end
Limiter	Standard limiter settings
Compressor	Keeps sound volume in a uniform range
ComPRESSED!	Creates a very bound, constricted sound
Enhancer	Emphasizes the high-end harmonics
Radio	Makes sounds as produced from a radio
OnAir	Creates a sound like that found in public recordings
TiledRoom	Sound like that produced in a tiled room
Outside	Produces a heard-outside-the-door kind of sound
NoHighs	Eliminates the high end
Only Lows	Leaves only the low end
Only Mids	Leaves only the midrange
Only Highs	Leaves only the high end
DynamicFltr	Filter's cutoff frequency changes in response to the volume of the strike
Ctrl Wah	The wah effect is added in response to M-FX DEPTH and CtrlTx
Sustainer	Effect appears to stretch the sound's envelope
RadioOD	Light distortion from a cheap amp
SmallOD	Mild distortion from a small amp
BigOD	Mild distortion from a large-size amp
LoudOD	Mild distortion with more sound pressure
RadioDST	Strong distortion from a cheap amp
SmallDST	Hard distortion from a small amp
BigDST	Hard distortion from a large-size amp
LoudDST	Hard distortion with more sound pressure
Lo-Fi	Creates a rough, broken sound
Lo-Fi(mono)	Rough sound output monaurally
RingModltr	Gives the sound a metallic quality
Bell	Adds a bell-like sound
Buzz	Adds a bee-like buzzing quality to the sound
MetalBar	Adds a sound like that of a metal bar being struck
Stereo Cho	Standard chorus settings
Glossy Cho	Warm chorus sound
Phasy Cho	Chorus with a heavy modulation
TetraChorus	Chorus with great breadth
Bamboo Cho	Chorus with fluttering reflections
TremoloCho	Chorus with tremolo added
Giddy Cho	Spinning chorus that make the listener dizzy
Sigh Cho	Chorus with a slight crying sound
Space D	Effect that fattens the sound
Stereo Fln	Standard flanger settings
Wind Fln	Produces an effect like that of a refreshing breeze
Grumble Fln	Layers on the sound of a human voice
Jet Fln	Adds a jet-like sound effect
StepFlanger	Standard step-flanger settings
AnalogCyber	Sound like the oscillation of an analog synthesizer
Phaser	Standard phaser settings
Rubbing	Adds a grinding sound
Arpeggio	Sounds pitch-shifted by five semitones are layered on, one after another
Warp	Pitch rises three semitones at a time
Bandit	Gliss-down effect
PitchShift	Sounds shifted by five semitones are layered on
StereoDelay	The delayed sound is played at the same position as the instrument
Doubling	Doubling effect which layers the sound
Booming	Sound like the playing of a high-tension string is added
RhythmDly1	Triple rhythmic delay
RhythmDly2	Rhythmic delay differing from RhythmDly1
Mod Delay	Delay with modulation
CrossModDly	Delay with modulation, with the sound alternately crossing between left and right
TimeCtrlDly	When CtrlTx is used to change "Time," an effect similar to that produced by changing an analog delay's Time can be obtained
3TapDlySht	Three-tap delay with short delay time
3RhythmSht	Triple pattern using delay
3TapDlyLng	Produces sound at center, left, and right, in that order
3RhythmLng	Rhythmic delay
3TempoDly	Three-sound delay synchronized to the sequencer's tempo
4TapDlySht	Four-tap delay with short delay time
4RhythmSht	Provides an effect like the clicking of castanets
4TapDlyLng	Delay sounds start on the right and move to the left
4RhythmLng	Rhythmic delay
4TempoDly	Four-sound delay synchronized to the sequencer's tempo
SoftRoom	Room reverb with mild reverberation
HardRoom	Gritty room reverb
RoomCorner	Room reverb with first reflections emphasized
Stage	Simulates the reverb on a small stage
Plate	Gritty plate reverb
Hall"A"	Simulates the reverberation of a hall with a low ceiling
Hall"B"	Simulates the reverberation of a large hall
Tunnel	Reverberation like that in a tunnel
Stadium	Simulates the reverberation of a stadium
GateReverb	Standard gated reverb settings
ReverseGate	Reverse gated reverb

Demo Song List

1. TABLECTRIC	Music by **Ikuo Kakehashi**	Copyright © 2000 Roland Corporation
2. Forest Trip	Music by **Ikuo Kakehashi**	Copyright © 2000 Roland Corporation
3. NewSalsa2000	Music by **Efrain Toro**	Copyright © 2000 Roland Corporation
4. Escola!	Music by **Ikuo Kakehashi**	Copyright © 2000 Roland Corporation
5. Asian Delight	Music by **Efrain Toro**	Copyright © 2000 Roland Corporation
6. Nightmare	Music by **Ikuo Kakehashi**	Copyright © 2000 Roland Corporation

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

Profiles of Composers

Ikuo Kakehashi majored in Percussion at Tokyo College of Music and studied under Prof. Makoto Ariga and Prof. Tadahiro Wakabayashi. He has also done extensive research on world music (especially Asian and Arabic). He is involved as a non-border percussionist (Ethnic Music - contemporary music - electronics, pop music) in session and studio work. He also produces Computer Music Software and advises Roland on new musical instruments.

Efrain Toro is one of the world's most versatile drummer / percussionists, and his unique approach to rhythm and education is a musical revolution in the making. His career began in his native Puerto Rico. Efrain later moved to the New England Conservatory. While in Boston, he studied with Alan Dawson. He moved to Los Angeles in 1979, where he has played on countless film and TV scores. Efrain has also worked with a variety of great artists that include Stan Getz, George Benson, Los Lobos, Chicago, Placido Domingo and many others. Efrain has taught at the renowned Musician's Institute, California Institute of the Arts and UCLA. He has authored five books for musicians and artists that explain his theories and skills on topics like rhythm, hand-finger technique, Latin styles, and odd meters.

MIDI Implementation

Model HPD-15
Version 1.00
March.23 2000

1. Receive data

■Channel Voice Messages

* The following channel voice messages are received on the channel specified as the [SYSTEM]-(MIDI).

●Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = note off velocity: 01H - 7FH (1 - 127)

* In the melody parts, the velocity values of Note Off message are ignored.
* When the Trigger Mode of the pad is set to "Shot", the pad part and the percussion parts will ignore the velocity values of Note Off message.
* When the Trigger Mode of the pad is set to "Gate" or "Trig", the pad part and the percussion parts will receive only the note numbers which are specified by the patch, and the same processing will be carried out as when pad is released.
* When recording, this is recorded in the sequencer data itself.

●Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = note on velocity: 00H - 7FH (0 - 127)

* The pad part and the percussion parts will receive only the note numbers which are specified by the patch.
* When recording, this is recorded in the sequencer data itself.

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = pressure: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* The pad part and the percussion parts will receive only the note numbers which are specified by the patch.
* This is used as the pad pressure data.
* When recording, this is recorded in the sequencer data itself.

●Control Change

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = Bank number MSB: 00H - 02H (bank1: User Patch bank2, 3: Preset Patch)
ll = Bank number LSB: processed as 00H

* Only the pad part and the percussion parts can be received.
* Bank select processing will be suspended until a program change message is received.
* Not recorded in the sequencer.

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [LFO PITCH] knob.
* When recording, this is recorded in the sequencer data itself.

❍Foot Control (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part the and percussion parts can be received.
* This is used as the position data of the pedal connected to the EXP PEDAL/HH CTRL jack.
* When recording, this is recorded in the sequencer data itself.

❍Data Entry (Controller number 6)

Status	2nd byte	3rd byte
BnH	06H	mmH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = The value of the parameter specified by RPN.

* Only the melody parts can be received.
* Not recorded in the sequencer.

On the normal mode of HPD-15, RPN can be used to modify the following parameters.

