

STUDIO Canvas SD-80

Owner's Manual

Thank you, and congratulations on your choice of the STUDIO Canvas SD-80.

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



Copyright © 2002 ROLAND CORPORATION

All rights reserved. No part of this publication may be reproduced in any form without the written permission of ROLAND CORPORATION.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

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



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



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

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

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

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

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



For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED

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

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

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

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

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

For the USA

DECLARATION OF CONFORMITY



Compliance Information Statement

Model Name : SD-80
Type of Equipment : Sound Module
Responsible Party : Edirol Corporation North America
Address : 425 Sequoia Drive, Suite 114, Bellingham, WA 98226
Telephone : (360) 594-4276







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 perform any internal modifications on the unit. 
- 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 EDIROL/Roland Service Center, or an authorized EDIROL/Roland distributor, as listed on the "Information" page. 
- Never use or store the unit in places that are:
 - Subject to temperature extremes (e.g., direct sunlight in an enclosed vehicle, near a heating duct, on top of heat-generating equipment); or are 
 - Damp (e.g., baths, washrooms, on wet floors); or are 
 - Humid; or are
 - Exposed to rain; or are
 - Dusty; or are
 - Subject to high levels of vibration.
- This unit should be used only with a rack or stand that is recommended by Roland. 










WARNING

- 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. 
- Make sure you always have the unit placed so it is level and sure to remain stable. Never place it on stands that could wobble, or on inclined surfaces. 
- The unit should be connected to a power supply only of the type described in the operating instructions, or as marked on the unit. 
- Use only the attached power-supply cord. 

⚠ WARNING

- Do not excessively twist or bend the power cord, nor place heavy objects on it. Doing so can damage the cord, producing severed elements and short circuits. Damaged cords are fire and shock hazards! 
- This unit, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level, or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should immediately stop using the unit, and consult an audiologist. 
- Do not allow any objects (e.g., flammable material, coins, pins); or liquids of any kind (water, soft drinks, etc.) to penetrate the unit. 

- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit. 
- Protect the unit from strong impact. (Do not drop it!) 
- 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 EDIROL/Roland Service Center, or an authorized EDIROL/Roland distributor, as listed on the "Information" page. 
- DO NOT play a CD-ROM disc on a conventional audio CD player. The resulting sound may be of a level that could cause permanent hearing loss. Damage to speakers or other system components may result. 

⚠ CAUTION

- The unit should be located so that its location or position does not interfere with its proper ventilation. 
- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit. 
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children. 
- Never climb on top of, nor place heavy objects on the unit. 
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit. 
- Before moving the unit, disconnect the power plug from the outlet, and pull out all cords from external devices. 
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet. 
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet. 
- Whenever you've removed any screws—whether it be when connecting something to the ground terminal, or when installing a rack-mount adaptor or desk-stand mount—be sure to place the screws out of reach of small children, so they won't be swallowed accidentally. 

IMPORTANT NOTES

In addition to the items listed under “IMPORTANT SAFETY INSTRUCTIONS” and “USING THE UNIT SAFELY” on pages 2, 3 and 4, please read and observe the following:

Power Supply

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

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- 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.
- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- A small amount of noise may be heard from the display during normal operation.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit’s volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.

Handling CD-ROMs



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

Contents

USING THE UNIT SAFELY	3
IMPORTANT NOTES	5
Contents	6
Introduction	9
How to read this manual	9
Main features	9
Names of things and what they do.....	10
Front Panel.....	10
Rear Panel	12
Basic operation	13
Operations in the basic screen.....	13
Listening to the internal demo songs.....	13
Auditioning the sounds (Preview).....	14
Adjusting the brightness of the display (Contrast).....	15
Using the internal sound generator	16
About the sound generator modes.....	16
About GM2/Native modes	17
GM2/Native mode sound sets	17
About parts and sounds.....	18
Different types of part.....	18
Polyphony and voices.....	18
Specifying the function of the MIDI connectors.....	19
USB mode	19
MIDI mode	20
Specifying the function of the MIDI connectors.....	21
Switching the sound generator mode	22
Selecting a part	23
Selecting the type of part (INST/DRUM)	24
Selecting the sound set	25
Selecting a sound.....	26
Selecting a drum set.....	27
Muting/soloing a part.....	28
Muting a part.....	28
Soloing a part.....	29
About parameters	30
Editing the parameters	31
Editing part parameters.....	31
Editing parameters that are common to all parts	32
About parameters that can be edited from the SD-80's panel.....	33
Part parameters (GM2 mode, Native mode)	33
Part parameters (Native mode)	37
Parameters common to all parts (GM2 mode, Native mode)	38

Using the effects of the internal sound generator	39
About the sound generator effects	39
Editing the sound generator effects.....	40
Parameters that can be edited in GM2 mode.....	41
Reverb (System Effect)	41
Chorus (System Effect).....	41
EQ (Equalizer)	42
Parameters that can be edited in Native mode.....	43
Reverb (System Effect)	43
Chorus (System Effect).....	45
MFX (Multi-effects)	46
EQ (Equalizer)	48
System-related settings	49
Adjusting the contrast of the display	50
Saving a patch.....	50
Switching the sound generator mode (Inst Initialize)	50
Transmitting sound generator settings to an external MIDI device.....	50
Specifying the start-up sound generator mode	51
Setting the Device ID Number	51
Transmitting button/knob operations to an external MIDI device	51
Preview settings	52
Setting the system tempo	52
Switching the driver	52
Restoring the factory settings.....	52
Controlling the SD-80 via MIDI.....	53
Controlling the internal sound generator.....	53
Switching the sound generator mode.....	53
Switching the sound set.....	55
Switching the type of part	56
Switching sounds.....	58
Switching the drum set.....	61
Editing MIDI effect parameters.....	63
Writing/loading SD-80 settings	69
Troubleshooting.....	71
Appendices.....	75
Part parameter list.....	75
Part parameters (GM2 mode, Native mode)	75
Part parameters (Native mode)	75
Parameters common to all parts (GM2 mode, Native mode)	75
Parameters common to all parts (Native mode)	76
Effect parameter list.....	77
Effect parameter (GM2 mode)	77
Effect parameter (Native mode)	78
MFX parameter list	80
Instrument list (GM2 / Native mode)	95
Instrument list (Special sound)	100
Instrument list (GS mode).....	101

Instrument list (XGlite mode)	103
Drum set list (GM2 / Native mode).....	105
Classical set drum set (1)	106
Classical set drum set (2)	107
Contemporary set drum set (1).....	108
Contemporary set drum set (1).....	109
Solo set drum set (1)	110
Solo set drum set (2)	111
Enhanced set drum set (1)	112
Enhanced set drum set (2)	113
Drum set list (GS mode).....	114
GS mode drum set (1)	115
GS mode drum set (2)	116
Drum set list (XGlite mode).....	117
XGlite mode drum set (1)	118
XGlite mode drum set (2)	119
XGlite mode drum set (3)	121
Specifications.....	125
INDEX.....	126

- * Microsoft and Windows are registered trademarks of Microsoft Corporation.
- * Screen shots in this documents are reprinted with permission from Microsoft Corporation.
- * Windows® XP is known officially as: “Microsoft® Windows® XP operating system.”
- * Windows® 2000 is known officially as: “Microsoft® Windows® 2000 operating system.”
- * Windows® Me is known officially as: “Microsoft® Windows® Millennium Edition operating system.”
- * Windows® 98 is known officially as: “Microsoft® Windows® 98 operating system.”
- * Apple and Macintosh are registered trademark of Apple Computer, Inc.
- * MacOS is a trademark of Apple Computer, Inc.
- * GS () is a registered trademark of Roland Corporation.
- * XG () and XGlite () are trademarks of YAMAHA Corporation.
- * OMS is a registered trademark of Opcode Systems, Inc.
- * FreeMIDI is a trademark of Mark of the Unicorn, Inc.
- * All product names mentioned in this document are trademarks or registered trademarks of their respective owners.

Introduction

Thank you, and congratulations on your choice of the Edirol **SD-80** Studio Canvas.

How to read this manual

The documentation for the SD-80 consists of a **Getting Started**, a **Owner's Manual**, and **Additional Information** (PDF) on the included CD-ROM.

- The **Getting Started** takes you through the steps you need to follow in order to get ready to use the SD-80 with your computer. Please read this first.
- The **Owner's Manual** explains how to use all the basic features of the SD-80. After you have made settings for the SD-80 as described in the **Getting Started**, and have verified that it produces sound correctly, refer to the Owner's Manual as necessary, depending on the purpose you have in mind.
- **Additional Information** explains various settings you can make in order to take full advantage of the SD-80's functionality. Read this material as necessary. In order to read the **Additional Information** PDF file, you will need the **Adobe Acrobat Reader**. The most recent version of the **Adobe Acrobat Reader** can be downloaded from the **Adobe Systems Incorporated** website. <http://www.adobe.com/> (This URL may change without notice.)
- Letters and numbers enclosed in [] indicate buttons on the panel of the SD-80.
- Areas enclosed by a gray rectangular frame contain supplementary explanations for a function, or tips for operation.
- If the SD-80 does not operate as you expect, refer to "**Troubleshooting**" (p. 71).

Main features

●High performance MIDI sound generator with powerful synthesizer engine and high quality waveforms in a slim body!!

- 32-part, 128-voice polyphony
- 1050 tones, 30 drum sets and 3 units of Multi Effects
- Optical/Coaxial Digital output (S/P DIF)
- 2-stereo/4-mono multi-outputs
- 2-port external MIDI IN/OUT
- Multi-purpose design (Desktop / Rack-mount type)

●Professional quality sound in a compact body... New generation of Studio Canvas Digital

The SD-80 follows a world leading technology of synthesizer sound engines and high quality waveforms. The professional-quality MIDI tone module has 1050 MIDI instruments sounds, 30 drum sets, and also GM2/GS/XGlite compatible standard sounds. It is capable of 32-part 128-voice polyphony and 3 units of multi effects, including guitar distortion, organ with rotary speaker, and modulated electric piano.

●Studio use? Or on your desktop...

The SD-80's GM2/GS/XGlite compatible sound selections are suitable for studio use. The versatile mounting tabs allow the SD-80 to be rack-mounted for studio use, or vertically mounted for desktop use. USB connection to computer is quick and easy for use with Mac or PC. Maintain the highest quality sounds by sending MIDI digitally through optical/coaxial digital output or assign multiple analog outputs through 2-stereo/4-mono channels.

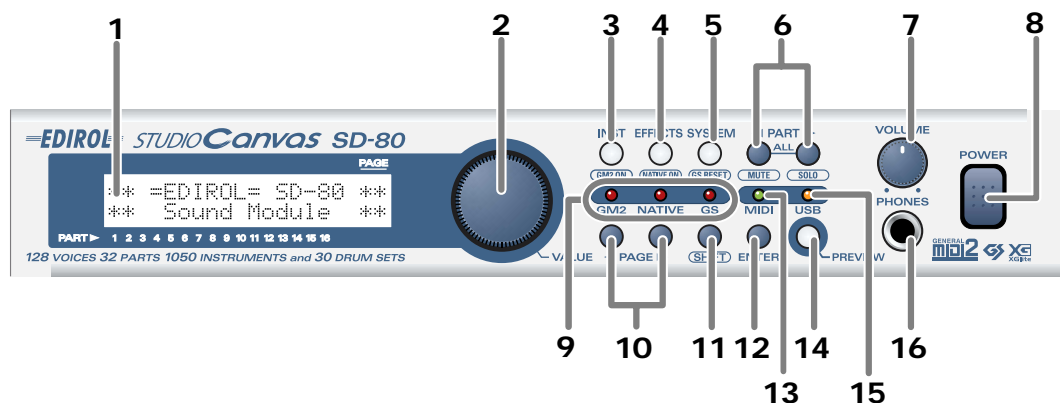
The SD-80 is equally at home on your desktop... or in your rack. Provides tons of connection options like USB, Coaxial S/P DIF, Optical S/P DIF and _" phone jacks... to make the sound of your own.

●SD-80 Editor Software

SD-80 ships with a powerful software editor that can control the SD-80's sound parameters by a graphical interface. The software editor provides control over tone editing, patch changes, and effect parameters that can be preserved. SD-80 also has built-in memory for preserving "user patches".

Names of things and what they do

■ Front Panel



1 Display

This shows various types of information (such as level meters or parameter values) related to the current state.

2 VALUE dial

Turn this dial to change a parameter's setting, or "value." If you hold down [SHIFT] as you turn [VALUE], the parameter's value will change by larger increments.

3 INST (Instrument) Button

Use this button to select the instrument (sound) or drum set assigned to each part. ("**Selecting a sound**" (p. 26), "**Selecting a drum set**" (p. 27))

4 EFFECTS Button

Use this button to select an effect (MFX) for the internal sound generator, or to edit effect parameters ("**About the sound generator effects**" (p. 39)).

5 SYSTEM Button

Use this button to make settings that affect the entire SD-80 system ("**System-related settings**" (p. 49)).

6 PART Buttons

Use these buttons to switch the part display.

If you press [◀] and [▶] simultaneously, all parameters will be displayed ("**Editing parameters that are common to all parts**" (p. 32)).

7 VOLUME Knob

This knob adjusts the output level of the audio signal that is output from the rear panel **OUTPUT 1** jacks and from the **headphone jack**.

8 POWER Switch

This turns the power of the SD-80 on/off. The **power is on** when the switch is pressed in, and the **power is off** when the switch is in the outward position. When the power is on, the white backlighting of the LCD screen will also be on.

Pressed in

ON

Outward position

OFF

9 Mode Indicators

This indicates the sound generator mode in which the SD-80 is operating. The indicator of the current sound generator mode will light red.

In the case of XGlite mode, all the **mode indicators** will be dark.

10 PAGE Buttons

Use these buttons to switch between screens that consist of multiple pages ("**Editing part parameters**" (p. 31)).

11 SHIFT Button

This button is used in conjunction with other buttons to change the function of the other button.

12 ENTER Button

Use this button to execute an operation or to select a screen.

13 MIDI Indicator

This will light when the SD-80 is operating in MIDI mode. ("**MIDI mode**" (p. 20))

14 PREVIEW Button

Use this button to audition the currently selected sound (instrument) ("**Auditioning the sounds (Preview)**" (p. 14)).

15 USB Indicator

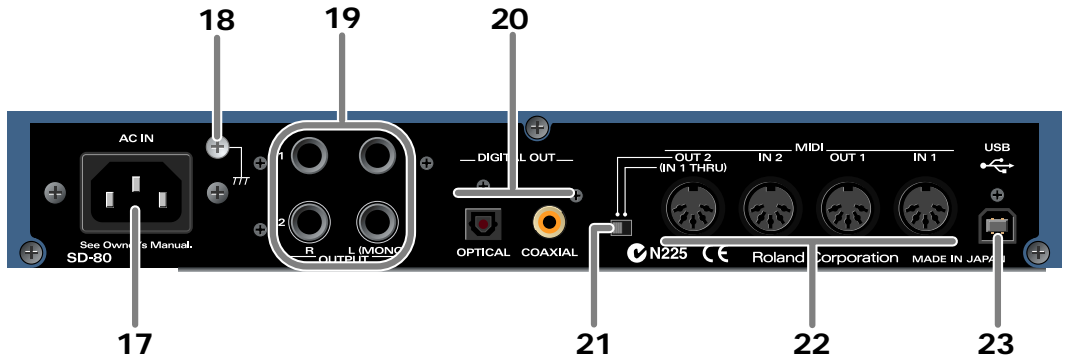
This will light when the SD-80 is operating in USB mode. ("**USB mode**" (p. 19))

When you connect the SD-80 to your computer via a USB cable, the SD-80 will automatically switch to **USB mode**. If your computer is not powered-on, or if the USB cable is disconnected, the SD-80 will automatically switch to **MIDI mode**.

16 Headphone Jack

A set of headphones can be connected to this jack. The headphone jack outputs the same signal as the **OUTPUT 1** jacks.

■ Rear Panel



17 AC IN Connector

Connect the supplied AC cable here. Never use any AC cable other than the one provided, since doing so may cause malfunction.

18 Grounding Terminal

In some cases, depending on the environment in which the unit is installed, the surface of the panel may sometimes feel rough and grainy. This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (see figure) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

●Unsuitable places for connection

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

19 OUTPUT Jacks

These jacks output audio signals to your audio playback system or amplified speakers.

The output destination setting of a part will determine whether its sound is sent to **OUTPUT** jacks 1 or 2.

Normally, the sound will be sent to the **OUTPUT 1** jacks.

The front panel **VOLUME knob** affects only the **OUTPUT 1** jacks.

20 DIGITAL OUT Jacks

These jacks can be connected to digital audio devices such as CD players and MD players to transfer digital audio signals.

Use a coaxial cable for **COAXIAL**, and an optical digital cable for **OPTICAL**.

* The digital output transmits the **OUTPUT 1** signal.

* The signal that is sent from the SD-80's **DIGITAL OUT** jack may be digitally copied for one or more generations.

21 MIDI OUT/THRU Switch

If this is set to **[IN1 THRU]**, the MIDI messages sent to the **MIDI IN 1** connector will be retransmitted without change from the **MIDI OUT 2** connector.

22 MIDI Connectors

These connectors can be connected to other MIDI devices, such as a sequencer, allowing the exchange of MIDI messages ("**Controlling the SD-80 via MIDI**" (p. 53)).

IN1/IN2: These connectors receive MIDI messages from other devices. The received MIDI messages are sent to the computer (in USB mode) or to the internal sound generator (in MIDI mode).

OUT1/OUT2: These connectors transmit MIDI messages to other devices.

23 USB Connector

A USB cable can be used to connect the SD-80 to your computer.

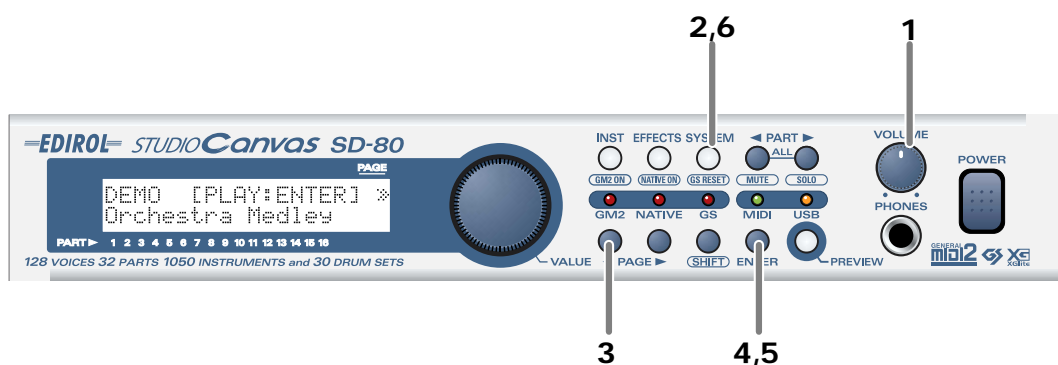
Basic operation

Operations in the basic screen

The SD-80 contains a diverse array of sounds, ranging from instrumental sounds such as piano/organ/guitar for an ensemble, to sound effects such as birdsong and telephone ringers. Each of these sounds is called an **instrument**. Here's how to select instruments and listen to the variety of sounds that the SD-80 provides.

■ Listening to the internal demo songs

The SD-80 contains demo songs. Here's how to listen to these demo songs, and hear the sounds and effects.



1. Turn the **[VOLUME]** knob fully counterclockwise (minimum setting).
2. Press **[SYSTEM]**.
The button will light.
3. Press **[PAGE◀]** to get the screen shown at right to appear.
4. Turn the **[VALUE]** dial to select a demo song.
5. Press **[ENTER]**, and the demo song will begin playing. Slowly turn the **[VOLUME]** knob clockwise to adjust the volume to a comfortable level. Once the demo song has played to the end, it will automatically be played over again, starting from the beginning.
6. Press **[ENTER]** once again to stop the demo song.
At this time you will automatically return to the beginning of the song.
7. Press **[INST]** to return to the main screen.

DEMO [PLAY:ENTER] *
Orchestra Medley

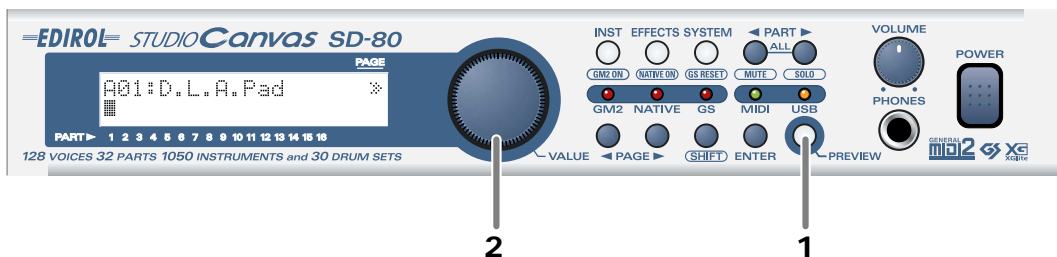
DEMO [STOP:ENTER] *
[Waveform visualization]

* Use of the song data supplied with this product for any purpose other than private, personal enjoyment without the permission of the copyright holder is prohibited by law. Additionally, this data must not be copied, nor used in a secondary copyrighted work without the permission of the copyright holder.

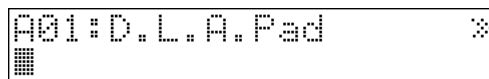
* No data for the music that is played will be output from **MIDI OUT**.

■ Auditioning the sounds (Preview)

On the SD-80, sounds are specified using two numbers: the **instrument number** and the **variation number**. By pressing **[PREVIEW]** you can audition the currently selected sound.



1. Press **[PREVIEW]**. While you continue pressing **[PREVIEW]**, the button will light and a phrase will play. When you release the button, the phrase will stop. If you press the **[PREVIEW]** key and release it immediately, the phrase will play back to the end. In this case, you can stop the phrase playback by pressing **[PREVIEW]** once again.
2. Turn the **[VALUE]** dial to switch sounds. At start-up, the **native mode** sounds will be selected.



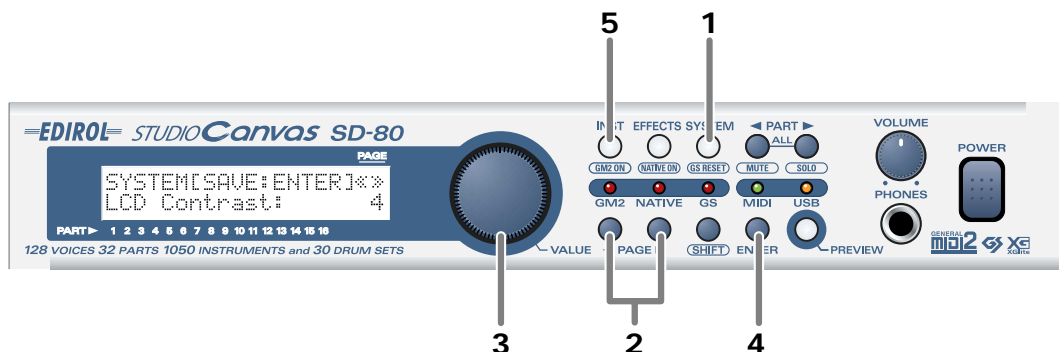
Changing the Preview settings

At the factory settings, you can audition a characteristic **phrase** that uses the currently selected sound (Phrase Preview). Alternatively, you can set it so that Preview will play a **single note** at the **pitch** (key) and **strength** (velocity) that you specify.

For details on Preview settings, refer to "**Preview settings**" (p. 52).

■ Adjusting the brightness of the display (Contrast)

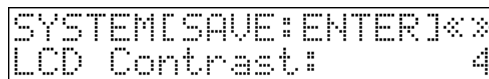
Immediately after the power is turned on, or after the SD-80 has been used for an extended period, or depending on the conditions in which it is placed, the characters or icons in the display screen may become difficult to read. If this happens, you can adjust the contrast of the display.



1. Press **[SYSTEM]**.
The button will light.
2. Press **[PAGE◀]** or **[PAGE▶]** until **LCD Contrast** is displayed.
3. Turn the **[VALUE]** dial to adjust the contrast of the display.

LCD Contrast 1–4–5

Adjusts the contrast of the display.



4. Press **[ENTER]**. The contrast setting you specify will be remembered by the SD-80.
* Do not turn off the power while the setting is being stored (while "(TBD)" is displayed). Doing so will cause all data stored in the SD-80 to be lost.
5. Press **[INST]** to return to the main screen.

Using the internal sound generator

The SD-80 contains a **sound generator** with 1,050 diverse and high-quality sounds. The internal sound generator has four **modes** to support different sound generator formats, and you can select the mode you want to use. For details on the sound generator modes, refer to "**About the sound generator modes**" (p. 16).

Multi-effect, chorus, reverb, and equalizer (a total of four effects units) are also built-in, letting you apply effects to the internal sound generator. For details on the effects, refer to "**Using the effects of the internal sound generator**" (p. 39).

About the sound generator modes

The SD-80 has four **sound generator modes**: **GM2**, **Native**, **GS**, and **XGlite**.

GM2 mode further consists of four sound sets, and **Native** mode consists of six sound sets. For details on the sound sets, refer to "**GM2/Native mode sound sets**" (p. 17).

With the factory settings, the SD-80 is set to start up in Native mode.

GM2 mode

This sound generator mode is compatible with the "**GM2**" sound generator format.

GM2 is "recommended practice," and it is backwardly compatible with GM. It was created in order to allow more sophisticated performance expression and greater compatibility. It includes detailed definitions concerning sound editing and the use of effects (things that weren't covered by the earlier GM format), and it also expands the sound set. GM2-compatible sound generators will correctly play back music data bearing either the GM or GM2 logos.

When it is necessary to make a distinction, this manual will sometimes refer to "GM1" to indicate the earlier GM format which does not include the extended specifications of GM2.

Native mode

This is the sound generator mode that allows you to take advantage of the SD-80's full potential.

It uses the same instrument files and sound sets as GM2 mode, and provides a greater number of editable parameters.

In addition, it provides two special sound sets that collect the most distinctive of the sounds of the SD-80.

GS mode

This sound generator mode supports the "**GS**" sound generator format promoted by Roland Corporation. In addition to the General MIDI functionality, this format expands the sound set, and also enhances compatibility by providing detailed specifications for functionality such as sound editing and effects (reverb and chorus). For flexibility in meeting future needs, it also provides for the addition of new sounds and expanded functionality. Since the GS format is compatible with GM, it allows GM scores to be played in the same way as GS music data (music data created in conformity with the GS format).

* *It is not possible to edit GS mode sound generator parameters from the panel of the SD-80.*

XGlite mode

XG is a sound generator format promoted by Yamaha Corporation, which is based on GM1 (General MIDI 1). It provides detailed specifications concerning expansion of the sound sets, editing methods, and effects structures and types.

XGlite is a reduced-functionality ("lite") version of XG, which allows simple playback of XG music data on a sound generator bearing the XGlite logo. Since XGlite has some limitations on the parameters and effects that can be controlled, the XG music data may sound different than the original data.

* *It is not possible to edit XGlite mode sound generator parameters from the panel of the SD-80.*

About GM2/Native modes

■ GM2/Native mode sound sets

The **sounds sets** of GM2 mode and Native mode are organized by their character into four or six variations.

Classical

This is the basic sound set that blends well into an ensemble. This set is also used when GM2 data compatibility is important.

Contemporary

This sound set emphasizes the realism of each individual instrument. It contains numerous sounds that use velocity switching for expressive dynamics.

Solo

This sound set contains mainly sounds that are designed to be distinctive when used to play solos. These sounds include spacious stereo-sampled sounds, as well as sounds that are switched by velocity.

Enhanced

This sound set concentrates on sounds that are designed with multi-effects (MFX), such as **distortion guitar** and **rotary organ**. You can obtain an effect simply by selecting one of these sounds. The set also includes acoustic instruments with a clear upper register produced by equalization processing, and synth sounds based on multi-effects.

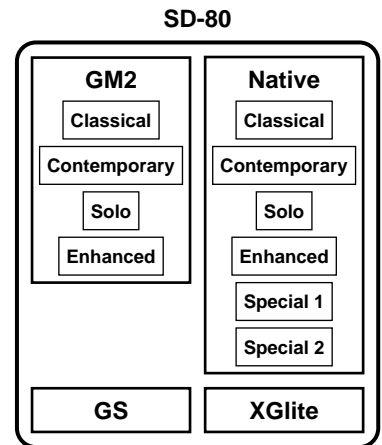
Up to three enhanced sounds can be used simultaneously. This set also contains some sounds that do not use MFX.

* With the factory settings in Native mode, parts 1–3 allow you to use special sounds or enhanced sounds that use MFX.

Special

This sound set can be used only in Native mode. It consists mainly of the best sounds of the SD-80 from the Enhanced set, and also includes highly original sounds not defined by GM2.

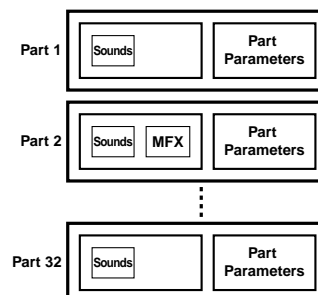
As with the Enhanced set, most sounds use multi-effects (MFX).



Parameters that can be used in GM2 mode

In GM2 mode it is not possible to edit the sounds themselves.

Multi-effects (MFX) and the sounds are always handled as a unit, and are always included in the Enhanced sound set. (In the example shown in the diagram at right, an Enhanced sound is selected for Part 2.)



About parts and sounds

The SD-80 is able to produce 32 different sounds at once. A sound generator such as the SD-80 that is able to produce many different sounds simultaneously is called a “**multitimbral sound module**.” “Timbre” refers to the unique characteristics that result in the sound of one instrument being different from that of another. The ability to simultaneously produce 32 different instrument sounds means that, using the analogy of an orchestra, you can produce an ensemble consisting of 32 different instrumental parts. On the SD-80, the sound produced by each part is called an **Instrument** (“**Instrument list (GM2 / Native mode)**” (p. 95)). You can assign a desired instrument to each of the 32 parts, creating a 32-part ensemble.

■ Different types of part

The SD-80 has 32 **parts**, which are divided into groups A and B. Each group is numbered from 01–16; i.e., A01–A16 and B01–B16.

Each part can be set either as an **Inst part** or a **Drum part**. Inst parts are used to play melody, bass, etc.

Drum parts are used to play percussion-type sounds. This setting is called the **Part Mode**.

By default, the following **part mode** is selected for each part.

Part mode	Corresponding parts
Inst part	A01–09, A11–16, B01–09, B11–16
Drum part	A10, B10

■ Polyphony and voices

Each of the SD-80’s sounds consist of units called “**voices**.” There is a limit to the number of voices that can be used, and the SD-80 is able to use **128 voices** simultaneously. Some sounds (instruments) use more than one voice (“**Instrument list (GM2 / Native mode)**” (p. 95)). The main reason that an instrument uses some voices is so that velocity can be used to shift between different sounds, or so that multiple sounds can be layered to create a richer tone.

When you attempt to play more than 128 voices on the SD-80, the most-recently played note will be given priority, and the oldest of the currently-sounding notes will be turned off one by one. If you are using only instruments that consist of only one voice, you will be able to play 128 notes simultaneously.

However, if you use instruments that consist of two or four voices, fewer than 128 notes can be played simultaneously. Even if a MIDI note-off message is received, a voice will continue to be used as long as that note continues to sound. You need to remain aware of this, particularly when using sounds that have a long release time.

Specifying the function of the MIDI connectors

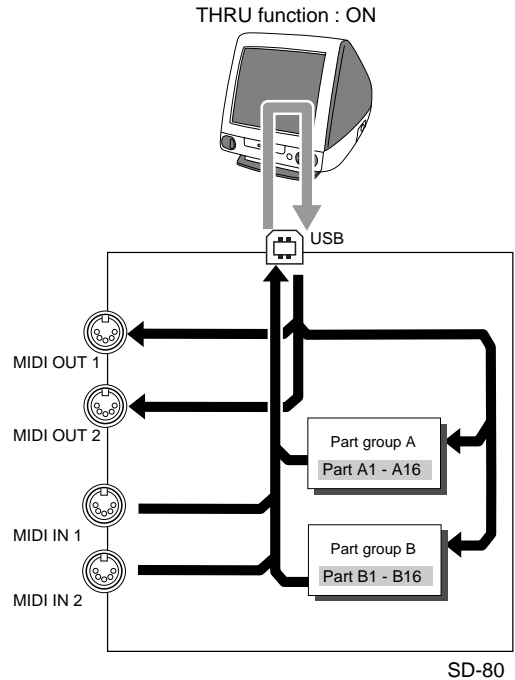
The SD-80 has two modes in which MIDI data is transferred differently: **USB mode** and **MIDI mode**. The mode is switched automatically depending on the connector you use.

■ USB mode

MIDI messages received at the MIDI IN connectors will not be passed directly to the internal sound generator. They will be sent via USB to the computer (sequencer software).

This means that if you have started up in **USB mode**, playing an external MIDI keyboard connected to a MIDI IN connector will not play the SD-80's internal sound generator. In order for the MIDI messages received at the MIDI IN connectors to be passed to the internal sound generator, you must turn on the Thru function of your software running on your USB-connected computer. "Thru" is a function by which MIDI messages received from the SD-80's USB connector are retransmitted back to the SD-80's USB connector. If the Thru function is turned on, the MIDI messages received at the MIDI IN connectors will pass through the computer and be passed to the SD-80's internal sound generator, causing sound to be produced.

- * *The number of internal sound generator parts that can be controlled from the USB connector will depend on the capabilities of your sequencer software. This means that even if you connect the SD-80 to your computer via USB, you will not necessarily be able to use all 32 parts. Please carefully read the owner's manual for your sequencer software.*
- * *The USB indicator will light.*

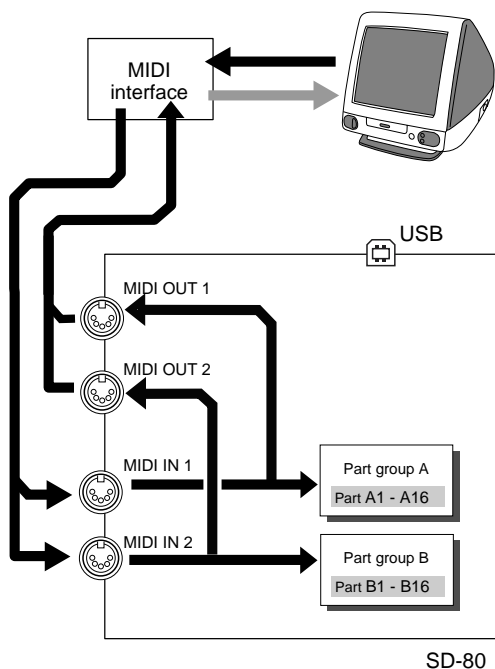


■ MIDI mode

The MIDI messages received at the MIDI IN connectors will be passed directly to the internal sound generator.

The SD-80 has two **MIDI IN connectors**, and each MIDI IN connector can receive data for 16 Parts. In **MIDI mode**, when you play using the MIDI connectors, group A corresponds to the MIDI IN 1 connector and group B corresponds to the MIDI IN 2 connector. In other words, the MIDI messages received at MIDI IN 1 will play Parts 01–16 of group A, and the MIDI messages received at MIDI IN 2 will play Parts 01–16 of group B. For example, a MIDI message received at MIDI IN 1 on channel 5 will play Group A Part 5 (A05) (when still set to the default settings).

- * If you want to change the correspondence of Parts to MIDI channels, you can send the System Exclusive message **Rx.CHANNEL** via MIDI.
- * The MIDI indicator will light.
- * If you want to use the SD-80 in MIDI mode, disconnect the USB cable from the SD-80's USB connector.



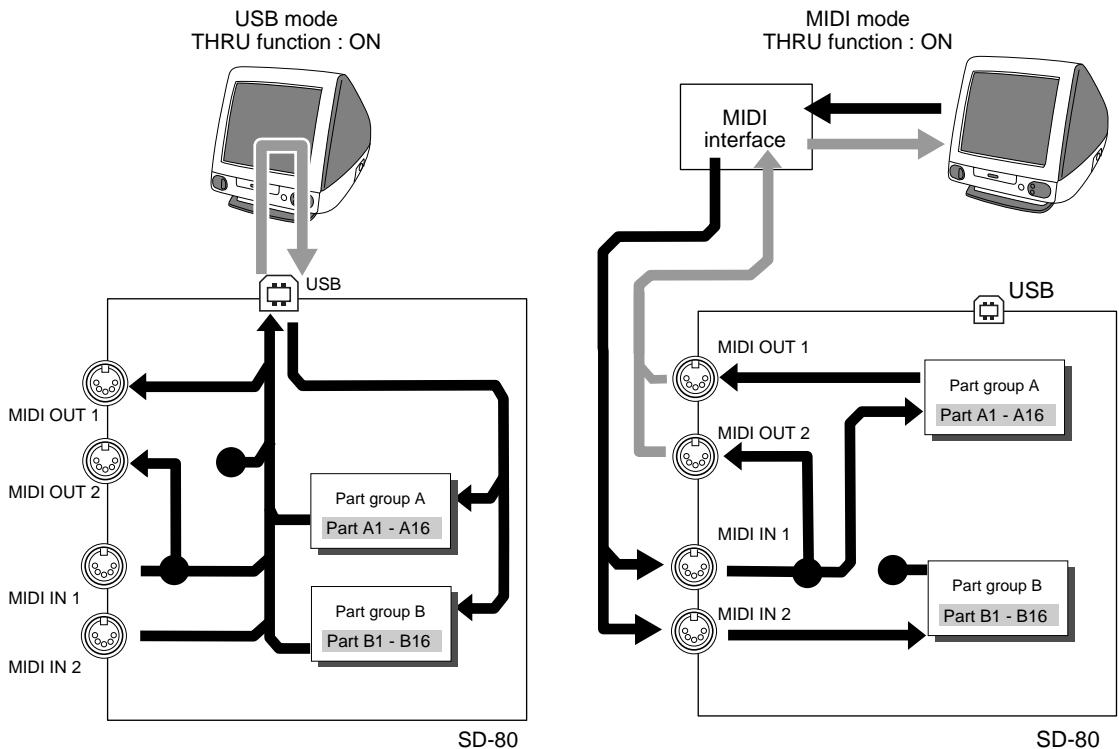
SD-80

Specifying the function of the MIDI connectors

If the **MIDI OUT/THRU switch** on the rear panel is set to **[IN1 THRU]**, MIDI messages received at the **MIDI IN 1** connector will be retransmitted without change from the **MIDI OUT 2** connector.

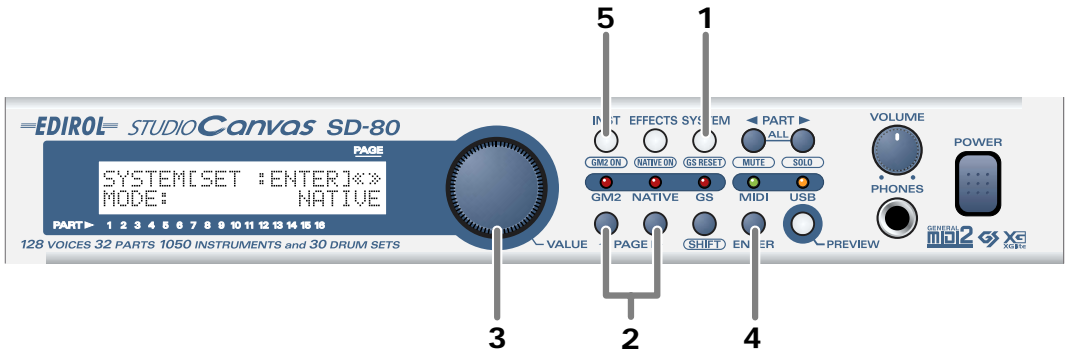
If the SD-80 is operating in **USB mode** and this switch is set to **[IN1 THRU]**, MIDI messages received at the **MIDI IN 1** connector will be "thru-ed" from the **MIDI OUT 2** connector. The MIDI messages that would normally be output from the computer to the MIDI OUT 1 connector will no longer be output. (They will not be merged.) In this case, it will not be possible to use USB external output 2 (EDIROL SD-80 MIDI OUT 2) from the computer.

However, if the SD-80 is operating in **MIDI mode** and this switch is set to **[IN1 THRU]**, MIDI messages received at the **MIDI IN 1** connector will be "thru-ed" from the **MIDI OUT 1** connector as well as being sent to **PART A**. In this case, if an external MIDI device sends a dump request to **PART B**, it will not be possible to transmit the response.



Switching the sound generator mode

Here's how to switch the sound generator mode. The sound generator mode can be switched from the front panel, or by MIDI messages from an external device. Please be aware that the sound generator will be initialized when you switch the sound generator mode.



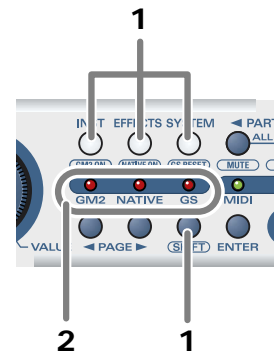
1. Press **[SYSTEM]**.
The button will light.
2. Press **[PAGE◀]** or **[PAGE▶]** until you have **Inst Init** showing in the display.
3. Turn the **[VALUE]** dial to select the desired sound generator mode (GM2, Native, GS, XGlite).
4. Press **[ENTER]**. You will switch to the sound generator mode you selected in **step 3**.
The front panel **mode indicators** show the current sound generator mode.
5. Press **[INST]** to return to the main screen.

```
SYSTEM[SET #ENTER]
Inst Init: NATIVE
```

Convenient functions

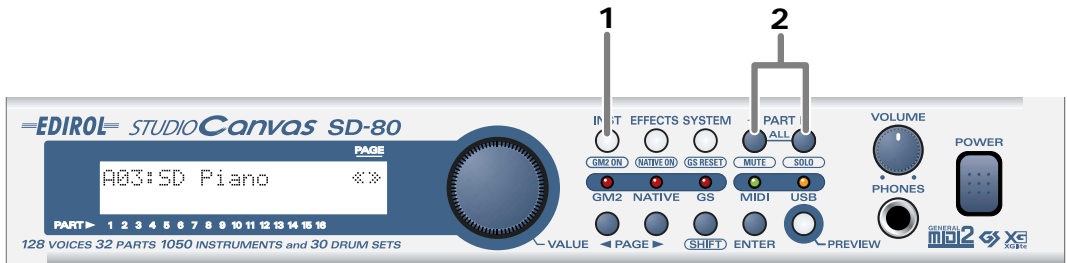
You can use the following shortcuts to switch the sound generator mode.

1. Hold down **[SHIFT]** and press the button for the desired sound generator mode.
[INST] GM2 ON (GM2 mode)
[EFFECTS] NATIVE ON (Native mode)
[SYSTEM] GS RESET (GS mode)
2. The front panel **mode indicators** show the current sound generator mode.



Selecting a part

Here's how to select the part that you want to edit.



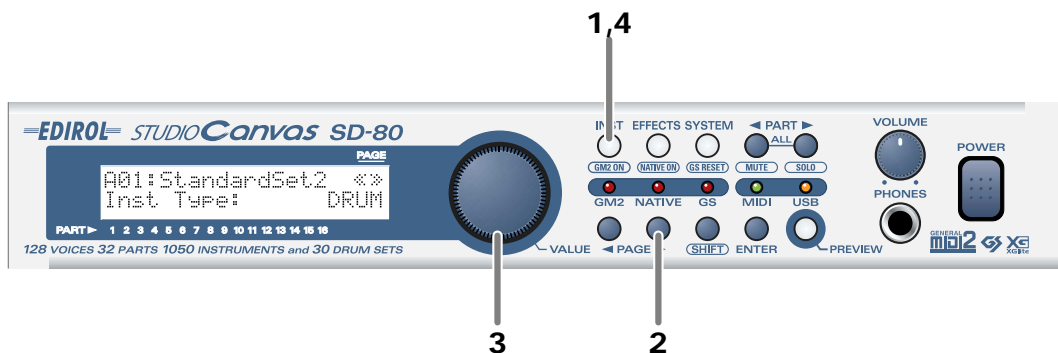
1. Press **[INST]**.
The button will light.
2. Press **[PART◀]** or **[PART▶]** to select the part to be edited. The number of the part currently being edited is indicated at the bottom of the display.

