

SS08

MUSIC SYNTHESIZER

OWNER'S MANUAL



SPECIAL MESSAGE SECTION

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

WARNING:

Do not place this product in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! IF you must use an extension cord, the minimum wire size for a 25' cord (or less) is 18 AWG. NOTE: The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

This product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods 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 consult an audiologist.

IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

Some Yamaha products may have benches and / or accessory mounting fixtures that are either supplied with the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well secured BEFORE using. Benches supplied by Yamaha are designed for seating only. No other uses are recommended.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:

Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice:

This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix batteries with new, or with batteries of a different type. Batteries MUST be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning:

Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice:

Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION:

The name plate is located on the rear of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model

Serial No.

Purchase Date

PLEASE KEEP THIS MANUAL

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT:

When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE:

This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620. The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)

NEDERLAND / THE NETHERLANDS

- Dit apparaat bevat een lithium batterij voor geheugen back-up.
- This apparatus contains a lithium battery for memory back-up.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat aan het einde van de levensduur afdankt of de volgende Yamaha Service Afdeling:
Yamaha Music Nederland Service Afdeling
Kanaalweg 18-G, 3526 KL UTRECHT
Tel. 030-2828425
- For the removal of the battery at the moment of the disposal at the end of the service life please consult your retailer or Yamaha Service Center as follows:
Yamaha Music Nederland Service Center
Address: Kanaalweg 18-G, 3526 KL UTRECHT
Tel: 030-2828425
- Gooi de batterij niet weg, maar lever hem in als KCA.
- Do not throw away the battery. Instead, hand it in as small chemical waste.

(lithium disposal)

ADVARSEL!

Lithiumbatteri—Eksplodingsfare ved fejlagtig håndtering. Udskiftning m* kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandoren.

VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävit* käytetty paristo valmistajan ohjeiden mukaisesti.

(lithium caution)

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

* Please keep this manual in a safe place for future reference.



WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/AC power adaptor

- Only use the voltage specified as correct for the instrument. The required voltage is printed on the name plate of the instrument.
- Use the specified adaptor (PA-5C or an equivalent recommended by Yamaha) only. Using the wrong adaptor can result in damage to the instrument or overheating.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- Do not place the AC adaptor cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.

Do not open

- Do not open the instrument or attempt to disassemble the internal parts or modify them in any way. The instrument contains no user-serviceable parts. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Yamaha service personnel.

Water warning

- Do not expose the instrument to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- Never insert or remove an electric plug with wet hands.

Fire warning

- Do not put burning items, such as candles, on the unit. A burning item may fall over and cause a fire.

If you notice any abnormality

- If the AC adaptor cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the instrument, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the adaptor plug from the outlet, and have the instrument inspected by qualified Yamaha service personnel.



CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the instrument or other property. These precautions include, but are not limited to, the following:

Power supply/AC power adaptor

- When removing the electric plug from the instrument or an outlet, always hold the plug itself and not the cord.
- Unplug the AC power adaptor when not using the instrument, or during electrical storms.
- Do not connect the instrument to an electrical outlet using a multiple-connector. Doing so can result in lower sound quality, or possibly cause overheating in the outlet.

Location

- Do not expose the instrument to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not use the instrument in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the instrument, TV, or radio may generate noise.
- Do not place the instrument in an unstable position where it might accidentally fall over.
- Before moving the instrument, remove all connected adaptor and other cables.
- Use only the stand specified for the instrument. When attaching the stand or rack, use the provided screws only. Failure to do so could cause damage to the internal components or result in the instrument falling over.

Connections

- Before connecting the instrument to other electronic components, turn off the power for all components. Before turning the power on or off for all components, set all volume levels to minimum. Also, be sure to set the volumes of all components at their minimum levels and gradually raise the volume controls while playing the instrument to set the desired listening level.

Maintenance

- When cleaning the instrument, use a soft, dry cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.

Handling caution

- Do not insert a finger or hand in any gaps on the instrument.
- Never insert or drop paper, metallic, or other objects into the gaps on the panel or keyboard. If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the instrument inspected by qualified Yamaha service personnel.
- Do not place vinyl, plastic or rubber objects on the instrument, since this might discolor the panel or keyboard.
- Do not rest your weight on, or place heavy objects on the instrument, and do not use excessive force on the buttons, switches or connectors.
- Do not operate the instrument for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.

Backup battery

- This instrument has a built-in lithium backup battery. When you unplug the power cord from the AC outlet, the internal data is retained. However, if the backup battery fully discharges, this data will be lost. When the backup battery is running low, the LCD indicates “!BatteryLo.” In this case, immediately save the data to a Memory Card (SmartMedia), then have qualified Yamaha service personnel replace the backup battery.

Saving data

Saving and backing up your data

- Any edited data (see pages 33 and 40) that is left un-stored will be lost if you turn off the power to the instrument. Save the data to the USER memory (see page 50).
- USER memory data (see page 20) is retained when the power is turned off, as long as the backup battery retains a charge. However, the data could be lost due to malfunction or incorrect operation. Save important data to a Memory Card (SmartMedia).

Backing up the Memory Card (SmartMedia)

- To protect against data loss through media damage, we recommend that you save your important data onto two Memory Cards (SmartMedia).

Yamaha cannot be held responsible for damage caused by improper use or modifications to the instrument, or data that is lost or destroyed.

Always turn the power off when the instrument is not in use.

Even when the power switch is in the “STANDBY” position, electricity is still flowing to the instrument at the minimum level. When you are not using the instrument for a long time, make sure you unplug the AC power adaptor from the wall AC outlet.