RPN MSB LSB	Data entry MSB LSB	Explanation
00H 00H	mmH ---	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) LSB: ignored (processed as 00H) specify up to 2 octaves in semitone steps
7FH 7FH	--- ---	RPN null set condition where RPN is unspecified. The data entry messages after set RPN null will be ignored. (No Data entry messages are required after RPN null). Settings already made will not change. MSB,LSB of data entry: ignored

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* In the melody parts, it is used as the part level of the sequencer pattern data.
* When recording, this is recorded in the sequencer data itself if it is received on the melody parts.
* In the percussion parts, it is used as the part level of the sequencer pattern data.
* Not recorded in the sequencer if it is received on the percussion parts.

❍Pan (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 40H - 7FH (Left - Center - Right)

* In the melody parts, it is used as the part panpot of the sequencer pattern data.
* In the pad part or the percussion parts, it is used as the data of the [PAN] knob.
* When recording, this is recorded in the sequencer data itself.

❍Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [LEVEL] knob.
* When recording, this is recorded in the sequencer data itself.

❍Effect Control 1 (Controller number 12)

Status	2nd byte	3rd byte
BnH	0CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [M-FX DEPTH] knob.
* When recording, this is recorded in the sequencer data itself.

❍General purpose controller 1 (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the position data of the pad A1.
* When recording, this is recorded in the sequencer data itself.

❍General purpose controller 2 (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the position data of the pad A5.
* When recording, this is recorded in the sequencer data itself.

❍Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
nH	40H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127) 0-63 = OFF, 64-127 = ON

* When recording, this is recorded in the sequencer data itself.

❍Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127) 0-63 = OFF, 64-127 = ON

* Only the pad part and the percussion parts can be received.
* If the value is 64 and over, the Modify Lock will be done. If the value is 63 and under, the Modify Lock will be canceled.
* When recording, this is recorded in the sequencer data itself.

❍Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* Only the pad part and the percussion parts can be received.
* When this message is received, the Modify Clear will be done.
* When recording, this is recorded in the sequencer data itself.

❍Sound Controller 1 (Controller number 70)

Status	2nd byte	3rd byte
BnH	46H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [SWEEP] knob.
* When recording, this is recorded in the sequencer data itself.

❍Sound Controller 5 (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [COLOR] knob.
* When recording, this is recorded in the sequencer data itself.

❍Sound Controller 7 (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [LFO RATE] knob.
* When recording, this is recorded in the sequencer data itself.

❍General purpose controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the position data of the d beam controller.
* When recording, this is recorded in the sequencer data itself.

❍General purpose controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the position data of the ribbon controller L.
* When recording, this is recorded in the sequencer data itself.

❍General purpose controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the position data of the ribbon controller R.
* When recording, this is recorded in the sequencer data itself.

❍Effect 1(Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the percussion parts and the melody parts can be received.
* This is used as the part reverb send level of the sequencer pattern data.
* Not recorded in the sequencer.

❍Effect 2(Tremolo Depth) (Controller number 92)

Status	2nd byte	3rd byte
BnH	5CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* Only the pad part and the percussion parts can be received.
* This is used as the data of the [LFO FLT / AMP] knob.
* When recording, this is recorded in the sequencer data itself.

❍Effect 4(Celeste Depth) (Controller number 94)

Status	2nd byte	3rd byte
BnH	5EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

* In the melody parts and the percussion parts, it is used as the multi effects switch of the sequencer pattern data.
* In the pad part, it is used as the data of the [MULTI EFFECTS] button.
* When recording, this is recorded in the sequencer data itself if it is received on the pad part or the percussion parts.

❍RPN MSB/LSB (Controller number 101, 100)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = upper byte of parameter number specified by RPN (MSB)
ll = lower byte of parameter number specified by RPN (LSB)

* Only the channel assigned to the melody part can be received.
* The value specified by RPN will not be reset even by messages such as program change or reset all controllers.
* Not recorded in the sequencer.

RPN
The RPN (Registered Parameter Number) messages are expanded control changes,and each function of an RPN is described by the MIDI Standard.
To use these messages, you must first use RPN (controller number 100 and 110, their order does not matter) to specify the parameter to be controlled, and then use Data Entry messages (controller number 6, 38) to specify the value of the specified parameter. Once an RPN parameter has been specified, all data entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN null (RPN number = 7FH 7FH) when you have finished setting the value of the desired parameter. Refer to "Examples of actual MIDI messages" <Example 4> (p. 109).

On the normal mode of HPD-15, RPN can be used to modify the following parameters. Regarding the value of each parameter, refer to Data Entry (Controller number 6).

RPN

mm ll	Parameter
00H 00H	Pitch Bend Sensitivity
7FH 7FH	RPN null

●Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
pp = Program number: 00H - 7FH (prog.1 - prog.128)

* The sound will change beginning with the next note-on after the program change is received.
* Not recorded in the sequencer.

●Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm,ll = Pitch Bend value: 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

* In the melody parts, it is used as the part pitch bend change of the sequencer pattern data.
* In the pad part or the percussion parts, it is used as the data of the [PITCH] knob.
* When recording, this is recorded in the sequencer data itself.

■Channel Mode Messages

●All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* When this message is received, all currently-sounding notes on the corresponding channel will be silenced. However, the status of channel messages will not change.
* Not recorded in the sequencer.

●Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* When this message is received, the following controllers will be set to their reset values.
* When recording, a control message carrying the reset value will be created and recorded.

Controller	Reset value
Pitch Bend Change	+ / -0 (center)
Polyphonic Key Pressure	0 (off)
Modulation	0 (off)
Foot Control	0 (off)
General Purpose Controller 1	0 (off)
General Purpose Controller 2	0 (off)
General Purpose Controller 6	0 (off)
General Purpose Controller 7	0 (off)
General Purpose Controller 8	0 (off)
Hold 1	0 (off)
RPN	unset; previously set data will not change

●All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* When All Notes Off is received, all notes on the corresponding channel will be turned off. However if Hold 1 is ON, the sound will be continued until these are turned off.
* In the recording mode, “Note OFF message” will be created for corresponding Note ON message, and will be recorded.

●OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

n = MIDI channel number:0 H - FH (ch.1 - ch.16)

* The same processing will be carried out as when All Notes Off is received.

●OMNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* The same processing will be carried out as when All Notes Off is received.

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = mono number: 00H - 10H (0 - 16)

* The same processing will be carried out as when All Sound Off or All Notes Off is received.

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)

* The same processing will be carried out as when All Sound Off or All Notes Off is received.

■System Realtime Message

* Following System Realtime Messages cannot be recorded in recording mode.

●Timing Clock

Status
F8H

* Recognized only when the [SYSTEM]-(UTILITY) Seq Sync is set to "Ext".

●Start

Status
FAH

* Recognized only when the [SYSTEM]-(UTILITY) Seq Sync is set to "Ext" or "Remote".

●Continue

Status
FBH

* Recognized only when the [SYSTEM]-(UTILITY) Seq Sync is set to "Ext" or "Remote".

●Stop

Status
FCH

* Recognized only when the [SYSTEM]-(UTILITY) Seq Sync is set to "Ext" or "Remote".

●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 about 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

* Following System Exclusive Messages cannot be recorded.

Status	Data byte	Status
F0H	iiH, ddH, ..., eeH	F7H

F0H: System Exclusive Message status
ii = ID number: an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. Roland's manufacturer ID is 41H.
ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd,..., ee = data: 00H - 7FH (0 - 127)
F7H: EOX (End Of Exclusive)

The System Exclusive Messages received by the normal mode of HPD-15 are; Universal Non-realtime System Exclusive Messages, Data Requests (RQ1), and Data Set (DT1).

●Universal Non-realtime System Exclusive Messages

❍Identity Request

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:00H - 1FH (1 - 32) Initial value is 10H (17))
06H, 01H	Identity request
F7H	EOX (End Of Exclusive)

* Even if the Device ID is 7FH (Broadcast), Identity reply message will be transmitted.
* When Identity Request is received, Identity reply message will be transmitted (p. 104).