A03:SD Piano

Selecting the type of part (INST/DRUM)

Here's how to select the type (Part Mode) for each part.

- * *Inst Type* can be executed only if the sound generator mode is GM2 mode or Native mode.

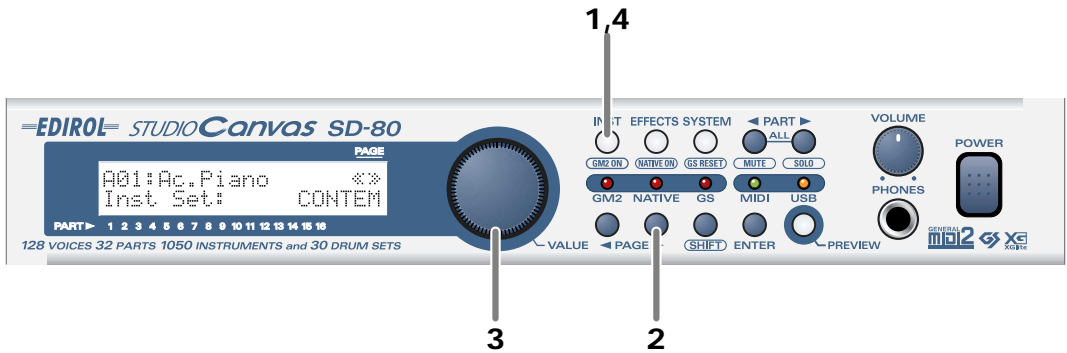


1. Press **[INST]**.
The button will light.
2. Press **[PAGE ►]** until the display indicates **Inst Type**.
3. Turn the **[VALUE]** dial to select the desired part mode (INST or DRUM).
The part mode has now been selected.
4. Press **[INST]** once again to return to the basic screen.

```
A01: StandardSet2  <>
Inst Type:          DRUM
```


Selecting the sound set

In GM2 mode you can choose one of four different sound sets. In Native mode you can choose one of six different sound sets.



1. Press **[INST]**.
The button will light.
2. Press **[PAGE ►]** until the display indicates **Inst Type**.
3. Turn the **[VALUE]** dial to select the desired sound set.

CLASSICAL:	Classical
CONTEMPORARY:	Contemporary
SOLO:	Solo
ENHANCED:	Enhanced
SPECIAL 1:	Special 1 (Native mode only)
SPECIAL 2:	Special 2 (Native mode only)
USER:	User (Native mode only)

The sound set has now been selected.

4. Press **[INST]** once again to return to the main screen.

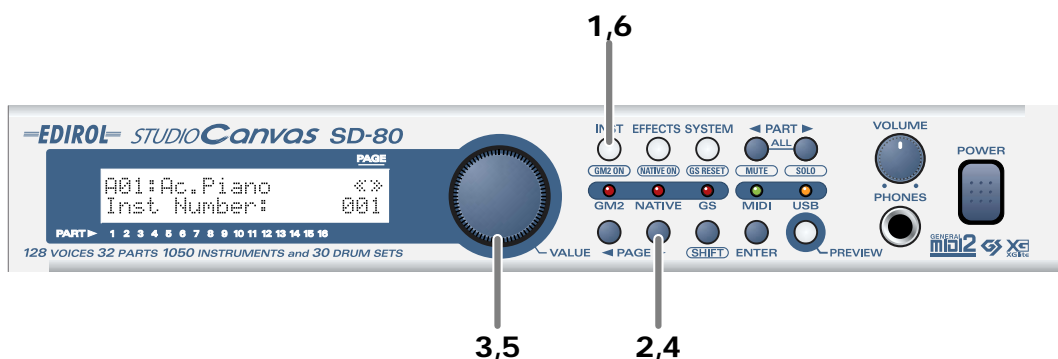
A01:Ac.Piano
InstSet: CONTEMPORARY

Selecting a sound

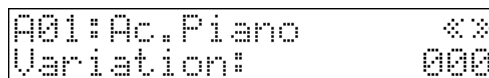
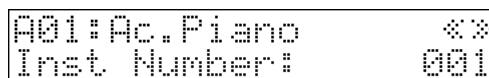
If the part type is Inst, use the following procedure to select a sound. First make sure that the part type is Inst. For details on how to set the part type to Inst, refer to "Selecting the type of part (INST/DRUM)" (p. 24).

On the SD-80, the sound of an Inst part is specified by two numbers: an **Instrument number** and a **Variation number**. There are 128 sounds whose **variation number** is 000, and these make up the basic sounds of the SD-80. These are referred to as "capital sounds."

By changing the MIDI bank number of these sounds, you can select variations that have a different tonal character. These are called "variation sounds." For details on the various sounds that can be selected, refer to "Instrument list (GM2 / Native mode)" (p. 95).



1. Press [INST].
The button will light.
2. Press [PAGE ►] until the display indicates Inst Number.
3. Turn the [VALUE] dial to select a capital sound.
The sound name and Inst Number shown in the display will also change.
4. Press [PAGE ►] until Variation appears.
In GS mode, this will be displayed with Bank.
5. Turn the [VALUE] dial to select a variation sound.
The sound name and Inst Number shown in the display will also change.
6. Press [INST] once again to return to the main screen.



Convenient functions

You can also use the following method to select a sound.

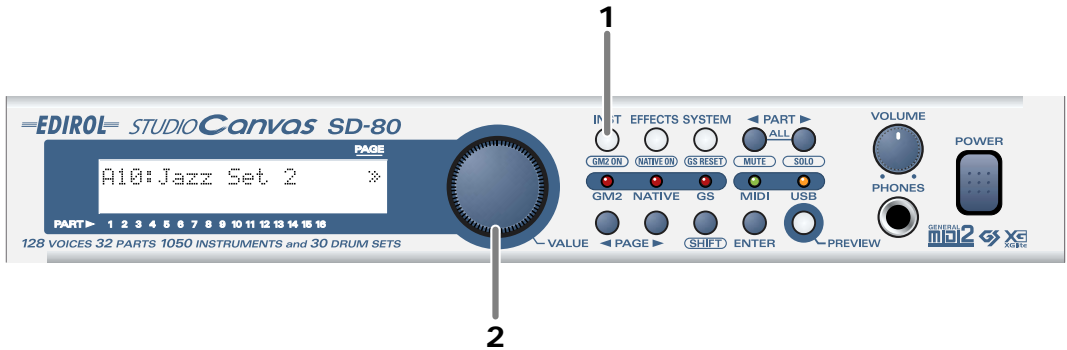
After step 1, if you turn the [VALUE] dial, any sound in the current sound set can be selected.

Selecting a drum set

If the part type is Drum Set, use the following procedure to select a drum set. First make sure that the part type is Drum. For details on how to set the part type to Drum, refer to "**Selecting the type of part (INST/DRUM)**" (p. 24).

For details on the drum sets that are available, refer to "**Instrument list (GM2 / Native mode)**" (p. 95).

* *Drum sets do not have variation sounds.*



1. Press [INST].
The button will light.
2. Turn the [VALUE] dial to select a drum set. The drum set name shown in the display will change.

A10: Jazz Set 2 ✳

Muting/soloing a part

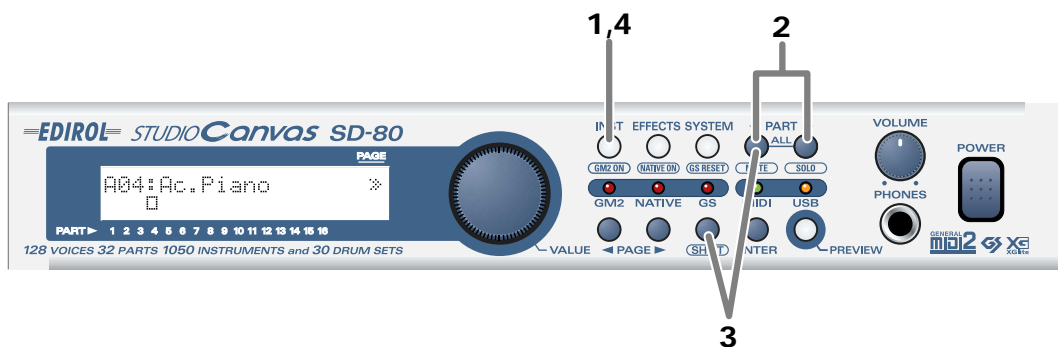
You can “**mute**” a specified part so that it will not sound. This is convenient when you want to play along to a backing provided by the SD-80 (“minus-one” playing).

Conversely, you can “**solo**” a specified part so that the remaining parts will be muted.

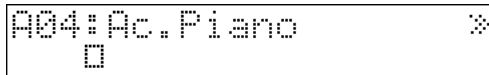
Here’s how to mute/solo a part.

- * *Solo takes priority between solo and mute settings. This means that if you specify Solo for a part that was previously muted, Mute will be defeated for that part, and it will be set to Solo. Even if you subsequently cancel Solo, that part will not return to Mute. If you want to mute that part once again, use the procedure described in “Muting a part.”*

■ Muting a part

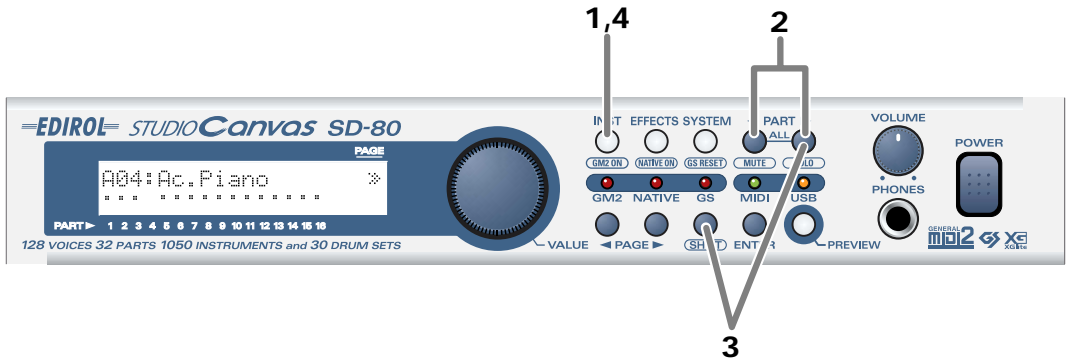


1. Press **[INST]**.
The button will light.
2. Press **[PART◀]** or **[PART▶]** to select the part that you want to mute.
3. When you hold down **[SHIFT]** and press **[PART◀]**, the part you selected in **step 2** will be muted. The bar graph of a muted part will be displayed as shown in the diagram at right.
When you press **[SHIFT]+[PART◀]** once again, muting will be defeated.



■ Soloing a part

When multiple parts are sounding, you can cause only the currently selected part to sound, allowing you to check the performance of that part. This is referred to as “**soloing**” the part.



1. Press **[INST]**.
The button will light.
2. Press **[PART◀]** or **[PART▶]** to select the part that you want to solo.
3. Hold down **[SHIFT]** and press **[PART▶]** to solo the part you selected in **step 2**. Parts other than the soloed part will not sound, nor will the bar graph be displayed.
Solo will be defeated when you press **[SHIFT]+[PART▶]** once again.



About parameters

This section explains the parameters (items that you can set). **Parameters** are settings that determine how a sound is produced, and the process of modifying the values of the parameters is called “editing.”

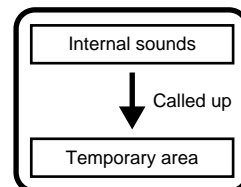
If you are using the SD-80 in **GM2 mode** or **Native mode**, some of the Part parameter values can be edited from the panel of the SD-80 itself. In other modes, parameter values cannot be edited from the panel of the SD-80. However, the parameters can be edited by using the editing functionality of your computer software or sequencer.

For details on how to edit the parameters, refer to the “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM. The adjustable range of each parameter is printed in this manual as described in the comment column of the MIDI implementation.

Internal operation of parameters

When you select a sound, the sound data is loaded into a memory location called the “**temporary area**.” The SD-80 produces sound based on the data in this temporary area.

When you edit a sound or drum set, you are temporarily modifying the settings of the data in the temporary area. **It is not possible for the edited sounds to be saved in the internal memory of the SD-80.** Your edits will be lost when you turn off the power. If you want to preserve the edited state, you can either make a note of the settings, or save them on an external MIDI device, such as a MIDI sequencer (“**Writing/loading SD-80 settings**” (p. 69)).



Editing the parameters

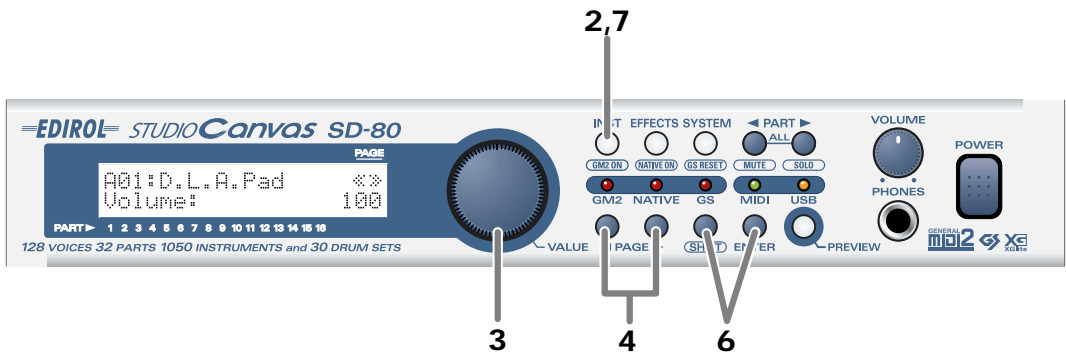
Parameters can be controlled from the SD-80's panel only in **GM2 mode** and **Native mode**.

Of the parameters that can be controlled from the SD-80, only MFX settings that were edited in Native mode can be saved within the SD-80 as a user patch ("**Saving a patch**" (p. 50)).

Chorus/reverb settings and part parameters will be lost when the SD-80 is powered-off. We recommend that you store these settings in a sequencer program or on an external MIDI sequencer, by using individual data transmission ("**Writing/loading SD-80 settings**" (p. 69)).

■ Editing part parameters

You can change the way in which the sound selected for a part will be heard, to adjust the sound ideally for your performance. Part parameters include parameters that adjust the **volume**, **tonal character**, and **pitch**.

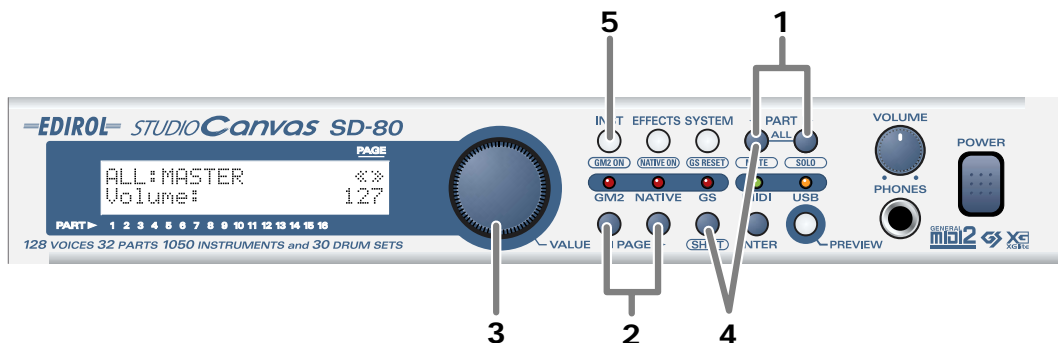


1. Make sure that the sound generator mode is set to either **GM2** or **Native**.
(→ "**Switching the sound generator mode**" (p. 22).)
2. Press **[INST]**.
The button will light.
3. Select the part and sound.
4. After you have selected the part and sound, press **[PAGE<]** or **[PAGE>]** to access the parameter that you want to edit.
5. Turn the **[VALUE]** dial.
The value of the parameter you selected in **step 4** will change.
6. If you want to keep the results of your editing, hold down **[SHIFT]** and press **[ENTER]** after **step 5**. The current setting will be transmitted from the **USB** connector ("**USB mode**" (p. 19)) or the **MIDI OUT** connector ("**MIDI mode**" (p. 20)).
7. Press **[INST]** once again to return to the main screen.

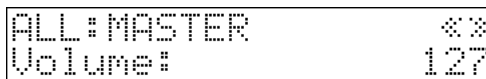
* If you want to transmit the state of the sound generator to an external MIDI device all at once, use Bulk Dump. For details on Bulk Dump, refer to "**Transmitting a bulk dump**" (p. 69).

■ Editing parameters that are common to all parts

Here's an example of how to edit parameters that are common to all parts.



1. Simultaneously press **[PART◀]** and **[PART▶]**.
A screen will appear in which you can edit parameters for all parts.
2. Press **[PAGE◀]** or **[PAGE▶]** to select the parameter that you want to edit (e.g., **Master Volume**).
3. Turn the **[VALUE]** dial to adjust the value of the parameter you selected in **step 2**.
4. If you want to keep the results of your edit, hold down **[SHIFT]** and press **[ENTER]** after **step 3**. The current setting will be transmitted from the **USB** connector ("USB mode" (p. 19)) or the **MIDI OUT** connector ("MIDI mode" (p. 20)).
5. Press **[INST]** to return to the main screen.



About parameters that can be edited from the SD-80's panel

The following parameters can be edited from the panel in GM2 mode or Native mode.

Parameter name	Parameter name
Inst Type	Modulation Depth
Volume	Panpot
Portamento SW	Portamento Time
TVF Resonance	TVF Cutoff
Release Time	Attack Time
Decay Time	Vibrato Rate
Vibrato Depth	Vibrato Delay
Reverb Send Level	Chorus Send Level
Pitch Bend Sensitivity	Fine Tune
Coarse Tune	Mono/Poly Mode
Scale/Octave Tuning Adjust	RX Channel
Legato SW	Part Velocity Sens Offset
Part Keyboard Fade Width Lower	Part Keyboard Range Lower
Part Keyboard Range Upper	Part Keyboard Fade Width Upper
Part Dry Send Level	Part Output MFX Select
Part Output Assign	Master Volume
Master Fine Tuning	Master Coarse Tuning

On the SD-80, parameter values are specified for the Part. In other words, these parameters belong to the part, and not to the sound (instrument). For example, if you set Vibrato Rate to +20 and then select a different sound for that part, the Vibrato Rate of the newly selected sound will stay at +20, and will not be the default setting of +/-0. Parts that belong to the Part in this way are called “**part parameters.**”

■ Part parameters (GM2 mode, Native mode)

Inst Type INST, DRUM

The part mode can be switched between Inst and Drum Set.

Select INST for parts that will play conventional instrumental sounds (Inst parts). Select DRUM for parts that will play percussion or drum sounds (Drum parts). For a drum part, each different MIDI note number will play a different sound (instrument), allowing you to play a variety of percussion instrument sounds from a single part (“**Drum set list (GM2 / Native mode)**” (p. 105)).

Each part 1–16 can be set either as an Inst part (to play a conventional sound), or a Drum part (to play a drum set).

Modulation Depth 0–10–127

Specifies the depth of vibrato.

Volume [cc#7] 0–100–127

Adjusts the volume of each part. Increasing this value will make the sound louder. The overall volume of the entire SD-80 is adjusted by the [VOLUME] knob. If the [VOLUME] knob is set to the minimum position, there will be no sound even if you raise this level parameter.

Panpot [cc#10] L64–0–63R

Adjusts the pan (localization of the sound image; effective when stereo output is used) of the part.

- * For some sounds, a small amount of sound may be heard from the opposite speaker even if this parameter is set to far right or far left.
- * In a drum set, the pan setting of each individual percussion sound is fixed. When you edit the pan setting of a drum part, the overall panning of the entire drum set will change.

Portamento SW [cc#65] ON/OFF, (PATCH: Native mode only)

Turn this ON when you want to use portamento.

Portamento Time [cc#5] 0–127, (PATCH: Native mode only)

Adjusts the time over which the next pitch will be reached.

Portamento is a function that changes the pitch smoothly from one note to the next.

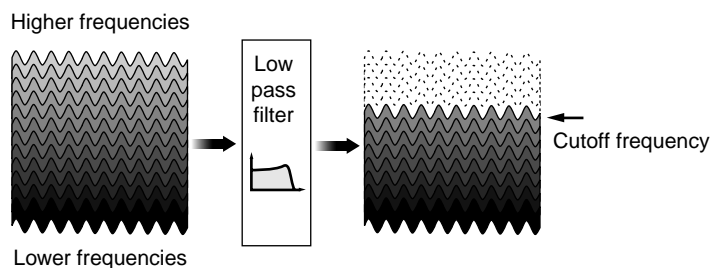
Portamento will be switched on/off when a Portamento message is received. Portamento Time specifies the speed of the pitch change. A Portamento Control message can be received to specify the “source note number” (the previously played note).

- * *When you apply portamento by playing a note that is below the currently played note, the range of the effect may be limited (approximately two octaves).*

Filter

You can adjust the tonal character of the sound by editing the filter values. The filters of the SD-80 are a type called Low Pass Filters, which pass the region of sound that lies below a specified frequency. This frequency is called the Cutoff Frequency. By adjusting the cutoff frequency, you can make the sound brighter or darker.

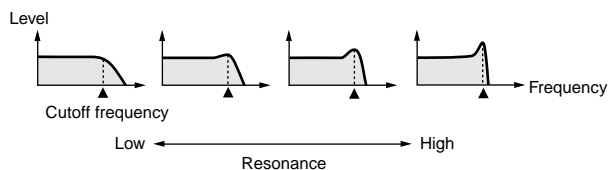
The cutoff frequency will also change over time according to an envelope. By adjusting the filter and envelope, you can create sounds that have movement and expression.



TVF Resonance [cc#71] -64–0–+63

Increasing the resonance value will emphasize the harmonics in the region of the cutoff frequency, giving a distinctive character to the sound.

- * *For some sounds, negative (-) settings of Resonance will not produce any audible difference.*



TVF Cutoff Freq (TVF Cutoff Frequency) [cc#74] -64–0–+63

Sets the cutoff frequency of the filter.

Positive (+) settings for the Brightness parameter will raise the cutoff frequency. Negative (-) settings will lower the cutoff frequency. Increasing this value in the positive direction will pass more of the high-frequency component, making the sound brighter (harder). Increasing this value in the negative direction will cut more of the high-frequency component, making the sound more mellow (darker).

- * *For some sounds, positive (+) settings of TVF Cutoff Freq will not produce any audible difference.*

Envelope

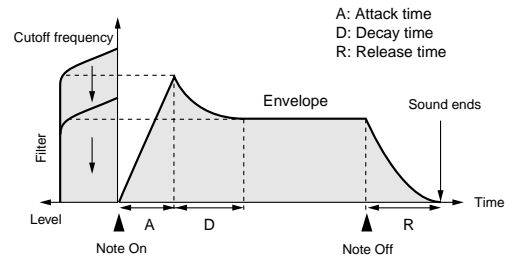
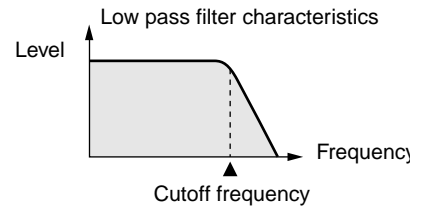
The sound of a musical instrument changes over time from the moment the note begins until it ends. Such change can be expressed by the graph shown below. The shape of this change is distinctive of that particular instrument, and is an important factor that allows us to recognize the type of instrument. This shape is called the “**envelope**.”

The envelope of a musical instrument sound will change depending on how the instrument is played. For example, when a trumpet is blown strongly, the sound will have a sharp and rapid attack, but when blown gently, the attack will be softer.

To adjust the sharpness of the attack, you can edit the **Attack Time** of the envelope. By adjusting the envelope parameters in this way, you can express a wide variety of the characteristics of an instrument.

The shape of the envelope that you specify in this way will also affect the movement of the **cutoff frequency**.

If the cutoff frequency is lowered, it will rise as the envelope rises and fall as the envelope falls.



Release Time (TVF&TVA Release) [cc#72] -64-0+63

This adjusts the time from when you release the key (note-off message) until the sound decays to silence.

The cutoff frequency will also fall accordingly.

Attack Time (TVF&TVA Attack) [cc#73] -64-0+63

This adjusts the sharpness with which the note begins.

Decay Time (TVF&TVA Decay) [cc#75] -64-0+63

This adjusts the time from when the attack has been completed until the sustain level is reached (figure 1).

* For some sounds, the sustain level is 0 (figure 2). For example, this is the case for piano or guitar-type sounds.

* For some sounds, adjusting the various envelope times may not make any audible difference.

figure 1

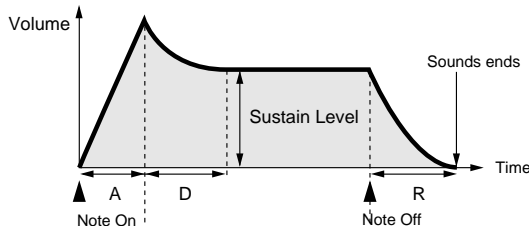
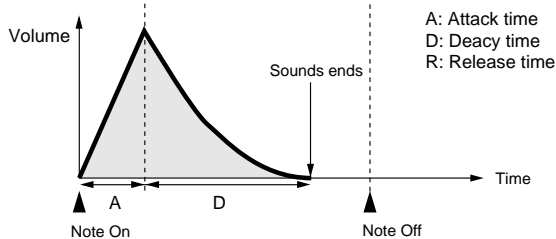
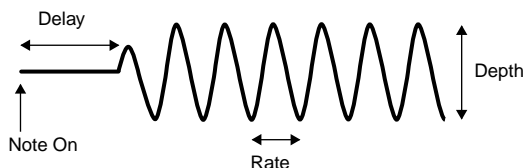


figure 2



Vibrato

Vibrato is an effect that cyclically modulates the pitch. By applying vibrato, you can make your performance more expressive.



Vibrato Rate [cc#76] -64-0-+63

This adjusts the speed (frequency) at which the pitch is modulated. Positive (+) settings will speed up the modulation, and negative (-) settings will slow down the modulation.

Vibrato Depth [cc#77] -64-0-+63

This adjusts the depth at which the pitch is modulated. Positive (+) settings will increase the depth of pitch modulation, and negative (-) settings will decrease the depth.

Vibrato Delay [cc#78] -64-0-+63

This adjusts the time to pass before vibrato begins. Positive (+) settings will lengthen the time before vibrato begins, and negative (-) settings will shorten the time.

Reverb Send Level [cc#91] 0-40-127

This sets the depth of reverb for the part.

Chorus Send Level [cc#93] 0-127

This sets the depth of chorus for the part.

PitchBendSens (Pitch Bend Sensitivity) 0- +/-2-+/-24, (PATCH: Native mode only)

This specifies the maximum change in pitch that can be controlled by pitch bend. A setting of 12 allows one octave of change, and a setting of 24 allows two octaves of change. With a setting of 0, pitch bend will not affect the pitch at all.

Fine Tune (Channel Fine Tuning) -50-0-+50

Use this when you want to make fine adjustments to the pitch of an individual part. Positive (+) settings will raise the pitch, and negative (-) settings will lower the pitch. By setting two or more parts to the same MIDI channel and instrument, and using Fine Tune to slightly spread apart the pitch of each part, you can play these parts together to create rich and spacious sounds.

* To adjust the pitch of all parts together, edit the **Master Fine Tune** setting (p. 38).

Coarse Tune (Channel Coarse Tuning) -64-0-+63

The Channel Coarse Tuning parameter transposes (shifts the key of) an individual part.

“Transpose” means to change the pitch in steps of a semitone. For example, when playing song data from your sequencer software, you can make the song play in another key without changing the settings of your software. Or if you want to sing along with the song data playback but the pitch is too high or too low, you can edit this parameter to transpose the pitch to a comfortable range.

Each step up (down) will raise (lower) the pitch by one semitone. This means that a setting of 12 will transpose the pitch one octave. With a setting of 0, the pitch will not be changed.

* To transpose all parts together, use **Master Coarse Tuning** (p. 38).

Mono/Poly (Mono/Poly mode) [cc#126/127] Poly, Mono, (PATCH: Native mode only)

If this is set to Mono mode, the instrument of that part will play only one note at a time. Using Mono mode is effective for parts that play naturally monophonic instruments such as trumpet or sax. Select Poly mode for parts that will be playing chords.

* For a drum part, switching between mono/poly modes will not affect the sound.

Scale/Octave Tuning Adjust -64-0-+63

Scale Tuning is a function that lets you make fine adjustments to the pitch of each note in the octave. You can make one octave of settings, and these settings will adjust the pitch of all octaves in the same way.

Scale Tune allows you to play scales other than the conventional equal tempered scale.

■ Part parameters (Native mode)

In addition to the Part parameters described in the preceding pages, Native mode also allows you to adjust the following parameters.

Rx Channel (Receive channel) 1–16, OFF

This specifies the MIDI channel that is assigned to the part. If this is turned OFF for a part, all MIDI messages other than system exclusive messages will be ignored by that part, meaning that it will not sound.

Legato SW [CC#68] ON/OFF, (PATCH: Native mode only)

Turn this ON when you want to use legato, and OFF if you do not. Legato is a function that is valid when MONO mode is selected for the part. If Legato is ON, pressing a note while the previous note is still held down will cause the sound to be maintained while it shifts to the pitch of the newly pressed note. This lets you simulate performance techniques such as the “hammering-on” and “pulling-off” used by guitarists.

Part Velocity Sens Offset (Part Velocity Sensitivity Offset) -63–0–+63

This adjusts the degree to which playing dynamics will affect the volume and cutoff frequency.

Part Keyboard Fade Width Lower 0–127

This specifies how the volume will change when you play notes that are outside the lower limit of the part’s key range. With higher settings of this parameter, the volume will decrease gradually. If you want there to be no sound at all when you play below the specified key range, set this to 0.

Part Keyboard Range Lower C-1–UPPER

Specifies the lowest note of the keyboard range for the part.

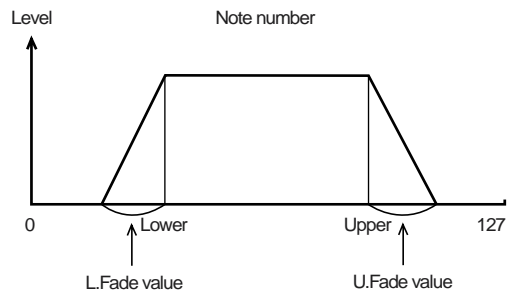
Part Keyboard Range Upper LOWER–G9

Specifies the highest note of the keyboard range for the part.

Part Keyboard Fade Width Upper 0–127

This specifies how the volume will change when you play notes that are outside the upper limit of the part’s key range. With higher settings of this parameter, the volume will decrease gradually. If you want there to be no sound at all when you play above the specified key range, set this to 0.

* It is not possible to set the Lower Range above the Upper Range, nor the Upper Range below the Lower. If you attempt to do so, the Lower and Upper values will change together.



Part Output Assign MFX, 1, 2, 1L, 1R, 2L, 2R, PATCH

This specifies where the output signal of the part will be sent.

MFX: Output to MFX.

1: Output the unprocessed sound from OUTPUT 1, without using MFX.

2: Output the unprocessed sound from OUTPUT 2, without using MFX.

1L: Output the unprocessed sound from the L jack of OUTPUT 1.

1R: Output the unprocessed sound from the R jack of OUTPUT 1.

2L: Output the unprocessed sound from the L jack of OUTPUT 2.

2R: Output the unprocessed sound from the R jack of OUTPUT 2.

PATCH: The settings of the patch (instrument) will be applied. If the patch is set to use **MFX**, the sound will be sent to MFX. If not, the **DRY** sound will be output.

* *Select 1L, 1R, 2L, or 2R when you want to use the output jacks as four parallel outputs.*

PART Output MFX Select MFX-A, MFX-B, MFX-C

If **MFX** is selected for **Part Output Assign**, select one of the three MFX units to which the sound will be sent.

PART Dry Send Level 0–127

This specifies the level of the output to the output destination you've selected for **Part Output Assign**.

■ Parameters common to all parts (GM2 mode, Native mode)

The following parameters common to all parts can be edited from the panel of the SD-80.

Master Volume 0–127

Adjusts the volume of all parts. Increasing this value will increase the volume.

The basic overall volume of the SD-80 is adjusted with the **[VOLUME]** knob. If the **[VOLUME]** knob is set to the minimum position, there will be no sound even if you use this parameter to raise the volume.

Master Fine Tuning 415.3–**440.0**–466.2 Hz

When you are playing in an ensemble with other instruments, or want to adjust the SD-80 to the tuning of another instrument, you can adjust the Master Tuning in a range from 415.3 Hz to 466.2 Hz. The displayed value (for example 440.0 Hz) is the frequency of the A4 note (note number 69).

Master Coarse Tuning -24–**0**–+24

This parameter transposes the pitch of all parts in semitone steps. For example, when using your sequencer software to play song data, this parameter can be adjusted to change the key without having to change the settings of your software. As another example, you can adjust this parameter to transpose the pitch to a comfortable range when you want to sing along with song data that is too high or too low for your voice.

Increasing (decreasing) this value by one will raise (lower) the pitch by one semitone. Thus, a setting of 12 will change the pitch by one octave. With a setting of 0, the pitch will not be transposed. This parameter lets you adjust the pitch in semitone steps over a range of +/-2 octaves.

* *The pitch of drum parts will not change even if you adjust the Master Coarse Tuning to transpose all parts.*

Using the effects of the internal sound generator

About the sound generator effects

The SD-80 contains the following four effects processors, and each can be set independently.

Chorus

Chorus is an effect that adds depth and spaciousness to the sound.

Reverb

Reverb is an effect that adds the reverberation typically heard in a concert hall.

Equalizer

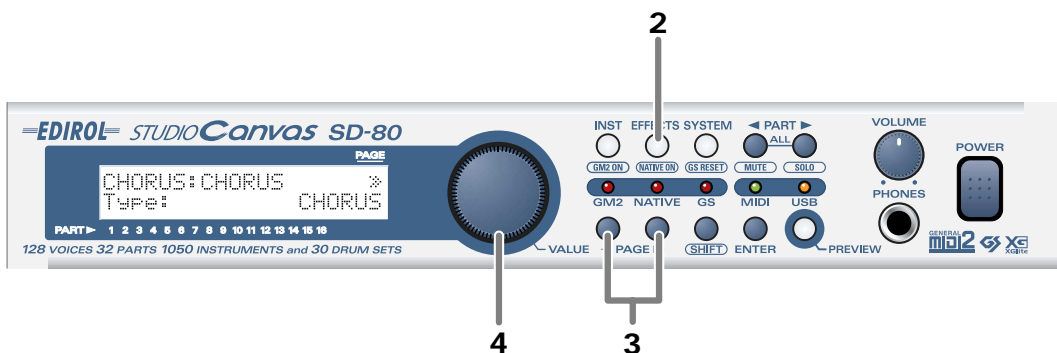
This is an effect that boosts or cuts the level of specific frequency bands of the sound, modifying its tonal character.

Multi-effect

Multi-effect provides 90 different effect types. These include single effects such as distortion and delay, as well as multiple types that combine two or more effects. Chorus and reverb are additionally provided as multi-effect effect types, but you can also use the separate chorus and reverb units to apply these effects. On the SD-80, you can use three of these multi-effects independently.

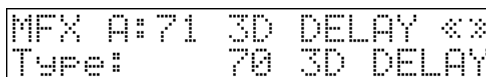
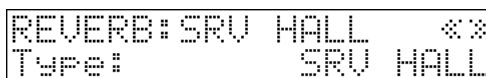
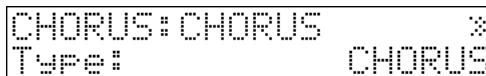
Editing the sound generator effects

You can edit the sound generator effects when the sound generator mode is either GM2 mode or Native mode.



1. Switch the sound generator to **GM2** mode or **Native** mode. For details on switching the sound generator mode, refer to "**Switching the sound generator mode**" (p. 22).
2. Press **[EFFECT]**. The sound generator Effect Edit screen will appear.

3. Press **[PAGE<]** or **[PAGE>]** to select the parameter that you want to edit.



* **MFX** cannot be selected if the sound generator mode is **GM2** mode.

4. Turn the **[VALUE]** dial to modify the value of the parameter you selected in **step 4**. This completes the steps needed to edit an effect parameter.

Parameters that can be edited in GM2 mode

The sound generator effect parameters that can be edited using the SD-80's controls will differ depending on the sound generator mode (GM2 or Native). In the SD-80's GM2 mode, you can edit the **reverb** and **chorus** parameters. The following parameters can be edited.

■ Reverb (System Effect)

This includes parameters that specify the type of reverb, how the reverb sound will be heard, and how it will be output.

Reverb Type

Selection for the type of reverb.

Type	Explanation
Small Room	This reverb simulates the reverberation of a room. It produces a crisp and spacious reverberation.
Medium Room	
Large Room	
Medium Hall	This reverb simulates the reverberation of a hall. It produces a deeper sensation than Room.
Large Hall	
Plate	This simulates a plate echo (a reverb unit that uses the vibration of a metal plate).

Reverb Time

0–127

Specifies the duration of the reverb. Higher settings will produce a longer reverb time. The default setting will depend on the Reverb Type setting.

Type	Default setting	Reverberation time (seconds)
Small Room	44	1.1
Medium Room	50	1.3
Large Room	56	1.5
Medium Hall	64	1.8
Large Hall	64	1.8
Plate	50	1.3

■ Chorus (System Effect)

Chorus Type

Selection for the type of chorus. The default setting of each parameter will depend on the Chorus Type.

Type	Explanation
Chorus 1	A conventional chorus effect that adds spaciousness and depth to the sound.
Chorus 2	
Chorus 3	
Chorus 4	
FB Chorus	A chorus with a flanger-like character, producing a fresh sound.
Flanger	Produces a sound reminiscent of a jet airplane taking off and landing.

Type	Feedback	Mod Rate	Mod Depth	Rev Send
Chorus 1	0 (0%)	3 (0.4 Hz)	5 (1.9 ms)	0 (0%)
Chorus 2	5 (4%)	9 (1.1 Hz)	19 (6.3 ms)	0 (0%)
Chorus 3	8 (6%)	3 (0.4 Hz)	19 (6.3 ms)	0 (0%)
Chorus 4	16 (12%)	9 (1.1 Hz)	16 (5.3 ms)	0 (0%)
FB Chorus	64 (49%)	2 (0.2 Hz)	24 (7.8 ms)	0 (0%)
Flanger	112 (86%)	1 (0.1 Hz)	5 (1.9 ms)	0 (0%)

Mod Rate (Modulation Rate)	0–127
Specifies the speed (frequency) at which the chorus sound will be modulated. Higher settings produce faster modulation.	
Mod Depth (Modulation Depth)	0–127
Specifies the depth of modulation for the chorus sound. Higher settings will produce deeper modulation.	
Feedback	0–127
Specifies the level of the chorus sound that will be re-input to the chorus (i.e., the amount of feedback). Feedback lets you produce a denser chorus sound. Increasing this value will raise the feedback level.	
Send to Reverb	0–127
Specifies the amount of chorus sound that will be sent to reverb. Higher settings will increase the amount that is sent to reverb.	

■ EQ (Equalizer)

You can make equalizer settings for the output of the sound generator section.

EQ1L:	EQ for the left channel (Lch) of the OUTPUT 1 stereo output
EQ1R:	EQ for the right channel (Rch) of the OUTPUT 1 stereo output
EQ2L:	EQ for the left channel (Lch) of the OUTPUT 2 stereo output
EQ2R:	EQ for the right channel (Rch) of the OUTPUT 2 stereo output

EQ Switch	Off, On
Switches the equalizer on/off.	
EQ1 Low Frequency	200/400 Hz
EQ2 Low Frequency	200/400 Hz
Specify the frequency at which the low range will be adjusted.	
EQ1 Low Gain	-15→+15
EQ2 Low Gain	-15→+15
Specify the gain (amount of boost or cut) of the low range. Increasing this setting in the positive direction will emphasize the low range.	
EQ1 High Frequency	2000/4000/8000 Hz
EQ2 High Frequency	2000/4000/8000 Hz
Specify the frequency at which the high range will be adjusted.	
EQ1 High Gain	-15→+15 dB
EQ2 High Gain	-15→+15 dB
Specify the gain (amount of boost or cut) of the high range. Increasing this setting in the positive direction will emphasize the high range.	

Parameters that can be edited in Native mode

The sound generator effect parameters that can be edited using the front panel of the SD-80 will differ depending on the sound generator mode (GM2 or Native mode). In the SD-80's Native mode, you can edit the parameters of the two system effects and three MFX (multi-effects). The following parameters can be edited.

■ Reverb (System Effect)

This includes parameters that specify the type of reverb, how the reverb will be sounded, and how it will be output.

Reverb Type

Selection for the type of reverb. The parameters that can be edited will depend on the Reverb Type.

Type	Explanation
0 (OFF)	Reverb will not be used.
1 (Reverb)	Basic reverb.
2 (SRV Room)	Reverb that simulates the reverberation of a room in greater detail.
3 (SRV Hall)	Reverb that simulates the reverberation of a hall in greater detail.
4 (SRV Plate)	Reverb that simulates a plate echo (a reverb device that uses a metal plate).
5 (GM2)	This is the same as GM2 reverb.

Reverb Level 0–127

Specifies the output level of the signal that has passed through the reverb.

Reverb Source COMMON, PART 1–32

Reverb parameters (reverb type, reverb time, etc.) exist both outside the sound (COMMON) and within the sound (PATCH). This setting specifies which set of parameters the reverb unit will use.

Output Assign 1, 2

Selects the output jacks for the reverb. You can select either OUTPUT 1 or OUTPUT 2 stereo outputs.

When Reverb Type is set to 1 (Reverb)

The following parameters can be edited when **Reverb Type** is set to 1 (Reverb).

Type (Reverb/Delay Type)

Specifies the type of reverb (or delay).

Value	Explanation
ROOM 1	Reverb with short duration and high density
ROOM 2	Reverb with short duration and low density
STAGE 1	Reverb with a greater amount of subsequent reverberation
STAGE 2	Reverb with strong early reflections
HALL 1	Reverb with a transparent character
HALL 2	Rich reverb
DELAY	Conventional delay
PAN-DELAY	Delay with reflections that pan (move) between left and right

Time (Reverb/Delay Time) 0–127

When the Type is ROOM 1–HALL 2 this adjusts the duration of the reverb. When the Type is DELAY or PAN-DELAY, this specifies the delay time. Increasing this value will produce a more spacious feeling.

HF Damp (Reverb/Delay HF Damp)

Specifies the frequency above which the high-frequency component of the reverb sound will be cut. Lowering this value will cause a greater portion of the high-frequency range to be cut, producing a softer-toned reverb sound. If no cutting is desired, set this to **BYPASS**.

Values: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, **BYPASS**

Feedback (Delay Feedback) 0–127

When the Type is **DELAY** or **PAN-DELAY**, this specifies the amount of delay sound that will be returned (fed back) to the input of the delay. Raising this value will cause the delay to continue repeating for a greater number of times.

When Reverb Type is 2 (Room), 3 (SRV Hall), or 4 (SRV Plate)**Pre Delay (Pre Delay Time)** 0.0–100 ms

Specifies the amount of time that is to pass after the original sound is heard before the reverb begins to sound.

Time (Reverb Time) 0–127

Specifies the length of time over which the reverb sound will decay.