●Data transmission

HPD-15 can transmit and receive the various parameters using System Exclusive messages. The exclusive message of HPD-15's data has a model ID of 00H 2EH and a device ID of 10H (17). Device ID can be changed in HPD-15.

❍Request data 1 RQ1 (11H)

This message requests the other device to send data. The Address and Size determine the type and amount of data to be sent.
When a Data Request message is received, if the device is ready to transmit data and if the address and size are appropriate, the requested data will be transmitted as a "Data Set 1 (DT1)" message. If not, nothing will be transmitted.

Status	Data byte	Status
F0H	41H, dev, 00H, 2EH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH (1 - 32) Initial value is 10H (17))
00H 2EH	Model ID (HPD-15)
11H	Command ID (RQ1)
aaH	Address MSB: upper byte of the starting address of the requested data
bbH	Address 2nd: 2nd byte of the starting address of the requested data
ccH	Address 3rd: 3rd byte of the starting address of the requested data
ddH	Address LSB: lower byte of the starting address of the requested data
ssH	Size MSB
ttH	Size 2nd
uuH	Size 3rd
vvH	Size LSB
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at once time will depend on the type of data, and data must be requested using a specific starting address and size. Refer to the Address and Size listed in "Parameter Dump Request" (p. 108).
* Regarding the checksum please refer to p. 109.

❍Data set 1 DT1 (12H)

This is the message that actually performs data transmission, and is used when you wish to transmit the data.

Status	Data byte	Status
F0H	41H, dev, 00H, 2EH, 12H, aaH, bbH, ccH, ddH, eeH,... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH (1 - 32) Initial value is 10H (17))
00H 2EH	Model ID (HPD-15)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the transmitted data
bbH	Address 2nd : 2nd byte of the starting address of the transmitted data
ccH	Address 3rd: 3rd byte of the starting address of the transmitted data
ddH	Address LSB: lower byte of the starting address of the transmitted data
eeH	Data: The actual data to be transmitted. 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 once time will depend on the type of data, and data must be requested using a specific starting address and size. Refer to the Address and Size listed in "Parameter Dump Request" (p. 108).
* If "Data Set 1" is transmitted successively, there must be an interval of at least 40ms.
* Regarding the checksum please refer to p. 109.

2. Transmit data

* When [SYSTEM]-(MIDI) Soft Thru is set to "ON", messages received in addition to the following messages are also sent.

■Channel Voice Messages

* The following channel voice messages are transmitted on the channel specified as the [SYSTEM]-(MIDI).

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = note off velocity: 00H - 7FH (0 - 127)

* With the Trigger Mode is set to "Shot", 9n kk 00H is transmitted afetr the set time has elapsed.
* With the Trigger Mode is set to "Gate", 8n kk vvH is transmitted when you release the pad.
* With the Trigger Mode is set to "Trig", Note On and 8n kk vvH are alternately transmitted when you strike the pad.
* On the channel assigned to the pad part and the percussion parts, the note numbers specified by the patch will be transmitted.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = note on velocity: 01H - 7FH (1 - 127)

* With the Trigger Mode is set to "Shot", Note On message is transmitted when you strike the pad.
* With the Trigger Mode is set to "Gate", Note On message is transmitted when you strike the pad.
* With the Trigger Mode is set to "Trig", Note On and Note Off messages are alternately transmitted when you strike the pad.
* On the channel assigned to the pad part and the percussion parts, the note numbers specified by the patch will be transmitted.

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
kk = note number: 00H - 7FH (0 - 127)
vv = pressure: 00H - 7FH (0 - 127)

* The HPD-15 tramsmits a value corresponding to the pressing force of the pad.
* This will not be transmitted if the MuteTx, PitchTx and CtrlTx are set to "OFF".
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

●Control Change

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = Bank number MSB: 00H - 02H (bank1:user patch bank bank2,3:preset patch)
ll = Bank number LSB: processed as 00H

* Bank Select corresponding to patch are sent when patch are selected.
* Bank Select corresponding to each part's instrument are sent when patterns is selected. Also, when instruments are selected for parts,bank select for the respective instruments are sent.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* When the [LFO PITCH] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Foot control (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* The HPD-15 tramsmits a value corresponding to the position of the pedal connected to the EXP PEDAL / HH CTRL jack.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Data Entry (Controller number 6)

Status	2nd byte	3rd byte
BnH	06H	mmH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = The value of the parameter specified by RPN.

* When a pattern is selected or adjust the Bend Range setting, the pitch bend sensitivity of the sequencer pattern data will be transmitted.
* This is transmitted only on the channel which is assigned to the melody parts.

Values for the RPN parameter, on the normal mode of HPD-15, are as follows.

RPN	Data entry	
MSB LSB	MSB LSB	Explanation
00H 00H	mmH ---	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones)
7FH 7FH	--- ---	RPN null set condition where RPN is unspecified.

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* When the [LEVEL] knob is turned in the melody parts, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the melody parts and the percussion parts.
* When a pattern is selected, the part level of the sequencer pattern data will be transmitted.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Pan (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 40H - 7FH (Left - Center - Right)

* When the [PAN] knob is turned, the corresponding value will be transmitted.
* When a pattern is selected, the part panpot of the sequencer pattern data will be transmitted.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH

* When the [LEVEL] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Effect Control 1 (Controller number 12)

Status	2nd byte	3rd byte
BnH	0CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH

* When the [M-FX DEPTH] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍General purpose controller 1 (Controller number 16)

Status	2nd byte	3rd byte
BnH	10H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* The HPD-15 tramsmits a value corresponding to the strike position of the pad A1.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍General purpose controller 2 (Controller number 17)

Status	2nd byte	3rd byte
BnH	11H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* The HPD-15 tramsmits a value corresponding to the strike position of the pad A5.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* This message is transmitted with the value 7FH when turned on the [ROLL / HOLD] button or value 00H when turned off.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H, 7FH (0:release Modify Lock, 127:Modify Lock)

* This message is transmitted with the value 7FH when the Modify Lock is done or transmitted with the value 00H when the Modify Lock is canceled.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Soft 1 (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H (0)

* This message is transmitted with the value 00H when the Modify Clear is done.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Sound Controller 1 (Controller number 70)

Status	2nd byte	3rd byte
BnH	46H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* When the [SWEEP] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Sound Controller 5 (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* When the [COLOR] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Sound Controller 7 (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* When the [LFO RATE] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍General Purpose Controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* The HPD-15 tramsmits a value corresponding to the position of the d beam controller.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍General Purpose Controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* The HPD-15 tramsmits a value corresponding to the position of the ribbon controller L.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍General Purpose Controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0, 127)

* The HPD-15 tramsmits a value corresponding to the position of the ribbon controller R.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* When a pattern is selected, the part reverb send level of the sequencer pattern data will be transmitted.
* This is transmitted only on the channel which is assigned to the melody parts and the percussion parts.

❍Effect 2 (Tremolo Depth) (Controller number 92)

Status	2nd byte	3rd byte
BnH	5CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H - 7FH (0 - 127)

* When the [LFO FLT/AMP] knob is turned, the corresponding value will be transmitted.
* This is transmitted only on the channel which is assigned to the pad part and the percussion parts.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍Effect 4 (Celeste Depth) (Controller number 94)

Status	2nd byte	3rd byte
BnH	5DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
vv = Control value: 00H, 7FH (0, 127)

* This message is transmitted with the value 7FH when turned on the [MULTI EFFECTS] button or value 00H when turned off.
* When a pattern is selected, the part M-FX of the sequencer pattern data will be transmitted.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

❍RPN MSB/LSB (Controller number 101,100)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm = upper byte of parameter number specified by RPN (MSB)
ll = lower byte of parameter number specified by RPN (LSB)

* Only the channel assigned to the melody parts are sent.
* When a pattern is selected, the pitch bend sensitivity of the sequencer pattern data will be transmitted.
* Regarding the RPN please refer to p. 99.

Values for the RPN parameter, on the normal mode of HPD-15, are as follows. Regarding the value of each parameter, refer to Data Entry (Controller number 6).

RPN mm ll	Parameter
00H 00H	Pitch Bend Sensitivity
7FH 7FH	RPN null

●Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
pp = Program number: 00H - 7FH (prog.1 - prog.128) preset patch
00H - 4FH (prog.1 - prog.80) user patch
00H - 35H (prog.1 - prog.54) melody part's instrument

* Program changes corresponding to patch are sent when patch is selected.
* Program changes corresponding to each part's instrument are sent when pattern is selected. Also, when instruments are selected for parts, program changes for the respective instruments are sent.

●Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H - FH (ch.1 - ch.16)
mm,ll = Pitch Bend value: 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

* When the [PITCH] knob is turned, the corresponding value will be transmitted.
* Transmitted when the HPD-15 is in play for pattern in which this message is recorded.

■System Realtime Message

●Timing Clock

Status
F8H

●Start

Status
FAH

●Continue

Status
FBH

●Stop

Status
FCH

●Active Sensing

Status
FEH

* This will be transmitted constantly at intervals of approximately 250ms.

■System Exclusive Messages

* Regarding the system exclusive message refer to p. 100.

Identity reply and Data Set 1 (DT1) are the only System Exclusive messages transmitted by HPD-15.
When an appropriate Identity Request or Data Request 1 (RQ1) message is received, the requested internal data will be transmitted.

●Universal Non-realtime System Exclusive Messages

❍Identity Reply

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 2EH, 01H, 00H, 00H, 00H, 02H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (universal non-realtime message)
dev	Device ID (dev: 00H - 1FH (1 - 32) Initial value is 10H (17))
06H 02H	Identity Reply
41H	ID number(Roland)
2EH 01H	Device family code
00H 00H	Device family number code
00H 02H 00H 00H	software revision level
F7H	EOX (End Of Exclusive)

* When Identity Request (p. 100) is received, Identity Reply message will be transmitted.

●Data Transmission

❍Data set 1 DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 2EH, 12H, aaH, bbH, ccH, ddH, eeH,... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH (1 - 32) Initial value is 10H (17))
00H 2EH	Model ID (HPD-15)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the transmitted data
bbH	Address 2nd: 2nd byte of the starting address of the transmitted data
ccH	Address 3rd: 3rd byte of the starting address of the transmitted data
ddH	Address LSB: lower byte of the starting address of the transmitted data
eeH	Data: The actual data to be transmitted. 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 once time will depend on the type of data, and data must be requested using a specific starting address and size. Refer to the Address and Size listed in "Parameter address map" (p. 104).
* Data larger than 128 bytes must be divided into packets of 128 bytes or less. If “Data Set 1” is transmitted successively, there must be an interval of at least 40 ms between packets.
* Regarding the checksum please refer to p. 109.

3. Parameter address map (Model ID = 00H 2EH)

This map indicates address, size, range of data (value) and description of parameters which can be transferred using "Data set 1 (DT1)".
All the numbers of address and size are indicated in 7-bit Hexadecimal-form. All the numbers of data are indicated in Decimal-form.

Addresses marked at "#" cannot be used as starting addresses.

■Parameter Address Block

HPD-15 (Model ID = 00H 2EH)

Start address	Description		
00 00 00 00	SYSTEM	(Individual)	1-1
01 00 00 00	TEMPORARY PATCH	(Individual)	1-2
10 00 00 00	SYSTEM	(Bulk)	1-1
11 00 00 00	TEMPORARY PATCH	(Bulk)	1-2
12 00 00 00	USER PATCH 01-01	(Bulk)	1-2
:	:		
12 4F 00 00	USER PATCH 10-08	(Bulk)	1-2
20 00 00 00	USER PATTERN	(Bulk)	1-3

1-1 SYSTEM

Offset address	Description	
00 00 00	UTILITY	1-1-1
01 00 00	FOOT SW	1-1-2
02 00 00	MIDI	1-1-3
03 00 00	CONTROLLER	1-1-4
04 00 00	PAD A1	1-1-5
:	:	
04 0E 00	PAD C5	1-1-5
05 00 00	TRIG COMMON	1-1-6-1
05 01 00	TRIG 1	1-1-6-2
05 02 00	TRIG 2	1-1-6-2
06 00 00	PATCH CHAIN GROUP 1	1-1-7
:	:	
06 09 00	PATCH CHAIN GROUP 10	1-1-7

1-1-1 UTILITY

Offset address	Size	Description	Data (Value)
00 00	0000 aaaa	LCD Contrast	0 - 15 (1 - 16)
00 01	0000 aaaa	Beep Level	0 - 15
00 02	0000 000a	Dial Lock	0 - 1 (OFF,ON)
00 03	0000 000a	Power On Mode	0 - 1 (RESET,LAST)
00 04	0000 000a	Pad Chase	0 - 1 (OFF,ON)
00 05	0000 000a	Roll Sync Mode	0 - 1 (OFF,ON)
00 06	0000 00aa	Sequencer Sync Mode	0 - 2 (Int,Ext,Remote)
00 07	0000 aaaa	(Reserved)	
00 08	0000 000a	Pedal Select	0 - 3 (EXP PEDAL,HI_HAT,SW +, SW -)
00 09	0000 aaaa	Master Tune	0 - 509
# 00 0A	0000 bbbb	(415.3 - 466.2Hz, 0.1Hz step)	
# 00 0B	0000 cccc		
# 00 0C	0000 dddd		

1-1-2 FOOT SW

Offset address	Size	Description	Data (Value)
00 00	0000 aaaa	Foot Sw1	0 - 8 (*1)
00 01	0000 aaaa	Foot Sw2	0 - 8 (*1)

(*1) OFF, PATCH DOWN, PATCH UP, REV OFF/ON, M-FX OFF/ON, ROLL/HOLD, PLAY/STOP, Mdfy SEL DN, Mdfy SEL UP

1-1-3 MIDI

Offset address	Size	Description	Data (Value)
00 00	000a aaaa	Melo1 MIDI Ch	0 - 16 (1 - 16,OFF)
00 01	000a aaaa	Melo2 MIDI Ch	0 - 16 (1 - 16,OFF)
00 02	000a aaaa	Perc1 MIDI Ch	0 - 16 (1 - 16,OFF)
00 03	000a aaaa	Perc2 MIDI Ch	0 - 16 (1 - 16,OFF)
00 04	000a aaaa	Pad MIDI Ch	0 - 16 (1 - 16,OFF)
00 05	0000 000a	Local Control	0 - 1 (OFF,ON)
00 06	0000 000a	Soft Thru	0 - 1 (OFF,ON)

1-1-4 CONTROLLER

Offset address	Size	Description	Data (Value)
00 00	0000 00aa	Data Thin	0 - 2 (OFF,1,2)
00 01	0000 0000	Edge Level	0 - 15 (1 - 16)
00 02	0000 0000	Edge Area	0 - 15 (1 - 16)
00 03	0000 0000	(Reserved)	
00 04	0000 0aaa	D Beam Curve	0 - 4 (1 - 5)
00 05	0000 aaaa	(Reserved)	
00 06	0aaa aaaa	D Beam Sense	0 - 127

1-1-5 PAD

Offset address	Size	Description	Data (Value)
00	0000 aaaa	Sens	0 - 15 (1 - 16)
01	000a aaaa	Threshold	1 - 16
02	0aaa aaaa	Mask Time	0 - 32 (0 - 64ms, 2ms step)
03	0000 aaaa	Pressure Sens	0 - 15 (1 - 16)

1-1-6-1 TRIG COMMON

Offset address	Size	Description	Data (Value)
00 00	0000 000a	Trigger Input Mode	0 - 1 (HD/RM,TRIGx2)
00 01	0000 aaaa	Trigger Rim Sens	0 - 15 (OFF,1 - 15)