Size 1–8

Adjusts the size of the room/hall. Higher settings will simulate a larger space.

High Cut (High Cut Frequency)

Specifies the frequency above which the high-frequency component of the final output sound will be cut. If no cutting is desired, set this to **BYPASS**.

Range: 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12500 Hz, **BYPASS**

Density (Reverb Density) 0–127

Adjusts the density of the reverb sound. Higher settings will produce a denser sound.

Diffusion (Reverb Diffusion) 0–127

Adjusts the way in which the density of the reverb sound will change over time. With higher settings of this parameter, the sound will become denser as time passes. The effect of this parameter is easy to notice with longer Reverb Time settings.

LF Damp Freq (LF Damp Frequency)

Specifies the frequency below which the low-frequency component of the reverb sound will be cut.

Range: 50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000 Hz

LF Damp Gain -36–0 dB

Adjusts the amount of attenuation for LF Damp. With a setting of "0," LF Damp will have no effect.

HF Damp Freq (HF Damp Frequency)

Specifies the frequency above which the high-frequency component of the reverb sound will be cut.

Range: 4000, 5000, 6400, 8000, 10000, 12500 Hz

HF Damp Gain -36–0 dB

Adjusts the amount of attenuation for HF Damp. With a setting of "0," HF Damp will have no effect.

■ Chorus (System Effect)

On the SD-80, the chorus section can also be used as a delay.

Here you can edit parameters that select either chorus or delay, and specify how the chorus/delay sound will be heard and output.

Chorus Type

Selection for the type of chorus (or delay).

Value	Explanation
0 (Off)	Chorus/delay will not be used.
1 (Chorus)	Chorus will be used.
2 (Delay)	Delay will be used.
3 (GM2)	This is the same as GM2 reverb.

Chorus Output Select

MAIN, REV, MAIN+REV

Specifies the output destination of the signal that has passed through chorus.

MAIN:	Output the signal to the OUTPUT of the MIDI sound generator block.	
REV:	Output the signal only to reverb.	
MAIN+REV:	Output the signal to the OUTPUT of the MIDI sound generator block, as well as to reverb.	

Chorus Level

0–127

Specifies the output level of the signal that has passed through the chorus.

Chorus Parameter 1-12

Edit the chorus parameters.

The parameters that can be edited will depend on the type of chorus/delay you specified for **Chorus Type**.

Chorus Source

COMMON, PART 1–32

Chorus parameters (chorus type, chorus rate, etc.) exist both outside the sound (COMMON) and within the sound (PATCH). This setting specifies which set of parameters the chorus unit will use.

Output Assign

1, 2

Selects the output jacks for the reverb. You can select either OUTPUT 1 or OUTPUT 2 stereo outputs.

When Chorus Type is 1 (CHORUS)

Rate (Chorus Rate)

0.05–10.00 Hz

Specifies the frequency at which the chorus sound will be modulated.

Depth (Chorus Depth)

0–127

Specifies the depth to which the chorus sound will be modulated.

Feedback (Chorus Feedback)

0–127

Specifies the amount of chorused sound that will be returned (fed back) to the input of the chorus.

Increasing this value will produce a more complex chorus effect.

Phase 0–180 degrees

Specifies the spaciousness of the chorus sound.

Pre Delay (Chorus Pre Delay) 0.0–100 ms

Specifies the amount of time that is to pass after the original sound has been heard before the chorus sound is heard. Increasing this value heightens the dispersal effect.

Type (Filter Type)

Specifies the type of filter.

Value	Explanation
OFF	The filter will not be used.
LPF	The frequency band above the cutoff frequency setting will be cut.
HPF	The frequency band below the cutoff frequency setting will be cut.

Cutoff freq (Cutoff Frequency)

Specifies the frequency at which the filter will begin cutting the specified frequency band.

Range: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

When the Chorus Type is 2 (DELAY)

Center (Delay Center) 200–1000 ms, note value

Specifies the delay time for the delay sound panned to the center.

Left (Delay Left) 200–1000 ms, note value

Specifies the delay time for the delay sound panned to the left.

Right (Delay Right) 200–1000 ms, note value

Specifies the delay time for the delay sound panned to the right.

HF Damp

Specifies the frequency at which the high-frequency portion will be cut for the delay sound that is returned to the input. If you do not want to cut this sound, select BYPASS.

Range: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

Feedback -98+98%

Specifies the amount of feedback. Changing the amount of feedback will change the number of times that the delay will repeat. Negative (-) settings will invert the phase of the feedback sound.

Center (Delay Center Level) 0–127

Specifies the level of the delay sound localized at the center.

Left (Delay Left Level) 0–127

Specifies the level of the delay sound localized at the left.

Right (Delay Right Level) 0–127

Specifies the level of the delay sound localized at the right.

■ MFX (Multi-effects)

This section explains how to select a multi-effect, and to edit the parameters that determine how the multi-effect sound is produced and output.

MFX A-C Type (Multi-effect A-C Type) 0–90

Provides for selection among the 90 types of multi-effect. For details on the various effects that are available, refer to MFX_E.pdf on the included CD-ROM.

MFX A-C Dry Send Level (Multi-effect A-C Dry Send Level) 0–127

Specifies the level at which the signal processed by the multi-effect will be output.

MFX A-C Chorus Send Level (Multi-effect A-C Chorus Send Level)0–127

Specifies the level at which the signal processed by the multi-effect will be sent to the Chorus effect.

MFX A-C Reverb Send Level (Multi-effect A-C Reverb Send Level)0–127

Specifies the level at which the signal processed by the multi-effect will be sent to the Reverb effect.

MFX A-C Control 1-4 Source (MFX A-C Control 1-4 Source)

Specifies the control source that will modify the multi-effect parameter, and the sensitivity of the control.

Value	Explanation
OFF	A controller will not be used.
CC01-95	Controller number 1-95 (except for 32)
PITCH BEND	Pitch bend
AFTERTOUCH	Aftersustain
SYS-CTRL 1-4	System control 1-4

MFX A-C Control 1-4 Sens (MFX A-C Control 1-4 Sensitivity)-63→63

Set this to a positive (+) value if you want to apply changes to the present value in the positive direction (higher value, toward the right, faster, etc.). Set this to a negative value (-) if you want to apply changes to the present value in a negative direction (lower value, toward the left, slower, etc.). The greater the value, the greater the change produced.

MFX A-C Parameter 1-32 (MFX A-C Parameter)

Specifies the parameter of the multi-effect that you want to use. The parameters that can be edited will depend on the type of multi-effect you select in MFX Type (Multi-effect Type). For details on each effect parameter, refer to **MFX_E.pdf** in the included CD-ROM.

Output Assign 1, 2

Selects the MFX output jacks. You can select either OUTPUT 1 or OUTPUT 2 stereo outputs.

Using MFX in Native mode

If you switch the sound generator to **Native mode**, you will be able to control the sound and **MFX** independently. In order to apply **MFX** to the sound of a specific part, you must do the following two things. These are part parameters. Press the **[INST]** button, and then use the **[PAGE▶]** button to select the editing screen.

- Select the location (source) of the parameters used by MFX.
- Send the output of the part to MFX.

Select the location of the parameters used by MFX

MFX A SOURCE (MFX A source) **COMMON, PART 1-32**

MFX B SOURCE (MFX B source) **COMMON, PART 1-32**

MFX C SOURCE (MFX C source) **COMMON, PART 1-32**

MFX parameters (e.g., algorithm, reverb type, distortion type) exist both within the sounds (**COMMON**) and outside them. For each of the three **MFX** units, you can specify which parameters the unit will use.

COMMON: One of the three sets of parameters stored outside the sounds will be used. A part whose **Part Output MFX Select** setting is set to **MFX** will use the effect settings you specify, and will not be affected by the effect settings of the sound that is called up for that part.

PART 1-32: The parameters stored within the sound called up for that part will be used. Parts whose **Part Output MFX Select** setting is set to **MFX** will be processed by the MFX effect settings of the part referenced by **MFX**. When another sound is called up for the part that is referenced, MFX A will operate according to the MFX settings of the newly requested sound, and the previously mentioned parts will also be processed by these effect settings.

Specifying the output destination of the part

PART OUTPUT ASSIGN MFX, 1, 2, 1L, 1R, 2L, 2R, PATCH

Specify where the output signal of the part will be sent.

- MFX:** Output to MFX.
- 1:** Output the unprocessed sound from OUTPUT 1, without using MFX.
- 2:** Output the unprocessed sound from OUTPUT 2, without using MFX.
- 1L:** Output the unprocessed sound from the L jack of OUTPUT 1.
- 1R:** Output the unprocessed sound from the R jack of OUTPUT 1.
- 2L:** Output the unprocessed sound from the L jack of OUTPUT 2.
- 2R:** Output the unprocessed sound from the R jack of OUTPUT 2.
- PATCH:** The settings of the patch (instrument) will be applied. If the patch is set to use **MFX**, the sound will be sent to MFX. If not, the **DRY** sound will be output.

* Select *1L*, *1R*, *2L*, or *2R* when you want to use the output jacks as four parallel outputs.

PART OUTPUT MFX SELECT MFX A, MFX B, MFX C

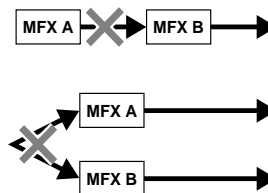
Selects which of the three MFX units the sound will be sent to when **MFX** is selected for **Part Output Assign**.

PART DRY SEND LEVEL

Specifies the output level of the part when **MFX** is not used (i.e., when Part Output Assign is set to **DRY**). This setting is ignored when MFX is used.

MFX output destination

Only one MFX can be selected as the output destination for one part. It is not possible to output a part to multiple MFX units simultaneously, or to send the output of an MFX unit to another MFX.



Using sounds from the Enhanced set in Native mode

Immediately after the sound generator mode is switched to **Native mode**, the three MFX will be assigned to parts 1, 2, and 3, respectively. When you select sounds from the **Enhanced set**, the effects will be applied only to parts 1, 2, and 3 unless you change the settings. If you want to use sounds from the Enhanced set for other parts in **Native mode**, perform the following steps.

< Example: Using MFX A for part 4 >

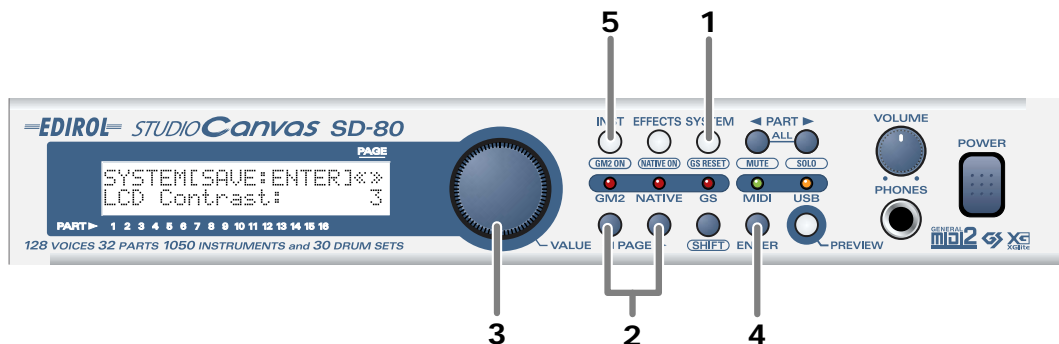
1. Set the **MFX A Source** to **PART4**. This allows the MFX A effect to be applied with the settings of the sound that is called up for part 4.
2. Set the Part 4 **Output Assign** to **PATCH**. This selects **PATCH** as the output destination for the part. Since the output setting of an Enhanced sound (patch) is set to MFX, calling up the sound to Part 4 will cause the signal to be output to **MFX**.
 - * You can apply an effect even if **Part Output Assign** is set to **MFX**. However, in this case, it will be output in a fixed manner to **MFX** even if you call up a sound from a different set to Part 4.
3. For **Part Output MFX Select**, specify which of the three MFX units (A–C) you want to use. For this example, select **MFX A**.

■ EQ (Equalizer)

You can make equalizer settings for the output of the sound generator section. For details, refer to "EQ (Equalizer)" (p. 42).

System-related settings

This chapter explains how to make settings that affect the entire system of the SD-80. Here's the basic procedure for setting these parameters.



1. Press **[SYSTEM]**.
The button will light.
2. Press **[PAGE◀]** or **[PAGE▶]** until the item you want to edit appears in the display.
The following parameters can be set in the system screen.
 - LCD Contrast
 - Write Patch
 - Inst Init
 - Bulk Dump
 - Inst Startup
 - Sys.EX Device ID
 - Control Output
 - Preview Mode
 - Preview Note
 - Preview Velocity
 - System Tempo
 - USB Driver
 - Factory Reset
3. Turn the **[VALUE]** dial to edit the value of the item.
4. When you have selected the desired value, press **[ENTER]**.
** Do not turn off the power while the settings are being saved (while the display indicates "Saving ..."). Doing so will cause all data within the SD-80 to be lost.*
5. Press **[INST]** to return to the main screen.

Adjusting the contrast of the display

Immediately after the power is turned on, or after the SD-80 has been used for an extended period, or depending on the location, the characters and icons in the display screen may be difficult to read. If this occurs, adjust the contrast of the display ("**Adjusting the brightness of the display (Contrast)**" (p. 15)).

LCD Contrast 1–4–5

This adjusts the contrast (darkness) of the SD-80's display. Increasing this value will darken the characters in the display.

```
SYSTEM[SAVE:ENTER]*
LCD Contrast:      4
```

Saving a patch

If you have edited the multi-effect (MFX) settings of a sound in Native mode, your changes will be lost when you turn off the power of the SD-80. Thus, you can save MFX settings for each sound as a user patch in the SD-80's user memory.

The user patches you save can be recalled from the front panel or via MIDI messages as User set sounds.

- * *If you want to select a User sound via MIDI, transmit a bank select message of CC#00 (MSB) = 87 for an Inst part, or CC#00 (MSB) = 86 for a Drum part. ("**Controlling the SD-80 via MIDI**" (p. 53))*

WritePatch Inst: U-001--U-128, Drum: U-001--U-016

You can save 128 Inst patches and 16 Drum patches in the internal memory of the SD-80.

```
SYSTEM[WRITE:ENTER]*
WritePatch:A01+U-001
```

- * *WritePatch can be executed only when the sound generator mode is Native mode. In other cases, the display will indicate "-----", and this cannot be executed.*

Switching the sound generator mode (Inst Initialize)

The SD-80 has four **sound generator modes**: **GM2**, **Native**, **GS**, and **XGlite**. When you switch the sound generator mode, the sound generator will also be initialized, as appropriate for that mode.

Inst Init **GM2**, Native, GS, XGlite

This switches the unit to the sound generator mode you select here, and initializes the sound generator appropriately. (→ "**Switching the sound generator mode (Inst Initialize)**" (p. 50))

```
SYSTEM[SET :ENTER]*
Inst Init:      NATIVE
```

- * *Inst Init is where you select the sound generator mode that you want to switch to. It does not indicate the current sound generator mode.*

Transmitting sound generator settings to an external MIDI device

The SD-80 can transmit the settings of its sound generator as MIDI data. There are two ways in which parameters can be transmitted: a group of parameter settings can be transmitted as a **bulk dump**, or a single parameter can be transmitted as **individual data**. ("**Writing/loading SD-80 settings**" (p. 69)) All data is transmitted in the form of **system exclusive data**.

Use **bulk dump** when you want to save SD-80 settings on an external MIDI device. By transmitting a bulk dump, you can also set the parameters of two SD-80 units to identical settings. By sending individual data you can quickly and easily create data (e.g., for a sequencer) without having to look up each system exclusive message.

Bulk Dump A01–A16, B01–B16, COMMON, ALL

Specifies the internal sound generator parameters that you want to transmit when the bulk dump is executed.

```
SYSTEM[SEND:ENTER]
Bulk Dump: A01
```

- * *Bulk Dump can be carried out only when the sound generator mode is Native mode. Otherwise, "---" will be displayed, indicating that the feature is unavailable.*
- * *A01--A16 and B01--B16 will transmit the part parameters and patch parameters of the selected part. COMMON will transmit the parameters that are common to all parts, and ALL will transmit all parameters for A01--B16 and COMMON.*

USER AREA

All 128 user patches and 16 user drum sets will be transmitted as bulk data. The transmitted data can be recorded by your sequencer software, or the like. If you transmit this recorded data back to the SD-80, all user patches and rhythm sets will be overwritten. Do not turn off the power while the settings are being written (while the display indicates "Saving...").

- * *Use this bulk transmission function to back up your user patches and rhythm sets.*

Specifying the start-up sound generator mode

Inst Startup GM2, NATIVE, GS

This selects the mode in which the sound generator will be when the SD-80 is started up.

```
SYSTEM[SAVE:ENTER]
Inst Startup: NATIVE
```

Setting the Device ID Number

The **Device ID Number** is an identification number used when receiving and transmitting **exclusive messages**. The SD-80 relies on an identical device ID number when transmitting and receiving exclusive messages. This means that in order to use exclusive messages to transfer data, both devices must be set to the same device ID number.

The device ID number is a number from 17 to 32. The factory setting is **17**.

SysEx. Device ID 17–32

Specifies the device ID number used when the sound generator mode is **Native mode**.

```
SYSTEM[SAVE:ENTER]
Sys.Ex Device ID: 17
```

- * *When playing SMF music files produced by Roland/Edirol, you must set the device ID number to 17. Playback will not be correct if this is not set to 17.*
- * *It is not possible to specify a different device ID number for each Part.*

Transmitting button/knob operations to an external MIDI device

Control Output ON, OFF

Specify whether operations of the SD-80's own buttons and knobs will be transmitted to an external MIDI device.

```
SYSTEM[SAVE:ENTER]
Control Output: OFF
```

Preview settings

By pressing **[PREVIEW]** you can audition the currently selected sound. This is called the **preview function**.

Here you can make settings for the preview function ("**Auditioning the sounds (Preview)**") (p. 14).

Preview Mode **PHRASE, SINGLE**
Switches the mode of the Preview function. Select **PHRASE** to use phrase preview, or **SINGLE** to select single-note preview.

```
SYSTEM[SAVE:ENTER]*
Preview Mode:  PHRASE
```

Preview Note **C-1–C4–G9**
Specifies the pitch (key) of the note that will be sounded for single-note preview.

```
SYSTEM[SAVE:ENTER]*
Preview Note:   C 4
```

Preview Velocity **0–127**
Specifies the volume (velocity) of previews.

```
SYSTEM[SAVE:ENTER]*
Preview Velocity:127
```

Setting the system tempo

System Tempo **20–120–250**

This sets the tempo of the entire SD-80 system. When you set the Delay Time of an internal sound generator effect (MFX) to Clock (Tempo), it will follow the tempo you specify here.

```
SYSTEM[SAVE:ENTER]*
System Tempo:   120
```

Switching the driver

USB Driver **VENDOR, GENERIC**
Selects the type of driver that will be used when the SD-80 is connected to your computer.

```
SYSTEM[SAVE:ENTER]*
USB Driver:     VENDOR
```

VENDOR: The dedicated driver provided on the included CD-ROM will be used, allowing stable, high-speed MIDI transmission and reception. Normally, you should use this driver.

GENERIC: The standard MIDI driver provided by the OS will be used.

Restoring the factory settings

Factory Reset
This resets all system parameters of the SD-80 to their factory-set condition.

```
SYSTEM[EXEC:ENTER]*
Factory Reset
```

Controlling the SD-80 via MIDI

The functionality of the SD-80's internal sound generator, mixer, and audio effects can be controlled by **MIDI messages** received from the USB connector or MIDI IN connector. This chapter provides various examples that show how MIDI messages can be used to operate the SD-80.

* For details on operation via MIDI, refer to "**MIDI Implementation**" (MIDIImp_E.pdf) on the included CD-ROM.

Controlling the internal sound generator

MIDI messages can be used to control the internal sound generator.

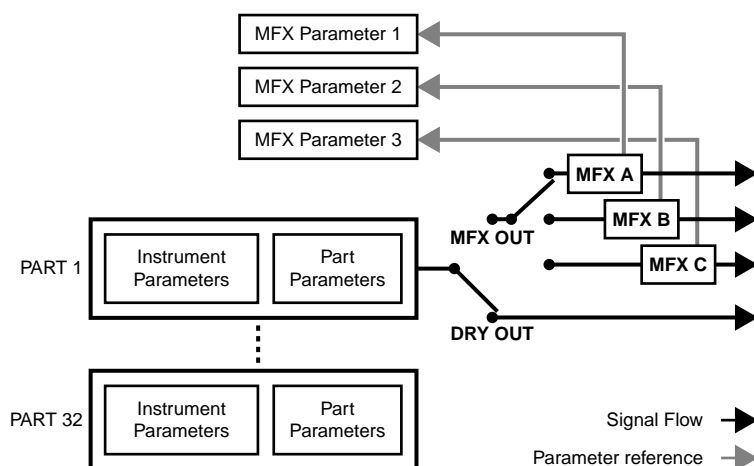
■ Switching the sound generator mode

You can use MIDI messages to switch the **sound generator mode**. Transmit one of the following messages according to the desired sound generator mode. **When you switch the sound generator mode, the sound generator will be initialized.**

Sound Generator mode	Message	
GM2 mode	GM2 System On	F0 7E 7F 09 03 F7
Native mode	Native On	F0 41 10 00 48 12 00 00 00 00 00 00 F7
GS mode	GS Reset	F0 41 10 42 12 40 00 7F 00 41 F7
XGlite mode	XG System On	F0 43 10 4C 00 00 7E 00 F7

Features of Native mode

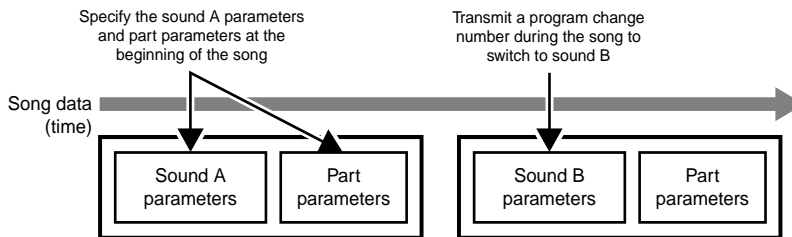
Native mode allows you to take full advantage of the SD-80's sound generator structure. Use this mode when you want to edit the internal sounds or MFX in greater detail. Although this mode lets you control parameters that cannot be edited in other modes, operations in Native mode are not compatible with GM2. **In other words, song data created in Native mode cannot be reproduced by playing it back on another GM2 sound generator.**



- In Native mode, MFX and sounds (instruments) can be handled independently. For this reason, simply selecting an Enhanced sound will not automatically cause MFX to be applied. You will need to edit the part parameters in order to apply MFX.
- You can also apply effects to sounds other than the Enhanced set, or input the signals from multiple parts into a single MFX.

* For details on using MFX, refer to "**Using the effects of the internal sound generator**" (p. 39).

- A greater number of the Part parameters can be edited from the SD-80.
 - When creating song data, you can select sounds from the Classical/Contemporary/Solo/Enhanced sound sets simply by specifying the Bank MSB/LSB and Program Number.
 - You can use system exclusive messages to control the Patch parameters that create the sound; e.g., pitch, TVF (filter), LFO, and envelope.
- * For details on the parameters, refer to “**Each Multi-Effects Parameters**” (MFX_E.pdf) on the included CD-ROM.
- These sounds are selected individually for each of the 32 parts. Unlike the Part parameters, the sound (instrument) parameters belong to the sound (not to the Part), meaning that their settings will be overwritten by the newly selected sound when you switch sounds from the front panel or by using program change messages. (The Part parameters will remain as they were set.) If you want to use sound parameters within your song data, you must select the sound before you modify the parameters.



The structure of the synthesizer

When controlling the sound parameters, it is important to understand the structure of a conventional music synthesizer (oscillator, TVF, TVA, envelope, LFO). We recommend that you understand the following concepts before you use the operations described in this section.

WAVE

Provides for selection of the PCM waveform (wave) that is to form the basis of the sound, and specifies how its pitch will change.

TVF (Time Variant Filter)

Determines how the frequency components of the sound will change.

TVA (Time Variant Amplifier)

Specifies how the volume will change, and set the stereo position.

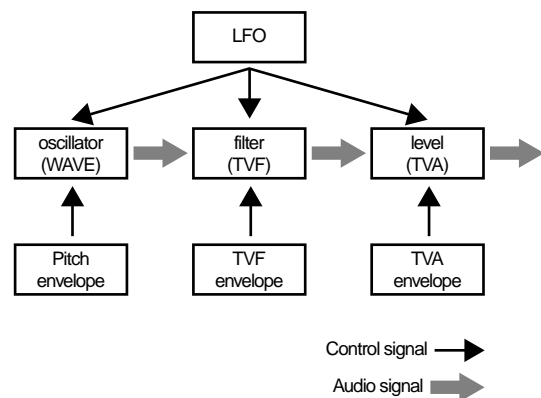
Envelope

Specifies how change will occur over time.

For example if you want to adjust the time over which the sound attacks or decays, you would adjust the TVA envelope to specify the desired volume changes.

LFO (Low Frequency Oscillator)

Specifies cyclic change (modulation). You can create vibrato by applying LFO to the pitch, “wah” by applying LFO to the TVF cutoff frequency, or tremolo by applying LFO to the TVA volume.



■ Switching the sound set

GM2 mode and Native mode each have four sound sets (variations). You can use MIDI messages to switch between these sound sets.

Switching the sound set in GM2 mode

In GM2 mode, you can switch the sound set by transmitting a **system exclusive message**.

<Example> Switch the sound set of Part 1 to the Enhanced set

Transmit the following system exclusive data:

Part (pp): 20H = Part 1

:

3FH = Part 32

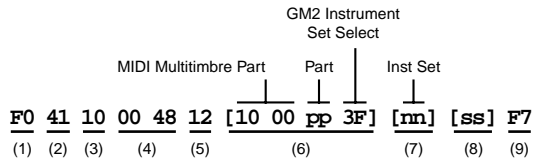
Sound set (nn): 00H = Classical set

01H = Contemporary set

02H = Solo set

03H = Enhanced set

Checksum (ss): For details on the calculation method, refer to the section “**How to calculate the checksum**” within “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.



- (1) Exclusive status
- (2) ID (Roland : 41H)
- (3) Device ID
- (4) Model ID (SD-90 : 00H 48H)
- (5) Command ID (Data set : 12H)
- (6) Address
- (7) Data
- (8) Checksum
- (9) End of Exclusive

(pp) specifies the part you want to switch, and (nn) selects the sound set.

Switching the sound set in Native mode

In Native mode, you can switch the sound set by transmitting a **Bank Select message**. The upper byte (MSB) of the MIDI bank number will switch the sound set.

MIDI bank number: CC#00 (MSB) = **

** : The set will be switched according to the value you insert here (decimal)

80 (50H) = Special 1 set

81 (51H) = Special 2 set

96 (60H) = Classical set

97 (61H) = Contemporary set

98 (62H) = Solo set

99 (63H) = Enhanced set

87 (57H) = User set

After transmitting CC#00, transmit CC#32 (Variation) and PC# (Program Change) messages to switch the sound (“**Switching the sound set in Native mode**” (p. 55)).

Correspondence between actual parts and part numbers in GS mode

Actual part	Part number	Actual part	Part number
Part1	1	Part9	9
Part2	2	Part10	0
Part3	3	Part11	A
Part4	4	Part12	B
Part5	5	Part13	C
Part6	6	Part14	D
Part7	7	Part15	E
Part8	8	Part16	F

Data: 00H = OFF (Normal part)
 01H = Set1 (Drum1)
 02H = Set2 (Drum2)

(p) specifies the part you want to switch, and (nn) selects the sound set.

Switching the Part Mode in XGlite mode

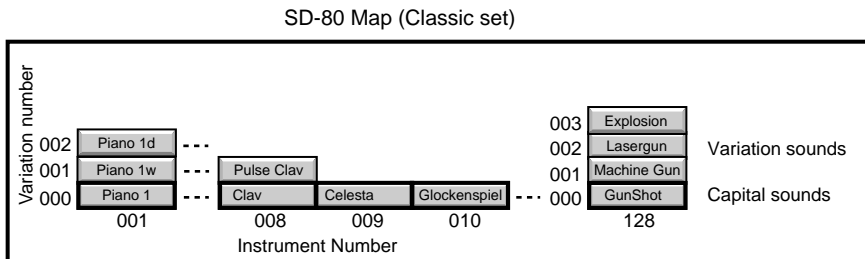
Send a message that causes the sound generator to switch to XGlite mode (F0 43 10 4C 00 00 7E 00 F7), and then use a **Bank Select message** to select the sound ("**Switching sounds**" (p. 58)).

■ Switching sounds

You can switch the sound (instrument) for each of the SD-80's parts by transmitting MIDI messages from sequencer software running on your computer.

Sounds are specified by their **Variation number** and **Instrument number**, but the way in which these numbers are displayed may differ depending on your software. On the SD-80, variation numbers start from 0, and instrument numbers start from 1.

The variation number corresponds to the MIDI bank number, and the instrument number corresponds to the MIDI program number.



How to read the instrument list

The sounds (instruments) built into the SD-80 are listed in the instrument list provided for each sound generator mode.

- "Instrument list (GM2 / Native mode)" (p. 95)
- "Instrument list (GS mode)" (p. 101)
- "Instrument list (XGlite mode)" (p. 103)

Two numbers are used to specify a sound; the **Instrument number** and the **Variation number**. Sounds whose variation number is 000 are "**capital**" sounds, and sounds whose variation number is other than 000 are "**variation**" sounds.

Each instrument list shows the **instrument number**, **variation number**, and the **name of the sound**.

<Example> Native mode instrument list

PC	LSB	MSB	Classic Set	Voice	MSB	Contemp Set	Voice	MSB	Solo Set	Voice	MSB
1	0	96	Piano 1	1	97	Ac.Piano	1	98	St.Piano 1	2	99
	1	96	Piano 1w	1	97	Ac.Piano w	1	98	St.Piano 1w	2	99
	2	96	Piano 1d	1	97	Mild Piano	1	98	European Pf	4	99
2	0	96	Piano 2	1	97	Rock Piano	1	98	St.Piano 2	2	99
	1	96	Piano 2w	1	97	Rock Piano w	1	98	St.Piano 2w	2	99
3	0	96	Piano 3	1	97	E.Grand Pf	2	98	SA Piano	2	99
	1	96	Piano 3w	1	97	E.Grand Pf w	2	98	SA Piano w	2	99
4	0	96	Honky-tonk	2	97	Old Honky	2	98	St.Honky	4	99
	1	96	Honky-tonk w	2	97	Old Honky w	2	98	St.Honky w	4	99

PC: Instrument number (program number)

LSB: Variation number (value of controller number 32)

Capital sounds (variation number= 0) are printed in bold type.

MSB: Sound set number (value of controller number 0)

Classic Set: Sound set = Classical set sounds

Contemp Set: Sound set = Contemporary set sounds

Solo Set: Sound set = Solo set sounds

Enhance Set: Sound set = Enhanced set sounds

Voices: Number of voices used by that instrument

Switching sounds in GM2 mode

Transmit **bank select LSB** (CC#32) and **program change** (PC#).

- * *Bank select MSB (CC#00) is used to switch the part mode. Inst part and Drum part correspond to the following numbers.*

Inst part	Drum part
121 (79H)	120 (78H)

<Example> Specifying part 11 as a GM2 Inst part (009: Celesta 2)

MIDI CH= 11 ... specify MIDI channel 11
 CC#00 121 ... set as a GM2 Inst part
 CC#32 0 ... specify variation number 000
 PC# 9 ... specify program change number 009

Switching sounds in Native mode

Transmit **bank select LSB** (CC#32) and **program change** (PC#).

- * *Bank select MSB (CC#0) is used to switch the Part Mode. The number corresponds to Inst part or Drum part as follows:*

Inst part		Drum part	
80 (50H)	Special 1 set	—	—
81 (51H)	Special 2 set	—	—
87 (57H)	User set	86 (56H)	User set
96 (60H)	Classical set	104 (68H)	Classical set
97 (61H)	Contemporary set	105 (69H)	Contemporary set
98 (62H)	Solo set	106 (6AH)	Solo set
99 (63H)	Enhanced set	107 (6BH)	Enhanced set

<Example> Specifying part 11 as an Inst part (009: Celesta 2) of the Classical set

MIDI CH= 11 ... specify MIDI channel 11
 CC#00 96 ... set as an Inst part of the Classical set
 CC#32 0 ... specify variation number 000
 PC# 009 ... specify program change number 009

Switching sounds in GS mode

Transmit **bank select MSB** and **program change**.

- * *Leave the bank select LSB set at 0.*

Actual transmission of MIDI messages

When you input MIDI messages into sequencer software on your computer for transmission to the SD-80, send the messages in the following order.

1. Value of control change 0: MIDI bank number MSB (variation number)
2. Value of control change 32: MIDI bank number LSB (*1)
3. Value of program change: MIDI program number (instrument number)
 (*1) Refer to the explanation of the **bank select lower byte (LSB)** (see the following section).

The **bank select message** consists of **steps 1 and 2**. **Bank Select messages** are one form of **control change message**. Processing of the bank select is suspended until the **program change** is received.

<Example> If you want to select the sound for variation number 8, instrument number 3 (Piano3 w), transmit the following data to the SD-80 (given in decimal form).

1. Value of control change 0: 008 (upper byte of bank number = variation number: 8)
2. Value of control change 32: 0
3. Value of program change: 003 (program number = instrument number: 3)

About the bank select lower byte (LSB)

The SD-80 processes the lower byte (LSB) of the bank select message as follows:

Number	Processing
0	Follows the currently-valid GS mode.

<Example> Switching the sound of a part

To switch the sound of part 2 to **017 Organ 1** (variation 000), transmit the following.

MIDI CH = 02
CC#00 000 ... set the variation number to 000
CC#32 0
PC# 017 ... set the instrument number to 017

<Example> Changing the variation of the part's sound

To switch the sound of part 1 to **008 Detuned EP1** (variation 008), transmit the following.

MIDI CH = 01
CC#00 008 ... set the variation number to 008
CC#32 0
PC# 006 ... set the instrument number to 008

<Example> Changing the sound set and variation of the part's sound

To switch the sound of part 3 to **039 Syn. Bass 3** (variation 008), transmit the following.

MIDI CH = 03
CC#00 008 ... set the variation number to 008
CC#32 0
PC# 039 ... set the instrument number to 039

■ Switching the drum set

In the same way as for instruments, you can switch **drum sets** by transmitting MIDI messages from sequencer software running on your computer.

The drum set will switch when the **program change** is received. Transmit the **program change message** on the same channel as the MIDI receive channel of the drum part. On the SD-80, the drum set number corresponds to the program number.

How to read the drum set list

In normal screens, the **drum set number** and **drum set name** will be displayed. Drum sounds (drum instruments) are assigned to each key of the drum set.

The types of drum set built into the SD-80 are listed by number and name in the **drum set list** for each sound generator mode. The type of sound included in the drum set is also listed by number and name.

- "Drum set list (GM2 / Native mode)" (p. 105)
- "Drum set list (XGlite mode)" (p. 117)
- "Drum set list (GS mode)" (p. 114)

	PC 1	PC 9	PC 17	PC 25	PC 26
	Standard Set	Room Set	Power Set	Electric Set	Analog Set
27	High Q	<-	<-	<-	<-
28	Slap	<-	<-	<-	<-
	Scratch Push	<-	<-	<-	<-
29	Scratch Full	<-	<-	<-	<-
31	Sticks	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-
33	Metron Click	<-	<-	<-	<-
34	Metron Bell	<-	<-	<-	<-
35	Kick Drum 2	<-	Power Kick 2	Elec.Kick 2	Ana.Kick 2

PC	Drum set number (program number)
Keyboard area	Note number
<-	Same sound as percussion instrument sound of Standard Set 1 (PC 1)
—	Note number for which no percussion instrument exists

Switching drum sets in GM2 mode

Transmit **bank select LSB (CC#32)** and **program change (PC#)**.

- * *Bank select MSB (CC#00) is used to switch the part mode. Inst part and Drum part correspond to the following numbers.*

Inst part	Drum part
121(79H)	120(78H)

<Example> Specifying part 10 as a GM2 drum part (009:Room Set 2)

MIDI CH=	10	
CC#00	120	... set as a GM2 drum part
CC#32	0	... specify variation number 000
PC#	9	... specify program change number 009

Switching drum sets in Native mode

Transmit **bank select LSB** (CC#32) and **program change** (PC#).

- * *Bank select MSB (CC#0) is used to switch the Part Mode. Inst part and Drum part correspond to the following numbers.*

Inst part		Drum part	
80 (50H)	Special 1 set	—	—
81 (51H)	Special 2 set	—	—
87 (57H)	User set	86 (56H)	User set
96 (60H)	Classical set	104 (60H)	Classical set
97 (61H)	Contemporary set	105 (61H)	Contemporary set
98 (62H)	Solo set	106 (62H)	Solo set
99 (63H)	Enhanced set	107 (63H)	Enhanced set

<Example> Specifying part 10 as a Classical set drum part (009: Room Set)

```

MIDI CH= 10
CC#00    104    ... specify as a Classical set drum part
CC#32    0      ... specify variation number 000
PC#      9      ... specify program change number 009

```

Switching drum sets in GS mode

In GS mode, part 10 is specified as a drum part (MIDI receive channel: 10). The note data in the rhythm data you are playing must match the note numbers of the drum set you are using.

Drum Set name and Drum Set number (Program number)

STANDARD 1	---	ROOM	---	TR-808	---	User Set	User Set
001		009		026		065	066

<Example> Switching the drum set

Transmit the following to set part 10 sound to **009: Room**.

```

MIDI CH = 10
CC#00    000    ... specify variation number 000
CC#32    0      ... specify variation number 000
PC#      009    ... specify drum set number 009: Room

```

■ Editing MIDI effect parameters

Editing the reverb (in GM2 mode)

To edit the reverb via MIDI messages, transmit the following system exclusive data (global parameter control).

F0 7F 10 04 05 01 01 01 01 01 pp vv F7

pp: Parameter number

vv: Value (setting)

	VV (setting)
pp = 0 (Reverb Type)	00 Small Room
	01 Medium Room
	02 Large Room
	03 Medium Hall
	04 Large Hall
08 Plate	
pp = 1 (Reverb Time)	00–7F (0–127)

<Example> Setting the reverb type to 04 Large Hall

Transmit the following system exclusive.

F0 7F 10 04 05 01 01 01 01 01 00 04 F7

Editing the chorus (in GM2 mode)

To edit the chorus via MIDI messages, transmit the following system exclusive data (global parameter control).

F0 7FH 10 04 05 01 01 01 01 02 pp vv F7

pp: Parameter number

vv: Value (setting)

	VV (setting)
pp = 0 (Chorus Type)	00 Chorus1
	01 Chorus2
	02 Chorus3
	03 Chorus4
	04 FB Chorus
05 Flanger	
pp = 1 (Mod Rate)	00–7F (0–127)
pp = 2 (Mod Depth)	
pp = 3 (Feedback)	
pp = 4 (Send To Reverb)	

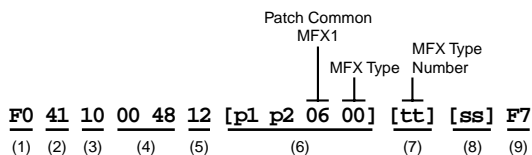
<Example> Setting the chorus type to 3 Chorus4

Transmit the following system exclusive data.

F0 7F 10 04 05 01 01 01 02 01 00 03 F7

Changing the MFX type (Native mode)

To change the effect type of the enhanced sounds selected for parts 1–3, transmit the following system exclusive message.



- (1) Exclusive status
- (2) ID (Roland : 41H)
- (3) Device ID
- (4) Model ID (SD-90 : 00H 48H)
- (5) Command ID (Data set : 12H)
- (6) Address
- (7) Data
- (8) Checksum
- (9) End of Exclusive

Address (p1 p2): when changing the insertion effect of part 1 = 11 00
 when changing the insertion effect of part 2 = 11 20
 when changing the insertion effect of part 3 = 11 40

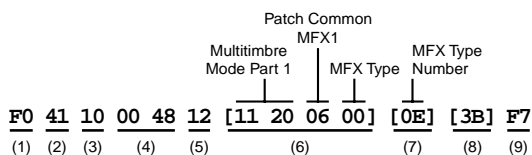
Data (tt): Effect type number
 For details on effect types, refer to "MFX parameter list" (p. 80), and to "Each Multi-Effects Parameters" (MFX_E.pdf) on the included CD-ROM. No effect is assigned to Effect Type number 00 (THROUGH).

Checksum (ss): For details on the calculation method, refer to the section "How to calculate the checksum" within "MIDI Implementation" (MIDIImp_E.pdf) on the included CD-ROM.

* This is valid if the part 1--3 **Part Output Assign** and **Part Output MFX Select** (p. 38) have not been changed since a Native Reset message was received.

<Example> Specifying 14: STEREO CHORUS as the effect of an enhanced sound for part 2

Transmit the following system exclusive data.



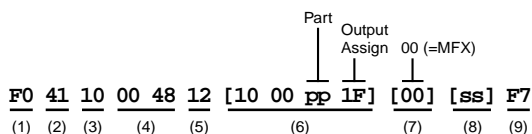
Using MFX with other parts (Native mode)

By transmitting the following system exclusive message, the insertion effect used by the enhanced sounds selected for parts 1–3 can be used by other parts. The output of all parts that use that MFX will be mixed and sent to the MFX.

- Do not change the **MFX source** of the three insertion effects after a Native Reset message is received.
- This will not work if effect type 00 (no effect: THROUGH) has been specified for the enhanced sounds selected for parts 1–3.
- Any control performed on the MFX will apply equally to all parts that use that MFX.

1. Transmit **Output Select = MFX** to specify **MFX** as the output of the part.

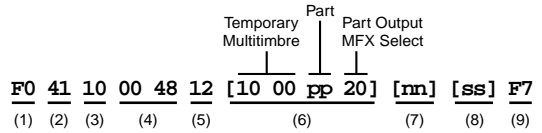
Address (pp): when using the MFX for part 1 = 20
 when using the MFX for part 2 = 21
 :
 when using the MFX for part 32 = 3F



Data: 00 (output assign = MFX)

Checksum (ss): For details on the calculation method, refer to “**How to calculate the checksum**” in “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.

2. Transmit “**Part Output MFX Select**” to specify the **MFX (MFX A–MFX C)** to which the output of the part will be sent.



Address (pp): when using the MFX for part 1 = 20
when using the MFX for part 2 = 21

:

when using the MFX for part 32 = 3F

Data (nn): when the desired effect (MFX) is used by the enhanced sound of part 1 = 00 (MFX A)
when the desired effect (MFX) is used by the enhanced sound of part 2 = 01 (MFX B)
when the desired effect (MFX) is used by the enhanced sound of part 3 = 02 (MFX C)

<Example> Making the sound of part 6 use MFX C which is being used by the enhanced sound of part 3
Transmit the following system exclusive data.

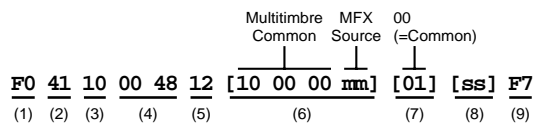
1. F0 41 10 00 48 12 10 00 25 1F 00 2C F7
2. F0 41 10 00 48 12 10 00 25 20 02 29 F7

Sharing an MFX between multiple parts

Here's how an MFX can be shared by more than one part.

- * When an MFX is shared by more than one part, the effect setting of the enhanced sound of the part using that MFX will be ignored.