1-1-6-2 TRIG

Offset address	Size	Description	Data (Value)
00	000a aaaa	Trigger Type	0 - 19 (*2)
01	0000 aaaa	Trigger Sens	0 - 15 (1 - 16)
02	0000 0aaa	Trigger Curve	0 - 7 (*3)
03	000a aaaa	Trigger Threshold	1 - 16
04	0000 00aa	Trigger Scan Time	0 - 2 (1 - 3ms, 1ms step)
05	0000 aaaa	Trigger Retrig Cancel	0 - 15 (1 - 16)
06	0aaa aaaa	Trigger Mask Time	0 - 32 (0 - 64ms, 2ms step)
07	0000 aaaa	Trigger Crosstalk Rate	0 - 13 (*4)

(*2) PD-5, PD-7, PD-9, PD-80, PD-80R, PD-100, PD-120, P-1, P-2, KD-7, KD-80, KD-120, K-1, K-2, KICK, SNARE, TOM, FLOOR, SW +, SW -

(*3) Linear, Exp1, Exp2, Log1, Log2, Spline, Loud1, Loud2

(*4) OFF, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%

1-1-7 PATCH CHAIN GROUP

Offset address	Size	Description	Data (Value)
00	0000 aaaa	Patch Number (step1)	0 - 251 (*5)
# 01	0000 bbbb		
02	0000 aaaa	Patch Number (step2)	0 - 251
# 03	0000 bbbb		
:	:		
40	0000 aaaa	Patch Number (step33)	240 - 251
# 41	0000 bbbb		

(*5) P0101 - U1008, JUMP TO CH01 - JUMP TO CH10, LOOP, END

1-2 USER PATCH and TEMPORARY PATCH

Offset address	Description	
00 00	PAD SET A	1-2-1
01 00	PAD SET B	1-2-1
02 00	PAD SET C	1-2-1
10 00	PAD A1	1-2-2-1
11 00	PAD A2	1-2-2-1
:	:	
1E 00	PAD C5	1-2-2-1
1F 00	PEDAL	1-2-2-2
20 00	D BEAM	1-2-2-2
21 00	RIBBON L	1-2-2-2
22 00	RIBBON R	1-2-2-2
23 00	TRIG 1	1-2-2-1
24 00	TRIG 2	1-2-2-1
30 00	EFFECT	1-2-3
38 00	LFO	1-2-4
40 00	COMMON	1-2-5

1-2-1 PAD SET

Offset address	Size	Description	Data (Value)
00	0000 aaaa	Inst	0 - 98 (*6)
# 01	0000 bbbb		
02	0000 aaaa	Pitch	0 - 960
# 03	0000 bbbb		(-2400 - +2400cent, 5cent step)
# 04	0000 cccc		
# 05	0000 dddd		
06	0aaa aaaa	Level	0 - 127
07	0000 aaaa	Pan	1 - 129 (*7)
# 08	0000 bbbb		
09	00aa aaaa	Decay	0 - 62 (-31 - +31)
0A	0aaa aaaa	ReverbSend	0 - 127
0B	0000 00aa	M-FX SW	0 - 2 (OFF,ON,PadData)

(*6) Conga, Latin1.....etc.

(*7) L63 - Center - R63, Random, Alternate

1-2-2-1 PAD A1 - PAD C5, TRIG 1, TRIG 2

Offset address	Size	Description	Data (Value)
00	0000 aaaa	Inst	0 - 600
# 01	0000 bbbb		
# 02	0000 cccc		
# 03	0000 dddd		
04	0000 aaaa	Pitch	0 - 4800
# 05	0000 bbbb		(-2400 - +2400cent, 1cent step)
# 06	0000 cccc		
# 07	0000 dddd		
08	0aaa aaaa	Level	0 - 127
09	0000 aaaa	Pan	1 - 129 (*8)
# 0A	0000 bbbb		
0B	00aa aaaa	Decay	0 - 62 (-31 - +31)
0C	00aa aaaa	Sweep	0 - 62 (-31 - +31)
0D	00aa aaaa	Color	0 - 62 (-31 - +31)

	Offset address	Size	Description	Data (Value)
	0E	0aaa aaaa	ReverbSend	0 - 127
	0F	0000 000a	M-FX SW	0 - 1 (OFF,ON)
	10	0000 00aa	Trigger Mode	0 - 2 (Shot,Gate,Trig)
	11	000a aaaa	Velocity Curve	0 - 23 (*9)
	12	0000 000a	Roll Rx	0 - 1 (*10) (OFF, ON)
	13	0000 0000	(Reserved)	
	14	0000 0000	(Reserved)	
	15	0000 0000	(Reserved)	
	16	0000 0000	(Reserved)	
	17	0000 0000	(Reserved)	
	18	0000 0000	(Reserved)	
	19	0000 0000	(Reserved)	
	1A	0000 0000	(Reserved)	
	1B	00aa aaaa	Ctrl Tx	0 - 6 (*11)
	1C	0000 000a	Pitch Tx	0 - 1 (OFF,ON)
	1D	0000 000a	Mute Tx	0 - 1 (OFF,ON)
	1E	0000 000a	Ctrl Rx	0 - 1 (OFF,ON)
	1F	00aa aaaa	Pitch Rx Range	0 - 49 (*12)
	20	0000 000a	Mute Rx	0 - 1 (OFF,ON)
	21	0000 000a	Rx Self	0 - 1 (OFF,ON)
	22	0000 0000	(Reserved)	
	23	0000 aaaa	MIDI Note Number	0 - 128
#	24	0000 bbbb		(OFF,C-1 - G9)
	25	0aaa aaaa	Gate Time	0 - 79 (0.1 - 8.0, 0.1 step)
	26	0000 aaaa	Pattern Number	0 - 198 (*13)
#	27	0000 bbbb		(OFF,P01 - U99)
	28	0000 aaaa	PadPattern Tempo	0 - 220 (*13)
#	29	0000 bbbb		(20 - 240)
	2A	0aaa aaaa	PadPattern Level	0 - 127 (*13)

(*8) L63 - Center - R63, Random, Alternate

(*9) Linear, Exp1, Exp2, Log1, Log2, Spline, Loud1, Loud2, Fix1 - Fix16

(*10) PAD A1 - PAD C5 omly.

(*11) OFF, LFO Pitch, LFO Fltr, LFO Amp, MFX Ctrl1, MFX Ctrl2, MFX Ctrl3

(*12) -24 - OFF - +24, Random

(*13) PAD B1 - PAD C5 only.

1-2-2-2 PEDAL, D BEAM, RIBBON L, RIBBON R

	Offset address	Size	Description	Data (Value)
	00	0000 aaaa	Inst	0 - 600
#	01	0000 bbbb		(PEDAL: 0-615)
#	02	0000 cccc		
#	03	0000 dddd		
	04	0000 aaaa	Pitch	0 - 4800
#	05	0000 bbbb		(-2400 - +2400cent, 1cent step)
#	06	0000 cccc		
#	07	0000 dddd		
	08	0aaa aaaa	Level	0 - 127
	09	0000 aaaa	Pan	1 - 129 (*8)
#	0A	0000 bbbb		
	0B	00aa aaaa	Decay	0 - 62 (-31 - +31)
	0C	00aa aaaa	Sweep	0 - 62 (-31 - +31)
	0D	00aa aaaa	Color	0 - 62 (-31 - +31)
	0E	0aaa aaaa	ReverbSend	0 - 127
	0F	0000 000a	M-FX SW	0 - 1 (OFF,ON)
	10	0000 00aa	Trigger Mode	0 - 3 (*14) 0 - 5 (*15) 0 - 4 (*16)
	11	000a aaaa	Velocity Curve	0 - 23 (*9)
	12	0000 0000	(Reserved)	
	13	0000 0000	(Reserved)	
	14	0000 0000	(Reserved)	
	15	0000 0000	(Reserved)	
	16	0000 0000	(Reserved)	
	17	0000 0000	(Reserved)	
	18	0000 0000	(Reserved)	
	19	0000 0000	(Reserved)	
	1A	0000 0000	(Reserved)	
	1B	00aa aaaa	Ctrl Tx	0 - 24 (*17) 0 - 25 (*18)
	1C	0000 000a	Pitch Tx	0 - 1 (OFF,ON)
	1D	0000 000a	Mute Tx	0 - 1 (OFF,ON)
	1E	0000 000a	Ctrl Rx	0 - 1 (OFF,ON)
	1F	00aa aaaa	Pitch Rx Range	0 - 49 (*11)
	20	0000 000a	Mute Rx	0 - 1 (OFF/ON)
	21	0000 000a	Rx Self	0 - 1 (OFF/ON)
	22	0000 000a	Controller Type	0 - 1 (*19) (Posit,Speed)
	23	0000 aaaa	MIDI Note Number	0 - 128
#	24	0000 bbbb		(OFF,C-1 - G9)
	25	0aaa aaaa	Gate Time	0 - 79 (0.1 - 8.0, 0.1 step)
	26	0000 0000	(Reserved)	
	27	0000 0000	(Reserved)	
	28	0000 0000	(Reserved)	
	29	0000 0000	(Reserved)	
	2A	0000 0000	(Reserved)	