1. Make the **MFX** use the settings of the multitimbre (common to all parts).

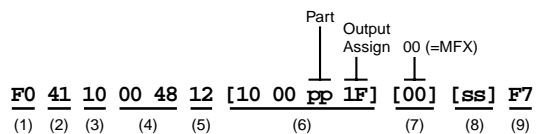


Address (mm): when you want to use MFX A from multiple parts = 30
when you want to use MFX B from multiple parts = 31
when you want to use MFX C from multiple parts = 32

Data: 01 (MFX Source = COMMON)

Checksum (ss): For details on the calculation method, refer to the section “**How to calculate the checksum**” within “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.

2. Transmit **Output Assign = MFX** to specify **MFX** as the output of the part.



Address (mm): when you want part 1 to use the MFX = 20
when you want part 2 to use the MFX = 21

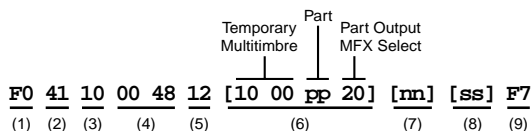
:

when you want part 32 to use the MFX = 3F

Data: 00 (Output Assign = MFX)

Checksum (ss): For details on the calculation method, refer to “**How to calculate the checksum**” in “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.

3. Transmit “**Part Output MFX Select**” to specify the MFX (MFX A–MFX C) to which the part output will be sent.



Address (pp): when you want part 1 to use the MFX =20
when you want part 2 to use the MFX =21
:

when you want part 32 to use the MFX =3F

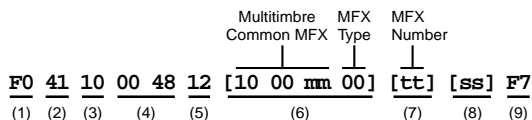
Data (nn): when you want to use MFX A =00

when you want to use MFX B =01

when you want to use MFX C =02

Checksum (ss): For details on the calculation method, refer to the section “**How to calculate the checksum**” within “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.

4. Select the MFX type.



Address (mm): when you want to use MFX A =06
when you want to use MFX B =08
when you want to use MFX C =0A

Data (tt): Select the effect type (00–5A)

Checksum (ss): For details on the calculation method, refer to the section “**How to calculate the checksum**” within “**MIDI Implementation**” (MIDIImp_E.pdf) on the included CD-ROM.

<Example> Share MFX B with the sounds of parts 4, 6, and 7, and set the effect type to 24:REVERB

1. F0 41 10 00 48 12 10 00 00 31 00 3F F7
- 2-1. F0 41 10 00 48 12 10 00 23 1F 00 2E F7
- 2-2. F0 41 10 00 48 12 10 00 25 1F 00 2C F7
- 2-3. F0 41 10 00 48 12 10 00 26 1F 00 2B F7
- 3-1. F0 41 10 00 48 12 10 00 23 20 01 2C F7
- 3-2. F0 41 10 00 48 12 10 00 25 20 01 2A F7
- 3-3. F0 41 10 00 48 12 10 00 26 20 01 29 F7
4. F0 41 10 00 48 12 10 00 08 00 18 50 F7

Editing the MFX effect parameters

You can edit effect parameters such as equalizer gain and frequency, delay time, and feedback level.

- * *The MFX effect parameters will sometimes be included in the sound parameters (PART), and sometimes be outside the sound (COMMON). The address will differ depending on which of these is being referenced, as specified by "MFX source."*

When MFX source = PART

When MFX source = PART (i.e., when editing the MFX of an enhanced sound), transmit the following system exclusive data.

F0 41 10 00 48 12 [p1 p2 r1 r2] [d1 d2 d3 d4] [ss] F7
 (1) (2) (3) (4) (5) (6) (7) (8) (9)

Address (p1 p2): when editing the insertion effect for part 1 =11 00
 when the sound is a drum set =11 10
 when editing the insertion effect for part 2 =11 20
 when the sound is a drum set =11 30
 when editing the insertion effect for part 3 =11 40
 when the sound is a drum set =11 50

Address (r1 r2): when editing parameter number 1 =06 11
 when editing parameter number 2 =06 15
 : (the address will increment 04H each time the parameter number increases by 1)
 when editing parameter number 29 =07 01
 when editing parameter number 30 =07 05
 when editing parameter number 31 =07 09
 when editing parameter number 32 =07 0D

Data

(d1, d2, d3, d4): Effect parameter
 The lower 4 bits of the four data bytes indicate a signed numerical value.

Data byte expression

The value to be specified is first expressed as a **16-bit hexadecimal** in which **32768 = 8000H** is 0. Each digit is input in the lower place of each data byte.

Parameter value to be specified	Data bytes
-20000 = 031EH	00 03 01 0E
-19999 = 031FH	00 03 01 0F
:	:
-2 = 7FFFH	07 0F 0F 0E
-1 = 7FFFH	07 0F 0F 0F
0 = 8000H	08 00 00 00
1 = 8001H	08 00 00 01
2 = 8002H	08 00 00 02
:	:
19999 = CE1FH	0C 0E 01 0F
20000 = CE20H	0C 0E 02 00

Checksum (ss): For details on the calculation method, refer to the section "**How to calculate the checksum**" within "**MIDI Implementation**" (MIDIImp_E.pdf) on the included CD-ROM.

<Example> Editing the MFX of part 3

If **MFX type=18:Mod Delay** is applied to the sound of part 3 and you want to change its **DLY Right** setting (parameter number 02) to **80 (=50H)**, transmit the following system exclusive data.

1. F0 41 10 00 48 12 11 40 06 15 08 00 05 00 07 F7

When MFX source = COMMON

When MFX source = COMMON, transmit the following system exclusive data.

<u>F0</u>	<u>41</u>	<u>10</u>	<u>00</u>	<u>48</u>	<u>12</u>	<u>[10</u>	<u>00</u>	<u>r1</u>	<u>r2]</u>	<u>[d1</u>	<u>d2</u>	<u>d3</u>	<u>d4]</u>	<u>[ss]</u>	<u>F7</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)		(9)					

Address (p1 p2): when editing MFX A's parameter number 1 =06 11 (for MFX B =08 11, for MFX C =0A 11)
 when editing MFX A's parameter number 2 =06 15 :
 when editing MFX A's parameter number 3 =06 19 :
 : (the address will increment by 04H each time the parameter number increases by 1)
 when editing MFX A's parameter number 29 =07 01 (for MFX B =09 11, for MFX C =0B 11)
 when editing MFX A's parameter number 30 =07 05 :
 when editing MFX A's parameter number 31 =07 09 :
 when editing MFX A's parameter number 32 =07 0D :

Data

(d1, d2, d3, d4): Effect parameter

The lower 4 bits of the four data bytes indicate a signed numerical value. For details on the data byte expression, refer to "**Data byte expression**" (p. 67).

Checksum (ss): For details on the calculation method, refer to the section "**How to calculate the checksum**" within "**MIDI Implementation**" (MIDIImp_E.pdf) on the included CD-ROM.

<Example> Editing MFX C COMMON

If MFX C COMMON is set to **MFX type=53:Od2**, and you want to change its **EQ Low Gain** (parameter number 05) to **-3 dB**, transmit the following system exclusive data.

1. F0 41 10 00 48 12 10 00 0A 21 07 0F 0F 0D 13 F7

■ Writing/loading SD-80 settings

The SD-80 is able to transmit the settings of its sound generator as MIDI data. Two types of data can be transmitted: **Bulk data**, which transmits a group of parameters; and **Individual data**, which transmits a single parameter. All data is transmitted in the form of **system exclusive data**.

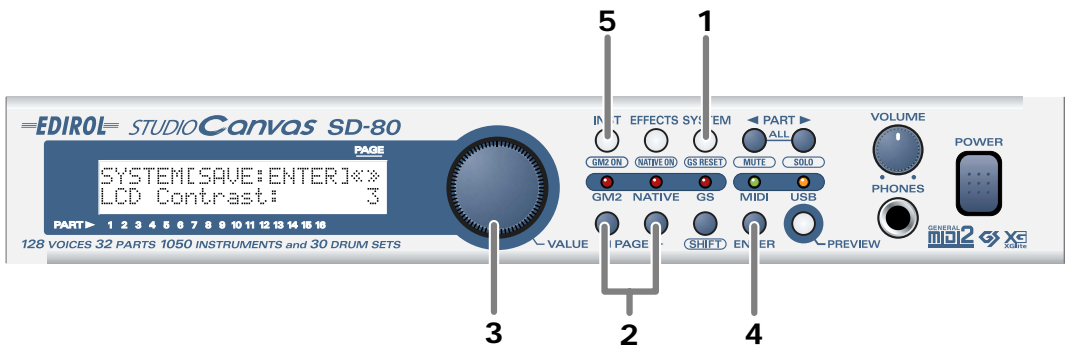
Bulk Dump is used when you want to save SD-80 settings on your sequencer software or an external MIDI sequencer. You can also connect two SD-80 units and transmit a bulk dump to set all parameters of both SD-80 units to the same settings.

By using Individual data you can create song data more efficiently, since you will not have to look up each system exclusive message.

Transmitting a bulk dump

When transmitting or receiving bulk dump data, you must also check settings and procedures on your sequencer software or external MIDI sequencer. Here we will explain how to transmit a bulk dump from the SD-80.

- * *Bulk Dump can be executed only when the sound generator is in Native mode. In other cases, this will be displayed as "---" and cannot be executed.*



1. Press **[SYSTEM]**.
The button will light.
2. Press **[PAGE◀]** or **[PAGE▶]** to make the display indicate **Bulk Dump**.

Bulk Dump A01–A16, B1–B16, COMMON, ALL

Specifies the internal sound generator Part whose parameter values will be transmitted when the bulk dump is executed.

```
SYSTEM[SEND:ENTER]
Bulk Dump: A01
```

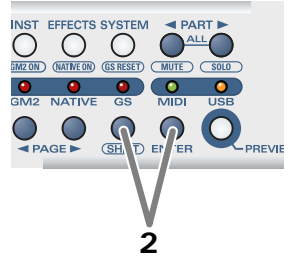
- * *A01--A16 and B01--B16 will transmit the part parameters and patch parameters of the selected patch. COMMON will transmit the parameters that are common to all parts. ALL will transmit all the parameters of A01--B16 and COMMON.*

3. Use the **[VALUE]** dial to select the port from which the data will be transmitted.
4. Begin recording on your sequencer software or external MIDI sequencer.
5. Press **[ENTER]**.
Transmission of the highlighted data will begin. While the display indicates **Transmit SysEx**, the SD-80 is transmitting data. Press **[EXIT]** if you want to abort transmission.
6. Press **[INST]** to return to the main screen.
7. When data transmission is completed, the display will indicate **COMPLETED**. Stop recording on your sequencer software or external MIDI sequencer.
By playing back the saved bulk dump data on your sequencer software or external MIDI sequencer, you can restore the SD-80 to the state in which it was when the data was saved.

Transmitting individual data

Individual data can be transmitted in each editing screen.

1. In each editing screen, select the parameter that you want to transmit, and specify its value.
2. Hold down **[SHIFT]** and press **[ENTER]**. The highlighted parameter value will be transmitted.



Troubleshooting

If the SD-80 does not function as you expect, please check the following points first. If this does not resolve the problem, please contact a Roland Service Center (refer to the back cover).

■ Power won't come on

- Is the power cord of the SD-80 correctly connected to the AC outlet and to the SD-80?
Make the correct connections. (→ "Getting Started")

■ Insufficient volume on a device connected to the audio output jacks

- Could you be using a connection cable with a built-in resistor?
Use a connection cable without a resistor (such as one from the Roland PCS series).
- A cable with a built-in resistor is sometimes included with audio playback equipment.
Using such a cable may cause the playback to be too soft. Please use a cable that does not have a built-in resistor.
- Are output jacks selected correctly in the SYSTEM screen?

■ A specific part cannot be heard

- Make sure that the MIDI receive channel of the Part matches the MIDI transmit channel of the connected MIDI device. (→ "Rx Channel (Receive channel)" (p. 37))

■ There is a part that does not sound even when you press the [PREVIEW] button.

- Is the part soloed or muted?
(→ "Muting a part" (p. 28), "Soloing a part" (p. 29))

■ A certain range of notes does not sound

- Keyboard Range settings may have been made.
(→ "Part parameters (Native mode)" (p. 37))

■ The sound you expect is not selected

- Are you transmitting a program change number that the SD-80 does not support?
Refer to "Instrument list (GM2 / Native mode)" (p. 95) for details about the sounds provided on the SD-80.
- Is the sound generator mode correct?
Specify the sound generator mode that includes the sound you want to select.
(→ "Switching the sound generator mode (Inst Initialize)" (p. 50))
- Is the sound set correct?
If the sound generator mode is GM2 mode or Native mode, there are four variations of sound set. Specify the sound set that includes the sound you want to select (→ "Selecting the sound set" (p. 25)).

■ Notes do not sound

Compared to other problems, there are a greater number and wider variety of reasons that notes do not sound. However in many cases, this problem is caused by incorrect connections between devices, or by incorrect driver or software settings.

- Is the power of the connected device(s) turned on?
- Has the volume level been lowered by the volume knob?
- Have the MIDI IN and OUT connectors been connected incorrectly?
- Can you hear sound through a connected set of headphones?
If you can hear sound in the headphones, check whether the audio cable conveying the signal to the other device is broken or has a faulty connection, or whether there is a problem with the connected audio device.
- Does the PART level meter move in the display?
If the PART level meter is moving, the SD-80 is receiving MIDI data correctly. Check the setting of the volume knobs and the cable connections once again.
- Is the part muted?
If the display indicates , that part has been muted. Turn muting off ("**Muting a part**" (p. 28)).
- The volume level of all parts may have been lowered. (p. 10)
- The volume level may have been lowered by an expression pedal (or similar device) connected to a connected MIDI device.

If there is still no sound, it is possible that there is a problem with the driver or software settings. Refer to "Troubleshooting" in the **Getting Started** manual, and check the appropriate points.

■ The PART level meter does not move even when notes sound

- Is PART A shown in the display while you are sending MIDI messages to Part B?
If so, press [PART ◀] or [PART ▶] to view **PART B** in the display.

■ Sound is distorted

- Is an effect that distorts the sound being applied?
If a specific sound or part is distorted, lower the Part Level.

■ Pitch is incorrect

- Has Coarse Tuning been applied to all parts or to a specific part?
("Coarse Tune (Channel Coarse Tuning)" (p. 36))
- Did you make Fine Tune settings for a specific part?
("Fine Tune (Channel Fine Tuning)" (p. 36))
- Have Pitch Bend messages been received without returning to the zero value?
- Has Scale Tuning been applied?
("Scale/Octave Tuning Adjust" (p. 36))

■ Notes are "stuck" (continue sounding)

- Depending on the sequencer software you are using, changing the recording track while playing the keyboard may cause notes to stick.

■ Something is wrong with the sound

- You may have switched to another sound after editing sound parameters (such as the filter).
Set all sound parameter values to 0. ("**Editing the parameters**" (p. 31))
- It is possible that the parameter settings of the SD-80 have become corrupted.
Please initialize the sound generator. ("**Switching the sound generator mode (Inst Initialize)**" (p. 50))
 - * *The system parameter settings will be preserved even if the sound generator is initialized.*
- Are you using MFX?
 - If a sound that uses MFX (a sound from the enhanced set) is being played, and you switch the MFX type, or you choose a different enhanced sound, one that uses a different effect type, the sound will continue playing with the newly selected effect settings. Please wait until the enhanced sound has finished playing before you change the MFX settings or select a different enhanced sound.

■ Notes are interrupted

- If you attempt to use more than **128** voices simultaneously, notes will be interrupted.
("Polyphony and voices" (p. 18))

■ Exclusive messages are not received

- Does the device ID number of the transmitted exclusive data match the device ID number of the SD-80?
("Setting the Device ID Number" (p. 51))
- Is the checksum correct?
For details on the calculation method, refer to the section "**How to calculate the checksum**" within "**MIDI Implementation**" (MIDIImp_E.pdf) on the included CD-ROM.

■ When connected to your computer via USB, sound generator parameters are not output from the MIDI connectors

- If you are using USB mode, the MIDI connectors of the SD-80 will function as a MIDI interface for externally connected MIDI devices. The data from the computer will be output from the USB connector, and not from the MIDI connectors. This means that sound generator bulk data or individual data cannot be transmitted from the MIDI connectors.
If you are not using a USB connection, the MIDI connectors are used to exchange MIDI messages directly with the SD-80. A data request received from the MIDI IN connector will be transmitted to the MIDI OUT connector.

■ When connected to your computer via USB, data is not output to MIDI OUT 2

- If you set the MIDI OUT/THRU switch to the [IN1 THRU] position while the SD-80 is operating in USB mode, the MIDI messages input to the MIDI IN 1 connector will be retransmitted without change from the MIDI OUT 2 connector.
At this time, the MIDI OUT 2 connector cannot be used for output, even though it is recognized by the computer.

■ Sequencer software does not play the MIDI sound generator connected to the SD-80

- Of the music data received at the SD-80's USB connector, the data assigned to the outputs "SD-80 MIDI OUT 1" and "SD-80 MIDI OUT 2" will be transmitted from the MIDI OUT 1 connector and MIDI OUT 2 connector, respectively.
Make the correct settings in your sequencer software and in the various drivers.

■ **When you turn MFX on, all of the system effects you have previously set (such as reverb) are initialized.**

- When you turn MFX on, it will no longer be possible to use control changes to set the send level of the system effect. This means that when you turn MFX on, it will be necessary to send the signal to the system effect via a different route than before.
You can use the MFX SEND LEVEL TO REVERB/CHORUS/DELAY system exclusive message to set the system effect send level (common to the signals that have passed through the insertion effect) for when MFX is turned ON ("**Controlling the SD-80 via MIDI**" (p. 53)).

■ **You want to initialize the sound generator mode each time the power is turned on**

- When the SD-80 is turned on, it is initialized to the sound generator mode specified in "**Specifying the start-up sound generator mode**" (p. 51)
- If an exclusive message initializing the sound generator is inserted (e.g., on your sequencer) at the beginning of a song, the sound generator will be initialized before the song begins.

■ **I want to transmit the data for only a specific parameter to the computer (sequencer software)**

- The SD-80 is able to transmit the following two types of data.
 - "**Transmitting a bulk dump**" (p. 69)
 - "**Transmitting individual data**" (p. 70)

Bulk Dump allows you to send multiple parameters in one transmission.

Individual data lets you create data without having to look up each system exclusive message, and provides an efficient way to create (for example) song data that contains exclusive messages.

If a bulk dump would involve too much data, you can try using this "individual data."

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

This is due to an infinitesimal electrical charge, which is absolutely harmless. However, if you are concerned about this, connect the ground terminal (p. 12) with an external ground. When the unit is grounded, a slight hum may occur, depending on the particulars of your installation. If you are unsure of the connection method, contact the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

Unsuitable places for connection

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

Appendices

Part parameter list

■ Part parameters (GM2 mode, Native mode)

Parameter		Value
Inst Type	Inst Type	INST , DRUM
Volume	Volume	0– 100 –127
Panpot	Pan	L64– 0 –63R
Chorus Send	Chorus Send Level	0 –127
Reverb Send	Reverb Send Level	0– 40 –127
Vibrato Rate	Vibrato Rate	-64– 0 –+63
Vibrato Depth	Vibrato Depth	-64– 0 –+63
Vibrato Delay	Vibrato Delay	-64– 0 –+63
TVF Cutoff Freq	TVF Cutoff Frequency	-64– 0 –+63
TVF Resonance	TVF Resonance	-64– 0 –+63
TVF&TVA Release	TVF&TVA Release	-64– 0 –+63
TVF&TVA Attack	TVF&TVA Attack	-64– 0 –+63
TVF&TVA Decay	TVF&TVA Decay	-64– 0 –+63
Portament SW	Portament SW	ON, OFF
Portament Time	Portament Time	0 –127
Coarse Tuning	Channel Coarse Tuning	-24– 0 –+24
Fine Tuning	Channel Fine Tuning	-100.0– 0.0 –+100.0 cent
Mono/Poly	Mono/Poly mode	Poly , Mono
Rx Channel	Rx Channel	1–16, OFF
PitchBendSens	Pitch Bend Sensitivity	0– +/-24
Modulation Depth	Modulation Depth	0 –127
Scale/Octave Tuning Adjust	Scale/Octave Tuning Adjust	-64– 0 –+63

■ Part parameters (Native mode)

Parameter		Value
Legato ON/OFF	Legato ON/OFF	ON, OFF
Part Velocity Sens Offset	Part Velocity Sens Offset	-63– 0 –+63
Part Keyboard Fade Width Lower	Part Keyboard Fade Width Lower	0 –127
Part Keyboard Range Lower	Part Keyboard Range Lower	C-1 –UPPER
Part Keyboard Range Upper	Part Keyboard Range Upper	LOWER– G9
Part Keyboard Fade Width Upper	Part Keyboard Fade Width Upper	0 –127
PART OUTPUT ASSIGN	Part Output Assign	MFX, A , PAT
PART OUTPUT MFX SELECT	Part Output MFX Select	MFX A, MFX B, MFX C
PART DRY SEND LEVEL	Part Dry Send Level	

■ Parameters common to all parts (GM2 mode, Native mode)

Parameter		Value
Master Volume	Master Volume	0–127
Master Fine Tuning	Master Fine Tuning	415.3– 440.0 –466.2Hz
Master Coarse Tuning	Master Coarse Tuning	-24– 0 –+24

■ Parameters common to all parts (Native mode)

Parameter		Value
SYSTEM Control 1–4	System Control	OFF, CC01–31, 33–95, BEND, AFT
MFX Sw	MFX Switch	OFF, ON
Chorus Sw	Chorus Switch	OFF, ON
Reverb Sw	Reverb Switch	OFF, ON
Scale Tune Sw	Scale Tune Switch	OFF, ON

Effect parameter list

■ Effect parameter (GM2 mode)

Reverb (System Effect)

Parameter		Value
Reverb Type	Reverb Type	Small Room, Medium Room, Large Room, Medium Hall, Large Hall, Plate
Reverb Time	Reverb Time	0–127

Chorus (System Effect)

Parameter		Value
Chorus Type	Chorus Type	Chorus1, Chorus2, Chorus3, Chorus4, FB Chorus, Flanger
Mod Rate	Modulation Rate	0–127
Mod Depth	Modulation Depth	0–127
Feedback	Feedback	0–127
Send to Reverb	Send to Reverb	0–127

EQ (Equalizer)

Parameter		Value
EQ Switch	EQ Switch	Off, On
EQL Low Frequency	EQL Low Frequency	200, 400Hz
EQR Low Frequency	EQR Low Frequency	200, 400Hz
EQL Low Gain	EQL Low Gain	-15–+15
EQR Low Gain	EQR Low Gain	-15–+15
EQL High Frequency	EQL High Frequency	2000, 4000, 8000Hz
EQR High Frequency	EQR High Frequency	2000, 4000, 8000Hz
EQL High Gain	EQL High Gain	-15–+15
EQR High Gain	EQR High Gain	-15–+15

■ Effect parameter (Native mode)

Reverb (System Effect)

Parameter		Value
Reverb Type	Reverb Type	0(Off), 1(Reverb), 2(Room), 3(SRV Hall), 4(SRV Plate)(*1)
Reverb Level	Reverb Level	0–127

(*1) When Reverb Type is set to 1 (Reverb)

Parameter		Value
Type	Reverb/Delay Type	*2
Time	Reverb/Delay Time	0–127
HF Damp	Reverb/Delay HF Damp	*3
Feedback	Delay Feedback	0–127

*2: ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DELAY

*3: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

(*1)When Reverb Type is 2 (Room), 3 (SRV Hall), or 4 (SRV Plate)

Parameter		Value
Pre Delay	Pre Delay Time	0.0–100 ms
Time	Reverb Time	0–127
Size	Size	1–8
High Cut	High Cut Frequency	*4
Density	Reverb Density	0–127
Diffusion	Reverb Diffusion	0–127
LF Damp Freq	LF Damp Frequency	*5
LF Damp Gain	LF Damp Gain	-36–0 dB
HF Damp Freq	HF Damp Frequency	*6
HF Damp Gain	HF Damp Gain	-36–0 dB

*4: 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6400, 8000, 10000, 12500 Hz, BYPASS

*5: 50, 64, 80, 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000 Hz

*6: 4000, 5000, 6400, 8000, 10000, 12500 Hz

Chorus (System Effect)

Parameter		Value
Chorus Type	Chorus Type	0(Off), 1(Chorus), 2(Delay)(*7)
Chorus Output Select	Chorus Output Select	MAIN, REV, MAIN+REV
Chorus Level	Chorus Level	0–127
Chorus Parameter 1-12	Chorus Parameter 1-12	

(*7)When Chorus Type is 1 (CHORUS)

Parameter		Value
Rate	Chorus Rate	0.05–10.00 Hz
Depth	Chorus Depth	0–127
Feedback	Chorus Feedback	0–127
Phase	Phase	0–180 degrees
Pre Delay	Chorus Pre Delay	0.0–100 ms
Type	Filter Type	OFF, LPF, HPF
Cutoff freq	Cutoff Frequency	*8

*8: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

(*7)When the Chorus Type is 2 (DELAY)

Parameter		Value
Center	Delay Center	200–1000 ms, note value
Left	Delay Left	200–1000 ms, note value
Right	Delay Right	200–1000 ms, note value
HF Damp	HF Damp	*9
Feedback	Feedback	-98–+98%
Center	Delay Center Level	0–127
Left	Delay Left Level	0–127
Right	Delay Right Level	0–127

*9: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

MFX (Multi-effects)

Parameter		Value
MFX A-C Type	Multi-effect A–C Type	0–90
MFX A-C Dry Send Level	Multi-effect A–C Dry Send Level	0–127
MFX A-C Chorus Send Level	Multi-effect A–C Chorus Send Level	0–127
MFX A-C Reverb Send Level	Multi-effect A–C Reverb Send Level	0–127
MFX A-C Control 1-4 Source	MFX A–C Control 1–4 Source	OFF, CC01–95, PITCH BEND, AFTERTOUCHE, SYS-CTRL 1–4
MFX A-C Control 1-4 Sens	MFX A–C Control 1–4 Sensitivity	-63–+63
MFX A-C Parameter 1-32	MFX A–C Parameter	
MFX A SOURCE	MFX A source	COMMON, PART1–32
MFX B SOURCE	MFX B source	COMMON, PART1–32
MFX C SOURCE	MFX C source	COMMON, PART1–32
PART OUTPUT ASSIGN	Part Output Assign	MFX, DRY, PAT
PART OUTPUT MFX SELECT	Part Output MFX Select	MFX A, MFX B, MFX C
PART DRY SEND LEVEL	Part Dry Send Level	0–127

EQ (Equalizer)

Parameter		Value
EQ Switch	EQ Switch	Off, On
EQL Low Frequency	EQL Low Frequency	200, 400Hz
EQR Low Frequency	EQR Low Frequency	200, 400Hz
EQL Low Gain	EQL Low Gain	-15–+15
EQR Low Gain	EQR Low Gain	-15–+15
EQL High Frequency	EQL High Frequency	2000, 4000, 8000Hz
EQR High Frequency	EQR High Frequency	2000, 4000, 8000Hz
EQL High Gain	EQL High Gain	-15–+15
EQR High Gain	EQR High Gain	-15–+15

MFX parameter list

1: Stereo EQ

No.	Parameter	Setting Value	Value Dec.	Initial
1	Low Freq	200, 400 Hz	0 - 1	0
5	Mid1 Freq	200 - 8000 Hz (*1)	0 - 16	7
8	Mid2 Freq	200 - 8000 Hz (*1)	0 - 16	16
3	High Freq	4000, 8000 Hz	0 - 2	1
2	Low Gain	-15 - +15 dB	0 - 30	22
7	Mid1 Gain	-15 - +15 dB	0 - 30	17
10	Mid2 Gain	-15 - +15 dB	0 - 30	16
4	High Gain	-15 - +15 dB	0 - 30	19
6	Middle1 Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
9	Middle2 Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
11	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

2: Overdrive

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	127
3	AS AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	0
4	EQ Low Gain	-15 - +15 dB	0 - 30	15
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 127	127
2	Output Pan	L64 - 63R	0 - 127	64

3: Distortion

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
3	AS AmpType	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	3
4	EQ Low Gain	-15 - +15 dB	0 - 30	15
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 127	127
2	Output Pan	L64 - 63R	0 - 127	64

4: Phaser

No.	Parameter	Setting Value	Value Dec.	Initial
1	PH Manual	100 - 8000 Hz	0 - 125	30
2	PH Rate	0.05 - 10.00 Hz	0 - 125	19
3	PH Depth	0 - 127	0 - 127	64
4	PH Resonance	0 - 127	0 - 127	0
5	PH Mix Level	0 - 127	0 - 127	127
7	Output Level	0 - 127	0 - 127	127
6	Output Pan	L64 - 63R	0 - 127	64

5: Spectrum

No.	Parameter	Setting Value	Value Dec.	Initial
1	250Hz Gain	-15 - +15 dB	0 - 30	15
2	500Hz Gain	-15 - +15 dB	0 - 30	15
3	1000Hz Gain	-15 - +15 dB	0 - 30	15

4	1250Hz Gain	-15 - +15 dB	0 - 30	15
5	2000Hz Gain	-15 - +15 dB	0 - 30	15
6	3150Hz Gain	-15 - +15 dB	0 - 30	15
7	4000Hz Gain	-15 - +15 dB	0 - 30	15
8	8000Hz Gain	-15 - +15 dB	0 - 30	15
9	Band Width Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
11	Output Level	0 - 127	0 - 127	127
10	Output Pan	L64 - 63R	0 - 127	64

6: Enhancer

No.	Parameter	Setting Value	Value Dec.	Initial
1	EH Sens	0 - 127	0 - 127	127
2	EH Mix	0 - 127	0 - 127	64
3	EQ Low Gain	-15 - +15 dB	0 - 30	15
4	EQ High Gain	-15 - +15 dB	0 - 30	15
5	Output Level	0 - 127	0 - 127	127

7: Auto Wah

No.	Parameter	Setting Value	Value Dec.	Initial
1	AW Filter Type	LPF, BPF	0 - 1	0
4	AW Sens	0 - 127	0 - 127	0
5	AW Manual	0 - 127	0 - 127	64
6	AW Peak	0 - 127	0 - 127	100
2	AW LFO Rate	0.05 - 10.00 Hz	0 - 125	19
3	AW LFO Depth	0 - 127	0 - 127	64
7	Output Level	0 - 127	0 - 127	127

8: Rotary

No.	Parameter	Setting Value	Value Dec.	Initial
5	Rotary Speed	SLOW, FAST	0 - 1	0
2	WF SlowRate	0.05 - 10.00 Hz	0 - 125	39
4	WF FastRate	0.05 - 10.00 Hz	0 - 125	121
7	WF Acceleration	0 - 15	0 - 15	10
9	WF Level	0 - 127	0 - 127	127
10	Separation	0 - 127	0 - 127	127
1	TW SlowRate	0.05 - 10.00 Hz	0 - 125	39
3	TW FastRate	0.05 - 10.00 Hz	0 - 125	121
6	TW Acceleration	0 - 15	0 - 15	10
8	TW Level	0 - 127	0 - 127	127
11	Output Level	0 - 127	0 - 127	127

9: Compressor

No.	Parameter	Setting Value	Value Dec.	Initial
3	CP Attack	0 - 127	0 - 127	64
2	CP Sustain	0 - 127	0 - 127	64
1	CP Post Gain	0, +6, +12, +18 dB	0 - 127	127
4	EQ Low Gain	-15 - +15 dB	0 - 30	0
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 30	15
7	Output Pan	L64 - 63R	0 - 127	127

10: Limiter

No.	Parameter	Setting Value	Value Dec.	Initial
1	LM Thresh	0 - 127	0 - 127	64
2	LM Release	0 - 127	0 - 127	32
3	LM Ratio	1.5:1, 2:1, 4:1, 100:1	0 - 3	2
5	LM Post Gain	0, +6, +12, +18 dB	0 - 3	1
6	EQ Low Gain	-15 - +15 dB	0 - 30	15
7	EQ High Gain	-15 - +15 dB	0 - 30	15
8	Output Level	0 - 127	0 - 127	127
4	Output Pan	L64 - 63R	0 - 127	64

11: Hexa-Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
2	CH Rate	0.05 - 10.00 Hz	0 - 127	9
3	CH Depth	0 - 127	0 - 127	20
5	CH Depth Dev	-20 - +20	0 - 40	0
1	CH Pre Delay	0.0 - 100.0 ms	0 - 125	5
4	CH Pre Delay Dev	0 - 127	0 - 20	0
6	CH Pan Dev	0 - 127	0 - 20	20
7	Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

12: Tremolo Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	50
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	0
4	TRE Rate	0.05 - 10.00 Hz	0 - 125	39
6	TRE Phase	0 - 180 degree	0 - 90	90
5	TRE Separation	0 - 127	0 - 127	127
7	Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

13: Space-D

No.	Parameter	Setting Value	Value Dec.	Initial
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	20
4	CH Phase	0 - 180 degree	0 - 90	90
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
6	EQ High Gain	-15 - +15 dB	0 - 30	15
7	Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

14: Stereo Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
4	CH Rate	0.05 - 10.00 Hz	0 - 125	9
5	CH Depth	0 - 127	0 - 127	20
6	CH Phase	0 - 180 degree	0 - 90	90
3	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
1	Filter Type	OFF, LPF, HPF	0 - 2	2
2	Filter Cutoff	200 - 8000 Hz (*1)	0 - 16	7
8	EQ Low Gain	-15 - +15 dB	0 - 30	15
9	EQ High Gain	-15 - +15 dB	0 - 30	15
10	Balance	D100:0W - D0:100W	0 - 100	50

11 Output Level 0 - 127 0 - 127 127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

15: Stereo Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
4	FL LFO Rate	0.05 - 10.00 Hz	0 - 125	9
5	FL LFO Depth	0 - 127	0 - 127	50
7	FL Feedback	-98 - +98%	0 - 98	89
6	FL Phase	0 - 180 degree	0 - 90	90
3	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
1	Filter Type	OFF, LPF, HPF	0 - 2	2
2	Filter Cutoff	200 - 8000 Hz (*1)	0 - 16	7
8	EQ Low Gain	-15 - +15 dB	0 - 30	15
9	EQ High Gain	-15 - +15 dB	0 - 30	15
10	Balance	D100:0W - D0:100W	0 - 100	50
11	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

16: Step Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
2	FL LFO Rate	0.05 - 10.00 Hz	0 - 125	9
3	FL LFO Depth	0 - 127	0 - 127	50
4	FL Feedback	-98 - +98%	0 - 98	89
6	FL Phase	0 - 180 degree	0 - 90	90
1	FL PreDelay	0.0 - 100.0 ms	0 - 125	5
5	Step Rate	0.10 - 20.00 Hz, note*1	0 - 125	49
7	EQ Low Gain	-15 - +15 dB	0 - 30	15
8	EQ High Gain	-15 - +15 dB	0 - 30	15
9	Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

17: Stereo Delay

No.	Parameter	Setting Value	Value Dec.	Initial
2	DLY Left	0.0 - 500.0 ms	0 - 126	126
3	DLY Right	0.0 - 500.0 ms	0 - 126	126
7	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
6	DLY Feedback	-98 - +98%	0 - 98	59
1	DLY Fbk Mode	NORMAL, CROSS	0 - 1	0
4	Phase Left	NORMAL, INVERT	0 - 1	0
5	Phase Right	NORMAL, INVERT	0 - 1	0
8	EQ Low Gain	-15 - +15 dB	0 - 30	15
9	EQ High Gain	-15 - +15 dB	0 - 30	15
10	Balance	D100:0W - D0:100W	0 - 100	50
11	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

18:Modulation Delay

No.	Parameter	Setting Value	Value Dec.	Initial
2	DLY Left	0.0 - 500.0 ms	0 - 126	126
3	DLY Right	0.0 - 500.0 ms	0 - 126	126
5	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
4	DLY Feedback	-98 - +98%	0 - 98	59
1	DLY Fbk Mode	NORMAL, CROSS	0 - 1	0
6	MOD Rate	0.05 - 10.00 Hz	0 - 125	19
7	MOD Depth	0 - 127	0 - 127	20
8	MOD Phase	0 - 180 degree	0 - 90	90
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
11	Balance	D100:0W - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

19:Triple Tap Delay

No.	Parameter	Setting Value	Value Dec.	Initial
3	DLY Center	200 - 1000 ms, note*1	0 - 125	115
1	DLY Left	200 - 1000 ms, note*1	0 - 125	10
2	DLY Right	200 - 1000 ms, note*1	0 - 125	60
5	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
4	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY CenterLevel	0 - 127	0 - 127	127
6	DLY LeftLevel	0 - 127	0 - 127	127
7	DLY RightLevel	0 - 127	0 - 127	127
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
11	Balance	D100:0W - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

20:Quadruple Tap Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time 1	200 - 1000 ms, note*1	0 - 125	115
2	DLY Time 2	200 - 1000 ms, note*1	0 - 125	90
3	DLY Time 3	200 - 1000 ms, note*1	0 - 125	60
4	DLY Time 4	200 - 1000 ms, note*1	0 - 125	10
5	DLY Level 1	0 - 127	0 - 127	127
6	DLY Level 2	0 - 127	0 - 127	127
7	DLY Level 3	0 - 127	0 - 127	127
8	DLY Level 4	0 - 127	0 - 127	127
10	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Feedback	-98 - +98%	0 - 98	59
11	Balance	D100:0W - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

21:Time Control Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time	200 - 1000 ms	0 - 120	10
3	DLY Acceleration	0 - 15	0 - 15	10
4	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
2	DLY Feedback	-98 - +98%	0 - 98	59
6	EQ Low Gain	-15 - +15 dB	0 - 30	15

7	EQ High Gain	-15 - +15 dB	0 - 30	15
8	Balance	D100:0W - D0:100W	0 - 100	50
9	Output Level	0 - 127	0 - 127	127
5	Output Pan	L64 - 63R	0 - 127	64

(*1):200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

22:2Voice Pitch Shifter

No.	Parameter	Setting Value	Value Dec.	Initial
2	Coarse A	-24 - +12 semitone	0 - 36	24
4	Fine A	-100 - +100 cent	0 - 100	50
8	Pan A	L64 - 63R	0 - 127	64
6	PreDelay A	0.0 - 500.0 ms	0 - 126	0
1	PitchShifterMode	1, 2, 3, 4, 5	0 - 4	0
3	Coarse B	-24 - +12 semitone	0 - 36	24
5	Fine B	-100 - +100 cent	0 - 100	50
9	Pan B	L64 - 63R	0 - 127	64
7	Pre Delay B	0.0 - 500.0 ms	0 - 126	0
10	Lev Balance	A100:0B - A0:100B	0 - 100	50
11	Balance	D100:0W - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

23:Fbk Pitch Shifter

No.	Parameter	Setting Value	Value Dec.	Initial
2	CoarsePitch	-24 - +12 semitone	0 - 36	24
3	FinePitch	-100 - +100 cent	0 - 100	50
4	PreDelay	0.0 - 500.0 ms	0 - 126	0
1	PitchShifterMode	1, 2, 3, 4, 5	0 - 4	0
5	Feedback	-98 - +98%	0 - 98	59
7	EQ Low Gain	-15 - +15 dB	0 - 30	15
8	EQ High Gain	-15 - +15 dB	0 - 30	15
9	Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127
6	Output Pan	L64 - 63R	0 - 127	64

24:Reverb

No.	Parameter	Setting Value	Value Dec.	Initial
1	RV Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2	0 - 5	0
2	RV PreDelay	0.0 - 100.0 ms	0 - 125	10
3	RV Time	0 - 127	0 - 127	10
4	RV HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
6	EQ High Gain	-15 - +15 dB	0 - 30	15
7	Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

25:Gated Reverb

No.	Parameter	Setting Value	Value Dec.	Initial
1	RV Type	NORMAL, REVERSE, SWEEP1, SWEEP2	0 - 3	0
2	RV PreDelay	0.0 - 100.0 ms	0 - 125	10
3	RV GateTime	5 - 500 ms	0 - 99	10
4	EQ Low Gain	-15 - +15 dB	0 - 30	15
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Balance	D100:0W - D0:100W	0 - 100	50
7	Output Level	0 - 127	0 - 127	127

26:Overdrive → Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	64
2	OD Pan	L64 - 63R	0 - 127	64
3	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
4	CH Rate	0.05 - 10.00 Hz	0 - 125	9
5	CH Depth	0 - 127	0 - 127	20
7	CH Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

27:Overdrive → Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	64
2	OD Pan	L64 - 63R	0 - 127	64
3	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
4	FL Rate	0.05 - 10.00 Hz	0 - 125	9
5	FL Depth	0 - 127	0 - 127	40
6	FL Feedback	-98 - +98%	0 - 98	89
7	FL Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

28:Overdrive → Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	64
2	OD Pan	L64 - 63R	0 - 127	64
3	DLY Time	0.0 - 500.0 ms	0 - 126	10
4	DLY Feedback	-98 - +98%	0 - 98	59
5	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
6	DLY Balance	D100:0W - D0:100W	0 - 100	50
7	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

29:Distortion → Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
2	DS Pan	L64 - 63R	0 - 127	64
3	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
4	CH Rate	0.05 - 10.00 Hz	0 - 125	9
5	CH Depth	0 - 127	0 - 127	20
7	CH Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

30:Distortion → Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
2	DS Pan	L64 - 63R	0 - 127	64
3	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
4	FL Rate	0.05 - 10.00 Hz	0 - 125	9
5	FL Depth	0 - 127	0 - 127	40
6	FL Feedback	-98 - +98%	0 - 98	89
7	FL Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

31:Distortion → Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
2	DS Pan	L64 - 63R	0 - 127	64
3	DLY Time	0.0 - 500.0 ms	0 - 126	10
4	DLY Feedback	-98 - +98%	0 - 98	59
5	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
6	DLY Balance	D100:0W - D0:100W	0 - 100	50
7	Output Level	0 - 127	0 - 127	127

(*1):200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

32:Enhancer → Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
1	EH Sens	0 - 127	0 - 127	127
2	EH Mix Level	0 - 127	0 - 127	64
3	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
4	CH Rate	0.05 - 10.00 Hz	0 - 125	9
5	CH Depth	0 - 127	0 - 127	20
7	CH Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

33:Enhancer → Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
1	EH Sens	0 - 127	0 - 127	127
2	EH Mix Level	0 - 127	0 - 127	64
3	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
4	FL Rate	0.05 - 10.00 Hz	0 - 125	9
5	FL Depth	0 - 127	0 - 127	40
6	FL Feedback	-98 - +98%	0 - 98	89
7	FL Balance	D100:0W - D0:100W	0 - 100	50
8	Output Level	0 - 127	0 - 127	127

34:Enhancer → Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	EH Sens	0 - 127	0 - 127	127
2	EH Mix Level	0 - 127	0 - 127	127
3	DLY Time	0.0 - 100.0 ms	0 - 127	64
4	DLY Feedback	-98 - +98%	0 - 126	10
5	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 98	59
6	DLY Balance	D100:0W - D0:100W	0 - 17	17
7	Output Level	0 - 127	0 - 100	50

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,

2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

35:Chorus → Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	20
5	CH Balance	D100:0W - D0:100W	0 - 100	50
6	DLY Time	0.0 - 500.0 ms	0 - 126	10
7	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

36:Flanger → Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
2	FL Rate	0.05 - 10.00 Hz	0 - 125	9
3	FL Depth	0 - 127	0 - 127	40
4	FL Feedback	-98 - +98%	0 - 98	89
5	FL Balance	D100:0W - D0:100W	0 - 100	50
6	DLY Time	0.0 - 500.0 ms	0 - 126	10
7	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

37:Chorus → Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	20
4	CH Balance	D100:0W - D0:100W	0 - 100	50
5	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
6	FL Rate	0.05 - 10.00 Hz	0 - 125	9
7	FL Depth	0 - 127	0 - 127	40
8	FL Feedback	-98 - +98%	0 - 98	89
9	FL Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