(*14) PEDAL:
Shot, Gate, Scrape, Scrp1Wy

(*15) D BEAM:
Move, MovGate, Touch, TchGate, Scrape, Scrp1Wy

(*16) RIBBON L, RIBBON R:
Move, MovGate, Touch, TchGate, Scrape

(*17) RIBBON L, RIBBON R:
OFF, Level -, Level +, Decay -, Decay +, Cutoff, Resonance, Color 1, Color 2, RevSend -, RevSend +, LFO Rate, LFO Pitch, LFO Fltr, LFO Amp, LFO Pc&Rt, LFO Ft&Rt, LFO Am&Rt, MFX Ctrl1, MFX Ctrl2, MFX Ctrl3, RollSpeed, Tempo -, Tempo +, Turntable

(*18) D BEAM, PEDAL:
OFF, Level -, Level +, Decay -, Decay +, Cutoff, Resonance, Color 1, Color 2, RevSend -, RevSend +, LFO Rate, LFO Pitch, LFO Fltr, LFO Amp, LFO Pc&Rt, LFO Ft&Rt, LFO Am&Rt, MFX Ctrl1, MFX Ctrl2, MFX Ctrl3, RollSpeed, Tempo -, Tempo +, Turntable, Play / Stop

(*19) D BEAM, RIBBON L, RIBBON R only

1-2-3 EFFECT

Offset address	Size	Description	Data (Value)
00	0000 0aaa	ReverbType	0 - 17
01	000a aaaa	(Reserved)	
02	0000 0aaa	ReverbAlgorithm	0 - 8 (*20)
03	0aaa aaaa	ReverbLevel	0 - 127
04	0aaa aaaa	ReverbTime	0 - 127
05	000a aaaa	Reverb HF Damp	0 - 17 (*21)
06	0aaa aaaa	DelayFeedback	0 - 127
07	000a aaaa	M-FX Type	0 - 84
08	000a aaaa	M-FX Depth(for EZ Edit)	0 - 127
09	000a aaaa	M-FX Algorithm	0 - 27 (*22)
0A	0aaa aaaa	M-FX Output Volume	0 - 127
0B	0aaa aaaa	M-FX Reverb Send Level	0 - 127
0C	0aaa aaaa	M-FX Parameter 1	0 - 127
0D	0aaa aaaa	M-FX Parameter 2	0 - 127
0E	0aaa aaaa	M-FX Parameter 3	0 - 127
0F	0aaa aaaa	M-FX Parameter 4	0 - 127
10	0aaa aaaa	M-FX Parameter 5	0 - 127
11	0aaa aaaa	M-FX Parameter 6	0 - 127
12	0aaa aaaa	M-FX Parameter 7	0 - 127
13	0aaa aaaa	M-FX Parameter 8	0 - 127
14	0aaa aaaa	M-FX Parameter 9	0 - 127
15	0aaa aaaa	M-FX Parameter 10	0 - 127
16	0aaa aaaa	M-FX Parameter 11	0 - 127
17	0aaa aaaa	M-FX Parameter 12	0 - 127

(*20) OFF, Room1, Room2, Stage, Plate, Hall1, Hall2, Delay, PanDly

(*21) 200Hz, 250Hz, 315Hz, 400Hz, 500Hz, 630Hz, 800Hz, 1kHz, 1.25kHz, 1.6kHz, 2kHz, 2.5kHz, 3.15kHz, 4kHz, 5kHz, 6.3kHz, 8kHz, THRU

(*22) Stereo EQ, CompLimiter, Enhancer, Spectrum, Isolator, DynamicFltr, Sustainer, Overdrive, Distortion, Lo-Fi, RingModltr, Stereo Cho, TetraChorus, TremoloCho,

Space D, Stereo Fln, StepFlanger, Phaser, FbackPitch, StereoDelay, Mod Delay, TimeCtrlDly, 3TapDlySht, 3TapDlyLng, 4TapDlySht, 4TapDlyLng, AdvanceRev, GateReverb

1-2-4 LFO

Offset address	Size	Description	Data (Value)
00	0000 aaaa	LFO Waveform	0 - 9 (*23)
01	0aaa aaaa	LFO Rate	0 - 127
02	0aaa aaaa	LFO Pitch Depth	0 - 127
03	0aaa aaaa	LFO Filter(Cutoff)Depth	0 - 127
04	0aaa aaaa	LFO Amplitude Depth	0 - 127
05	0aaa aaaa	LFO Effect Depth	0 - 127
06	0000 000a	LFO Realtime2	0 - 1
07	0000 000a	LFO Realtime3	0 - 1

(*23) OFF, Triangl, Sine, SawRise, SawFall, Square, Trape, Smp&Hld, Random, Chaos

1-2-5 COMMON

Offset address	Size	Description	Data (Value)
00	0aaa aaaa	Master Volume	0 - 127
01	0aaa aaaa	Resonance Limit	50 - 127 (50 - 126,OFF)
02	0000 000a	D BEAM SOUND	0 - 1 (OFF,ON)
03	0000 000a	D BEAM CONTROL	0 - 1 (OFF,ON)
04	0000 000a	RIBBON L SOUND	0 - 1 (OFF,ON)
05	0000 000a	RIBBON L HOLD	0 - 1 (OFF,ON)
06	0000 000a	RIBBON R SOUND	0 - 1 (OFF,ON)
07	0000 000a	RIBBON R HOLD	0 - 1 (OFF,ON)
08	0000 000a	MULTI EFFECTS	0 - 1 (OFF,ON)
09	0000 000a	Pad Sens Type	0 - 3 (Hand1,Hand2,Fing1,Fing2)
0A	0000 aaaa	Roll Speed	0 - 127 (*24)
0B	0aaa aaaa	Patch Name 1	32 - 127
# 0C	0aaa aaaa	Patch Name 2	32 - 127
# 0D	0aaa aaaa	Patch Name 3	32 - 127
# 0E	0aaa aaaa	Patch Name 4	32 - 127
# 0F	0aaa aaaa	Patch Name 5	32 - 127
# 10	0aaa aaaa	Patch Name 6	32 - 127
# 11	0aaa aaaa	Patch Name 7	32 - 127
# 12	0aaa aaaa	Patch Name 8	32 - 127
# 13	0aaa aaaa	Patch Name 9	32 - 127
# 14	0aaa aaaa	Patch Name 10	32 - 127