38:Chorus/Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	20
5	CH Balance	D100:0W - D0:100W	0 - 100	50
6	DLY Time	0.0 - 500.0 ms	0 - 126	10
7	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Balance	D100:0W - D0:100W	0 - 100	50

10 Output Level 0 - 127 0 - 127 127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

39:Flanger/Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
2	FL Rate	0.05 - 10.00 Hz	0 - 125	9
3	FL Depth	0 - 127	0 - 127	40
4	FL Feedback	-98 - +98%	0 - 98	89
5	FL Balance	D100:0W - D0:100W	0 - 100	50
6	DLY Time	0.0 - 500.0 ms	0 - 126	10
7	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

40:Chorus/Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
1	CH PreDelay	0.0 - 100.0 ms	0 - 125	10
2	CH Rate	0.05 - 10.00 Hz	0 - 125	9
3	CH Depth	0 - 127	0 - 127	20
4	CH Balance	D100:0W - D0:100W	0 - 100	50
5	FL PreDelay	0.0 - 100.0 ms	0 - 125	10
6	FL Rate	0.05 - 10.00 Hz	0 - 125	9
7	FL Depth	0 - 127	0 - 127	40
8	FL Feedback	-98 - +98%	0 - 98	89
9	FL Balance	D100:0W - D0:100W	0 - 100	50
10	Output Level	0 - 127	0 - 127	127

41:Stereo Phaser

No.	Parameter	Setting Value	Value Dec.	Initial
1	PH Type	1, 2	0 - 1	0
2	PH Mode	4-STAGE, 8-STAGE	0 - 1	1
3	PH Polarity	INVERSE, SYNCHRO	0 - 1	1
6	PH Manual	0 - 127	0 - 127	64
4	PH Rate	0.05 - 10.00 Hz, note*2	1 - 222	10
5	PH Depth	0 - 127	0 - 127	64
7	PH Resonance	0 - 127	0 - 127	64
8	PH X-Feedback	-98 - +98%	0 - 98	69
11	PH Mix Level	0 - 127	0 - 127	127
9	StepRate Switch	OFF, ON	0 - 1	0
10	Step Rate	0.1 - 20.0 Hz, note*2	1 - 222	50
12	EQ Low Gain	-15 - +15 dB	0 - 30	15
13	EQ High Gain	-15 - +15 dB	0 - 30	15
14	Output Level	0 - 127	0 - 127	127

42 Keysync Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
3	FL PreDelay	0.0 - 100 ms	0 - 125	5
4	FL Rate	0.05 - 10.00 Hz, note*2	1 - 222	10
5	FL Depth	0 - 127	0 - 127	50
6	FL Feedback	-98 - +98%	0 - 98	89
9	FL Phase	0 - 180 degree	0 - 90	90
1	Filter Type	OFF, LPF, HPF	0 - 2	0
2	Filter Cutoff	200 - 8000 Hz (*1)	0 - 16	7
7	StepRate Switch	OFF, ON	0 - 1	0
8	Step Rate	0.1 - 20.0 Hz, note*2	1 - 222	200
10	Keysync Switch	OFF, ON	0 - 1	1
11	Keysync Thres	0 - 127	0 - 127	60
12	Keysync Phase	0 - 360 degree	0 - 180	0
13	EQ Low Gain	-15 - +15 dB	0 - 30	15
14	EQ High Gain	-15 - +15 dB	0 - 30	15
15	Balance	D100:0W - D0:100W	0 - 100	50
16	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

43:Formant Filter

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Switch	OFF, ON	0 - 1	1
2	OD Drive	0 - 127	0 - 127	127
3	Filter Vowel 1	a, e, i, o, u	0 - 4	0
4	Filter Vowel 2	a, e, i, o, u	0 - 4	1
5	Filter Rate	0.05 - 10.00 Hz, note*2	1 - 222	20
6	Filter Depth	0 - 127	0 - 127	127
9	Filter Manual	0 - 100	0 - 100	50
7	Keysync Switch	OFF, ON	0 - 1	1
8	Keysync Thres	0 - 127	0 - 127	60
10	EQ Low Gain	-15 - +15 dB	0 - 30	15
11	EQ High Gain	-15 - +15 dB	0 - 30	15
13	Output Level	0 - 127	0 - 127	127
12	Output Pan	L64 - 63R	0 - 127	64

44:Ring Modulator

No.	Parameter	Setting Value	Value Dec.	Initial
1	RM Freq	0 - 127	0 - 127	60
2	RM MOD Source	OFF, SOURCE, A, B, C, D	0 - 5	1
3	RM MOD Monitor	OFF, ON	0 - 1	1
4	RM Sens	0 - 127	0 - 127	0
5	RM Polarity	UP, DOWN	0 - 1	0
6	EQ Low Gain	-15 - +15 dB	0 - 30	15
7	EQ High Gain	-15 - +15 dB	0 - 30	15
8	Balance	D100:0W - D0:100W	0 - 100	50
9	Output Level	0 - 127	0 - 127	127

45:Multi Tap Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time1	0 - 1800 ms, note*2	0 - 1822	1816
2	DLY Time2	0 - 1800 ms, note*2	0 - 1822	1815
3	DLY Time3	0 - 1800 ms, note*2	0 - 1822	1813
4	DLY Time4	0 - 1800 ms, note*2	0 - 1822	1810
13	DLY Feedback	-98 - +98%	0 - 98	59

14	DLY HFDamp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Level1	0 - 127	0 - 127	127
10	DLY Level2	0 - 127	0 - 127	127
11	DLY Level3	0 - 127	0 - 127	127
12	DLY Level4	0 - 127	0 - 127	127
5	DLY Output Pan1	L64 - 63R	0 - 127	0
6	DLY Output Pan2	L64 - 63R	0 - 127	32
7	DLY Output Pan3	L64 - 63R	0 - 127	96
8	DLY Output Pan4	L64 - 63R	0 - 127	127
15	EQ Low Gain	-15 - +15 dB	0 - 30	15
16	EQ High Gain	-15 - +15 dB	0 - 30	15
17	Balance	D100:0W - D0:100W	0 - 100	50
18	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

46:Reverse Delay

No.	Parameter	Setting Value	Value Dec.	Initial
2	DLY Time1	0 - 900 ms, note*2	0 - 922	913
3	DLY Time2	0 - 900 ms, note*2	0 - 922	910
4	DLY Time3	0 - 900 ms, note*2	0 - 922	913
5	DLY Time4	0 - 900 ms, note*2	0 - 922	913
6	DLY Feedback1	-98 - +98%	0 - 98	49
7	DLY Feedback4	-98 - +98%	0 - 98	54
8	DLY HF Damp1	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY HF Damp4	200 - 8000 Hz, BYPASS (*1)0 - 17	17	17
13	DLY Level1	0 - 127	0 - 127	127
14	DLY Level2	0 - 127	0 - 127	64
15	DLY Level3	0 - 127	0 - 127	64
10	DLY Pan 1	L64 - 63R	0 - 127	64
11	DLY Pan 2	L64 - 63R	0 - 127	0
12	DLY Pan 3	L64 - 63R	0 - 127	127
1	Threshold	0 - 127	0 - 127	30
17	EQ Low Gain	-15 - +15 dB	0 - 30	15
18	EQ High Gain	-15 - +15 dB	0 - 30	15
16	Balance	D100:0W - D0:100W	0 - 100	50
19	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

47:Shuffle Delay

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time	0 - 1800 ms, note*2	0 - 1822	1813
2	DLY ShuffleRate	0 - 100%	0 - 100	67
7	DLY Acceleration	0 - 15	0 - 15	10
6	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
3	Pan A	L64 - 63R	0 - 127	0
4	Pan B	L64 - 63R	0 - 127	127
5	Balance	A100:0B - A0:100B	0 - 100	50
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
11	Lev Balance	D100:0E - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

48:3D Delay

No.	Parameter	Setting Value	Value Dec.	Initial
3	DLY Time C	0 - 1800 ms, note*2	0 - 1822	1815
1	DLY Time L	0 - 1800 ms, note*2	0 - 1822	1810
2	DLY Time R	0 - 1800 ms, note*2	0 - 1822	1813
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
7	DLY Feedback	-98 - +98%	0 - 98	59
6	DLY Level C	0 - 127	0 - 127	40
4	DLY Level L	0 - 127	0 - 127	64
5	DLY Level R	0 - 127	0 - 127	64
10	EQ Low Gain	-15 - +15 dB	0 - 30	15
11	EQ High Gain	-15 - +15 dB	0 - 30	15
12	Balance	D100:0E - D0:100W	0 - 100	40
9	Output Mode	SPEAKER, PHONES	0 - 1	0
13	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

49:3Voice Pitch Shifter

No.	Parameter	Setting Value	Value Dec.	Initial
2	Coars Pitch1	-24 - +12 semitone	0 - 36	12
3	Coars Pitch2	-24 - +12 semitone	0 - 36	0
4	Coars Pitch3	-24 - +12 semitone	0 - 36	0
5	Fine Pitch1	-100 - +100 cent	0 - 100	50
6	Fine Pitch2	-100 - +100 cent	0 - 100	50
7	Fine Pitch3	-100 - +100 cent	0 - 100	50
1	PS Mode	1, 2, 3, 4, 5	0 - 4	0
11	PS Feedback1	-98 - +98%	0 - 98	49
12	PS Feedback2	-98 - +98%	0 - 98	49
13	PS Feedback3	-98 - +98%	0 - 98	49
8	PS PreDelay1	0.0 - 500 ms	0 - 126	0
9	PS PreDelay2	0.0 - 500 ms	0 - 126	0
10	PS PreDelay3	0.0 - 500 ms	0 - 126	0
20	Balance	D100:0E - D0:100W	0 - 100	100
17	Level1	0 - 127	0 - 127	127
18	Level2	0 - 127	0 - 127	127
19	Level3	0 - 127	0 - 127	127
14	Pan1	L64 - 63R	0 - 127	64
15	Pan2	L64 - 63R	0 - 127	0
16	Pan3	L64 - 63R	0 - 127	127
21	Output Level	0 - 127	0 - 127	127

50:LoFi Compress

No.	Parameter	Setting Value	Value Dec.	Initial
2	LoFi Type	1 - 9	0 - 8	5
1	PreFilter Type	1 - 6	0 - 5	1
3	PostFilter1 Type	1 - 6	0 - 5	1
4	PostFilter2 Type	OFF, BPF, LPF	0 - 2	1
5	PostFilter2 CutOff	200 - 8000 Hz (*1)	0 - 16	13
7	EQ Low Gain	-15 - +15 dB	0 - 30	15
8	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Balance	D100:0E - D0:100W	0 - 100	100
10	Output Level	0 - 127	0 - 127	127
9	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

51:LoFi Noise

No.	Parameter	Setting Value	Value Dec.	Initial
1	LoFi Type	1 - 9	0 - 8	2
2	PostFilter Type	OFF, LPF, HPF	0 - 2	1
3	PostFilter Cutoff	200 - 8000 Hz (*1)	0 - 16	13
4	Radio Noise Detune	0 - 127	0 - 127	0
5	Radio Noise Level	0 - 127	0 - 127	64
6	Disc Noise Type	LP, EP, SP, RND	0 - 3	0
7	Disc Noise LPF	200 - 8000 Hz, BYPASS (*2)	0 - 17	17
8	Disc Noise Level	0 - 127	0 - 127	0
10	EQ Low Gain	-15 - +15 dB	0 - 30	15
11	EQ High Gain	-15 - +15 dB	0 - 30	15
9	Balance	D100:0E - D0:100W	0 - 100	100
13	Output Level	0 - 127	0 - 127	127
12	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

52:Speaker Simulator

No.	Parameter	Setting Value	Value Dec.	Initial
1	SP Type	(*1)	0 - 15	6
2	Mic Setting	1, 2, 3	0 - 2	1
3	Mic Level	0 - 127	0 - 127	127
4	Mic DirectLevel	0 - 127	0 - 127	0
5	Output Level	0 - 127	0 - 127	127

(*1) Small 1, Small 2, Middle, JC-120, Built In 1, Built In 2, Built In 3, Built In 4, Built In 5, BG Stack 1, BG Stack 2, MS Stack 1, MS Stack 2, Metal Stack, 2 Stack, 3 Stack

53:Overdrive 2

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	127
2	OD Tone	0 - 127	0 - 127	50
4	AmpSim Switch	OFF, ON	0 - 1	1
5	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	0
6	EQ Low Gain	-15 - +15 dB	0 - 30	15
7	EQ High Gain	-15 - +15 dB	0 - 30	15
8	Output Level	0 - 127	0 - 127	127
3	Output Pan	L64 - 63R	0 - 127	64

54:Distortion 2

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
2	DS Tone	0 - 127	0 - 127	50
4	AmpSim Switch	OFF, ON	0 - 1	1
5	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	3
6	EQ Low Gain	-15 - +15 dB	0 - 30	15
7	EQ High Gain	-15 - +15 dB	0 - 30	15
8	Output Level	0 - 127	0 - 127	127
3	Output Pan	L64 - 63R	0 - 127	64

55: Stereo Compressor

No.	Parameter	Setting Value	Value Dec.	Initial
2	COMP Attack	0 - 127	0 - 127	64
1	COMP Sustain	0 - 127	0 - 127	127
3	COMP PostGain	0, +6, +12, +18 dB	0 - 3	0
4	EQ Low Gain	-15 - +15 dB	0 - 30	15
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 127	127

56: Stereo Limiter

No.	Parameter	Setting Value	Value Dec.	Initial
1	LM Threshold	0 - 127	0 - 127	64
3	LM Ratio	1.5:1, 2:1, 4:1, 100:1	0 - 3	2
2	LM Release	0 - 127	0 - 127	32
4	LM PostGain	0, +6, +12, +18 dB	0 - 3	1
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
6	EQ High Gain	-15 - +15 dB	0 - 30	15
7	Output Level	0 - 127	0 - 127	127

57: Gate

No.	Parameter	Setting Value	Value Dec.	Initial
4	Gate Mode	GATE, DUCK	0 - 1	0
6	Gate Attack	0 - 127	0 - 127	0
7	Gate Hold	0 - 127	0 - 127	0
8	Gate Release	0 - 127	0 - 127	0
1	GateKey Key	SOURCE, A	0 - 1	0
2	GateKey Threshold	0 - 127	0 - 127	70
3	GateKey Monitor	OFF, ON	0 - 1	1
5	Balance	D100:0E - D0:100W	0 - 100	100
9	Output Level	0 - 127	0 - 127	127

58: Slicer

No.	Parameter	Setting Value	Value Dec.	Initial
1	Beat11	0 - 127	0 - 127	127
2	Beat12	0 - 127	0 - 127	0
3	Beat13	0 - 127	0 - 127	0
4	Beat14	0 - 127	0 - 127	0
5	Beat21	0 - 127	0 - 127	0
6	Beat22	0 - 127	0 - 127	0
7	Beat23	0 - 127	0 - 127	127
8	Beat24	0 - 127	0 - 127	0
9	Beat31	0 - 127	0 - 127	0
10	Beat32	0 - 127	0 - 127	0
11	Beat33	0 - 127	0 - 127	127
12	Beat34	0 - 127	0 - 127	0
13	Beat41	0 - 127	0 - 127	0
14	Beat42	0 - 127	0 - 127	127
15	Beat43	0 - 127	0 - 127	0
16	Beat44	0 - 127	0 - 127	0
17	Rate	0.05 - 10.00 Hz, note*2	1 - 222	40
18	Attack	0 - 127	0 - 127	50
19	ResetTrigger	SOURCE, A	0 - 1	1
20	Reset Threshold	0 - 127	0 - 127	60
21	Reset Monitor	Off, On	0 - 1	1
22	BeatChange Mode	LEGATO, SLASH	0 - 1	0
23	BeatChange Shuffle	0 - 127	0 - 127	0

24	Output Level	0 - 127	0 - 127	127
----	--------------	---------	---------	-----

59: Isolator

No.	Parameter	Setting Value	Value Dec.	Initial
3	Boost/Cut Low	-60 - +4 dB	0 - 64	60
2	Boost/Cut Mid	-60 - +4 dB	0 - 64	60
1	Boost/Cut High	60 - +4 dB	0 - 64	60
6	AntiPhaseLow SW	OFF, ON	0 - 1	0
7	AntiPhaseLow Lev	0 - 127	0 - 127	127
4	AntiPhaseMid SW	OFF, ON	0 - 1	0
5	AntiPhaseMid Lev	0 - 127	0 - 127	127
8	LowBoost SW	OFF, ON	0 - 1	0
9	LowBoost Lev	0 - 127	0 - 127	127
10	Output Level	0 - 127	0 - 127	127

60: 3D Chorus

No.	Parameter	Setting Value	Value Dec.	Initial
4	CH LFO Rate	0.05 - 10.00 Hz, note*2	1 - 222	10
5	CH LFO Depth	0 - 127	0 - 127	20
6	CH Phase	0 - 180 degree	0 - 90	90
3	CH PreDelay	0.0 - 100 ms	0 - 125	10
1	Filter Type	OFF, LPF, HPF	0 - 2	0
2	Filter Cutoff	200 - 8000 Hz (*1)	0 - 16	7
8	EQ Low Gain	-15 - +15 dB	0 - 30	15
9	EQ High Gain	-15 - +15 dB	0 - 30	15
10	Balance	D100:0W - D0:100W	0 - 100	50
7	Output Mode	SPEAKER, PHONES	0 - 1	0
11	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

61: 3D Flanger

No.	Parameter	Setting Value	Value Dec.	Initial
4	FL LFO Rate	0.05 - 10.00 Hz, note*1	1 - 222	10
5	FL LFO Depth	0 - 127	0 - 127	50
6	FL Feedback	-98 - +98%	0 - 98	89
9	FL Phase	0 - 180 degree	0 - 90	90
3	FL PreDelay	0.0 - 100 ms	0 - 125	5
1	Filter Type	OFF, LPF, HPF	0 - 2	0
2	Filter Cutoff	200 - 8000 Hz (*1)	0 - 16	7
7	StepRate Switch	OFF, ON	0 - 1	0
8	Step Rate	0.1 - 20.0 Hz, note*2	1 - 222	200
11	EQ Low Gain	-15 - +15 dB	0 - 30	15
12	EQ High Gain	-15 - +15 dB	0 - 30	15
13	Balance	D100:0W - D0:100W	0 - 100	50
10	Output Mode	SPEAKER, PHONES	0 - 1	0
14	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

62: Tremolo

No.	Parameter	Setting Value	Value Dec.	Initial
1	TRE Mod Wave	TRI, SQR, SIN, SAW1, SAW2	0 - 4	0
2	TRE Rate	0.05 - 10.0 Hz, note*2	1 - 222	80
3	TRE Depth	0 - 127	0 - 127	96
4	EQ Low Gain	-15 - +15 dB	0 - 30	15

Appendices

5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 127	127

9	Keysync Thres	0 - 127	0 - 127	60
11	EQ Low Gain	-15 - +15 dB	0 - 30	15
12	EQ High Gain	-15 - +15 dB	0 - 30	15
13	Output Level	0 - 127	0 - 127	127

63:Auto Pan

No.	Parameter	Setting Value	Value Dec.	Initial
1	AutoPan ModWave	TRI, SQR, SIN, SAW1, SAW2	0 - 4	0
2	AutoPan Rate	0.05 - 10.0 Hz, note*2	1 - 222	40
3	AutoPan Depth	0 - 127	0 - 127	96
4	EQ Low Gain	-15 - +15 dB	0 - 30	15
5	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Output Level	0 - 127	0 - 127	127

64:Stereo Phaser 2

No.	Parameter	Setting Value	Value Dec.	Initial
1	PH Type	1, 2	0 - 1	0
2	PH Mode	4 stage, 8 stage, 12 stage, 16 stage	0 - 3	1
3	PH Polarity	INVERSE, SYNCHRO	0 - 1	1
6	PH Manual	0 - 127	0 - 127	64
4	PH Rate	0.05 - 10.00 Hz, note*2	1 - 222	10
5	PH Depth	0 - 127	0 - 127	64
7	PH Resonance	0 - 127	0 - 127	64
8	PH X-Feedback	-98 - +98%	0 - 98	69
11	PH Mix Level	0 - 127	0 - 127	127
9	StepRate Switch	OFF, ON	0 - 1	0
10	Step Rate	0.1 - 20.0 Hz, note*2	1 - 222	50
12	EQ Low Gain	-15 - +15 dB	0 - 30	15
13	EQ High Gain	-15 - +15 dB	0 - 30	15
14	Output Level	0 - 127	0 - 127	127

65:Stereo Auto Wah

No.	Parameter	Setting Value	Value Dec.	Initial
1	AW FilterType	LPF, BPF	0 - 1	1
4	AW Sens	0 - 127	0 - 127	60
5	AW Manual	0 - 127	0 - 127	100
6	AW Peak	0 - 127	0 - 127	40
2	AW LFORate	0.05 - 10.00 Hz, note*2	1 - 222	20
3	AW LFODepth	0 - 127	0 - 127	40
7	AW Polarity	UP, DOWN	0 - 1	1
8	AW Phase	0 - 180 degree	0 - 90	45
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
11	Output Level	0 - 127	0 - 127	127

66:Stereo Formant Filter

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Switch	OFF, ON	0 - 1	1
2	OD Drive	0 - 127	0 - 127	127
3	Filter Vowel1	a, e, i, o, u	0 - 4	0
4	Filter Vowel2	a, e, i, o, u	0 - 4	1
5	Filter Rate	0.05 - 10.00 Hz, note*2	1 - 222	20
6	Filter Depth	0 - 127	0 - 127	127
10	Filter Manual	0 - 100	0 - 100	50
7	Filter Phase	0 - 180 degree	0 - 90	0
8	Keysync Switch	OFF, ON	0 - 1	1

67:Multi Tap Delay 2

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time1	0 - 3000 ms, note*2	0 - 3022	3016
2	DLY Time2	0 - 3000 ms, note*2	0 - 3022	3015
3	DLY Time3	0 - 3000 ms, note*2	0 - 3022	3013
4	DLY Time4	0 - 3000 ms, note*2	0 - 3022	3010
13	DLY Feedback	-98 - +98%	0 - 98	59
14	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY Level1	0 - 127	0 - 127	127
10	DLY Level2	0 - 127	0 - 127	127
11	DLY Level3	0 - 127	0 - 127	127
12	DLY Level4	0 - 127	0 - 127	127
5	DLY Pan 1	L64 - 63R	0 - 127	0
6	DLY Pan 2	L64 - 63R	0 - 127	32
7	DLY Pan 3	L64 - 63R	0 - 127	96
8	DLY Pan 4	L64 - 63R	0 - 127	127
15	EQ Low Gain	-15 - +15 dB	0 - 30	15
16	EQ High Gain	-15 - +15 dB	0 - 30	15
17	Balance	D100:0W - D0:100W	0 - 100	50
18	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

68:Reverse Delay 2

No.	Parameter	Setting Value	Value Dec.	Initial
2	DLY Time1	0 - 1500 ms, note*2	0 - 1522	1516
3	DLY Time2	0 - 1500 ms, note*2	0 - 1522	1513
4	DLY Time3	0 - 1500 ms, note*2	0 - 1522	1516
5	DLY Time4	0 - 1500 ms, note*2	0 - 1522	1516
6	DLY Feedback1	-98 - +98%	0 - 98	49
7	DLY Feedback4	-98 - +98%	0 - 98	54
8	DLY HFDamp1	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
9	DLY HFDamp4	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
13	DLY Level1	0 - 127	0 - 127	127
14	DLY Level2	0 - 127	0 - 127	64
15	DLY Level3	0 - 127	0 - 127	64
10	DLY Pan1	L64 - 63R	0 - 127	64
11	DLY Pan2	L64 - 63R	0 - 127	0
12	DLY Pan3	L64 - 63R	0 - 127	127
1	Threshold	0 - 127	0 - 127	30
17	EQ Low Gain	-15 - +15 dB	0 - 30	15
18	EQ High Gain	-15 - +15 dB	0 - 30	15
16	Balance	D100:0W - D0:100W	0 - 100	50
19	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

69: Shuffle Delay 2

No.	Parameter	Setting Value	Value Dec.	Initial
1	DLY Time	0 - 3000 ms, note*2	0 - 3022	3013
2	DLY ShuffleRate	0 - 100%	0 - 100	67
7	DLY Acceleration	0 - 15	0 - 15	10
6	DLY Feedback	-98 - +98%	0 - 98	59
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)0 - 17	0 - 17	17
3	DLY Pan A	L64 - 63R	0 - 127	0
4	DLY Pan B	L64 - 63R	0 - 127	127
5	DLY Balance	A100:0B - A0:100B	0 - 100	50
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
11	Balance	D100:0W - D0:100W	0 - 100	50
12	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

70:3D Delay 2

No.	Parameter	Setting Value	Value Dec.	Initial
3	DLY Time C	0 - 3000 ms, note*2	0 - 3022	3015
1	DLY Time L	0 - 3000 ms, note*2	0 - 3022	3010
2	DLY Time R	0 - 3000 ms, note*2	0 - 3022	3013
8	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
7	DLY Feedback	-98 - +98%	0 - 98	59
6	DLY Level C	0 - 127	0 - 127	40
4	DLY Level L	0 - 127	0 - 127	64
5	DLY Level R	0 - 127	0 - 127	64
10	EQ Low Gain	-15 - +15 dB	0 - 30	15
11	EQ High Gain	-15 - +15 dB	0 - 30	15
12	Balance	D100:0W - D0:100W	0 - 100	40
9	Output Mode	SPEAKER, PHONES	0 - 1	0
13	Output Level	0 - 127	0 - 127	127

71:Rotary 2

No.	Parameter	Setting Value	Value Dec.	Initial
11	Rotary Speed	SLOW, FAST	0 - 1	0
12	Rotary Brake	OFF, ON	0 - 1	0
13	Spread Value	0 - 127	0 - 10	10
1	WF SlowRate	0.05 - 10.00 Hz, note*2	1 - 222	40
2	WF FastRate	0.05 - 10.00 Hz, note*2	1 - 222	160
5	WF Level	0 - 127	0 - 127	127
3	WF TransUp	0 - 127	0 - 127	64
4	WF TransDown	0 - 127	0 - 127	64
6	TW SlowRate	0.05 - 10.00 Hz, note*2	1 - 222	40
7	TW FastRate	0.05 - 10.00 Hz, note*2	1 - 222	160
10	TW Level	0 - 127	0 - 127	127
8	TW TransUp	0 - 127	0 - 127	64
9	TW TransDown	0 - 127	0 - 127	64
14	EQ Low Gain	-15 - +15 dB	0 - 30	15
15	EQ High Gain	-15 - +15 dB	0 - 30	15
16	Output Level	0 - 127	0 - 127	127

72:Rotary Multi

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD/DS Switch	OFF, ON	0 - 1	1
2	OD/DS Type	OVERDRIVE, DISTORTION	0 - 1	0

3	OD/DS Drive	0 - 127	0 - 127	64
4	OD/DS Tone	0 - 127	0 - 127	50
5	OD/DS Level	0 - 127	0 - 127	80
6	AmpSim Switch	OFF, ON	0 - 1	1
7	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	0
8	EQ Switch	OFF, ON	0 - 1	1
9	EQ Low Gain	-15 - +15 dB	0 - 30	15
12	EQ Mid Gain	-15 - +15 dB	0 - 30	15
13	EQ High Gain	-15 - +15 dB	0 - 30	15
10	EQ Mid Freq	200 - 8000 Hz (*1)	0 - 16	7
11	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
14	ROT Switch	OFF, ON	0 - 1	1
19	ROT Speed	SLOW, FAST	0 - 1	0
16	ROT WF Slow	0.05 - 10.00 Hz, note*2	1 - 222	40
18	ROT WF Fast	0.05 - 10.00 Hz, note*2	1 - 222	160
21	ROT WF Accel	0 - 15	0 - 15	10
23	ROT WF Level	0 - 127	0 - 127	127
24	ROT Separation	0 - 127	0 - 127	127
15	ROT TW Slow	0.05 - 10.00 Hz, note*2	1 - 222	40
17	ROT TW Fast	0.05 - 10.00 Hz, note*2	1 - 222	160
20	ROT TW Accel	0 - 15	0 - 15	10
22	ROT TW Level	0 - 127	0 - 127	127
26	Output Level	0 - 127	0 - 127	127
25	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

73:Keyboard Multi

No.	Parameter	Setting Value	Value Dec.	Initial
1	RingMod Switch	OFF, ON	0 - 1	1
2	RingMod Freq	0 - 127	0 - 127	60
3	RingMod Bal	D100:0W - D0:100W	0 - 100	50
4	EQ Switch	OFF, ON	0 - 1	1
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
8	EQ Mid Gain	-15 - +15 dB	0 - 30	15
9	EQ High Gain	-15 - +15 dB	0 - 30	15
6	EQ Mid Freq	200 - 8000 Hz (*1)	0 - 16	7
7	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
10	PS Switch	OFF, ON	0 - 1	1
11	PS Mode	1, 2, 3, 4, 5	0 - 4	0
12	PS CoarsTune	-24 - +12 semitone	0 - 36	31
13	PS FineTune	-100 - +100 cent	0 - 100	50
14	PS PreDelay	0.0 - 500 ms	0 - 126	0
15	PS Feedback	-98 - +98%	0 - 98	59
16	PS Balance	D100:0W - D0:100W	0 - 100	50
17	PH Switch	OFF, ON	0 - 1	1
18	PH Mode	4 STAGE, 8 STAGE	0 - 1	1
19	PH Manual	0 - 127	0 - 127	64
20	PH Rate	0.05 - 10.0, note*2	1 - 222	10
21	PH Depth	0 - 127	0 - 127	64
22	PH Resonance	0 - 127	0 - 127	64
23	PH Mix Level	0 - 127	0 - 127	64
24	DLY Switch	OFF, ON	0 - 1	1
25	DLY TimeLeft	0 - 3000, note*2	0 - 3022	3013
26	DLY TimeRight	0 - 3000, note*2	0 - 3022	3010
27	DLY Feedback	-98 - +98%	0 - 98	59
28	DLY HF Damp	200 - 8000 Hz, BYPASS	0 - 17	17
29	DLY Balance	D100:0W - D0:100W	0 - 100	50
30	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,

2500, 3150, 4000, 5000, 6300, 8000 Hz
 (*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

74:Rhodes Multi

No.	Parameter	Setting Value	Value Dec.	Initial
1	EH Switch	OFF, ON	0 - 1	1
2	EH Sens	0 - 127	0 - 127	127
3	EH Mix Level	0 - 127	0 - 127	64
4	PH Switch	OFF, ON	0 - 1	1
5	PH Mode	4 STAGE, 8 STAGE	0 - 1	1
6	PH Manual	0 - 127	0 - 127	64
10	PH Mix Level	0 - 127	0 - 127	64
7	PH Rate	0.05 - 10.0, note*2	1 - 222	10
8	PH Depth	0 - 127	0 - 127	64
9	PH Resonance	0 - 127	0 - 127	64
11	CH/FL Switch	OFF, ON	0 - 1	1
12	CH/FL Type	CHORUS, FLANGER	0 - 1	0
14	CH/FL Rate	0.05 - 10.0, note*2	1 - 222	10
15	CH/FL Depth	0 - 127	0 - 127	20
16	CH/FL Feedback	-98 - +98%	0 - 98	89
13	CH/FL PreDelay	0.0 - 100	0 - 125	10
19	CH/FL Bal	D100:0W - D0:100W	0 - 100	50
17	CH/FL Type	OFF, LPF, HPF	0 - 2	0
18	CH/FL Cutoff	200 - 8000 Hz (*1)	0 - 16	7
20	TRE/PAN Switch	OFF, ON	0 - 1	1
21	TRE/PAN Type	TREMLOLO, AUTO PAN	0 - 1	0
22	TRE/PAN ModWave	TRI, SQR, SIN, SAW1,SAW2	0 - 4	0
23	TRE/PAN Rate	0.05 - 10.0, note*2	1 - 222	80
24	TRE/PAN Depth	0 - 127	0 - 127	64
25	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
 2500, 3150, 4000, 5000, 6300, 8000 Hz

75:JD Multi

No.	Parameter	Setting Value	Value Dec.	Initial
1	SEQUENCE	0 - 23	0 - 23	0
2	DS Switch	OFF, ON	0 - 1	1
6	PH Switch	OFF, ON	0 - 1	1
12	SP Switch	OFF, ON	0 - 1	1
20	EH Switch	OFF, ON	0 - 1	1
3	DSType	(*1)	0 - 6	0
4	DSDrive	0 - 100	0 - 100	50
5	DSLevel	0 - 100	0 - 100	50
7	PH Manual	50 Hz - 15.0 kHz	0 - 99	42
11	PH Mix Level	0 - 100	0 - 100	50
8	PH Rate	0.1 - 10.0 Hz	1 - 100	10
9	PH Depth	0 - 100	0 - 100	50
10	PH Resonance	1 - 100	0 - 100	50
19	SP BandWidth	1 - 5	0 - 4	0
13	Spectrum 250Hz	-15 - +15 dB	0 - 30	15
14	Spectrum 500Hz	-15 - +15 dB	0 - 30	15
15	Spectrum 1000Hz	-15 - +15 dB	0 - 30	15
16	Spectrum 2000Hz	-15 - +15 dB	0 - 30	15
17	Spectrum 4000Hz	-15 - +15 dB	0 - 30	15
18	Spectrum 8000Hz	-15 - +15 dB	0 - 30	15
21	EH Sens	0 - 100	0 - 100	50
22	EH Mix level	0 - 100	0 - 100	50

24	Output Level	0 - 127	0 - 127	127
23	Output Pan	0 - 127	0 - 127	64

(*1) MELLOW DRIVE, OVERDRIVE, CRY DRIVE, MELLOW DIST,
 LIGHT DIST, FAT DIST, FUZZ DIST

76:Stereo LoFi Compress

No.	Parameter	Setting Value	Value Dec.	Initial
2	LoFi Type	1 - 9	0 - 8	5
1	PreFilter Type	1 - 6	0 - 5	1
3	PostFilter1 Type	1 - 6	0 - 5	1
4	PostFilter2 Type	OFF, LPF, HPF	0 - 2	1
5	PostFilter2 Cutoff	200 - 8000 Hz	0 - 16	13
7	EQ Low Gain	-15 - +15 dB	0 - 30	15
8	EQ High Gain	-15 - +15 dB	0 - 30	15
6	Balance	D100:0W - D0:100W	0 - 100	100
9	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
 2500, 3150, 4000, 5000, 6300, 8000 Hz

77:Stereo LoFi Noise

No.	Parameter	Setting Value	Value Dec.	Initial
1	LoFi Type	1 - 9	0 - 8	2
12	Hum Noise Type	50, 60 Hz	0 - 1	0
13	Hum Noise LPF	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
14	Hum Noise Level	0 - 127	0 - 127	0
2	PostFilter Type	OFF, LPF, HPF	0 - 2	1
3	PostFilter Cutoff	200 - 8000 Hz (*2)	0 - 16	13
9	DiscNoise Type	LP, EP, SP, RND	0 - 3	0
10	DiscNoise LPF	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
11	DiscNoise Level	0 - 127	0 - 127	0
4	RadioNoise Detune	0 - 127	0 - 127	0
5	RadioNoise Level	0 - 127	0 - 127	64
6	Noise Type	WHITE, PINK	0 - 1	1
7	Noise LPF	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
8	Noise Level	0 - 127	0 - 127	0
16	EQ Low Gain	-15 - +15 dB	0 - 30	15
17	EQ High Gain	-15 - +15 dB	0 - 30	15
15	Balance	D100:0W - D0:100W	0 - 100	100
18	Output Level	0 - 127	0 - 127	127

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000,
 2500, 3150, 4000, 5000, 6300, 8000 Hz

78:Guitar Amp Simulator

No.	Parameter	Setting Value	Value Dec.	Initial
1	AmpSim Switch	OFF, ON	0 - 1	1
2	Amp Type	(*1)	0 - 13	2
3	Amp Volume	0 - 127	0 - 127	90
4	Amp Master	0 - 127	0 - 127	100
5	Amp Gain	LOW, MID, HIGH	0 - 2	1
9	Amp Presence	0 - 127 (Match Drive: -127 - 0)	0 - 127	0
10	Amp Bright	OFF, ON	0 - 1	0
6	Amp Bass	0 - 127	0 - 127	64
7	Amp Middle	0 - 127	0 - 127	64
8	Amp Treble	0 - 127	0 - 127	75
11	Speaker Switch	OFF, ON	0 - 1	1
12	Speaker Type	(*2)	0 - 15	6
13	Mic Setting	1, 2, 3	0 - 2	1
14	Mic Level	0 - 127	0 - 127	127
15	Mic Direct	0 - 127	0 - 127	0
17	Output Level	0 - 127	0 - 127	127
16	Output Pan	L64 - 63R	0 - 127	64

(*1) JC-120, Clean Twin, Match Drive, BG Lead, MS1959I, MS1959II, MS1959I+II, SLDN Lead, Metal 5150, Metal Lead, OD-1, OD-2 Turbo, Distortion, Fuzz

(*2) Small1, Small2, Middle, JC-120, Built In 1, Built In 2, Built In 3, Built In 4, Built In 5, BG Stack 1, BG Stack 2, MS Stack 1, MS Stack 2, Metal Stack, 2 Stack, 3 Stack

79:Stereo Overdrive

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD Drive	0 - 127	0 - 127	127
2	OD Tone	0 - 127	0 - 127	50
3	AmpSim Switch	OFF, ON	0 - 1	1
4	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	0
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
6	EQ High Gain	-15 - +15 dB	0 - 30	15
7	Output Level	0 - 127	0 - 127	127

80:Stereo Distortion

No.	Parameter	Setting Value	Value Dec.	Initial
1	DS Drive	0 - 127	0 - 127	127
2	DS Tone	0 - 127	0 - 127	50
3	AmpSim Switch	OFF, ON	0 - 1	1
4	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	0 - 3	3
5	EQ Low Gain	-15 - +15 dB	0 - 30	15
6	EQ High Gain	-15 - +15 dB	0 - 30	15
7	Output Level	0 - 127	0 - 127	127

81:Guitar Multi A

No.	Parameter	Setting Value	Value Dec.	Initial
1	COMP Switch	OFF, ON	0 - 1	1
2	COMP Attack	0 - 127	0 - 127	64
3	COMP Sustain	0 - 127	0 - 127	127
4	COMP Level	0 - 127	0 - 127	80
5	OD/DS Switch	OFF, ON	0 - 1	1
6	OD/DS Type	OVERDRIVE, DISTORTION	0 - 1	0

7	OD/DS Drive	0 - 127	0 - 127	64
8	OD/DS Tone	0 - 127	0 - 127	50
9	OD/DS Level	0 - 127	0 - 127	80
10	AmpSim Switch	OFF, ON	0 - 1	1
11	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3STACK	0 - 3	0
12	DLY Switch	OFF, ON	0 - 1	1
13	DLY TimeLeft	0 - 3000 ms, note*2	0 - 3022	3013
14	DLY TimeRight	0 - 3000 ms, note*2	0 - 3022	3010
15	DLY Feedback	-98 - +98%	0 - 98	59
16	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
17	DLY Balance	D100:0W - D0:100W	0 - 100	50
18	CH/FL Switch	OFF, ON	0 - 1	1
19	CH/FL Type	CHORUS, FLANGER	0 - 1	0
21	CH/FL Rate	0.05 - 10.0 Hz, note*2	1 - 222	10
22	CH/FL Depth	0 - 127	0 - 127	20
23	CH/FL Feedback	-98 - +98%	0 - 98	89
20	CH/FL PreDelay	0.0 - 100 ms	0 - 125	10
26	CH/FL Balance	D100:0W - D0:100W	0 - 100	50
24	CH/FL FilterType	OFF, LPF, HPF	0 - 2	0
25	CH/FL Cutoff	200 - 8000 Hz (*2)	0 - 16	7
28	Output Level	0 - 127	0 - 127	127
27	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

82:Guitar Multi B

No.	Parameter	Setting Value	Value Dec.	Initial
1	COMP Switch	OFF, ON	0 - 1	1
2	COMP Attack	0 - 127	0 - 127	64
3	COMP Sustain	0 - 127	0 - 127	127
4	COMP Level	0 - 127	0 - 127	80
5	OD/DS Switch	OFF, ON	0 - 1	1
6	OD/DS Type	OVERDRIVE, DISTORTION	0 - 1	0
7	OD/DS Drive	0 - 127	0 - 127	64
8	OD/DS Tone	0 - 127	0 - 127	50
9	OD/DS Level	0 - 127	0 - 127	80
10	AmpSim Switch	OFF, ON	0 - 1	1
11	AmpSim Type	SMALL, BUILT-IN, 2-STACK, 3STACK	0 - 3	0
12	EQ Switch	OFF, ON	0 - 1	1
13	EQ Low Gain	-15 - +15 dB	0 - 30	15
16	EQ Mid Gain	-15 - +15 dB	0 - 30	15
17	EQ High Gain	-15 - +15 dB	0 - 30	15
14	EQ Mid Freq	200 - 8000 Hz (*1)	0 - 16	7
15	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
18	CH/FL Switch	OFF, ON	0 - 1	1
19	CH/FL Type	CHORUS, FLANGER	0 - 1	0
21	CH/FL Rate	0.05 - 10.0 Hz, note*2	1 - 222	10
22	CH/FL Depth	0 - 127	0 - 127	20
23	CH/FL Feedback	-98 - +98%	0 - 98	89
20	CH/FL PreDelay	0.0 - 100 ms	0 - 125	10
26	CH/FL Balance	D100:0W - D0:100W	0 - 100	50
24	CH/FL FilterType	OFF, LPF, HPF	0 - 2	0
25	CH/FL Cutoff	200 - 8000 Hz (*1)	0 - 16	7
28	Output Level	0 - 127	0 - 127	127
27	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

83:Guitar Multi C

No.	Parameter	Setting Value	Value Dec.	Initial
1	OD/DS Switch	OFF, ON	0 - 1	1
2	OD/DS Type	OVERDRIVE, DISTORTION	0 - 1	0
3	OD/DS Drive	0 - 127	0 - 127	64
4	OD/DS Tone	0 - 127	0 - 127	50
5	OD/DS Level	0 - 127	0 - 127	64
6	AW Switch	OFF, ON	0 - 1	1
7	AW FilterType	LPF, BPF	0 - 1	0
8	AW Rate	0.05 - 10.00 Hz, note*2	1 - 222	20
9	AW Depth	0 - 127	0 - 127	0
10	AW Sens	0 - 127	0 - 127	32
11	AW Manual	0 - 127	0 - 127	32
12	AW Peak	0 - 127	0 - 127	50
13	AmpSim Switch	OFF, ON	0 - 1	1
14	AmpSim Type	SMALL, BUILT-IN,2-STACK, 3STACK	0 - 3	0
15	DLY Switch	OFF, ON	0 - 1	1
16	DLY TimeLeft	0 - 3000 ms, note*2	0 - 3022	3013
17	DLY TimeRight	0 - 3000 ms, note*2	0 - 3022	3010
18	DLY Feedback	-98 - +98%	0 - 98	59
19	DLY HF Damp	200 - 8000 Hz, BYPASS (*1)	0 - 17	17
20	DLY Bal	D100:0W - D0:100W	0 - 100	50
21	CH/FL Switch	OFF, ON	0 - 1	1
22	CH/FL Type	CHORUS, FLANGER	0 - 1	0
24	CH/FL Rate	0.05 - 10.0 Hz, note*2	1 - 222	10
25	CH/FL Depth	0 - 127	0 - 127	20
26	CH/FL Feedback	-98 - +98%	0 - 98	89
23	CH/FL PreDly	0.0 - 100 ms	0 - 125	10
29	CH/FL Balanc	D100:0W - D0:100W	0 - 100	50
27	CH/FL FilterType	OFF, LPF, HPF	0 - 2	0
28	CH/FL Cutoff	200 - 8000 Hz (*2)	0 - 16	7
31	Output Level	0 - 127	0 - 127	127
30	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000, BYPASS