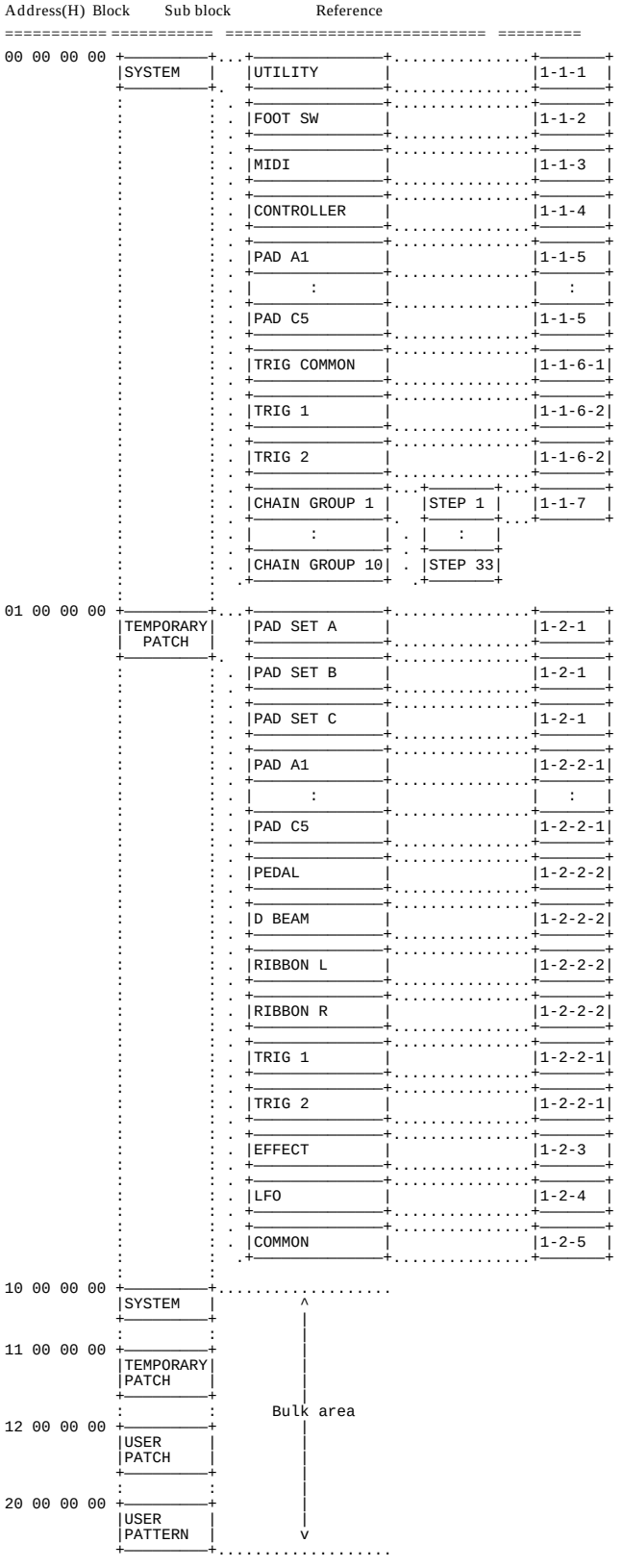
(*24) 1.0 - 3.0 (0.1 step), 3.2 - 16.0 (0.2 step), 16.5 - 20 (0.5 step), 21 - 38 (1 step), 40 - 50 (2 step), 1/2, 1/3, 1/4, 1/6, 1/8, 1/12, 1/16, 1/24, 1/32, 1/48

1-3 USER PATTERN

Offset address	Description
00 00 00	All User Pattern Request
7F 7F 7F	User Pattern Data End

■Parameter Address Block Map

An outlined address map of the Exclusive Communication is as follows;



4. Bulk Dump

Bulk Dump allows you to transmit a large amount of data at once, and is convenient for storing settings for the entire unit on a computer or sequencer.
For Bulk Dump Request, you must use the Address and Size listed in the following Bulk Dump Request.

■Parameter Dump Request

Address(H)	Size(H)
10 00 00 00	01 00 00 00 (SYSTEM: dump request for all system parameters)
11 00 00 00	01 00 00 00 (TEMPORARY PATCH: dump request for temporary patch)
12 mm 00 00	00 01 00 00 (USER PATCH: single patch dump request specified by "mm")
20 00 00 00	00 00 00 00 (ALL USER PATTERN: dump request for all user patterns)

mm = 00 - 4FH (U0101 - U1008)

* Data of preset patch (P0101 - P1008) and preset pattern (P01 - P99) cannot be transmitted.
* Make sure to set "00 00 00 00" for the data size.

5. Supplementary material

■Decimal and Hexadecimal table

In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

Dec.	Hex.	Dec.	Hex.	Dec.	Hex.	Dec.	Hex.
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

* Decimal values such as MIDI channel, bank select, and program change are listed as one(1) greater than the values given in the above table.
* A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128 + bb.
* In the case of values which have a +- sign, 00H = -64, 40H = +- 0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = +- 0, and 7F 7FH = +8191. For example if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128 + bb - 64 x 128.
* Data marked "nibbled" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16 + b.

<Example 1> What is the decimal expression of 5AH ?
From the preceding table, 5AH = 90

<Example 2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits ?
From the preceding table, since 12H = 18 and 34H = 52
18 x 128 + 52 = 2356

<Example 3> What is the decimal expression of the nibbled value 0A 03 09 0D ?
From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16 + 3) x 16 + 9) x 16 + 13 = 41885

<Example 4> What is the nibbled expression of the decimal value 1258 ?

```
16) 1258
16)   78 ...10
16)    4 ...14
       0 ... 4
```

Since from the preceding table, 00H = 0, 04H = 4, 14H = 0E, 10H = 0A , the answer is 00 04 0E 0A

■Examples of actual MIDI message

<Example 1> 95 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 = 6, note number 62 (note name is D4), and velocity 95.

<Example 2> C9 20
CnH is the Program Change status, and n is the MIDI channel number. Since 9H = 9 and 20H = 32, this is a Program Change message with MIDI CH = 10, program number 33.

<Example 3> E4 00 28
EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H=0) is the LSB and the 3rd byte (28H=40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 128 + 0 = 8192) is 0, so this Pitch Bend Value is
28 00H - 40 00H = 40 x 128 + 0 - (64 x 128 + 0) = 5120 - 8192 = -3072

If we assume that the Pitch Bend Sensitivity is set to two semitones, the pitch will change only -200 cents for a Pitch Bend value of -8192 (00 00H). Thus, this message is specifying a Pitch Bend of -200 x (-3072) / (-8192) = -75 cents on MIDI channel 5.

<Example 4> B4 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.

B4 64 00	MIDI ch.5, lower byte of RPN parameter number:	00H
(B4) 65 00	(MIDI ch.5) upper byte of RPN parameter number:	00H
(B4) 06 0C	(MIDI ch.5) upper byte of parameter value:	0CH
(B4) 26 00	(MIDI ch.5) lower byte of parameter value:	00H
(B4) 64 7F	(MIDI ch.5) lower byte of RPN parameter number:	7FH
(B4) 65 7F	(MIDI ch.5) 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 5, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to +- 12 semitones (1 octave). (On GS sound sources the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B4) 64 7F (B4) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound source will then misinterpret the data. Take care to give each event its own status.

It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN =96, and about 5 ticks for TPQN =480).

* TPQN : Ticks Per Quarter Note

●Example of an Exclusive message and calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted exclusive message.

❍How to calculate the checksum

(hexadecimal numbers are indicated by "H")
The checksum is a value derived by adding the address, size and checksum itself and inverting 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 ff gg hhH.

aa + bb + cc + dd + ee + ff + gg + hh = sum
sum / 128 = quotient ... remainder
128 - remainder = checksum
(However, the checksum will be 0 if the remainder is 0.)