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000

84:Clean Guitar Multi A

No.	Parameter	Setting Value	Value Dec.	Initial
1	COMP Switch	OFF, ON	0 - 1	1
2	COMP Attack	0 - 127	0 - 127	64
3	COMP Sustain	0 - 127	0 - 127	127
4	COMP Level	0 - 127	0 - 127	80
5	EQ Switch	OFF, ON	0 - 1	1
6	EQ Low Gain	-15 - +15 dB	0 - 30	15
9	EQ Mid Gain	-15 - +15 dB	0 - 30	15
10	EQ High Gain	-15 - +15 dB	0 - 30	15
7	EQ Mid Freq	200 - 8000 Hz (*1)	0 - 16	7
8	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
11	DLY Switch	OFF, ON	0 - 1	1
12	DLY TimeLeft	0 - 3000 ms, note*2	0 - 3022	3013
13	DLY TimeRight	0 - 3000 ms, note*2	0 - 3022	3010
14	DLY Feedback	-98 - +98%	0 - 98	59
15	DLY HF Damp	200 - 8000 Hz, BYPASS (*2)	0 - 17	17
16	DLY Balance	D100:0E - D0:100E	0 - 100	50
17	CH/FL Switch	OFF, ON	0 - 1	1

18	CH/FL Type	CHORUS, FLANGER	0 - 1	0
20	CH/FL Rate	0.05 - 10.0 Hz	1 - 222	10
21	CH/FL Depth	0 - 127	0 - 127	20
22	CH/FL Feedback	-98 - +98%	0 - 98	89
19	CH/FL PreDly	0.0 - 100 ms	0 - 125	10
25	CH/FL Balance	D100:0E - D0:100E	0 - 100	50
23	CH/FL FilterType	OFF, LPF, HPF	0 - 2	0
24	CH/FL FiltCut	200 - 8000 Hz (*1)	0 - 16	7
27	Output Level	0 - 127	0 - 127	127
26	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

85:Clean Guitar Multi B

No.	Parameter	Setting Value	Value Dec.	Initial
1	AW Switch	OFF, ON	0 - 1	1
2	AW FilterType	LPF, BPF	0 - 1	0
3	AW Rate	0.05 - 10.00 Hz, note*2	1 - 222	20
4	AW Depth	0 - 127	0 - 127	0
5	AW Sens	0 - 127	0 - 127	32
6	AW Manual	0 - 127	0 - 127	32
7	AW Peak	0 - 127	0 - 127	50
8	EQ Switch	OFF, ON	0 - 1	1
9	EQ LowGain	-15 - +15 dB	0 - 30	15
12	EQ MidGain	-15 - +15 dB	0 - 30	15
13	EQ HighGain	-15 - +15 dB	0 - 30	15
10	EQ MidFreq	200 - 8000 Hz (*1)	0 - 16	7
11	EQ MidQ	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
14	DLY Switch	OFF, ON	0 - 1	1
15	DLY TimeLeft	0 - 3000 ms, note*2	0 - 3022	3013
16	DLY TimeRight	0 - 3000 ms, note*2	0 - 3022	3010
17	DLY Feedback	-98 - +98%	0 - 98	59
18	DLY HFDamp	200 - 8000 Hz, BYPASS (*2)	0 - 17	17
19	DLY Balance	D100:0W - D0:100W	0 - 100	50
20	CH/FL Switch	OFF, ON	0 - 1	1
21	CH/FL Type	CHORUS, FLANGER	0 - 1	0
23	CH/FL Rate	0.05 - 10.0 Hz, note*2	1 - 222	10
24	CH/FL Depth	0 - 127	0 - 127	20
25	CH/FL Feedback	-98 - +98%	0 - 98	89
22	CH/FL PreDly	0.0 - 100 ms	0 - 125	10
28	CH/FL Balance	D100:0W - D0:100W	0 - 100	50
26	CH/FL FiltType	OFF, LPF, HPF	0 - 2	0
27	CH/FL FiltCut	200 - 8000 Hz (*1)	0 - 16	7
30	Output Level	0 - 127	0 - 127	127
29	Output Pan	L64 - 63R	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

(*2) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

86: Bass Multi

No.	Parameter	Setting Value	Value Dec.	Initial
1	COMP Switch	OFF, ON	0 - 1	1
2	COMP Attack	0 - 127	0 - 127	64
3	COMP Sustain	0 - 127	0 - 127	127
4	COMP Level	0 - 127	0 - 127	80
5	OD/DS Switch	OFF, ON	0 - 1	1
6	OD/DS Type	OVERDRIVE, DISTORTION	0 - 1	0
7	OD/DS Drive	0 - 127	0 - 127	64
8	OD/DS Level	0 - 127	0 - 127	80
9	AmpSim Switch	OFF, ON	0 - 1	1
10	AmpSim Type	SMALL, BUILT-IN, 2-STACK	0 - 2	0
11	EQ Switch	OFF, ON	0 - 1	1
12	EQ Low Gain	-15 - +15 dB	0 - 30	15
15	EQ Mid Gain	-15 - +15 dB	0 - 30	15
16	EQ High Gain	-15 - +15 dB	0 - 30	15
13	EQ Mid Freq	200 - 8000 Hz (*1)	0 - 16	7
14	EQ Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
17	CH/FL Switch	OFF, ON	0 - 1	1
18	CH/FL Type	CHORUS, FLANGER	0 - 1	0
20	CH/FL Rate	0.05 - 10.0 Hz, note*2	1 - 222	10
21	CH/FL Depth	0 - 127	0 - 127	20
22	CH/FL Feedback	-98 - +98%	0 - 98	89
19	CH/FL PreDly	0.0 - 100 ms	0 - 125	10
25	CH/FL Balance	D100:0W - D0:100W	0 - 100	50
23	CH/FL FilterType	OFF, LPF, HPF	0 - 2	0
24	CH/FL FiltCut	200 - 8000 Hz (*1)	0 - 16	7
27	Output Level	0 - 127	0 - 127	127
26	COMP Switch	OFF, ON	0 - 127	64

(*1) 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

87: Isolator 2

No.	Parameter	Setting Value	Value Dec.	Initial
3	Boost/Cut Low	-60 - +4 dB	0 - 64	60
2	Boost/Cut Mid	-60 - +4 dB	0 - 64	60
1	Boost/Cut High	-60 - +4 dB	0 - 64	60
6	AntiPhase LowSW	OFF, ON	0 - 1	0
7	AntiPhase Lev	0 - 127	0 - 127	127
4	AntiPhase MidSW	OFF, ON	0 - 1	0
5	AntiPhase Lev	0 - 127	0 - 127	127
8	Filter Switch	OFF, ON	0 - 1	0
9	Filter Type	OFF, LPF, HPF	0 - 3	1
11	Filter Cutoff	0 - 127	0 - 127	80
12	Filter Resonance	0 - 127	0 - 127	0
10	Filter Slope	-12, -24 dB	0 - 1	0
13	Filter Gain	0 - 24 dB	0 - 24	0
14	LowBoost Switch	OFF, ON	0 - 1	0
15	LowBoost Level	0 - 127	0 - 127	127
16	Output Level	0 - 127	0 - 127	127

88: Stereo Spectrum

No.	Parameter	Setting Value	Value Dec.	Initial
1	250Hz Gain	-15 - +15 dB	0 - 30	15
2	500Hz Gain	-15 - +15 dB	0 - 30	15
3	1000Hz Gain	-15 - +15 dB	0 - 30	15
4	1250Hz Gain	-15 - +15 dB	0 - 30	15
5	2000Hz Gain	-15 - +15 dB	0 - 30	15
6	3150Hz Gain	-15 - +15 dB	0 - 30	15
7	4000Hz Gain	-15 - +15 dB	0 - 30	15
8	8000Hz Gain	-15 - +15 dB	0 - 30	15
9	Band Width Q	0.5, 1.0, 2.0, 4.0, 8.0	0 - 4	0
10	Output Level	0 - 127	0 - 127	127

89: 3D Auto Spin

No.	Parameter	Setting Value	Value Dec.	Initial
1	AutoSpin Azimuth	L180 - R180 (*1)	0 - 30	15
2	AutoSpin Speed	0.05 - 10.0 Hz, note*2	1 - 222	26
3	AutoSpin Clockwise	-, +	0 - 1	1
4	AutoSpin Turn	OFF, ON	0 - 1	1
5	Output Mode	SPEAKER, PHONES	0 - 1	0
6	Output Level	0 - 127	0 - 127	127

(*1) L180, L168, L156, L144, L132, L120, L108, L96, L84, L72, L60, L48, L36, L24, L12, 0, R12, R24, R36, R48, R60, R72, R84, R96, R108, R120, R132, R144, R156, R168, R180

90: 3D Manual

No.	Parameter	Setting Value	Value Dec.	Initial
1	AutoSpin Azimuth	L180 - R180 (*1)	0 - 30	15
2	Output Mode	SPEAKER, PHONES	0 - 1	0
3	Output Level	0 - 127	0 - 127	127

(*1) L180, L168, L156, L144, L132, L120, L108, L96, L84, L72, L60, L48, L36, L24, L12, 0, R12, R24, R36, R48, R60, R72, R84, R96, R108, R120, R132, R144, R156, R168, R180

note*1

note*2

Instrument list (GM2 / Native mode)

Piano

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
1	0	96	Piano 1	1	97	Ac.Piano	1	98	St.Piano 1	2	99	SD Piano	2
	1	96	Piano 1w	1	97	Ac.Piano w	1	98	St.Piano 1w	2	99	SD Piano w	2
	2	96	Piano 1d	1	97	Mild Piano	1	98	European Pf	4	99	Classic Pf	2
2	0	96	Piano 2	1	97	Rock Piano	1	98	St.Piano 2	2	99	Enh.Piano 2	2
	1	96	Piano 2w	1	97	Rock Piano w	1	98	St.Piano 2w	2	99	Enh.Piano 2w	2
3	0	96	Piano 3	1	97	E.Grand Pf	2	98	SA Piano	2	99	Enh.E Grand	2
	1	96	Piano 3w	1	97	E.Grand Pf w	2	98	SA Piano w	2	99	Enh.E Grandw	2
4	0	96	Honky-tonk	2	97	Old Honky	2	98	St.Honky	4	99	Brite Honky	3
	1	96	Honky-tonk w	2	97	Old Honky w	2	98	St.Honky w	4	99	Brite Honkyw	3
5	0	96	E.Piano 1	3	97	Soft Rhodes	2	98	Tremo Rhodes	2	99	Stage 73	3
	1	96	Detuned EP1	2	97	Fat Rhodes	3	98	Sweet Tynes	3	99	NY Rhodes	2
	2	96	Dyno Rhodes	1	97	Rhodes Wide	2	98	Tremo Dyno	4	99	Phase Dyno	1
	3	96	60's E.Piano	2	97	Wurly Soft	2	98	Tremo Wurly	2	99	Whirly	2
6	0	96	E.Piano 2	2	97	FM E.Piano	2	98	FM Hard EP	1	99	Chorus EP	1
	1	96	Detuned EP2	3	97	Soft FM EP	3	98	Brite FM EP	2	99	Phase FM EP	2
	2	96	E.Piano 2v	2	97	SA E.Piano	2	98	Brite FM EP2	2	99	Wah FM EP	2
	3	96	EP Legend	2	97	EP Legend 2	3	98	EP Legend 3	4	99	Enh.Legend	3
7	0	96	Harpsichord	1	97	Harpsi 2	2	98	St.Harpsichd	2	99	Enh.Harpsi	2
	1	96	Coupl hps	2	97	Coupl hps 2	4	98	St.Coupl hps	4	99	Enh.Coupl hp	4
	2	96	Harpsi w	1	97	Harpsi 2 w	2	98	St.Harpsi w	2	99	Enh.Harpsi w	2
	3	96	Harpsi o	1	97	Harpsi 2 o	2	98	St.Harpsi o	2	99	Enh.Harpsi o	2
8	0	96	Clav	1	97	Atack Clav 1	2	98	Atack Clav 2	2	99	Comp Clav	2
	1	96	Pulse Clav	1	97	AnalogClav 1	1	98	AnalogClav 2	2	99	Wah Ana.Clav	2

Chromatic percussion

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
9	0	96	Celesta	1	97	Celesta 2	2	98	St.Celesta	3	99	SpaceCelesta	3
10	0	96	Glockenspiel	1	97	Glocken 2	2	98	St.Glocken	3	99	Trem.Glocken	3
11	0	96	Music Box	1	97	Music Box 2	2	98	St.Music Box	3	99	Panning Box	3
12	0	96	Vibraphone	1	97	Vibraphone 2	2	98	St.Vibra	2	99	Trem.Vibra	2
	1	96	Vibraphone w	1	97	Vibraphone2w	2	98	St.Vibra w	2	99	Trem.Vibra w	2
13	0	96	Marimba	1	97	Marimba 2	2	98	St.Marimba	3	99	Enh.Marimba	3
	1	96	Marimba w	1	97	Marimba 2 w	2	98	St.Marimba w	3	99	Enh.Marimbaw	3
14	0	96	Xylophone	1	97	Xylophone 2	2	98	St.Xylophone	4	99	Enh.Xylophon	4
15	0	96	Tubular-bell	1	97	Tubular-bel2	2	98	St.Tubular	3	99	Trem.Tubula	3
	1	96	Church Bell	1	97	Church Bell2	2	98	St.Church	4	99	Echo Church	4
	2	96	Carillon	1	97	Carillon 2	2	98	St.Carillon	4	99	Trm.Carillon	4
16	0	96	Santur	1	97	Santur 2	2	98	St.Santur	3	99	Enh.Santur	3

Organ

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
17	0	96	Organ 1	2	97	Perky	2	98	Roller	3	99	Perky Spin	2
	1	96	Detuned Or1	2	97	Ballad B	3	98	Rocker	4	99	Gospel Spin	3
	2	96	Organ 60	1	97	Happy 60s	1	98	Soft60'Organ	1	99	96 Year	1
	3	96	Organ 4	2	97	Tone Wheel	2	98	Full Stops	2	99	Tone Wh.Solo	2
18	0	96	Organ 2	2	97	Jazz Organ 1	3	98	Jazz Organ 2	2	99	Jazzy Spin	2
	1	96	Detuned Or2	2	97	Perc.Organ 1	3	98	Perc.Organ 2	3	99	Jazzy Spin 2	3
	2	96	Organ 5	3	97	Dist.JzOrg 1	2	98	Dist.JzOrg 2	2	99	Jazzy Spin 3	2
19	0	96	Organ 3	1	97	Organ 3 fast	1	98	Rock Organ	3	99	Rocker Spin	3
20	0	96	Church 1	1	97	Pipe Organ 1	2	98	Pipe Organ 2	3	99	Amb.Church	4
	1	96	Church 2	2	97	LargeChurch1	4	98	LargeChurch2	3	99	Amb.Church 2	4
	2	96	Church 3	1	97	SmallChurch1	2	98	SmallChurch2	4	99	Amb.Church 3	4
21	0	96	Reed Organ	1	97	Reed Organ 2	2	98	Reed Organ 3	3	99	Old Reed Org	3
	1	96	Puff Organ	2	97	Organ Flute	1	98	Theater	4	99	Enh.Theater	4
22	0	96	Accordion F	1	97	French Acc	2	98	St.FrenchAcc	3	99	Enh.French	3
	1	96	Accordion I	1	97	It Muset	2	98	St.It Muset	3	99	Enh.ItMuset	3
23	0	96	Harmonica	1	97	Harmonica 2	1	98	St.Harmonica	3	99	Ld.Harmonica	3
24	0	96	Bandneon	2	97	Bandneon 1	2	98	St.Bandneon	4	99	Enh.Bandneon	4

Guitar

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
25	0	96	Nylon Gt	1	97	Nylon Gt 2	1	98	Nylon Gt 3	1	99	Enh.Nylon Gt	1
	1	96	Ukulele	1	97	Ukulele 2	1	98	Ukulele 3	1	99	Enh.Ukulele	1
	2	96	Nylon o	2	97	Nylon 2 o	2	98	Nylon 3 o	2	99	Enh.Nylon o	2
	3	96	Nylon Gt.2	1	97	Hard Gut Gt	1	98	Hard Gut Gt2	2	99	Enh.Gut Gt	2
26	0	96	Steel-str.Gt	1	97	OV Steel Gt	1	98	SteelStr.Gt2	1	99	Comp OVSteel	1
	1	96	12-Str.Gt	2	97	12-Str.Gt 2	2	98	12-Str.Gt 3	3	99	3D 12-Str.Gt	2
	2	96	Mandolin	2	97	Mandolin 2	2	98	Mandolin 3	2	99	Enh.Mandolin	2
	3	96	Steel+Body	2	97	Steel+Body 2	2	98	Steel+Body 3	2	99	DelayedSteel	2
27	0	96	Jazz Gt	1	97	Jazz Gt 2	1	98	Jazz Gt 3	1	99	Lead Jazz Gt	1
	1	96	Pedal Steel	1	97	Pedal Steel2	2	98	Pedal Steel3	2	99	Hawaiian Gt	1
28	0	96	Clean Rear	1	97	TC Rear	1	98	Strat2 Rear	1	99	Old Clean Gt	1
	1	96	Clean Half	1	97	TC Front	1	98	Chorus Clean	2	99	Jazz Chorus	1
	2	96	Mid Tone Gt	1	97	TC Front 2	1	98	335	1	99	335 Drive	1
29	0	96	Muted Gt	1	97	TC Mute Gt	1	98	TC Mute Gt 2	2	99	Comp Mute Gt	2
	1	96	Funk Gt	1	97	FunkGt Slap	2	98	FunkGt.Slap2	2	99	Enh.Funk Gt	2
	2	96	Funk Gt 2	1	97	Funk Pop	1	98	Funk Pop 2	2	99	Wah Funk Pop	2
	3	96	Jazz Man	2	97	Mute Jazz Gt	2	98	Slap Jazz Gt	1	99	Solo Jazz Gt	1
30	0	96	Overdrive Gt	1	97	Atk Drive Gt	2	98	OverdriveGt2	2	99	TC Lead Gt	1
	1	96	Gt.Pinch	1	97	Gt.Pinch 2	1	98	Gt.Pinch 3	2	99	Gt.PinchLead	1
31	0	96	DistortionGt	1	97	Atk Dist Gt	2	98	Dist.Gt 2	2	99	Heavy DistGt	1
	1	96	Feedback Gt	2	97	FeedbackGt 2	3	98	Feedback OD	3	99	Feedbacker	3
	2	96	DistRythm Gt	1	97	Muted Dist	2	98	Muted Dist 2	2	99	Muted OD	1
32	0	96	Gt.Harmonics	1	97	Gt.Harm 2	2	98	Gt.OctHarm	2	99	Amp.Harm	2
	1	96	Gt.Feedback	1	97	FeedbackOct	2	98	FeedbackHarm	2	99	Amp.FeedBack	2

Bass

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
33	0	96	Acoustic Bs	1	97	Rockabilly	2	98	Fat Aco.Bass	2	99	Enh.Aco Bass	1
34	0	96	Fingered Bs	1	97	Fingered Bs2	1	98	Jazz Bass	1	99	Pre Bass	1
	1	96	FingerJ.Bass	2	97	FingerP.Bass	2	98	Finger Slap	2	99	Comp Finger	2
35	0	96	Picked Bass	1	97	Picked Jz Bs	1	98	Picking Bass	2	99	Rock Bass	2
36	0	96	Fretless Bs	1	97	Fretless Bs2	2	98	PhaseFrtless	3	99	Cho.Fretless	1
37	0	96	Slap Bass 1	1	97	Slap Pop 1	1	98	Jazz Slap	2	99	Phase Slap	2
38	0	96	Slap Bass 2	2	97	Funky Slap	2	98	Slap Pop 2	2	99	Enh.Slap Pop	2
39	0	96	Synth Bass 1	2	97	MG303 Bass	2	98	Fat Syn.Bass	2	99	Dist303 Bass	2
	1	96	SynthBass101	1	97	MG Bass	1	98	SynthSaw Bs	1	99	P.Shift Bass	1
	2	96	Acid Bass	1	97	MG Acid Bass	1	98	AcidBs Dirty	1	99	Acid Dist Bs	1
	3	96	Clavi Bass	2	97	Clavi Bass 2	2	98	Clavi Bass 3	2	99	PhaseClaviBs	2
	4	96	Hammer	2	97	OB Hammer	2	98	MG Hammer	2	99	Enh.Hammer	2
40	0	96	Synth Bass 2	2	97	Seq101 Bass	2	98	Sq SynthBass	2	99	PhaseSq Bass	2
	1	96	Beef FM Bs	2	97	Beef Slap Bs	2	98	Beef Saw Bs	3	99	Enh.Beef Bs	3
	2	96	Rubber Bass	2	97	Rubber Bass2	3	98	JpSaw Rubber	2	99	Fat JpSaw Bs	2
	3	96	Attack Pulse	1	97	Attack Saw	1	98	Attack MG Bs	2	99	Enh.MG Bass	2

Strings / orchestra

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
41	0	96	Violin	1	97	Violin vib	1	98	Violin 2 vib	1	99	Enh.Violin	1
	1	96	Slow Violin	1	97	Slow Vln vib	1	98	SlowVln2 vib	1	99	Enh.Slow Vln	1
42	0	96	Viola	1	97	Viola vib	1	98	Viola2 vib	1	99	Enh.Viola	1
43	0	96	Cello	1	97	Cello vib	1	98	Cello2 vib	1	99	Enh.Cello	1
44	0	96	Contrabass	1	97	Cb vib	1	98	Cb2 vib	1	99	Enh.Cb	1
45	0	96	Tremolo Str	2	97	Tremolo Str2	3	98	St.Trem Str	2	99	St.Trem Str2	4
46	0	96	Pizzicato	1	97	Pizzicato 2	2	98	St.Pizzicato	3	99	Chorus Pizz	1
47	0	96	Harp	1	97	Harp 2	2	98	St.Harp	3	99	Chorus Harp	1
	1	96	Yangqin	1	97	Yangqin 2	2	98	St.Yangqin	3	99	Enh.Yangqin	1
48	0	96	Timpani	1	97	Timpani 2	2	98	St.Timpani	3	99	Enh.Timpani	3

Ensemble

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
49	0	96	Strings	2	97	Strings 2	3	98	St.Strings	2	99	St.Strings 2	4
	1	96	Orchestra	2	97	Orchestra 2	3	98	St.Orchestra	5	99	St.Orchestra 2	7
	2	96	60'Strings	2	97	Oct.Strings	2	98	St.OctStr 1	6	99	St.OctStr 2	6
50	0	96	Slow Strings	1	97	SlowStrings2	2	98	St.Slow Str	2	99	St.Slow Str2	4
51	0	96	Syn.Strings1	2	97	BriteSyn.Str	2	98	StackSyn.Str	3	99	JP Strings	2
	1	96	Syn.Strings3	3	97	Oct.SynStr 1	4	98	Oct.SynStr 2	7	99	PhaseSyn.Str	4
52	0	96	Syn.Strings2	2	97	Warm SynStr1	4	98	Warm SynStr2	6	99	OB Strings	4
53	0	96	Choir Aahs	1	97	Large Choir	2	98	St.ChoirAahs	4	99	Rich Choir	8
	1	96	Choir Aahs 2	2	97	Small Choir	2	98	St.Sm Choir	2	99	St.Sm Choir2	5
54	0	96	Voices Oohs	1	97	Voices Oohs 2	2	98	St.Vox Oohs	3	99	Enh.Vox Oohs	1
	1	96	Hamming	2	97	Hamming 2	2	98	St.Hamming	4	99	Enh.Hamming	2
55	0	96	SynVox	1	97	SynVox 2	1	98	St.SynVox	2	99	Phase SynVox	1
	1	96	Ana Voices	1	97	Ana Voices 2	1	98	Ana Voices 3	2	99	Lead Ana.Vox	2
56	0	96	Orchestrahit	2	97	Orc Hit 2	2	98	St.Orc Hit	3	99	Enh.Orc Hit	3
	1	96	Bass Hit	3	97	Bass Hit 2	2	98	St.Bass Hit	3	99	PhaseBassHit	3
	2	96	6th Hit	2	97	6th Hit 2	2	98	St.6th Hit	4	99	Dly.6th Hit	4
	3	96	Euro Hit	2	97	Euro Hit 2	2	98	St.Euro Hit	4	99	Dly.Euro Hit	4

Brass

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
57	0	96	Trumpet	1	97	Solo Trumpet	1	98	Romantic Tp	1	99	Enh.Trumpet	1
	1	96	Dark Trumpet	1	97	Mild Trumpet	2	98	Tp.Dark vib	1	99	Warm Trumpet	2
58	0	96	Trombone	1	97	Solo Bone	1	98	Trombone vib	1	99	Enh.Trombone	1
	1	96	Trombone 2	1	97	Solo Bone 2	1	98	Trombone2vib	1	99	Enh.Bone 2	1
	2	96	Brite Bone	1	97	Brite Bone 2	2	98	Br.Bone vib	2	99	Enh.Br Bone	2
59	0	96	Tuba	1	97	Tuba 2	2	98	Tuba vib	2	99	Chorus Tuba	2
60	0	96	MuteTrumpet	1	97	MuteTrumpet2	1	98	Solo MutedTp	2	99	Enh.Muted Tp	2
	1	96	MuteTrumpet2	1	97	Harmon Mute	2	98	Harmon Mute2	2	99	Enh.MutedTp2	2
61	0	96	French Horns	1	97	FrenchHorns2	2	98	St.Fr Horns	3	99	Enh.StFrHorn	3
	1	96	Fr.Horn	2	97	MildFr.Horns	2	98	St.Fr Horns2	3	99	Warm Horns	3
62	0	96	Brass 1	2	97	Brass FF	2	98	St.Brass	2	99	St.Big Brass	4
	1	96	Brass 2	2	97	BrassSection	3	98	St.Brass 2	5	99	Enh.Brs Sect	4
63	0	96	SynthBrass 1	2	97	JP Syn.Brass	3	98	Hyper Brass	4	99	SuperJP Brs1	3
	1	96	SynthBrass 3	2	97	JPSyn.Brass2	2	98	Stack Brass	4	99	Lead Brass	2
	2	96	Oct.SynBrass	2	97	OctSynBrass2	3	98	OctSynBrass3	3	99	Phase OctBrs	3
	3	96	Jump Brass	1	97	80's Brass	1	98	SuperSaw Brs	3	99	SuperJP Brs2	3
64	0	96	SynthBrass 2	2	97	MG Syn.Horn	2	98	Warm SynHorn 3	3	99	WarmSynHorn23	
	1	96	SynthBrass 4	2	97	OB Syn.Horn	2	98	Rich SynHorn	5	99	Phase Horn	5
	2	96	Velo Brass	2	97	CS Syn.Brass	2	98	P5 Syn.Brass	3	99	Fat Pro Bras	3

Reed

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
65	0	96	Soprano Sax	1	97	Soprano Sax2	1	98	Sop.Sax vib	1	99	Enh.Sop Sax	1
66	0	96	Alto Sax	1	97	Breathy Alto	1	98	AltoSoft vib	1	99	Enh.Alto Sax	1
67	0	96	Tenor Sax	1	97	BreathyTenor	1	98	Blow Tenor	1	99	Enh.TenorSax	1
68	0	96	Bariton Sax	1	97	Barely Bari	1	98	Bari.Sax vib	1	99	Enh.Bari Sax	1
69	0	96	Oboe	1	97	Brite Oboe	1	98	Classic Oboe	1	99	Enh.Oboe	1
70	0	96	EnglishHorn	1	97	EnglishHorn2	1	98	E.Horn vib	2	99	Enh.E Horn	2
71	0	96	Bassoon	1	97	Bassoon 2	1	98	Bassoon vib	1	99	Enh.Bassoon	1
72	0	96	Clarinet	1	97	Br.Clarinet	1	98	JazzClarinet	1	99	Jz.Clarinet2	1

Pipe

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
73	0	96	Piccolo	1	97	Piccolo 2	1	98	Piccolo vib	1	99	Enh.Piccolo	1
74	0	96	Flute	1	97	Flute 2	1	98	Flute vib	1	99	Enh.Flute	1
75	0	96	Recorder	1	97	Recorder 2	2	98	Recorder vib	1	99	Enh.Recorder	2
76	0	96	Pan Flute	2	97	Pan Flute 2	2	98	PanFlute vib	2	99	Cho.PanFlute	2
77	0	96	Bottle Blow	2	97	Bottle Blow2	2	98	Bottle vib	3	99	Phase Bottle	2
78	0	96	Shakuhachi	2	97	Shakuhachi 2	3	98	Shaku.vib	1	99	Delay Shaku	1
79	0	96	Whistle	1	97	Whistle 2	1	98	Whistle vib	1	99	DelayWhistle	1
80	0	96	Ocarina	1	97	Ocarina 2	1	98	Ocarina vib	1	99	DelayOcarina	1

Synth lead

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
81	0	96	Square Wave	2	97	MG Square	2	98	OB Square	3	99	OBSquareLead	3
	1	96	Square	1	97	Fat Square	3	98	Fat Square2	3	99	Phase Square	3
	2	96	Sine Wave	1	97	2600 Sine	1	98	2600 Sine 2	2	99	Sine Lead	2
82	0	96	Saw Wave	1	97	JP Saw Wave	2	98	Oct.JP Saw	3	99	KeySync Saw	2
	1	96	Saw	1	97	MG Saw	2	98	Hybrid Saw	3	99	Flanging Saw	3
	2	96	Doctor Solo	1	97	Fat Saw Solo	2	98	Hybrid Solo	3	99	Doctor Lead	3
	3	96	Natural Lead	2	97	P5 Saw Lead	2	98	MG Saw Lead	3	99	Fat Saw Lead	3
	4	96	SequencedSaw	2	97	MG Sequence	2	98	DelaySequence	2	99	PhaseSequence	2
83	0	96	Syn.Calliope	2	97	SynCalliope2	3	98	SynCalliope3	4	99	LeadCalliope	4
84	0	96	Chiffer Lead	2	97	ChifferLead2	4	98	ChifferLead3	6	99	Chiffers	6
85	0	96	Charang	3	97	Charang 2	3	98	Charang 3	4	99	Charang Lead	3
	1	96	Wire Lead	2	97	Wire Lead 2	3	98	Wire Lead 3	4	99	Phase Wire	4
86	0	96	Solo Vox	4	97	Solo Vox 2	6	98	Solo Vox 3	5	99	SoloVox Lead	5
87	0	96	5th SawWave	3	97	5th SawWave2	3	98	5th SawWave3	6	99	Flanging 5th	6
88	0	96	Bass & Lead	2	97	Bass & Lead2	2	98	Bass & Lead3	4	99	Phase BsLead	4
	1	96	DelayedLead	2	97	DelayedLead2	2	98	DelayedLead3	3	99	Suffle Lead	2

Synth pad, etc.

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
89	0	96	Fantasia	2	97	Fantasia 2	3	98	Fantasia 3	4	99	New Fantasia	3
90	0	96	Warm Pad	2	97	Warm Pad 2	2	98	Warm Pad 3	4	99	Phase Pad	4
	1	96	Sine Pad	2	97	Sine Pad 2	2	98	Sine Pad 3	3	99	Chorus Sine	2
91	0	96	Polysynth	2	97	Polysynth 2	2	98	Polysynth 3	3	99	KeySyncSynth	3
92	0	96	SpaceVoices	1	97	SpaceVoices 2	3	98	SpaceVoices 3	5	99	Phase Voices	4
	1	96	Itopia	2	97	Itopia 2	3	98	Itopia 3	5	99	Pan Itopia	5
93	0	96	BowedGlass	2	97	BowedGlass 2	3	98	BowedGlass 3	3	99	Ring Glass	3
94	0	96	Metal Pad	3	97	Metal Pad 2	4	98	Metal Pad 3	4	99	Space Pad	4
95	0	96	Halo Pad	3	97	Halo Pad 2	4	98	Halo Pad 3	6	99	Phase Halo	6
96	0	96	Sweep Pad	2	97	Sweep Pad 2	2	98	Sweep Pad 3	4	99	Flanging Pad	4

Synth SFX

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
97	0	96	Ice Rain	2	97	Ice Rain 2	3	98	Ice Rain 3	4	99	Reverse Rain	4
98	0	96	Soundtrack	2	97	Soundtrack 2	2	98	Soundtrack 3	5	99	Phase Track	5
99	0	96	Crystal	2	97	Crystal 2	3	98	Crystal 3	4	99	3D Crystal	4
	1	96	Syn Mallet	2	97	Syn Mallet 2	3	98	Syn Mallet 3	3	99	Phase Mallet	3
100	0	96	Atmosphere	2	97	Atmosphere 2	3	98	Atmosphere 3	5	99	Pan Atmos	5
101	0	96	Brightness	2	97	Brightness 2	4	98	Brightness 3	6	99	Bright Star	6
102	0	96	Goblin	2	97	Goblin 2	3	98	Goblin 3	4	99	Rev Goblin	4
103	0	96	Echo Drops	1	97	Echo Drops 2	2	98	Echo Drops 3	6	99	Delay Drops	2
	1	96	Echo Bell	2	97	Echo Bell 2	3	98	Echo Bell 3	5	99	Delay Bell	3
	2	96	Echo Pan	3	97	Echo Pan 2	3	98	Echo Pan 3	6	99	Delay Pan	6
104	0	96	Star Theme	2	97	Star Theme 2	3	98	Star Theme 3	5	99	Phase Theme	3

Ethnic, etc.

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
105	0	96	Sitar	1	97	Atk Sitar	2	98	St.Sitar	3	99	Enh.Sitar	3
	1	96	Sitar 2	2	97	Atk Sitar 2	3	98	St.Sitar 2	4	99	FantasySitar	3
106	0	96	Banjo	1	97	Banjo 2	2	98	St.Banjo	3	99	St.Banjo 2	4
107	0	96	Shamisen	1	97	Shamisen 2	2	98	St.Shamisen	3	99	St.Shamisen2	4
108	0	96	Koto	1	97	Koto 2	2	98	St.Koto	3	99	St.Koto 2	4
	1	96	Taisho Koto	1	97	Taisho Koto2	2	98	St.T Koto	3	99	St.T Koto 2	4
109	0	96	Kalimba	1	97	Kalimba 2	1	98	St.Kalimba	3	99	Trem.Kalimba	1
110	0	96	Bag Pipe	1	97	Bag Pipe 2	1	98	St.Bag Pipe	3	99	Enh.Bag Pipe	3
111	0	96	Fiddle	1	97	Fiddle vib	1	98	Fiddle 2 vib	1	99	Enh.Fiddle	1
112	0	96	Shanai	1	97	Shanai 2	1	98	St.Shanai	3	99	Enh.Shanai	3

Percussive

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
113	0	96	Tinkle Bell	1	97	→		98	→		99	→	
114	0	96	Agogo	1	97	→		98	→		99	→	
115	0	96	Steel Drums	1	97	→		98	→		99	→	
116	0	96	Woodblock	1	97	→		98	→		99	→	
	1	96	Castanet	1	97	→		98	→		99	→	
117	0	96	Taiko	3	97	→		98	→		99	→	
	1	96	Concert BD	1	97	→		98	→		99	→	
118	0	96	Melo.Tom 1	2	97	→		98	→		99	→	
	1	96	Melo.Tom 2	1	97	→		98	→		99	→	
119	0	96	Synth Drum	1	97	→		98	→		99	→	
	1	96	808 tom	2	97	→		98	→		99	→	
	2	96	Elec Perc	2	97	→		98	→		99	→	
120	0	96	Reverse Cym	1	97	→		98	→		99	→	

SFX

PC	LSB	MSB	Classic Set	Voices	MSB	Contemp Set	Voices	MSB	Solo Set	Voices	MSB	Enhance Set	Voices
121	0	96	GtFret Noise	1	97	→		98	→		99	→	
	1	96	Gt.Cut Noise	1	97	→		98	→		99	→	
	2	96	Slap_St.Bass	1	97	→		98	→		99	→	
122	0	96	Breath Noise	1	97	→		98	→		99	→	
	1	96	Fl.Key Click	1	97	→		98	→		99	→	
123	0	96	Seashore	2	97	→		98	→		99	→	
	1	96	Rain	2	97	→		98	→		99	→	
	2	96	Thunder	2	97	→		98	→		99	→	
	3	96	Wind	2	97	→		98	→		99	→	
	4	96	Stream	2	97	→		98	→		99	→	
	5	96	Bubble	2	97	→		98	→		99	→	
124	0	96	Bird Tweet	2	97	→		98	→		99	→	
	1	96	Dog	1	97	→		98	→		99	→	
	2	96	Horse Gallop	1	97	→		98	→		99	→	
	3	96	Bird Tweet 2	1	97	→		98	→		99	→	
125	0	96	Telephone	1	97	→		98	→		99	→	
	1	96	Telephone 2	1	97	→		98	→		99	→	
	2	96	Door Creak	1	97	→		98	→		99	→	
	3	96	Door	1	97	→		98	→		99	→	
	4	96	Scratch	1	97	→		98	→		99	→	
	5	96	Wind Chimes	2	97	→		98	→		99	→	
126	0	96	Helicopter	1	97	→		98	→		99	→	
	1	96	Car-Engine	1	97	→		98	→		99	→	
	2	96	Car-Stop	1	97	→		98	→		99	→	
	3	96	Car-Pass	1	97	→		98	→		99	→	
	4	96	Car-Crash	2	97	→		98	→		99	→	
	5	96	Siren	1	97	→		98	→		99	→	
	6	96	Train	1	97	→		98	→		99	→	
	7	96	Jetplane	3	97	→		98	→		99	→	
	8	96	Starship	4	97	→		98	→		99	→	
	9	96	Burst Noise	2	97	→		98	→		99	→	
127	0	96	Applause	2	97	→		98	→		99	→	
	1	96	Laughing	1	97	→		98	→		99	→	
	2	96	Screaming	1	97	→		98	→		99	→	
	3	96	Punch	1	97	→		98	→		99	→	
	4	96	Heart Beat	1	97	→		98	→		99	→	
	5	96	Footsteps	1	97	→		98	→		99	→	
128	0	96	Gunshot	1	97	→		98	→		99	→	
	1	96	Machine Gun	1	97	→		98	→		99	→	
	2	96	Lasergun	1	97	→		98	→		99	→	
	3	96	Explosion	2	97	→		98	→		99	→	

Instrument list (Special sound)

* The asterisk (*) indicates that the same sound is used for the Enhanced sound set in GM2/Native mode.

PC	LSB	MSB	Special 1 Set	Voice	LSB	MSB	Special 2 Set	Voice
1	0	80	D.L.A.Pad	8	0	81	Blown Bass	2
2	0	80	BrushingSaw	8	0	81	Enh.Violin	1 *
3	0	80	Xtremities	4	0	81	Solo Violin	1
4	0	80	Atmostrings	2	0	81	Enh.Cello	1 *
5	0	80	Noo Tongs	2	0	81	Overture Str	4
6	0	80	Mystery	1	0	81	St.Trem Str2	4 *
7	0	80	EastrnEurope	3	0	81	St.Strings 2	4 *
8	0	80	Harpsi&Str	8	0	81	Intim8String	4
9	0	80	Shout Gt	3	0	81	Str&Brs Orch	5
10	0	80	Clean Chorus	1	0	81	St.Orchestr2	7 *
11	0	80	Mid Boost Gt	1	0	81	St.Slow Str2	4 *
12	0	80	Guitarvibe	3	0	81	ChamberPlyrs	4
13	0	80	Cluster Sect	8	0	81	Prelude	4
14	0	80	Mariachi Tp	1	0	81	Tape Strings	2
15	0	80	NY Tenor	1	0	81	JP Strings	2 *
16	0	80	Jazz Club	3	0	81	PhaseSyn.Str	4 *
17	0	80	Moody Alto	1	0	81	SciFi Choir	3
18	0	80	Fuji Yama	4	0	81	Rich Choir	8 *
19	0	80	SD Piano	2 *	0	81	St.Sm Choir2	5 *
20	0	80	Piano&Str	6	0	81	Tron Choir	2
21	0	80	WarmVoxPiano	5	0	81	ScatterDanze	2
22	0	80	Enh.E Grand	2 *	0	81	Choral Brass	4
23	0	80	Brite Honky	3 *	0	81	Vocal Keys	3
24	0	80	Ambient EP	3	0	81	SampleThe80s	2
25	0	80	Phase Dyno	1 *	0	81	Spectravox	2
26	0	80	Wah Dyno	2	0	81	Formantic	2
27	0	80	Voweling EP	3	0	81	Vocoder Wave	1
28	0	80	Stage 73	3 *	0	81	Enh.Muted Tp	2 *
29	0	80	NY Rhodes	2 *	0	81	St.Big Brass	4 *
30	0	80	Amped Wurlie	2	0	81	ConcertHorns	3
31	0	80	Dirty Wurlie	4	0	81	Brass Orch	4
32	0	80	PhaseFlangEP	1	0	81	Loose Lips	3
33	0	80	Dist Wurly	2	0	81	Multi Brass	4
34	0	80	Xmod EP	2	0	81	SuperJP Brs1	3 *
35	0	80	EP+Followers	2	0	81	SuperJP Brs2	3 *
36	0	80	Backrhodes	2	0	81	DragginBrass	2
37	0	80	FM Delight	2	0	81	Enh.Alto Sax	1 *
38	0	80	Phng.Legend	3 *	0	81	Enh.TenorSax	1 *
39	0	80	Phasing EP	2 *	0	81	Enh.Bari Sax	1 *
40	0	80	Comp Clav	2 *	0	81	Sax's Sect	4
41	0	80	Vibarimba	2	0	81	Reed Romance	3
42	0	80	FM layer	3	0	81	U.S.Patrol	4
43	0	80	Vibey Flute	2	0	81	Enh.Oboe	1 *
44	0	80	Chime Bells	4	0	81	Jz.Clarinet2	1 *
45	0	80	The Big Spin	3	0	81	Enh.Flute	1 *
46	0	80	Roller Spin	3	0	81	Tron Flutes	2
47	0	80	Rocker Spin	3 *	0	81	Flute&Clari	2
48	0	80	Tone Wh.Solo	2 *	0	81	Orch Reeds	2
49	0	80	Purple Spin	4	0	81	Delay Shaku	1 *
50	0	80	RinginOrgan	2	0	81	DelayOcarina	1 *
51	0	80	60's LeadOrg	2	0	81	DynOrchestra	5
52	0	80	DistLead Org	1	0	81	Celtic Ens	5
53	0	80	Assalt Organ	2	0	81	Early Ens	4
54	0	80	Perky Spin	2 *	0	81	WoodSymphony	7
55	0	80	Gospel Spin	3 *	0	81	ViennaWoods2	3
56	0	80	Boogie Organ	4	0	81	Stage Woods	3
57	0	80	Klubb Organ	3	0	81	TremoloFlute	3
58	0	80	96 Year	1 *	0	81	SupportWoods	3
59	0	80	OrganInStone	1	0	81	Fiddle&Oboe	2
60	0	80	StringsOrgan	2	0	81	Mono Blues	3
61	0	80	Cathdr Pipes	5	0	81	TravinFlutes	3
62	0	80	Enh.Theater	4 *	0	81	DistortedSAW	1
63	0	80	Ld.Harmonica	3 *	0	81	The Leader	3
64	0	80	Guitar&Str	3	0	81	SH-2 Lead	1

PC	LSB	MSB	Special 1 Set	Voice	LSB	MSB	Special 2 Set	Voice
65	0	80	Elec Gut Gt	1	0	81	JP-6 Lead	1
66	0	80	Chorus GutGt	1	0	81	Glassy Saws	3
67	0	80	Enh.Nylon Gt	1 *	0	81	Too Pure	2
68	0	80	CompSteel Gt	1	0	81	Mono Analog	8
69	0	80	Elec Aco.Gt	1	0	81	Charang Lead	3 *
70	0	80	Hard Steel	1	0	81	Phase Wire	4 *
71	0	80	Comp OVSteel	1 *	0	81	Flanging 5th	6 *
72	0	80	DelayedSteel	2 *	0	81	BOG	3
73	0	80	Wah Steel Gt	1	0	81	Solo Twang	2
74	0	80	Soft Steel	1	0	81	Koto Power	2
75	0	80	Lead Jazz Gt	1 *	0	81	Dulcid Solo	2
76	0	80	Hawaian Gt	1 *	0	81	Wine Guitar	2
77	0	80	Solo Jazz Gt	1 *	0	81	Leapin' Keys	4
78	0	80	Old Clean Gt	1 *	0	81	New Fantasia	3 *
79	0	80	Jazz Chorus	1 *	0	81	MilleniumStr	2
80	0	80	Fat Clean	1	0	81	OB Borealis	4
81	0	80	Space-D Gt	1	0	81	Wet Glass	3
82	0	80	Whammy Gt	1	0	81	VintagePhase	4
83	0	80	Trem&Cho Gt	1	0	81	P-layer	4
84	0	80	Long DLY.Gt	1	0	81	Ring Glass	3 *
85	0	80	Comp FeedBK	3	0	81	5th Atm /Aft	2
86	0	80	ChaseDL Mute	2	0	81	Combing	2
87	0	80	Wah Funk Pop	2 *	0	81	Modular Life	4
88	0	80	Old Blues	1	0	81	KeySync Saw	3 *
89	0	80	335 Drive	1 *	0	81	Phase Track	5 *
90	0	80	335 Drive2	1	0	81	3D Crystal	4 *
91	0	80	SmallAMP OD	1	0	81	Bright Star	6 *
92	0	80	CountrySlide	1	0	81	Technoheadz	4
93	0	80	335 Comp	1	0	81	Techno Cave	2
94	0	80	TC Lead Gt	1 *	0	81	Wedo-Wodo	4
95	0	80	Lead Mild Gt	1	0	81	Dance Sweet	4
96	0	80	Crunch Gt	1	0	81	Dancefloor	3
97	0	80	Auto Wah Gt	1	0	81	Frogillator	2
98	0	80	Folmant Gt	1	0	81	Dance Zipper	4
99	0	80	Fuzz Gt	1	0	81	Lo-fi Chord	4
100	0	80	MonoPhase Gt	1	0	81	Sliced	4
101	0	80	2 Layer Gt	2	0	81	Dance Chop	3
102	0	80	MonoDLY Dist	1	0	81	GO WILD!	1
103	0	80	Step FLG Gt	1	0	81	Tropics	3
104	0	80	335 Fuzz	1	0	81	FM Fx Bells	2
105	0	80	Drive Funk	2	0	81	CrystalGlass	1
106	0	80	Loud & Metal	1	0	81	Borealis	4
107	0	80	Heavy DistGt	1 *	0	81	Circular Pad	4
108	0	80	Power Mute	1	0	81	Oxygenizer	4
109	0	80	Muted OD	1 *	0	81	Quasar	4
110	0	80	Combo Drive	1	0	81	PsycheSweep	4
111	0	80	Ring Gt.	1	0	81	Hell Section	4
112	0	80	Scream Drive	2	0	81	DigitalDrone	1
113	0	80	Gt.Pinch Wah	1	0	81	Harp Drop	4
114	0	80	Power DistGt	1	0	81	Runaway Rez	2
115	0	80	Triple Gt	1	0	81	Wacky Pizzer	3
116	0	80	Reverse Harm	2	0	81	Reverse Rain	4 *
117	0	80	Drivin'Uprit	2	0	81	Starburst	4
118	0	80	Enh.Aco Bass	1 *	0	81	Tongan Delay	4
119	0	80	Pre Bass	1 *	0	81	Cascade	1
120	0	80	Comp Finger	2 *	0	81	Legat→Staccat	2
121	0	80	Octvr Finger	2	0	81	Rev Goblin	4 *
122	0	80	Rock Bass	2 *	0	81	FantasySitar	3 *
123	0	80	Dist Bass	2	0	81	Rising Sun	4
124	0	80	Solo Fretles	1	0	81	Green Tea	4
125	0	80	WahSlapBass	1	0	81	Jimmy's Koto	1
126	0	80	Froggy Bass	1	0	81	Fly 2 India	3
127	0	80	3D TB-303	2	0	81	IndianSpirit	4
128	0	80	Acid Dist Bs	1 *	0	81	Gt/Bs/Nz MENU	1

Instrument list (GS mode)

Piano

PC	CC00	GS Set	Voices
001	000	Piano 1	1
	008	Piano 1w	1
	016	Piano 1d	1
002	000	Piano 2	1
	008	Piano 2w	1
003	000	Piano 3	1
	008	Piano 3w	1
004	000	Honky-tonk	2
	008	HonkyTonk w	2
005	000	E.Piano 1	1
	008	Detuned EP1	2
	016	E.Piano 1v	2
	024	60s E.Piano	1
006	000	E.Piano 2	1
	008	Detuned EP2	2
	016	E.Piano 2v	2
007	000	Harpsichord	1
	008	Coupled Hps	2
	016	Harpsi.w	1
	024	Harpsi.o	2
008	000	Clav.	1

Chromatic percussion

PC	CC00	GS Set	Voices
009	000	Celesta	1
010	000	Glockenspl	1
011	000	Music Box	1
012	000	Vibraphone	1
	008	Vib.w	1
013	000	Marimba	1
	008	Marimba w	1
014	000	Xylophone	1
015	000	Tubularbell	1
	008	Church Bell	1
	009	Carillon	1
016	000	Santur	1

Organ

PC	CC00	GS Set	Voices
017	000	Organ 1	1
	008	Detuned Or1	2
	016	60's Organ1	1
	032	Organ 4	2
018	000	Organ 2	1
	008	Detuned Or2	2
	032	Organ 5	2
019	000	Organ 3	2
020	000	Church Org1	1
	008	Church Org2	2
	016	Church Org3	2
021	000	Reed Organ	1
022	000	Accordion F	2
	008	Accordion I	2
023	000	Harmonica	1
024	000	Bandoneon	2

Guitar

PC	CC00	GS Set	Voices
025	000	Nylon Gt.	1
	008	Ukulele	1
	016	Nylon Gt.o	2
	032	Nylon Gt.2	1
026	000	Steel Gt.	1
	008	12-str.Gt	2
	016	Mandolin	1
027	000	Jazz Gt.	1
	008	Hawaiian Gt	1
028	000	Clean Gt.	1
	008	Chorus Gt.	2
029	000	Muted Gt.	1
	008	Funk Gt.	1
	016	Funk Gt.2	1
030	000	OverdriveGt	1
031	000	Dist.Gt.	1
	008	Feedback Gt	2
032	000	Gt.Harmonix	1
	008	Gt.Feedback	1

Bass

PC	CC00	GS Set	Voices
033	000	Acoustic Bs	1
034	000	Fingered Bs	1
035	000	Picked Bass	1
036	000	Fretless Bs	1
037	000	Slap Bass 1	1
038	000	Slap Bass 2	1
039	000	Syn.Bass 1	1
	001	Syn.Bass101	1
	008	Syn.Bass 3	1
040	000	Syn.Bass 2	2
	008	Syn.Bass 4	2
	016	Rubber Bass	2

Strings / orchestra

PC	CC00	GS Set	Voices
041	000	Violin	1
	008	Slow Violin	1
042	000	Viola	1
043	000	Cello	1
044	000	Contrabass	1
045	000	Tremolo Str	1
046	000	Pizzicato	1
047	000	Harp	1
048	000	Timpani	1

Ensemble

PC	CC00	GS Set	Voices
049	000	Strings	1
	008	Orchestra	2
050	000	SlowStrings	1
051	000	SynStrings1	1
	008	SynStrings3	2
052	000	SynStrings2	2
053	000	Choir Aahs	1
	032	Choir Aahs2	1
054	000	Voice Oohs	1
055	000	SynVox	1
056	000	Orchest.Hit	2

Brass

PC	CC00	GS Set	Voices
057	000	Trumpet	1
058	000	Trombone	1
	001	Trombone 2	2
059	000	Tuba	1
060	000	MuteTrumpet	1
061	000	French Horn	2
	001	Fr.Horn 2	2
062	000	Brass 1	1
	008	Brass 2	2
063	000	Syn.Brass 1	2
	008	Syn.Brass 3	2
	016	Analog Brs1	2
064	000	Syn.Brass 2	2
	008	Syn.Brass 4	1
	016	Analog Brs2	2

Reed

PC	CC00	GS Set	Voices
065	000	Soprano Sax	1
066	000	Alto Sax	1
067	000	Tenor Sax	1
068	000	BaritoneSax	1
069	000	Oboe	1
070	000	EnglishHorn	1
071	000	Bassoon	1
072	000	Clarinet	1

Pipe

PC	CC00	GS Set	Voices
073	000	Piccolo	1
074	000	Flute	1
075	000	Recorder	1
076	000	Pan Flute	1
077	000	Bottle Blow	2
078	000	Shakuhachi	2
079	000	Whistle	1
080	000	Ocarina	1

Synth lead

PC	CC00	GS Map	Voices
081	000	Square Wave	2
	001	Square	1
	008	Sine Wave	1
082	000	Saw Wave	2
	001	Saw	1
	008	Doctor Solo	2
083	000	SynCalliope	2
084	000	ChifferLead	2
085	000	Charang	2
086	000	Solo Vox	2
087	000	5th Saw	2
088	000	Bass & Lead	2

Synth pad, etc.

PC	CC00	GS Set	Voices
089	000	Fantasia	2
090	000	Warm Pad	1
091	000	Polysynth	2
092	000	Space Voice	1
093	000	Bowed Glass	2
094	000	Metal Pad	2
095	000	Halo Pad	2
096	000	Sweep Pad	1

Synth SFX

PC	CC00	GS Set	Voices
097	000	Ice Rain	2
098	000	Soundtrack	2
099	000	Crystal	2
100	000	Atmosphere	2
101	000	Brightness	2
102	000	Goblin	2
103	000	Echo Drops	1
	001	Echo Bell	2
	002	Echo Pan	2
104	000	Star Theme	2

Ethnic, etc.

PC	CC00	GS Set	Voices
105	000	Sitar	1
	001	Sitar 2	2
106	000	Banjo	1
107	000	Shamisen	1
108	000	Koto	1
	008	Taisho Koto	2
109	000	Kalimba	1
110	000	Bagpipe	1
111	000	Fiddle	1
112	000	Shanai	1

Percussive

PC	CC00	GS Set	Voices
113	000	Tinkle Bell	1
114	000	Agogo	1
115	000	Steel Drums	1
116	000	Woodblock	1
	008	Castanets	1
117	000	Taiko	1
	008	Concert BD	1
118	000	Melo. Tom 1	1
	008	Melo. Tom 2	1
119	000	Synth Drum	1
	008	808 Tom	1
	009	Elec Perc	1
120	000	Reverse Cym	1

SFX

PC	CC00	GS Set	Voices
121	000	Gt.FretNoiz	1
	001	Gt.CutNoise	1
	002	String Slap	1
122	000	BreathNoise	1
	001	Fl.KeyClick	1
123	000	Seashore	1
	001	Rain	1
	002	Thunder	1
	003	Wind	1
	004	Stream	2
	005	Bubble	2
124	000	Bird	2
	001	Dog	1
	002	HorseGallop	1
	003	Bird 2	1
125	000	Telephone 1	1
	001	Telephone 2	1
	002	Creaking	1
	003	Door	1
	004	Scratch	1
	005	Wind Chimes	2
126	000	Helicopter	1
	001	Car-Engine	1
	002	Car-Stop	1
	003	Car-Pass	1
	004	Car-Crash	2
	005	Siren	1
	006	Train	1
	007	Jetplane	2
	008	Starship	2
	009	Burst Noise	2
127	000	Applause	2
	001	Laughing	1
	002	Screaming	1
	003	Punch	1
	004	Heart Beat	1
	005	Footsteps	1
128	000	Gun Shot	1
	001	Machine Gun	1
	002	Lasergun	1
	003	Explosion	2

Instrument list (XGlite mode)

* The instrument names listed here are the proper names for the XGlite sound module mode. Due to the limited number of letters that can be used for the display, the names shown in the display may be slightly different from the instrument names listed here.

Piano

PC	CC32	XG Set	Elements
001	000	Grand Piano	1
	001	Grand Piano KSP	1
	040	Piano Strings	2
	041	Dream	2
002	000	Bright Piano	1
	001	Bright Piano KSP	1
003	000	Electric Grand Piano	2
	001	Electric Grand Piano KSP	2
	032	Detuned CP80	2
004	000	Honky-tonk Piano	2
	001	Honky-tonk Piano KSP	2
005	000	Electric Piano 1	2
	001	Electric Piano 1 KSP	1
	032	Chorus Electric Piano 1	2
006	000	Electric Piano 2	2
	001	Electric Piano 2 KSP	1
	041	DX + Analog Electric Piano	2
	085	Tinker DX Plus	2
007	000	Harpsichord	1
	001	Harpsichord KSP	1
	035	Harpsichord 3	2
008	000	Clavi	2
	001	Clavi KSP	1

Chromatic percussion

PC	CC32	XG Set	Elements
009	000	Celesta	1
010	000	Glockenspiel	1
011	000	Music Box	2
	064	Orgel	2
012	000	Vibraphone	1
	001	Vibraphone KSP	1
013	000	Marimba	1
	001	Marimba KSP	1
	064	Sine Marimba	2
	097	Balimba	2
	098	Log Drums	2
014	000	Xylophone	1
015	000	Tubular Bells	1
	096	Church Bells	2
	097	Carillon	2
016	000	Dulcimer	1
	035	Dulcimer 2	2
	096	Cimbalom	2
	097	Santur	2

Organ

PC	CC32	XG Set	Elements
017	000	Drawbar Organ	1
	032	Detuned Drawbar Organ	2
	033	60's Drawbar Organ 1	2
	034	60's Drawbar Organ 2	2
	035	70's Drawbar Organ 1	2
	037	60's Drawbar Organ 3	2
	040	16+2"2/3	2
	064	Organ Bass	1
	065	70's Drawbar Organ 2	2
	066	Cheezy Organ	2
	067	Drawbar Organ 3	2
018	000	Percussive Organ	1

	024	70's Percussive Organ 1	2
	032	Detuned Percussive Organ	2
	033	Light Organ	2
	037	Percussive Organ 2	2
019	000	Rock Organ	2
	064	Rotary Organ	2
	065	Slow Rotary	2
	066	Fast Rotary	2
020	000	Church Organ	2
	032	Church Organ 3	2
	035	Church Organ 2	2
	040	Notre Dame	2
	064	Organ Flute	2
	065	Tremolo Organ Flute	2
021	000	Reed Organ	1
	040	Puff Organ	2
022	000	Accordion	2
023	000	Harmonica	1
	032	Harmonica 2	2
024	000	Tango Accordion	2
	064	Tango Accordion 2	2

Guitar

PC	CC32	XG Set	Elements
025	000	Nylon Guitar	1
	043	Velocity Guitar Harmonics	2
	096	Cimbalom	2
026	000	Steel Guitar	1
	035	12-string Guitar	2
	040	Nylon & Steel Guitar	2
	041	Steel Guitar with Body Sound2	2
	096	Mandolin	2
027	000	Jazz Guitar	1
	032	Jazz Amp	2
028	000	Clean Guitar	1
	032	Chorus Guitar	2
029	000	Muted Guitar	1
	040	Funk Guitar 1	2
	041	Muted Steel Guitar	2
	045	Jazz Man	1
030	000	Overdriven Guitar	1
	043	Guitar Pinch	2
031	000	Distortion Guitar	1
	040	Feedback Guitar	2
	041	Feedback Guitar 2	2
032	000	Guitar Harmonics	1
	065	Guitar Feedback	1
	066	Guitar Harmonics 2	1

Bass

PC	CC32	XG Set	Elements
033	000	Acoustic Bass	1
	040	Jazz Rhythm	2
	045	Velocity Crossfade Upright Bass	2
034	000	Finger Bass	1
	018	Finger Dark	2
	040	Bass & Distorted Electric Guitar2	2
	043	Finger Slap Bass	2
	045	Finger Bass 2	2
	065	Modulated Bass	2
035	000	Pick Bass	1
	028	Muted Pick Bass	1

036	000	Fretless Bass	1
	032	Fretless Bass 2	2
	033	Fretless Bass 3	2
	034	Fretless Bass 4	2
037	000	Slap Bass 1	1
	032	Punch Thumb Bass	2
038	000	Slap Bass 2	1
	043	Velocity Switch Slap	2
039	000	Synth Bass 1	1
	040	Techno Synth Bass	2
	085	SweepPWM	2
040	000	Synth Bass 2	2
	006	Mellow Synth Bass	1
	012	Sequenced Bass	2
	018	Click Synth Bass	2
	019	Synth Bass 2 Dark	1
	041	DX Bass	2

Strings / orchestra

PC	CC32	XG Set	Elements
041	000	Violin	1
	008	Slow Violin	1
042	000	Viola	1
043	000	Cello	1
044	000	Contrabass	1
045	000	Tremolo Strings	1
	008	Slow Tremolo Strings	1
	040	Suspense Strings	2
046	000	Pizzicato Strings	1
047	000	Orchestral Harp	1
	040	Yang Chin	2
048	000	Timpani	1

Ensemble

PC	CC32	XG Set	Elements
049	000	Strings 1	1
	003	Stereo Strings	2
	008	Slow Strings	1
	035	60's Strings	2
	040	Orchestra	2
	041	Orchestra 2	2
	042	Tremolo Orchestra	2
	045	Velocity Strings	2
050	000	Strings 2	1
	003	Stereo Slow Strings	2
	008	Legato Strings	2
	040	Warm Strings	2
	041	Kingdom	2
051	000	Synth Strings 1	2
052	000	Synth Strings 2	2
053	000	Choir Aahs	1
	003	Stereo Choir	2
	032	Mellow Choir	2
	040	Choir Strings	2
054	000	Voice Oohs	1
055	000	Synth Voice	1
	040	Synth Voice 2	2
	041	Choral	2
	064	Analog Voice	1
056	000	Orchestra Hit	2
	035	Orchestra Hit 2	2
	064	Impact	2

Brass

PC	CC32	XG Set	Elements
057	000	Trumpet	1
	032	Warm Trumpet	2
058	000	Trombone	1
	018	Trombone 2	
059	000	Tuba	1
060	000	Muted Trumpet	1
061	000	French Horn	1
	006	French Horn Solo	1
	032	French Horn 2	2
	037	Horn Orchestra	2
062	000	Brass Section	1
	035	Trumpet & Trombone Section	2
063	000	Synth Brass 1	2
	020	Resonant Synth Brass	2
064	000	Synth Brass 2	1
	018	Soft Brass	2
	041	Choir Brass	2

Reed

PC	CC32	XG Set	Elements
065	000	Soprano Sax	1
066	000	Alto Sax	1
	040	Sax Section	2
067	000	Tenor Sax	1
	040	Breathy Tenor Sax	2
068	000	Baritone Sax	1
069	000	Oboe	2
070	000	English Horn	1
071	000	Bassoon	1
072	000	Clarinet	1

Pipe

PC	CC32	XG Set	Elements
073	000	Piccolo	1
074	000	Flute	1
075	000	Recorder	1
076	000	Pan Flute	1
077	000	Blown Bottle	2
078	000	Shakuhachi	2
079	000	Whistle	1
080	000	Ocarina	1

Synth lead

PC	CC32	XG Set	Elements
081	000	Square Lead	2
	006	Square Lead 2	1
	008	LM Square	2
	018	Hollow	1
	019	Shroud	2
	064	Mellow	2
	065	Solo Sine	2
	066	Sine Lead	1
082	000	Sawtooth Lead	2
	006	Sawtooth Lead 2	1
	008	Thick Sawtooth	2
	018	Dynamic Sawtooth	1
	019	Digital Sawtooth	2
	020	Big Lead	2
	096	Sequenced Analog	2
083	000	Calliope Lead	2
	065	Pure Pad	2
084	000	Chiff Lead	2

085	000	Charang Lead	2
	064	Distorted Lead	2
086	000	Voice Lead	2
087	000	Fifths Lead	2
	035	Big Five	2
088	000	Bass & Lead	2
	016	Big & Low	2
	064	Fat & Perky	2
	065	Soft Whirl	2
	067	Mogul	1
	068	Distance	2

Synth pad, etc.

PC	CC32	XG Set	Elements
089	000	New Age Pad	2
	064	Fantasy	2
090	000	Warm Pad	2
091	000	Poly Synth Pad	2
092	000	Choir Pad	2
	066	Itopia	2
093	000	Bowed Pad	2
094	000	Metallic Pad	2
095	000	Halo Pad	2
096	000	Sweep Pad	2

Synth SFX

PC	CC32	XG Set	Elements
097	000	Rain	2
	065	African Wind	2
	066	Carib	2
098	000	Sound Track	2
	027	Prologue	2
099	000	Crystal	2
	012	Synth Drum Comp	2
	014	Popcorn	2
	018	Tiny Bells	2
	035	Round Glockenspiel	2
	040	Glockenspiel Chimes	2
	041	Clear Bells	2
	042	Chorus Bells	2
	065	Soft Crystal	2
	070	Air Bells	2
	071	Bell Harp	2
	072	Gamelimba	2
100	000	Atmosphere	2
	018	Warm Atmosphere	2
	019	Hollow Release	2
	040	Nylon Electric Piano	2
	064	Nylon Harp	2
	065	Harp Vox	2
	066	Atmosphere Pad	2
101	000	Brightness	2
102	000	Goblins	2
	064	Goblins Synth	2
	065	Creeper	2
	067	Ritual	2
	068	To Heaven	2
	070	Night	2
	071	Glisten	2
	096	Bell Choir	2
103	000	Echoes	2
104	000	Sci-Fi	2

Ethnic, etc.

PC	CC32	XG Set	Elements
105	000	Sitar	1
	032	Detuned Sitar	2
	035	Sitar 2	2
	097	Tamboura	2
106	000	Banjo	1
	028	Muted Banjo	1
	096	Rabab	2
	097	Gopichant	2
	098	Oud	2
107	000	Shamisen	1
108	000	Koto	1
	096	Taisho-kin	2
	097	Kanoon	2
109	000	Kalimba	1
110	000	Bagpipe	2
111	000	Fiddle	1
112	000	Shanai	1
113	000	Tinkle Bell	2
	096	Bonang	2
	097	Altair	2
	098	Gamelan Gongs	2
	099	Stereo Gamelan Gongs	2
	100	Rama Cymbal	2
114	000	Agogo	2
115	000	Steel Drums	2
	097	Glass Percussion	2
	098	Thai Bells	2
116	000	Woodblock	1
	096	Castanets	1
117	000	Taiko Drum	1
	096	Gran Cassa	1
118	000	Melodic Tom	2
	064	Melodic Tom 2	1
	065	Real Tom	2
	066	Rock Tom	2
119	000	Synth Drum	1
	064	Analog Tom	1
	065	Electronic Percussion	2
120	000	Reverse Cymbal	1
121	000	Fret Noise	2
122	000	Breath Noise	2
123	000	Seashore	2
124	000	Bird Tweet	2
125	000	Telephone Ring	1
126	000	Helicopter	1
127	000	Applause	1
128	000	Gunshot	1

SFX

Drum set list (GM2 / Native mode)

PC	MSB	Classical Set	MSB	Contemporary Set	MSB	Solo Set	MSB	Enhanced Set
001	104	Standard Set	105	StandardSet2	106	St.Standard	107	Amb.Standard
009	104	Room Set	105	Room Set 2	106	St.Room	107	Amb.Room
017	104	Power Set	105	Power Set 2	106	St.Power	107	Gated Power
025	104	Electro Set	105	Dance Set	106	Rust Set	107	Techno Set
026	104	Analog Set	105	Rave Set	106	Analog2 Set	107	Bully Set
033	104	Jazz Set	105	Jazz Set 2	106	St.Jazz	107	Amb.Jazz
041	104	Brush Set	105	Brush Set 2	106	St.Brush	107	Amb.Brush
049	104	OrchestraSet	105	<-	106	<-	107	<-
057	104	SFX Set	105	<-	106	<-	107	<-

■ Classical set drum set (1)

<-: Same as the percussion sound of "Standard Set" (PC 1)

* BANK MSB=104, LSB=0

	PC 1 Standard Set	PC 9 Room Set	PC 17 Power Set	PC 25 Electric Set	PC 26 Analog Set
27	High Q	<-	<-	<-	<-
28	Slap	<-	<-	<-	<-
29	Scratch Push	<-	<-	<-	<-
30	Scratch Pull	<-	<-	<-	<-
31	Sticks	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-
33	Metron Click	<-	<-	<-	<-
34	Metron Bell	<-	<-	<-	<-
35	Kick Drum 2	<-	Power Kick 2	Elec.Kick 2	Ana.Kick 2
C36	Kick Drum 1	<-	Power Kick 1	Elec.Kick 1	Ana.Kick 1
37	Side Stick	<-	<-	<-	Ana.Rim Sho
38	Aco.Snare	Room Snare	PowerSnareDr	E.SnareDrum1	Ana.Snare 1
39	Hand Clap	<-	<-	<-	<-
40	Elec.Snare	<-	<-	<-	<-
41	Low Tom 2	Room LowTom2	PowerLowTom2	E.Low Tom 2	Ana.Low Tom2
42	ClosedHi-hat	<-	<-	<-	Ana.ClosedHH
43	Low Tom 1	Room LowTom1	PowerLowTom1	E.Low Tom 1	Ana.Low Tom1
44	Pedal Hi-hat	<-	<-	<-	Ana.ClosedHH
45	Mid Tom 2	Room MidTom2	PowerMidTom2	E.Mid Tom 2	Ana.Mid Tom2
46	Open Hi-hat	<-	<-	<-	Ana.Open HH
47	Mid Tom 1	Room MidTom1	PowerMidTom1	E.Mid Tom 1	Ana.Mid Tom1
C48	High Tom 2	Room Hi Tom2	Power HiTom2	E.Hi Tom 2	Ana.Hi Tom2
49	CrashCymbal1	<-	<-	<-	Ana.Cymbal
50	High Tom 1	Room Hi Tom1	Power HiTom1	E.Hi Tom 1	Ana.Hi Tom1
51	Ride Cymbal1	<-	<-	<-	<-
52	China Cymbal	<-	<-	Reverse Cym.	<-
53	Ride Bell	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	SplashCymbal	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	<-
57	CrashCymbal2	<-	<-	<-	<-
58	Vibra-slap	<-	<-	<-	<-
59	Ride Cymbal2	<-	<-	<-	<-
C60	High Bongo	<-	<-	<-	<-
61	Low Bongo	<-	<-	<-	<-
62	MuteHi Conga	<-	<-	<-	Ana.Hi Conga
63	OpenHi Conga	<-	<-	<-	Ana.MidConga
64	Low Conga	<-	<-	<-	Ana.LowConga
65	High Timbale	<-	<-	<-	<-
66	Low Timbale	<-	<-	<-	<-
67	High Agogo	<-	<-	<-	<-
68	Low Agogo	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	<-	<-	<-	Ana.Maracas
71	ShortWhistle	<-	<-	<-	<-
C572	Long Whistle	<-	<-	<-	<-
73	Short Guiro	<-	<-	<-	<-
74	Long Guiro	<-	<-	<-	<-
75	Claves	<-	<-	<-	Ana.Claves
76	Hi WoodBlock	<-	<-	<-	<-
77	LowWoodBlock	<-	<-	<-	<-
78	Mute Cuica	<-	<-	<-	<-
79	Open Cuica	<-	<-	<-	<-
80	MuteTriangle	<-	<-	<-	<-
81	OpenTriangle	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bell	<-	<-	<-	<-
C684	Bell Tree	<-	<-	<-	<-
85	Castanets	<-	<-	<-	<-
86	Mute Surdo	<-	<-	<-	<-
87	Open Surdo	<-	<-	<-	<-
88	---	---	---	---	---

■ Classical set drum set (2)

* BANK MSB=104, LSB=0

	PC 33 Jazz Set	PC 41 Brush Set	PC 49 OrchestraSet	PC 57 SFX Set
27	<-	<-	ClosedHi-hat	---
28	<-	<-	Pedal Hi-hat	---
29	<-	<-	Open Hi-hat	---
30	<-	<-	Ride Cymbal1	---
31	<-	<-	<-	---
32	<-	<-	<-	---
33	<-	<-	<-	---
34	<-	<-	<-	---
35	<-	<-	<-	---
C2 36	Jazz Kick 2	Jazz Kick 2	Concert BD 2	---
	Jazz Kick 1	Jazz Kick 1	Concert BD 1	---
37	<-	<-	<-	---
38	<-	Brush Tap	Concert SD	---
39	<-	Brush Slap	Castanets	High Q
40	<-	Brush Swirl	Concert SD	Slap
41	<-	BrushLowTom2	Timpani F	Scratch Push
42	<-	Brush CHH	Timpani F#	Scratch Pull
43	<-	BrushLowTom1	Timpani G	Sticks
44	<-	Brush PHH	Timpani G#	Square Click
45	<-	BrushMidTom2	Timpani A	Metron Click
46	<-	Brush OHH	Timpani A#	Metron Bell
47	<-	BrushMidTom1	Timpani B	GtFret Noise
C3 48	<-	Brush HiTom2	Timpani c	Cut Noise Up
	49	Brush Crash1	Timpani c#	Cut Noise Dw
50	<-	Brush HiTom1	Timpani d	Slap_St.Bass
51	<-	Brush Ride 1	Timpani d#	Fl.Key Click
52	<-	<-	Timpani e	Laughing
53	<-	BrushRideBel	Timpani f	Scream
54	<-	<-	<-	Punch
55	<-	<-	<-	Heart Beat
56	<-	<-	<-	Footsteps 1
57	<-	<-	<-	Footsteps 2
58	<-	<-	<-	Applause
59	<-	<-	<-	Door Creak
C4 60	<-	<-	<-	Door
	61	<-	<-	Scratch
62	<-	<-	<-	Wind Chimes
63	<-	<-	<-	Car-Engine
64	<-	<-	<-	Car-Stop
65	<-	<-	<-	Car-Pass
66	<-	<-	<-	Car-Crash
67	<-	<-	<-	Siren
68	<-	<-	<-	Train
69	<-	<-	<-	Jetplane
70	<-	<-	<-	Helicopter
71	<-	<-	<-	Starship
C5 72	<-	<-	<-	Gun Shot
	73	<-	<-	Machine Gun
74	<-	<-	<-	Lasergun
75	<-	<-	<-	Explosion
76	<-	<-	<-	Dog
77	<-	<-	<-	Horse-Gallop
78	<-	<-	<-	Birds
79	<-	<-	<-	Rain
80	<-	<-	<-	Thunder
81	<-	<-	<-	Wind
82	<-	<-	<-	Seashore
83	<-	<-	<-	Stream
C6 84	<-	<-	<-	Bubble
	85	<-	<-	---
86	<-	<-	<-	---
87	<-	<-	<-	---
88	---	---	Applause	---

■ Contemporary set drum set (1)

<-: Same as the percussion sound of "StandardSet2" (PC 1)

* BANK MSB=105, LSB=0

	PC 1 Standard Set2	PC 9 Room Set 2	PC 17 Power Set 2	PC 25 Dance Set	PC 26 Rave Set
27	High Q	<-	<-	<-	<-
28	Slap	<-	<-	<-	<-
29	Scratch Push	<-	<-	<-	<-
30	Scratch Pull	<-	<-	<-	<-
31	Sticks	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-
33	Metron Click	<-	<-	<-	<-
34	Metron Bell	<-	<-	<-	<-
35	Kick Drum 2	<-	Power Kick 2	Dance Kick	808 Kick
C2 36	Kick Drum 1	<-	Power Kick 1	Techno Kick	Round Kick
37	Side Stick	<-	<-	<-	Ana.Rim Shot
38	Aco. Snare	Room Snare	PowerSnareDr	Dance Snare	808 Snare
39	Hand Clap	<-	<-	<-	<-
40	Elec. Snare	<-	<-	<-	<-
41	Low Tom 2	Room LowTom2	PowerLowTom2	Ana.Low Tom2	808LowTom 2
42	ClosedHi-hat	<-	<-	<-	Ana.ClosedHH
43	Low Tom 1	Room LowTom1	PowerLowTom1	Ana.Low Tom1	808LowTom 1
44	Pedal Hi-hat	<-	<-	<-	Ana.ClosedHH
45	Mid Tom 2	Room MidTom2	PowerMidTom2	Ana.Mid Tom2	808MidTom 2
46	Open Hi-hat	<-	<-	<-	Ana.Open HH
47	Mid Tom 1	Room MidTom1	PowerMidTom1	Ana.Mid Tom1	808MidTom 1
C3 48	High Tom 2	Room Hi Tom2	Power HiTom2	Ana.Hi Tom2	808Hi Tom 2
49	CrashCymbal1	<-	<-	<-	Ana.Cymbal
50	High Tom 1	Room Hi Tom1	Power HiTom1	Ana.Hi Tom1	808Hi Tom 1
51	Ride Cymbal1	<-	<-	<-	<-
52	China Cymbal	<-	<-	Reverse Cym.	<-
53	Ride Bell	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	SplashCymbal	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	Ana.Cowbell
57	CrashCymbal2	<-	<-	<-	<-
58	Vibra-slap	<-	<-	<-	<-
59	Ride Cymbal2	<-	<-	<-	<-
C4 60	High Bongo	<-	<-	<-	<-
61	Low Bongo	<-	<-	<-	<-
62	MuteHi Conga	<-	<-	<-	Ana.Hi Conga
63	OpenHi Conga	<-	<-	<-	Ana.MidConga
64	Low Conga	<-	<-	<-	Ana.LowConga
65	High Timbale	<-	<-	<-	<-
66	Low Timbale	<-	<-	<-	<-
67	High Agogo	<-	<-	<-	<-
68	Low Agogo	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	<-	<-	<-	Ana.Maracas
71	ShortWhistle	<-	<-	<-	<-
C5 72	Long Whistle	<-	<-	<-	<-
73	Short Guiro	<-	<-	<-	<-
74	Long Guiro	<-	<-	<-	<-
75	Claves	<-	<-	<-	Ana.Claves
76	Hi WoodBlock	<-	<-	<-	<-
77	LowWoodBlock	<-	<-	<-	<-
78	Mute Cuica	<-	<-	<-	<-
79	Open Cuica	<-	<-	<-	<-
80	MuteTriangle	<-	<-	<-	<-
81	OpenTriangle	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bell	<-	<-	<-	<-
C6 84	Bell Tree	<-	<-	<-	<-
85	Castanets	<-	<-	<-	<-
86	Mute Surdo	<-	<-	<-	<-
87	Open Surdo	<-	<-	<-	<-
88	---	---	---	---	---

■ Contemporary set drum set (1)

* BANK MSB=105, LSB=0

	PC 33 Jazz Set 2	PC 41 Brush Set 2	PC 49 OrchestraSet	PC 57 SFX Set
27	<-	<-	ClosedHi-hat	---
28	<-	<-	Pedal Hi-hat	---
29	<-	<-	Open Hi-hat	---
30	<-	<-	Ride Cymbal1	---
31	<-	<-	<-	---
32	<-	<-	<-	---
33	<-	<-	<-	---
34	<-	<-	<-	---
35	Jazz Kick 2	Jazz Kick 2	Concert BD 2	---
C36	Jazz Kick 1	Jazz Kick 1	Concert BD 1	---
37	<-	<-	<-	---
38	Jazz Snare	Brush Tap	Concert SD	---
39	<-	Brush Slap	Castanets	High Q
40	<-	Brush Swirl	Concert SD	Slap
41	<-	BrushLowTom2	Timpani F	Scratch Push
42	<-	Brush CHH	Timpani F#	Scratch Pull
43	<-	BrushLowTom1	Timpani G	Sticks
44	<-	Brush PHH	Timpani G#	Square Click
45	<-	BrushMidTom2	Timpani A	Metron Click
46	<-	Brush OHH	Timpani A#	Metron Bell
47	<-	BrushMidTom1	Timpani B	GtFret Noise
C38	<-	Brush HiTom2	Timpani c	Cut Noise Up
49	<-	Brush Crash1	Timpani c#	Cut Noise Dw
50	<-	Brush HiTom1	Timpani d	Slap_St.Bass
51	<-	Brush Ride 1	Timpani d#	Fl.Key Click
52	<-	<-	Timpani e	Laughing
53	<-	BrushRideBel	Timpani f	Scream
54	<-	<-	<-	Punch
55	<-	<-	<-	Heart Beat
56	<-	<-	<-	Footsteps 1
57	<-	<-	<-	Footsteps 2
58	<-	<-	<-	Applause
59	<-	<-	<-	Door Creak
C460	<-	<-	<-	Door
61	<-	<-	<-	Scratch
62	<-	<-	<-	Wind Chimes
63	<-	<-	<-	Car-Engine
64	<-	<-	<-	Car-Stop
65	<-	<-	<-	Car-Pass
66	<-	<-	<-	Car-Crash
67	<-	<-	<-	Siren
68	<-	<-	<-	Train
69	<-	<-	<-	Jetplane
70	<-	<-	<-	Helicopter
71	<-	<-	<-	Starship
C572	<-	<-	<-	Gun Shot
73	<-	<-	<-	Machine Gun
74	<-	<-	<-	Lasergun
75	<-	<-	<-	Explosion
76	<-	<-	<-	Dog
77	<-	<-	<-	Horse-Gallop
78	<-	<-	<-	Birds
79	<-	<-	<-	Rain
80	<-	<-	<-	Thunder
81	<-	<-	<-	Wind
82	<-	<-	<-	Seashore
83	<-	<-	<-	Stream
C684	<-	<-	<-	Bubble
85	<-	<-	<-	---
86	<-	<-	<-	---
87	<-	<-	<-	---
88	---	---	Applause	---

Solo set drum set (1)

<-: Same as the percussion sound of "St.Standard" (PC 1)

* BANK MSB=106, LSB=0

	PC 1 St.Standard	PC 9 St.Room	PC 17 St.Power	PC 25 Rust Set	PC 26 Analog2 Set
27	High Q	<-	<-	<-	<-
28	Slap	<-	<-	<-	<-
29	Scratch Push	<-	<-	<-	<-
30	Scratch Pull	<-	<-	<-	<-
31	Sticks	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-
33	Metron Click	<-	<-	<-	<-
34	Metron Bell	<-	<-	<-	<-
35	Kick Drum 2	Rock Kick Dr	Rock Kick Dr	70s Kick 1	909 Kick 2
C36	Kick Drum 1	<-	Round Kick	Dance Kick	909 Kick 1
37	Side Stick	<-	<-	<-	Ana.Rim Shot
38	Snare Drum 1	Rock SnareDr	Rock SnareDr	Old Fill SN	909 Snare 1
39	Hand Clap	<-	<-	<-	<-
40	Snare Drum 2	<-	Piccolo SN	Rock SN	909 Snare 2
41	Low Tom 2	Room LowTom2	PowerLowTom2	Elec.Tom L2	Ana.Low Tom2
42	ClosedHi-hat	<-	<-	<-	<-
43	Low Tom 1	Room LowTom1	PowerLowTom1	Elec.Tom L1	Ana.Low Tom1
44	Pedal Hi-hat	<-	<-	<-	<-
45	Mid Tom 2	Room MidTom2	PowerMidTom2	Elec.Tom M2	Ana.Mid Tom2
46	Open Hi-hat	<-	<-	<-	<-
47	Mid Tom 1	Room MidTom1	PowerMidTom1	Elec.Tom M1	Ana.Mid Tom1
C348	High Tom 2	Room Hi Tom2	Power HiTom2	Elec.Tom H2	Ana.Hi Tom2
49	CrashCymbal1	<-	<-	<-	<-
50	High Tom 1	Room Hi Tom1	Power HiTom1	Elec.Tom H1	Ana.Hi Tom1
51	Ride Cymbal	<-	<-	<-	<-
52	China Cymbal	<-	<-	Reverse Cym.	<-
53	Ride Bell	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	SplashCymbal	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	Ana.Cowbell
57	CrashCymbal2	<-	<-	<-	<-
58	Vibra-slap	<-	<-	<-	<-
59	Ride Cymbal2	<-	<-	<-	<-
C460	High Bongo	<-	<-	<-	<-
61	Low Bongo	<-	<-	<-	<-
62	MuteHi Conga	<-	<-	<-	Ana.Hi Conga
63	OpenHi Conga	<-	<-	<-	Ana.MidConga
64	Low Conga	<-	<-	<-	Ana.LowConga
65	High Timbale	<-	<-	<-	<-
66	Low Timbale	<-	<-	<-	<-
67	High Agogo	<-	<-	<-	<-
68	Low Agogo	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	<-	<-	<-	Ana.Maracas
71	ShortWhistle	<-	<-	<-	<-
C572	Long Whistle	<-	<-	<-	<-
73	Short Guiro	<-	<-	<-	<-
74	Long Guiro	<-	<-	<-	<-
75	Claves	<-	<-	<-	Ana.Claves
76	Hi WoodBlock	<-	<-	<-	<-
77	LowWoodBlock	<-	<-	<-	<-
78	Mute Cuica	<-	<-	<-	<-
79	Open Cuica	<-	<-	<-	<-
80	MuteTriangle	<-	<-	<-	<-
81	OpenTriangle	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bell	<-	<-	<-	<-
C684	Bell Tree	<-	<-	<-	<-
85	Castanets	<-	<-	<-	<-
86	Mute Surdo	<-	<-	<-	<-
87	Open Surdo	<-	<-	<-	<-
88	---	---	---	---	---

■ Solo set drum set (2)

* BANK MSB=106, LSB=0

	PC 33 St.Jazz	PC 41 St.Brush	PC 49 OrchestraSet	PC 57 SFX Set
27	<-	<-	ClosedHi-hat	---
28	<-	<-	Pedal Hi-hat	---
29	<-	<-	Open Hi-hat	---
30	<-	<-	Ride Cymbal1	---
31	<-	<-	<-	---
32	<-	<-	<-	---
33	<-	<-	<-	---
34	<-	<-	<-	---
35	Jazz Kick 2	Jazz Kick 2	Concert BD 2	---
C2 36	Jazz Kick 1	Jazz Kick 1	Concert BD 1	---
37	<-	<-	<-	---
38	Jazz Snare 1	Brush Tap	Concert SD	---
39	<-	Brush Slap	Castanets	High Q
40	Jazz Snare 2	Brush Swirl	Concert SD	Slap
41	<-	BrushLowTom2	Timpani F	Scratch Push
42	<-	Brush CHH	Timpani F#	Scratch Pull
43	<-	BrushLowTom1	Timpani G	Sticks
44	<-	Brush PHH	Timpani G#	Square Click
45	<-	BrushMidTom2	Timpani A	Metron Click
46	<-	Brush OHH	Timpani A#	Metron Bell
C3 47	<-	BrushMidTom1	Timpani B	GtFret Noise
48	<-	Brush HiTom2	Timpani c	Cut Noise Up
49	<-	Brush Crash1	Timpani c#	Cut Noise Dw
50	<-	Brush HiTom1	Timpani d	Slap_St.Bass
51	<-	Brush Ride 1	Timpani d#	Fl.Key Click
52	<-	<-	Timpani e	Laughing
53	<-	BrushRideBel	Timpani f	Scream
54	<-	<-	<-	Punch
55	<-	<-	<-	Heart Beat
56	<-	<-	<-	Footsteps 1
57	<-	Brush Crash2	<-	Footsteps 2
58	<-	<-	<-	Applause
59	<-	Brush Ride 2	<-	Door Creak
C4 60	<-	<-	<-	Door
61	<-	<-	<-	Scratch
62	<-	<-	<-	Wind Chimes
63	<-	<-	<-	Car-Engine
64	<-	<-	<-	Car-Stop
65	<-	<-	<-	Car-Pass
66	<-	<-	<-	Car-Crash
67	<-	<-	<-	Siren
68	<-	<-	<-	Train
69	<-	<-	<-	Jetplane
70	<-	<-	<-	Helicopter
71	<-	<-	<-	Starship
C5 72	<-	<-	<-	Gun Shot
73	<-	<-	<-	Machine Gun
74	<-	<-	<-	Lasergun
75	<-	<-	<-	Explosion
76	<-	<-	<-	Dog
77	<-	<-	<-	Horse-Gallop
78	<-	<-	<-	Birds
79	<-	<-	<-	Rain
80	<-	<-	<-	Thunder
81	<-	<-	<-	Wind
82	<-	<-	<-	Seashore
83	<-	<-	<-	Stream
C6 84	<-	<-	<-	Bubble
85	<-	<-	<-	---
86	<-	<-	<-	---
87	<-	<-	<-	---
88	---	---	Applause	---