<Example 1> Setting Trigger Mode of Pad A5 in temporary patch to "Gate".
According to the "Parameter address map", the temporary patch has an address of 01 00 00 00H, Pad A5 has a offset address of 14 00H and Trigger Mode has a offset address of 10H. Thus,

```
  01 00 00 00
        14 00
+)         10
  01 00 14 10
```

and "Gate" is a value of 01H,

F0	41	10	00 2E	12	01 00 14 10	01	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive status, (2) ID number (Roland), (3) Device ID (17)
(4) Model ID (HPD-15), (5) Command ID (DT1), (6) EOX

Next we calculate the checksum.

01H + 00H + 14H + 10H + 01H = 1 + 0 + 20 + 16 + 1 = 38 (sum)
38 (sum) / 128 = 0 (quotient) ... 38 (remainder)
checksum = 128 - 38 (remainder) = 90 = 5AH

This means that F0 41 10 00 20 12 01 00 14 10 01 5A F7 is the message we transmit.

<Example 2> Requesting transmission of Resonance Limit of temporary patch.
According to the "Parameter address map",the temporary patch has an address of 01 00 00 00H, patch common parameter has a offset address of 40 00H and Resonance Limit has a offset address of 01H. Thus,

```
  01 00 00 00
        40 00
+)         01
  01 00 40 01
```

Since Size = 00 00 00 01H,

F0	41	10	00 2E	11	01 00 40 01	00 00 00 01	??	F7
(1)	(2)	(3)	(4)	(5)	address	size	checksum	(6)

(1) Exclusive status, (2) ID number (Roland), (3) Device ID (17)
(4) Model ID (HPD-15), (5) Command ID (RQ1), (6) EOX

Next we calculate the checksum.

01H + 00H + 40H + 01H + 00H + 00H +00H + 01H = 1 + 0 + 64 + 1 + 0 + 0 + 0 + 1 = 67 (sum)
67 (sum) / 128 = 0(quotient) ... 67 (remainder)
checksum = 128 - 67 (remainder) = 61 = 3DH

This means that F0 41 10 00 2E 11 01 00 40 01 00 00 00 01 3D F7 is the message we transmit.

PERCUSSION SOUND MODULE (Except Sequencer Section) Date : Mar. 23, 2000

Model HPD-15

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1–16, OFF	1–16, OFF	Memorized (Non-Volatile)
Channel	Changed	1–16, OFF	1–16, OFF	
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	**********	**********	
Note Number :		0–127	0–127	
	True Voice	**********	0–127	
Velocity	Note On	O	O	
	Note Off	O	O *1	
After Touch	Key's	O *1	O *1	
	Channel's	X	X	
Pitch Bend		O	O	
Control Change	0, 32	O *1	O *1	Bank select
	1	O *1	O *1	Modulation
	4	O *1	O *1	Foot Control
	6	O *2	O *2	Data entry
	7	O *2	O *3	Volume
	10	O	O	Panpot
	11	O *1	O *1	Expression
	12	O *1	O *1	Effect Control 1
	16	O *1	O *1	General Purpose Controller 1
	17	O *1	O *1	General Purpose Controller 2
	64	O	O	Hold 1
	66	O *1	O *1	Sostenuto
	67	O *1	O *1	Soft
	70	O *1	O *1	Sound Controller 1
	74	O *1	O *1	Sound Controller 5
	76	O *1	O *1	Sound Controller 7
	81	O *1	O *1	General purpose controller 6
	82	O *1	O *1	General purpose controller 7
	83	O *1	O *1	General purpose controller 8
	91	O *3	O *3	Effect 1
	92	O *1	O *1	Effect 2
	94	O	O	Effect 4
	100, 101	O *2	O *2	RPN LSB, MSB
Program Change	: True Number	O	O	
		0–127	0–127	Program No. 1–128
System Exclusive		O	O	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Messages	: All Sound Off	X	O (120, 126, 127)	
	: Reset All Controllers	X	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123–127)	
	: Active Sensing	O	O	
	: System Reset	X	X	
Notes		* 1 Pad part and percussion part only. * 2 Melody part only. * 3 Percussion part and melody part only.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

PERCUSSION SOUND MODULE (Sequencer Section) Date : Mar. 23, 2000

Model HPD-15

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1–16, OFF	1–16, OFF	Memorized (Non-Volatile)
Channel	Changed	1–16, OFF	1–16, OFF	
Mode	Default	Mode 3	X	
	Messages	X	X	
	Altered	**********	**********	
Note Number :	True Voice	0–127 **********	0–127 0–127	
Velocity	Note On	O	O	
	Note Off	O *1	O *1	
After Touch	Key's	O *1	O *1	
	Channel's	X	X	
Pitch Bend		O	O	
Control Change	0, 32	O *1	X	Bank select
	1	O *1	O *1	Modulation
	4	O *1	O *1	Foot Control
	6	O *2	X	Data entry
	7	O	O *2	Volume
	10	O	O	Panpot
	11	O *1	O *1	Expression
	12	O *1	O *1	Effect Control 1
	16	O *1	O *1	General Purpose Controller 1
	17	O *1	O *1	General Purpose Controller 2
	64	O	O	Hold 1
	66	O *1	O *1	Sostenuto
	67	O *1	O *1	Soft
	70	O *1	O *1	Sound Controller 1
	74	O *1	O *1	Sound Controller 5
	76	O *1	O *1	Sound Controller 7
	81	O *1	O *1	General purpose controller 6
	82	O *1	O *1	General purpose controller 7
	83	O *1	O *1	General purpose controller 8
	91	O	X	Effect 1
	92	O *1	O *1	Effect 2
	94	O	O	Effect 4
	100, 101	O *2	X	RPN LSB, MSB
Program Change	: True Number	O 0–127	X 0–127	Program No. 1–128
System Exclusive		O	O (do not record)	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	O	O *3	
	: Commands	O	O *3, *4	
Aux Messages	: All Sound Off	X	X (120, 126, 127)	
	: Reset All Controllers	X	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123–127)	
	: Active Sensing	X	O	
	: System Reset	X	X	
Notes		* 1 Percussion part only. * 2 Melody part only.	* 3 Receives when "Seq Sync" setting is "Ext." * 4 Receives when "Seq Sync" setting is "Remote."	

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

Specifications

HPD-15: HandSonic

Maximum Polyphony

64 Voices

Instruments

Pad Instruments: 600

Backing Instruments: 54

User Patches

80

Preset Patches

160

Patch Chains

10 chains (32 steps per chain)

Effect Type

Reverb, Multi-Effects

Sequencer

User Patterns: 99 (Maximum)

Preset Patterns: 99

Tracks: 4

Play Functions: OneShot, Loop, Tap

Resolution: 96 ticks per quarter note

Recording Method: Real-time

Tempo

20–240

Display

16 characters, 2 lines (backlit LCD)

Controls

Volume Knob

Realtime Modify Knob 1/2/3

Ribbon L/R

D Beam

Pad

10 inches, 15 sections, Pressure-Sensitive

Connectors

Output Jacks (L (MONO), R)

Phones Jack (stereo)

Mix In Jack (stereo)

Expression Pedal / Hi-Hat Control Jack

Trigger Input Jack (dual)

Foot Switch Jack (dual)

MIDI Connectors (IN, OUT/THRU)

Output Impedance

1 k ohms

Power Supply

AC Adaptor (DC 9V)

Current Draw

1000 mA

Dimensions

406 (W) x 405 (D) x 98 (H) mm

16 (W) x 16 (D) x 3-7/8 (H) inches

Weight

2.9 kg / 6 lbs 7 oz (Excluding AC Adaptor)

Accessories

Owner's Manual

AC Adaptor (ACI/ACB Series)

Scale Label

Options

Pad (PD-5, PD-7, PD-9, PD-80, PD-80R, PD-100, PD-120)

Kick Trigger Unit (KD-7, KD-80, KD-120)

Hi-Hat Control Pedal (FD-7)

Expression Pedal (EV-5)

Foot Switch (BOSS: FS-5U)

Pad Stand (PDS-15)

* *In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.*

Index

For EU Countries

CE

This product complies with the requirements of European Directive 89/336/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION
RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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