■ Enhanced set drum set (1)

<-: Same as the percussion sound of "Amb.Standard" (PC 1)

* BANK MSB=107, LSB=0

	PC 1 Amb.Standard	PC 9 Amb.Room	PC 17 Gated Power	PC 25 Techno Set	PC 26 Bully Set
27	High Q	<-	<-	<-	<-
28	Slap	<-	<-	<-	<-
29	Scratch Push	<-	<-	<-	<-
30	Scratch Pull	<-	<-	<-	<-
31	Sticks	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-
33	Metron Click	<-	<-	<-	<-
34	Metron Bell	<-	<-	<-	<-
35	Kick Drum 2	Rock Kick Dr	Rock Kick Dr	909 Kick 1	909 Kick 3
C2 36	Kick Drum 1	<-	<-	909 Kick 2	909 Kick 4
37	Side Stick	<-	<-	<-	Ana.Rim Shot
38	Snare Drum 1	Rock SnareDr	Rock SnareDr	Techno Snare	909 Snare
39	Hand Clap	<-	<-	<-	<-
40	Snare Drum 2	<-	<-	Punch Snare	808 Snare
41	Low Tom 2	Room LowTom2	Room LowTom2	Elec.Tom L2	Ana.Low Tom2
42	ClosedHi-hat	<-	<-	<-	<-
43	Low Tom 1	Room LowTom1	Room LowTom1	Elec.Tom L1	Ana.Low Tom1
44	Pedal Hi-hat	<-	<-	<-	<-
45	Mid Tom 2	Room MidTom2	Room MidTom2	Elec.Tom M2	Ana.Mid Tom2
46	Open Hi-hat	<-	<-	<-	<-
47	Mid Tom 1	Room MidTom1	Room MidTom1	Elec.Tom M1	Ana.Mid Tom1
C3 48	High Tom 2	Room Hi Tom2	Room Hi Tom2	Elec.Tom H2	Ana.Hi Tom2
49	CrashCymbal1	<-	<-	<-	<-
50	High Tom 1	Room Hi Tom1	Room Hi Tom1	Elec.Tom H1	Ana.Hi Tom1
51	Ride Cymbal1	<-	<-	<-	<-
52	China Cymbal	<-	<-	Reverse Cym.	<-
53	Ride Bell	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	SplashCymbal	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	Ana.Cowbell
57	CrashCymbal2	<-	<-	<-	<-
58	Vibra-slap	<-	<-	<-	<-
59	Ride Cymbal2	<-	<-	<-	<-
C4 60	High Bongo	<-	<-	<-	<-
61	Low Bongo	<-	<-	<-	<-
62	MuteHi Conga	<-	<-	<-	Ana.Hi Conga
63	OpenHi Conga	<-	<-	<-	Ana.MidConga
64	Low Conga	<-	<-	<-	Ana.LowConga
65	High Timbale	<-	<-	<-	<-
66	Low Timbale	<-	<-	<-	<-
67	High Agogo	<-	<-	<-	<-
68	Low Agogo	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	<-	<-	<-	Ana.Maracas
71	ShortWhistle	<-	<-	<-	<-
C5 72	Long Whistle	<-	<-	<-	<-
73	Short Guiro	<-	<-	<-	<-
74	Long Guiro	<-	<-	<-	<-
75	Claves	<-	<-	<-	Ana.Claves
76	Hi WoodBlock	<-	<-	<-	<-
77	LowWoodBlock	<-	<-	<-	<-
78	Mute Cuica	<-	<-	<-	<-
79	Open Cuica	<-	<-	<-	<-
80	MuteTriangle	<-	<-	<-	<-
81	OpenTriangle	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bell	<-	<-	<-	<-
C6 84	Bell Tree	<-	<-	<-	<-
85	Castanets	<-	<-	<-	<-
86	Mute Surdo	<-	<-	<-	<-
87	Open Surdo	<-	<-	<-	<-
88	---	---	---	---	---

■ Enhanced set drum set (2)

* BANK MSB=107, LSB=0

	PC 33 Amb.Jazz	PC 41 Amb.Brush	PC 49 OrchestraSet	PC 57 SFX Set
27	<-	<-	ClosedHi-hat	---
28	<-	<-	Pedal Hi-hat	---
29	<-	<-	Open Hi-hat	---
30	<-	<-	Ride Cymbal1	---
31	<-	<-	<-	---
32	<-	<-	<-	---
33	<-	<-	<-	---
34	<-	<-	<-	---
35	Jazz Kick 2	Jazz Kick 2	Concert BD 2	---
C2 36	Jazz Kick 1	Jazz Kick 1	Concert BD 1	---
37	<-	<-	<-	---
38	Jazz Snare 1	Brush Tap	Concert SD	---
39	<-	Brush Slap	Castanets	High Q
40	Jazz Snare 2	Brush Swirl	Concert SD	Slap
41	<-	BrushLowTom2	Timpani F	Scratch Push
42	<-	Brush CHH	Timpani F#	Scratch Pull
43	<-	BrushLowTom1	Timpani G	Sticks
44	<-	Brush PHH	Timpani G#	Square Click
45	<-	BrushMidTom2	Timpani A	Metron Click
46	<-	Brush OHH	Timpani A#	Metron Bell
47	<-	BrushMidTom1	Timpani B	GtFret Noise
C3 48	<-	Brush HiTom2	Timpani c	Cut Noise Up
49	<-	Brush Crash1	Timpani c#	Cut Noise Dw
50	<-	Brush HiTom1	Timpani d	Slap_St.Bass
51	<-	Brush Ride 1	Timpani d#	Fl.Key Click
52	<-	<-	Timpani e	Laughing
53	<-	BrushRideBel	Timpani f	Scream
54	<-	<-	<-	Punch
55	<-	<-	<-	Heart Beat
56	<-	<-	<-	Footsteps 1
57	<-	Brush Crash2	<-	Footsteps 2
58	<-	<-	<-	Applause
59	<-	Brush Ride 2	<-	Door Creak
C4 60	<-	<-	<-	Door
61	<-	<-	<-	Scratch
62	<-	<-	<-	Wind Chimes
63	<-	<-	<-	Car-Engine
64	<-	<-	<-	Car-Stop
65	<-	<-	<-	Car-Pass
66	<-	<-	<-	Car-Crash
67	<-	<-	<-	Siren
68	<-	<-	<-	Train
69	<-	<-	<-	Jetplane
70	<-	<-	<-	Helicopter
71	<-	<-	<-	Starship
C5 72	<-	<-	<-	Gun Shot
73	<-	<-	<-	Machine Gun
74	<-	<-	<-	Lasergun
75	<-	<-	<-	Explosion
76	<-	<-	<-	Dog
77	<-	<-	<-	Horse-Gallop
78	<-	<-	<-	Birds
79	<-	<-	<-	Rain
80	<-	<-	<-	Thunder
81	<-	<-	<-	Wind
82	<-	<-	<-	Seashore
83	<-	<-	<-	Stream
C6 84	<-	<-	<-	Bubble
85	<-	<-	<-	---
86	<-	<-	<-	---
87	<-	<-	<-	---
88	---	---	Applause	---

Drum set list (GS mode)

* The instrument names listed here are the proper names for the XGlite sound module mode. Due to the limited number of letters that can be used for the display, the names shown in the display may be slightly different from the instrument names listed here.

PC	GS Set
001	STANDARD
009	ROOM
017	POWER
025	ELECTRONIC
026	TR-808
033	JAZZ
041	BRUSH
049	ORCHESTRA
057	SFX

■ GS mode drum set (1)

	PC 1 / PC 33 STANDARD / JAZZ	PC 9 ROOM	PC 17 POWER	PC 25 ELECTRONIC	PC 26 TR-808	PC 41 BRUSH	PC 49 ORCHESTRA
25	----	----	----	----	----	----	----
26	----	----	----	----	----	----	----
27	High Q	<-	<-	<-	<-	<-	Closed Hi-hat
28	Slap	<-	<-	<-	<-	<-	Pedal Hi-hat
29	Scratch Push	<-	<-	<-	<-	<-	Open Hi-hat
30	Scratch Pull	<-	<-	<-	<-	<-	Ride Cymbal1
31	Sticks	<-	<-	<-	<-	<-	<-
32	Square Click	<-	<-	<-	<-	<-	<-
33	Metronome Click	<-	<-	<-	<-	<-	<-
34	Metronome Bell	<-	<-	<-	<-	<-	<-
35	Kick Drum2 / Jazz	<-	<-	<-	<-	Jazz BD2	Concert BD2
C36	Kick Drum1 / Jazz	<-	MONDO Kick	Elec BD	808 Bass Drum	Jazz BD1	Concert BD1
37	Side Stick	<-	<-	<-	808 Rim Shot	<-	<-
38	Snare Drum1	<-	Gated SD	Elec SD	808 Snare Drum	Brush Tap	Concert SD
39	Hand Clap	<-	<-	<-	<-	Brush Slap	Castanets
40	Snare Drum2	<-	<-	Gated SD	<-	Brash Swirl	Concert SD
41	Low Tom2	Room Low	Room Low	Elec Low Tom2	808 Low Tom2	<-	Timpani F
42	Closed Hi-hat	<-	<-	<-	808 CHH	<-	Timpani F#
43	Low Tom1	Room Low	Room Low	Elec Low Tom1	808 Low Tom1	<-	Timpani G
44	Pedal Hi-hat	<-	<-	<-	808 CHH	<-	Timpani G#
45	Mid Tom2	Room Mid Tom2	Room Mid Tom2	Elec Mid Tom2	808 Mid Tom2	<-	Timpani A
46	Open Hi-hat	<-	<-	<-	808 OHH	<-	Timpani A#
47	Mid Tom1	Room Mid Tom1	Room Mid Tom1	Elec Mid Tom1	808 Mid Tom1	<-	Timpani B
C48	High Tom2	Room Hi Tom2	Room Hi Tom2	Elec Hi Tom2	808 Hi Tom2	<-	Timpani c
49	Crash Cymbal1	<-	<-	<-	808 Cymbal	<-	Timpani c#
50	High Tom1	Room Hi Tom1	Room Hi Tom1	Elec Hi Tom1	808 Hi Tom1	<-	Timpani d
51	Ride Cymbal1	<-	<-	<-	<-	<-	Timpani d#
52	Chinese Cymbal	<-	<-	Reverse Cymbal	<-	<-	Timpani e
53	Ride Bell	<-	<-	<-	<-	<-	Timpani f
54	Tambourine	<-	<-	<-	<-	<-	<-
55	Splash Cymbal	<-	<-	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	808 Cowbell	<-	<-
57	Crash Cymbal2	<-	<-	<-	<-	<-	Concert
58	Vibra-slap	<-	<-	<-	<-	<-	<-
59	Ride Cymbal2	<-	<-	<-	<-	<-	Concert
C60	High Bongo	<-	<-	<-	<-	<-	<-
61	Low Bongo	<-	<-	<-	<-	<-	<-
62	Mute High Conga	<-	<-	<-	808 High Conga	<-	<-
63	Open High Conga	<-	<-	<-	808 Mid Conga	<-	<-
64	Low Conga	<-	<-	<-	808 Low Conga	<-	<-
65	High Timbale	<-	<-	<-	<-	<-	<-
66	Low Timbale	<-	<-	<-	<-	<-	<-
67	High Agogo	<-	<-	<-	<-	<-	<-
68	Low Agogo	<-	<-	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-	<-	<-
70	Maracas	<-	<-	<-	808 Maracas	<-	<-
71	Short Hi Whistle	<-	<-	<-	<-	<-	<-
C72	Long Low Whistle	<-	<-	<-	<-	<-	<-
73	Short Guiro	<-	<-	<-	<-	<-	<-
74	Long Guiro	<-	<-	<-	<-	<-	<-
75	Claves	<-	<-	<-	808 Claves	<-	<-
76	High Wood Block	<-	<-	<-	<-	<-	<-
77	Low Wood Block	<-	<-	<-	<-	<-	<-
78	Mute Cuica	<-	<-	<-	<-	<-	<-
79	Open Cuica	<-	<-	<-	<-	<-	<-
80	Mute Triangle	<-	<-	<-	<-	<-	<-
81	Open Triangle	<-	<-	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-	<-	<-
83	Jingle Bell	<-	<-	<-	<-	<-	<-
C84	Bell Tree	<-	<-	<-	<-	<-	<-
85	Castanets	<-	<-	<-	<-	<-	<-
86	Mute Surdo	<-	<-	<-	<-	<-	<-
87	Open Surdo	<-	<-	<-	<-	<-	<-
88	----	----	----	----	----	----	Applause

■ GS mode drum set (2)

		PC 57
		SFX
	35	----
C2	36	----
	37	----
	38	----
	39	High Q
	40	Slap
	41	Scratch Push
	42	Scratch Pull
	43	Sticks
	44	Square Click
	45	Metronome Click
	46	Metronome Bell
	47	Guitar Fret Noise
C3	48	Guitar cutting
	49	Guitar cutting
	50	String slap of double
	51	Fl.Key Click
	52	Laughing
	53	Scream
	54	Punch
	55	Heart Beat
	56	Footsteps1
	57	Footsteps2
	58	Applause
	59	Door Creaking
C4	60	Door
	61	Scratch
	62	Wind Chimes
	63	Car-Engine
	64	Car-Stop
	65	Car-Pass
	66	Car-Crash
	67	Siren
	68	Train
	69	Jetplane
	70	Helicopter
	71	Starship
C5	72	Gun Shot
	73	Machine Gun
	74	Lasergun
	75	Explosion
	76	Dog
	77	Horse-Gallop
	78	Birds
	79	Rain
	80	Thunder
	81	Wind
	82	Seashore
	83	Stream
C6	84	Bubble
	85	----
	86	----
	87	----
	88	----
	89	----
	90	----
	91	----
	92	----
	93	----
	94	----
	95	----

Drum set list (XGLite mode)

* The instrument names listed here are the proper names for the XGLite sound module mode. Due to the limited number of letters that can be used for the display, the names shown in the display may be slightly different from the instrument names listed here.

PC	MSB	LSB	XG Set	MSB	LSB	XG Set
001	127	0	Standard Kit	126	0	SFX Kit 1
002	127	0	Standard Kit 2	126	0	SFX Kit 2
009	127	0	Room Kit			
017	127	0	Rock Kit			
025	127	0	Electro Kit			
026	127	0	Analog Kit			
033	127	0	Jazz Kit			
041	127	0	Brush Kit			
049	127	0	Classic Kit			

■ XGlite mode drum set (1)

* BANK MSB=127, LSB=0

	PC001	PC002	PC009	PC017	PC025
	Standard Kit	Standard Kit 2	Room Kit	Rock Kit	Electro Kit
C012	13 Surdo Mute	<-	<-	<-	<-
14	Surdo Open	<-	<-	<-	<-
15	Hi Q	<-	<-	<-	<-
16	Whip Slap	<-	<-	<-	<-
17	Scratch H	<-	<-	<-	<-
18	Scratch L	<-	<-	<-	<-
19	Finger Snap	<-	<-	<-	<-
20	Click Noise	<-	<-	<-	<-
21	Metronome Click	<-	<-	<-	<-
22	Metronome Bell	<-	<-	<-	<-
23	Seq Click L	<-	<-	<-	<-
C124	Seq Click H	<-	<-	<-	<-
25	Brush Tap	<-	<-	<-	<-
26	Brush Swirl	<-	<-	<-	<-
27	Brush Slap	<-	<-	<-	<-
28	Brush Tap Swirl	<-	<-	<-	Reverse Cymbal
29	Snare Roll	Snare Roll 2	<-	<-	<-
30	Castanet	<-	<-	<-	Hi Q 2
31	Snare Soft	Snare Soft 2	<-	Snare Noisy	Snare Snappy Elec-
32	Sticks	<-	<-	<-	<-
33	Kick Soft	<-	<-	Kick Tight 2	Kick 3
34	Open Rim Shot	Open Rim Shot H	<-	<-	<-
35	Kick Tight	Kick Tight Short	<-	Kick 2	Kick Gate
C236	Kick	Kick Short	<-	Kick Gate	Kick Gate Heavy
37	Side Stick	<-	<-	<-	<-
38	Snare	Snare Short	Snare Snappy	Snare Rock	Snare Noisy 2
39	Hand Clap	<-	<-	<-	<-
40	Snare Tight	Snare Tight H	Snare Tight Snappy	Snare Rock Rim	Snare Noisy 3
41	Floor Tom L	<-	Tom Room 1	Tom Rock 1	Tom Electro 1
42	Hi-Hat Closed	<-	<-	<-	<-
43	Floor Tom H	<-	Tom Room 2	Tom Rock 2	Tom Electro 2
44	Hi-Hat Pedal	<-	<-	<-	<-
45	Low Tom	<-	Tom Room 3	Tom Rock 3	Tom Electro 3
46	Hi-Hat Open	<-	<-	<-	<-
47	Mid Tom L	<-	Tom Room 4	Tom Rock 4	Tom Electro 4
C348	Mid Tom H	<-	Tom Room 5	Tom Rock 5	Tom Electro 5
49	Crash Cymbal 1	<-	<-	<-	<-
50	High Tom	<-	Tom Room 6	Tom Rock 6	Tom Electro 6
51	Ride Cymbal 1	<-	<-	<-	<-
52	Chinese Cymbal	<-	<-	<-	<-
53	Ride Cymbal Cup	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	Splash Cymbal	<-	<-	<-	<-
56	Cowbell	<-	<-	<-	<-
57	Crash Cymbal 2	<-	<-	<-	<-
58	Vibraslap	<-	<-	<-	<-
59	Ride Cymbal 2	<-	<-	<-	<-
C460	Bongo H	<-	<-	<-	<-
61	Bongo L	<-	<-	<-	<-
62	Conga H Mute	<-	<-	<-	<-
63	Conga H Open	<-	<-	<-	<-
64	Conga L	<-	<-	<-	<-
65	Timbale H	<-	<-	<-	<-
66	Timbale L	<-	<-	<-	<-
67	Agogo H	<-	<-	<-	<-
68	Agogo L	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	<-	<-	<-	<-
71	Samba Whistle H	<-	<-	<-	<-

	PC001 Standard Kit	PC002 Standard Kit 2	PC009 Room Kit	PC017 Rock Kit	PC025 Electro Kit
C5 72	Samba Whistle L	<-	<-	<-	<-
73	Guiro Short	<-	<-	<-	<-
74	Guiro Long	<-	<-	<-	<-
75	Claves	<-	<-	<-	<-
76	Wood Block H	<-	<-	<-	<-
77	Wood Block L	<-	<-	<-	<-
78	Cuica Mute	<-	<-	<-	Scratch H 2
79	Cuica Open	<-	<-	<-	Scratch L 2
80	Triangle Mute	<-	<-	<-	<-
81	Triangle Open	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bells	<-	<-	<-	<-
C6 84	Bell Tree	<-	<-	<-	<-

■ XGlite mode drum set (2)

* BANK MSB=127, LSB=0

	PC001 Standard Kit	PC026 Analog Kit	PC033 Jazz Kit	PC041 Brush Kit	PC049 Classic Kit
C0 12	Surdo Mute	<-	<-	<-	<-
13	Surdo Open	<-	<-	<-	<-
14	Hi Q	<-	<-	<-	<-
15	Whip Slap	<-	<-	<-	<-
16	Scratch H	<-	<-	<-	<-
17	Scratch L	<-	<-	<-	<-
18	Finger Snap	<-	<-	<-	<-
19	Click Noise	<-	<-	<-	<-
20	Metronome Click	<-	<-	<-	<-
21	Metronome Bell	<-	<-	<-	<-
22	Seq Click L	<-	<-	<-	<-
23	Seq Click H	<-	<-	<-	<-
C1 24	Brush Tap	<-	<-	<-	<-
25	Brush Swirl	<-	<-	<-	<-
26	Brush Slap	<-	<-	<-	<-
27	Brush Tap Swirl	Reverse Cymbal	<-	<-	<-
28	Snare Roll	<-	<-	<-	<-
29	Castanet	Hi Q 2	<-	<-	<-
30	Snare Soft	Snare Noisy 4	<-	Brush Slap 2	<-
31	Sticks	<-	<-	<-	<-
32	Kick Soft	Kick Tight 2	<-	<-	Kick Soft 2
33	Open Rim Shot	<-	<-	<-	<-
34	Kick Tight	Kick Analog Short	<-	<-	Gran Cassa
C2 36	Kick	Kick Analog	Kick Jazz	Kick Small	Gran Cassa Mute
37	Side Stick	Side Stick Analog	<-	<-	<-
38	Snare	Snare Analog	<-	Brush Slap 3	Band Snare
39	Hand Clap	<-	<-	<-	<-
40	Snare Tight	Snare Analog 2	<-	Brush Tap 2	Band Snare 2
41	Floor Tom L	Tom Analog 1	Tom Jazz 1	Tom Brush 1	Tom Jazz 1
42	Hi-Hat Closed	Hi-Hat Closed Ana-	<-	<-	<-
43	Floor Tom H	Tom Analog 2	Tom Jazz 2	Tom Brush 2	Tom Jazz 2
44	Hi-Hat Pedal	Hi-Hat Closed Ana-	<-	<-	<-
45	Low Tom	Tom Analog 3	Tom Jazz 3	Tom Brush 3	Tom Jazz 3
46	Hi-Hat Open	Hi-Hat Open Analog	<-	<-	<-
47	Mid Tom L	Tom Analog 4	Tom Jazz 4	Tom Brush 4	Tom Jazz 4
C3 48	Mid Tom H	Tom Analog 5	Tom Jazz 5	Tom Brush 5	Tom Jazz 5
49	Crash Cymbal 1	Crash Analog	<-	<-	Hand Cymbal
50	High Tom	Tom Analog 6	Tom Jazz 6	Tom Brush 6	Tom Jazz 6
51	Ride Cymbal 1	<-	<-	<-	Hand Cymbal Short
52	Chinese Cymbal	<-	<-	<-	<-

	PC001 Standard Kit	PC026 Analog Kit	PC033 Jazz Kit	PC041 Brush Kit	PC049 Classic Kit
53	Ride Cymbal Cup	<-	<-	<-	<-
54	Tambourine	<-	<-	<-	<-
55	Splash Cymbal	<-	<-	<-	<-
56	Cowbell	Cowbell Analog	<-	<-	<-
57	Crash Cymbal 2	<-	<-	<-	Hand Cymbal 2
58	VibraSlap	<-	<-	<-	<-
59	Ride Cymbal 2	<-	<-	<-	Hand Cymbal 2 Short
C4 60	Bongo H	<-	<-	<-	<-
61	Bongo L	<-	<-	<-	<-
62	Conga H Mute	Conga Analog H	<-	<-	<-
63	Conga H Open	Conga Analog M	<-	<-	<-
64	Conga L	Conga Analog L	<-	<-	<-
65	Timbale H	<-	<-	<-	<-
66	Timbale L	<-	<-	<-	<-
67	Agogo H	<-	<-	<-	<-
68	Agogo L	<-	<-	<-	<-
69	Cabasa	<-	<-	<-	<-
70	Maracas	Maracas 2	<-	<-	<-
71	Samba Whistle H	<-	<-	<-	<-
C5 72	Samba Whistle L	<-	<-	<-	<-
73	Guiro Short	<-	<-	<-	<-
74	Guiro Long	<-	<-	<-	<-
75	Claves	Claves 2	<-	<-	<-
76	Wood Block H	<-	<-	<-	<-
77	Wood Block L	<-	<-	<-	<-
78	Cuica Mute	Scratch H 2	<-	<-	<-
79	Cuica Open	Scratch L 3	<-	<-	<-
80	Triangle Mute	<-	<-	<-	<-
81	Triangle Open	<-	<-	<-	<-
82	Shaker	<-	<-	<-	<-
83	Jingle Bells	<-	<-	<-	<-
C6 84	Bell Tree	<-	<-	<-	<-

■ XGlite mode drum set (3)

* BANK MSB=126, LSB=0

	PC001	PC002
	SFX Kit 1	SFX Kit 2
C2 36	Cutting Noise	---
37	Cutting Noise 2	Door Squeak
38	---	Door Slam
39	String Slap	Scratch Cut
40	---	Scratch H 3
41	---	Wind Chime
42	---	Telephone Ring 2
43	---	---
44	---	---
45	---	---
46	---	---
47	---	---
C3 48	---	---
49	---	---
50	---	---
51	---	---
52	Flute Key Click	Car Engine Igni-
53	---	Car Tires Squeal
54	---	Car Passing
55	---	Car Crash
56	---	Siren
57	---	Train
58	---	Jet Plane
59	---	Starship
C4 60	---	Burst
61	---	Roller Coaster
62	---	Submarine
63	---	---
64	---	---
65	---	---
66	---	---
67	---	---
68	Shower	Laugh
69	Thunder	Scream
70	Wind	Punch
71	Stream	Heart Beat
C5 72	Bubble	Foot Steps
73	---	---
74	---	---
75	---	---
76	---	---
77	---	---
78	---	---
79	---	---
80	---	---
81	---	---
82	---	---
83	---	---
C6 84	Dog	Machine Gun
85	Horse	Laser Gun
86	Bird Tweet 2	Explosion
87	---	Firework
88	---	---
89	---	---
90	Ghost	---

Specifications

■ Model: Studio Canvas SD-80

(General MIDI2 / GS format / XGlite format)

●Number of parts

32

●Maximum Polyphony

128 voices

●Internal Sounds

Sound Maps: 6

(Classical, Contemporary, Solo, Enhanced, Special 1, Special 2)

●Preset Memory

Internal Sounds: 1050

Drum Sound sets: 30

●User Memory

Internal Sounds: 128

Drum Sound sets: 16

●Effects

System Effects: Reverb (6 types)

Chorus (6 types)

Insertion Effects: Multi-effects x 3 (90 types)

●Display

40 characters, 2 lines (LCD with Backlight)

●Connectors

USB connector

Digital Audio OUT Connector

COAXIAL type (conforms to S/P DIF)

OPTICAL type (conforms to S/P DIF)

Output jack 1 (Stereo)

Output jack 2 (Stereo)

Headphones jack (Stereo)

MIDI connector (IN, OUT) x 2

●Power Supply

AC 120 V, AC 230 V or AC 240 V

●Power Consumption

11W (AC 120 V)

12W (AC 230 V)

13W (AC 240 V)

●Dimensions

280 (W) x 258.4 (D) x 46 (H) mm

11-1/16 (W) x 10-3/16 (D) x 1-13/16 (H) inches

●Weight

1.8 kg

4 lbs

●Accessories

USB cable

AC cable

Owner's Manual

Getting Started

CD-ROM

Rack-mount adaptor

Desk-stand mount (with cushion sets)

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior notice.

INDEX

- A**
AC IN Connector 12
Adobe Acrobat Reader 9
- B**
Bulk Dump 51, 69
- C**
capital sound 26
checksum 73
Chorus 16, 39, 41, 45
Classical 17
Contemporary 17
Contrast 15
Control Output 51
- D**
demo songs 13
Device ID Number 51
DIGITAL OUT Jack 12
Display 10
Drum part 18
drum set 27, 61
- E**
EFFECTS Button 10
Enhanced 17
ENTER 11
Envelope 35, 54
EQ 42, 48
equalizer 16
external MIDI device 51
- F**
Factory Reset 52
Filter 34
- G**
Getting Started 9
GM2 16
Grounding Terminal 12
GS 16
- H**
Headphone Jack 11
- I**
individual data 50, 70
INST 24
INST Button 10
Inst Init 22, 50
Inst Initialize 50
Inst part 18
Inst Startup 51
INST/DRUM 24
instrument 13, 18
Instrument Button 10
instrument list 58
Instrument number 14, 26
- L**
LCD Contrast 50
LFO 54
Low Frequency Oscillator 54
- M**
MFX 46, 64
MIDI Connector 12
MIDI Indicator 11
MIDI mode 20
MIDI OUT/THRU Switch 12
Mode Indicator 11
Multi-effect 16, 39
multitimbral sound module 18
mute 28
- N**
Native 16
- O**
OUTPUT 12
Owner's Manual 9
- P**
PAGE Button 11
parameters 30, 33
part 23
PART Button 10
Part Mode 18, 24
part parameters 31, 33
patch 50
Phrase Preview 14
pitch 54
Polyphony 18
POWER Switch 10
PREVIEW 11
Preview 14, 52
 Preview Mode 52
 Preview Note 52
 Preview Velocity 52

R

Reverb 16, 39, 41, 43

S

SHIFT Button 11
 Solo 17
 soloing 29
 sound 26
 sound generator mode 16, 22, 53
 sound set 25, 55
 Special 17
 synthesizer 54
 SysEX Device ID 51
 SYSTEM Button 10
 System Effect 41, 43, 45
 system exclusive data 50
 System Tempo 52

T

tempo 52
 temporary area 30
 Time Variant Amplifier 54
 Time Variant Filter 54
 TVA 54
 TVF 54

U

USB Connector 12
 USB Driver 52
 USB Indicator 11
 USB mode 19
 user patch 50

V

VALUE dial 10
 Variation number 14, 26
 Vibrato 36
 voice 18
 VOLUME Knob 10

W

WAVE 54
 WritePatch 50

X

XGlite 16

MEMO



This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Tested To Comply With FCC Standards

FOR HOME OR OFFICE USE

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Information

When you need repair service, call your nearest EDIROL/Roland Service Center or authorized EDIROL/Roland distributor in your country as shown below.

EDIROL

EUROPE

EDIROL (Europe) Ltd.
Studio 3.4 114 Power Road
London W4 5PY
U. K.
TEL: +44 (0)20 8747 5949
FAX:+44 (0)20 8747 5948
http://www.edirol.com/europe

Deutschland
TEL: 0700 33 47 65 20

France
TEL: 0810 000 371

Italia
TEL: 02 93778329

Roland

NORTH AMERICA

CANADA

Roland Canada Music Ltd.
(Head Office)
5480 Parkwood Way Richmond
B. C., V6V 2M4 CANADA
TEL: (604) 270 6626

Roland Canada Music Ltd.
(Toronto Office)
170 Admiral Boulevard
Mississauga On L5T 2N6
CANADA
TEL: (905) 362 9707

U. S. A.

Roland Corporation U.S.
5100 S. Eastern Avenue
Los Angeles, CA 90040-2938,
U. S. A.
TEL: (323) 890 3700

AFRICA

EGYPT

Al Fanny Trading Office
9, EBN Hagar Al Askalany
Street,
ARD El Golf, Heliopolis,
Cairo 11341, EGYPT
TEL: 20-2-417-1828

REUNION

Maison FO - YAM Marcel
25 Rue Jules Hermann,
Chaudron - BP79 97 491
Ste Clotilde Cedex,
REUNION ISLAND
TEL: (0262) 218-429

SOUTH AFRICA

Paul Bothner(PTY)Ltd.
Royal Cape Park, Unit 24
Londonderry Road, Ottery 7800
Cape Town, SOUTH AFRICA
TEL: (021) 799 4900

ASIA

CHINA

**Roland Shanghai Electronics
Co.,Ltd.**
5F, No.1500 Pingliang Road
Shanghai 200090, CHINA
TEL: (021) 5580-0800

**Roland Shanghai Electronics
Co.,Ltd.**

(BEIJING OFFICE)
10F, No.18 3 Section Anhuaxili
Chaoyang District Beijing
100011 CHINA
TEL: (010) 6426-5050

**Roland Shanghai Electronics
Co.,Ltd.**
(GUANGZHOU OFFICE)
2/F., No.30 Si You Nan Er Jie
Yi Xiang, Wu Yang Xin Cheng,
Guangzhou 510600, CHINA
TEL: (020) 8736-0428

HONG KONG

Parsons Music Ltd.
8th Floor, Railway Plaza, 39
Chatham Road South, T.S.T,
Kowloon, HONG KONG
TEL: 2333 1863

INDIA

Rivera Digitec (India) Pvt. Ltd.
409, Nirmam Kendra
Mahalaxmi Flats Compound
Off. Dr. Edwin Moses Road,
Mumbai-400011, INDIA
TEL: (022) 2493 9051

INDONESIA

PT Citra IntiRama
Jl. Cideng Timur No. 15J-150
Jakarta Pusat
INDONESIA
TEL: (021) 6324170

KOREA

Cosmos Corporation
1461-9, Seocho-Dong,
Seocho Ku, Seoul, KOREA
TEL: (02) 3486-8855

MALAYSIA/ SINGAPORE

Roland Asia Pacific Sdn. Bhd.
45-1, Block C2, Jalan PJU 1/39,
Dataran Prima, 47301 Petaling
Jaya, Selangor, MALAYSIA
TEL: (03) 7805-3263

PHILIPPINES

G.A. Yupangco & Co. Inc.
339 Gil J. Puyat Avenue
Makati, Metro Manila 1200,
PHILIPPINES
TEL: (02) 899 9801

TAIWAN

**ROLAND TAIWAN
ENTERPRISE CO., LTD.**
Room 5, 9fl. No. 112 Chung
Shan N.Road Sec.2, Taipei,
TAIWAN, R.O.C.
TEL: (02) 2561 3339

THAILAND

Theera Music Co., Ltd.
330 Soi Verng NakornKasem,
New Road, Sumpantawongse,
Bangkok 10100, THAILAND
TEL: (02) 224-8821

VIETNAM

**SAIGON MUSIC
DISTRIBUTOR
(TAN DINH MUSIC)**
138 Tran Quang Khai Street
Dist. 1, Ho Chi Minh City
VIETNAM
TEL: (08) 848-4068

AUSTRALIA/ NEW ZEALAND

AUSTRALIA/ NEW ZEALAND

**Roland Corporation
Australia Pty.,Ltd.**
38 Campbell Avenue
Dee Why West. NSW 2099
AUSTRALIA

For Australia
Tel: (02) 9982 8266
For New Zealand
Tel: (09) 3098 715

CENTRAL/LATIN AMERICA

ARGENTINA

Instrumentos Musicales S.A.
Av.Santa Fe 2055
(1123) Buenos Aires
ARGENTINA
TEL: (011) 4508-2700

BARBADOS

A&B Music Supplies LTD
12 Webster Industrial Park
Wildley, St.Michael, Barbados
TEL: (246)430-1100

BRAZIL

Roland Brasil Ltda.
Rua San Jose, 780 Sala B
Parque Industrial San Jose
Cotia - Sao Paulo - SP, BRAZIL
TEL: (011) 4615 5666

CHILE

Comercial Fancy II S.A.
Rut.: 96.919.420-1
Natanuel Cox #739, 4th Floor
Santiago - Centro, CHILE
TEL: (02) 688-9540

COLOMBIA

Centro Musical Ltda.
Cra 43 B No 25 A 41 Bodeoga 9
Medellin, Colombia
TEL: (574)3812529

CURACAO

Zeelandia Music Center Inc.
Orionweg 30
Curacao, Netherland Antilles
TEL:(305)5926866

DOMINICAN REPUBLIC

Instrumentos Fernando Giraldez
Calle Proyecto Central No.3
Ens.La Esperilla
Santo Domingo,
Dominican Republic
TEL:(809) 683 0305

ECUADOR

Mas Musica
Rumichaca 822 y Zaruma
Guayaquil - Ecuador
TEL:(593-4)2302364

GUATEMALA

Casa Instrumental
Calzada Roosevelt 34-01,zona 11
Ciudad de Guatemala
Guatemala
TEL:(502) 599-2888

HONDURAS

Almacen Pajaro Azul S.A. de C.V.
BO.Paz Barahona
3 Ave.11 Calle S.O
San Pedro Sula, Honduras
TEL: (504) 553-2029

MARTINIQUE

Musique & Son
Z.I.Les Mangle
97232 Le Lamantin
Martinique F.W.I.
TEL: 596 596 426860

Gigamusik SARI
10 Rte De La Folie
97200 Fort De France
Martinique F.W.I.
TEL: 596 596 715222

MEXICO

Casa Veerkamp, s.a. de c.v.
Av. Toluca No. 323, Col. Olivar
de los Padres 01780 Mexico
D.F. MEXICO
TEL: (55) 5668-6699

NICARAGUA

**Bansbach Instrumentos
Musicales Nicaragua**
Altamira D'Este Calle Principal
de la Farmacia 5ta.Avenida
1 Cuadra al Lago.#503
Managua, Nicaragua
TEL: (505)277-2557

PERU

Audionet
Distribuciones Musicales SAC
Juan Fanning 530
Miraflores
Lima - Peru
TEL: (511) 4461388

TRINIDAD

AMR Ltd
Ground Floor
Maritime Plaza
Barataria Trinidad W.I.
TEL: (868)638 6385

URUGUAY

Todo Musica S.A.
Francisco Acuna de Figueroa 1771
C.P.: 11.800
Montevideo, URUGUAY
TEL: (02) 924-2335

VENEZUELA

**Instrumentos Musicales
Allegro,C.A.**
Av.las industrias edf.Guitar
import
#7 zona Industrial de Turumo
Caracas, Venezuela
TEL: (212) 244-1122

EUROPE

AUSTRIA

**Roland Elektronische
Musikinstrumente HmbH.**
Austrian Office
Eduard-Bodem-Gasse 8,
A-6020 Innsbruck, AUSTRIA
TEL: (0512) 26 44 260

BELGIUM/FRANCE/ HOLLAND/ LUXEMBOURG

Roland Central Europe N.V.
Houtstraat 3, B-2260, Oevel
(Westerlo) BELGIUM
TEL: (014) 575811

CZECH REP.

K-AUDIO
Kardasovska 626.
CZ-198 00 Praha 9,
CZECH REP.
TEL: (2) 666 10529

DENMARK

Roland Scandinavia A/S
Nordhavnsvej 7, Postbox 880,
DK-2100 Copenhagen
DENMARK
TEL: 3916 6200

FINLAND

**Roland Scandinavia As, Filial
Finland**
Elannontie 5
FIN-01510 Vantaa, FINLAND
TEL: (09) 68 24 020

GERMANY

**Roland Elektronische
Musikinstrumente HmbH.**
Oststrasse 96, 22844
Norderstedt, GERMANY
TEL: (040) 52 60090

GREECE

STOLLAS S.A.
Music Sound Light
155, New National Road
Patras 26442, GREECE
TEL: 2610 435400

HUNGARY

Roland East Europe Ltd.
Warehouse Area 'DEPO' Pf.83
H-2046 Torokbalint,
HUNGARY
TEL: (23) 511011

IRELAND

Roland Ireland
G2 Calmount Park, Calmount
Avenue, Dublin 12
Republic of IRELAND
TEL: (01) 4294444

ITALY

Roland Italy S. p. A.
Viale delle Industrie 8,
20020 Arese, Milano, ITALY
TEL: (02) 937-78300

NORWAY

**Roland Scandinavia Avd.
Kontor Norge**
Lilleakerveien 2 Postboks 95
Lilleaker N-0216 Oslo
NORWAY
TEL: 2273 0074

POLAND

MX MUSIC SP.Z.O.O.
UL. Gibraltarska 4.
PL-03664 Warszawa POLAND
TEL: (022) 679 44 19

PORTUGAL

Roland Iberia, S.L.
Portugal Office
Cais das Pedras, 8/9-1 Dto
4050-465, Porto, PORTUGAL
TEL: 22 608 00 60

ROMANIA

FBS LINES
Piata Libertatii 1,
535500 Gheorgheni,
ROMANIA
TEL: (266) 364 609

RUSSIA

MuTek
Dorozhnaya ul.3,korp.6
117 545 Moscow, RUSSIA
TEL: (095) 981-4967

SPAIN

Roland Iberia, S.L.
Paseo Garcia Faria, 33-35
08005 Barcelona SPAIN
TEL: 93 493 91 00

SWEDEN

Roland Scandinavia A/S
SWEDISH SALES OFFICE
Danvik Center 28, 2 tr.
S-131 30 Nacka SWEDEN
TEL: (08) 702 00 20

SWITZERLAND

Roland (Switzerland) AG
Landstrasse 5, Postfach,
CH-4452 Itingen,
SWITZERLAND
TEL: (061) 927-8383

UKRAINE

TIC-TAC
Mira Str. 19/108
P.O. Box 180
295400 Munkachevo,
UKRAINE
TEL: (03131) 414-40

UNITED KINGDOM

Roland (U.K.) Ltd.
Atlantic Close, Swansea
Enterprise Park, SWANSEA
SA7 9FJ,
UNITED KINGDOM
TEL: (01792) 702701

MIDDLE EAST

BAHRAIN

Moon Stores
No.16, Bab Al Bahrain Avenue,
P.O.Box 247, Manama 304,
State of BAHRAIN
TEL: 17 211 005

CYPRUS

Radex Sound Equipment Ltd.
17, Diagonou Street, Nicosia,
CYPRUS
TEL: (022) 66-9426

IRAN

MOCO INC.
No.41 Nike St., Dr.Shariyati Ave.,
Roberoye Cerah Mirdamad
Teheran, IRAN
TEL: (021) 285-4169

ISRAEL

**Halilit P. Greenspoon & Sons
Ltd.**
8 Retzif Ha'aliya Hashnya St.
Tel-Aviv-Yafo ISRAEL
TEL: (03) 6823666

JORDAN

MUSIC HOUSE CO. LTD.
FREDDY FOR MUSIC
P. O. Box 922846
Amman 11192 JORDAN
TEL: (06) 5692696

KUWAIT

**EASA HUSAIN AL-YOUSIFI
& SONS CO.**
Abdullah Salem Street,
Safat, KUWAIT
TEL: 243-6399

LEBANON

Chahine S.A.L.
Gerge Zeidan St., Chahine
Bldg., Achrafieh, P.O.Box: 16-
5857
Beirut, LEBANON
TEL: (01) 20-1441

OMAN

TALENTZ CENTRE L.L.C.
Malatan House No.1
Al Noor Street, Ruwi
SULTANATE OF OMAN
TEL: 2478 3443

QATAR

Badie Studio & Stores
P.O. Box 62,
Doha, QATAR
TEL: 423554

SAUDI ARABIA

**aDawlah Universal
Electronics APL**
Corniche Road, Aldossary
Bldg., 1st Floor, Alkhorbar,
SAUDI ARABIA

P.O.Box 2154, Alkhorbar 31952
SAUDI ARABIA
TEL: (03) 898 2081

SYRIA

**Technical Light & Sound
Center**
Rawda, Abdul Qader Jazairi St.
Bldg. No. 21, P.O.BOX 13520,
Damascus, SYRIA
TEL: (011) 223-5384

TURKEY

ZUHAL DIS TICARET A.S.
Galip Dede Cad. No.37
Beyoglu - Istanbul / TURKEY
TEL: (0212) 249 85 10

U.A.E.

**Zak Electronics & Musical
Instruments Co. L.L.C.**
Zabeel Road, Al Sherooq Bldg.,
No. 14, Grand Floor, Dubai,
U.A.E.
TEL: (04) 3360715