Make sure to discard used batteries according to local regulations.

Introduction

Thank you for purchasing the Yamaha S08 Music Synthesizer. In order to get the most out of your new S08 and its sophisticated functions, we suggest you read through this manual thoroughly. Also keep it in a safe, convenient place so that you can regularly refer to it when necessary.

Package Contents

- PA-5C AC Adaptor *
- Owner's Manual
- CD-ROM
- Data List
- Installation Guide

* May not be included in your area. Please check with your Yamaha dealer.

About the Included CD-ROM

Application software for your S08 is included on this CD-ROM. The Voice Editor lets you edit the Voices of the S08 with a highly intuitive graphical interface. With the included sequencing software (Windows only), you can easily create and edit your own original songs on your computer. For details, refer to the separate Installation Guide or the on-line manual included with the software.



Never attempt to play back the CD-ROM on an audio CD player. Doing so may result in damage to your hearing as well as to your CD player/audio speakers.

Main Features

- Exceptionally high-quality dynamic Voices — including many sounds from Yamaha's top-of-the-line S80 Music Synthesizer (page 16).
- Naturally responsive 88-key Balanced Hammer Effect keyboard, drawing on our extensive experience and expertise in piano-making.
- Wide variety of pro-quality digital effects (page 46).
- Category Search function for quickly calling up Voices in a desired instrument group (page 31).
- A total of 493 Normal Voices and 29 Drum Voices, all GM2/XG-compatible — in addition to Preset Voices and User Voices (page 20).
- Memory cards, which let you easily organize and archive the internal data (page 53).
- Sequence Play function, that lets you directly play song files stored to memory cards (page 51).
- Comprehensive, detailed editing features for customizing your Voices (page 40 and 58).
- Convenient USB terminal for direct, easy connection to computer — with just one cable (page 14).



GM System Level 1

“GM System Level 1” is a standard specification that defines the arrangement of voices in a tone generator and its MIDI functionality, ensuring that data can be played back with substantially the same sounds on any GM-compatible tone generator, regardless of its manufacturer or model. Tone generators and song data that meet the “GM System Level 1” bear this GM logo.



GM System Level 2 (GM2)

“GM System Level 2” is a standard specification that enhances the original “GM System Level 1” and improves song data compatibility. It provides for increased polyphony, greater voice selection, expanded voice parameters, and integrated effect processing. Tone generators and song data that meet the “GM System Level 2” specifications bear this GM2 logo.



XG

“XG” is a tone generator format that expands the voice arrangement of the “GM System Level 1” specification to meet the ever-increasing demands of today's computer peripheral environment, providing richer expressive power while maintaining upward compatibility of data. “XG” greatly expands “GM System Level 1” by defining the ways in which voices are expanded or edited and the structure and type of effects.

When commercially available song data bearing the XG logo is played back on a tone generator which bears the XG logo, you will enjoy a full musical experience that includes unlimited expansion voices and effect functions.



USB

USB is an abbreviation for Universal Serial Bus. It is a serial interface for connecting a computer with peripheral devices. It allows “hot swapping” (connecting peripheral devices while the power to the computer is on).

About This Manual

This manual consists of the following sections.

■ **Basics Section (page 11)**

This section provides a overview of the main functions and features of the S08 and introduces you to the basic operating conventions.

■ **Quick Guide (page 29)**

This section explains how to use the basic functions.

■ **Reference : Function List (page 58)**

The S08 encyclopedia. This section explains all parameters.

■ **Appendix (page 72)**

This section contains detailed information on the S08 such as MIDI, Display Messages, Troubleshooting and Specifications.

■ **Installation Guide (separate booklet)**

Refer to this for instructions on installing the included software programs (on the CD-ROM) to your computer.

■ **Data List (separate booklet)**

This contains various important lists such as the Voice List, Wave List, Multi List, and MIDI Implementation Chart.

About the “Page” References in this Manual

PAGE xx Refers to a display “page” in the LCD

page xx..... Refers to an actual page in this manual.

Many of the functions and parameters of the S08 are shown on various display “pages,” each of which is numbered within each mode and indicated in the display. Searching for a function or parameter is made more convenient and fast by the use of these page numbers.

To distinguish these display page references from actual pages in the manual, we’ve applied the following convention: “PAGE” (all capital letters) refers to the display page. Unless indicated otherwise, the PAGE reference is for display pages within the same mode (as described for other parameters in the same section).

Throughout the manual, parameter names are prefaced by numbers, such as “13-2 Resonance.” This, for example, indicates that the Resonance parameter is on display PAGE 13 in the selected mode.

When one display page contains two or more related parameters, use the [◀]/[▶] buttons (page 26) to scroll through the available parameters. These related parameters selected by the [◀]/[▶] buttons are indicated by hyphenated numbers (e.g., 13-1, 13-2, etc.). In the example above, you can select the Resonance parameter by using the [◀]/[▶] buttons to move to the second page.

NOTE For a full listing of the parameters and their corresponding display pages, refer to the Function List (page 58) or the Parameter Table (page 18).

- Copying of the commercially available music sequence data and/or digital audio files is strictly prohibited except for your personal use.
- The illustrations and LCD screens as shown in this owner’s manual are for instructional purposes only, and may appear somewhat different from those on your instrument.
- The company names and product names in this Owner’s Manual are the trademarks or registered trademarks of their respective companies.

Application Index

This convenient, easy-to-use index is divided to general categories to help you when you want to find information on a specific topic or function.

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- Assigning songs to each chain step automatically (Page 52)
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Top Panel

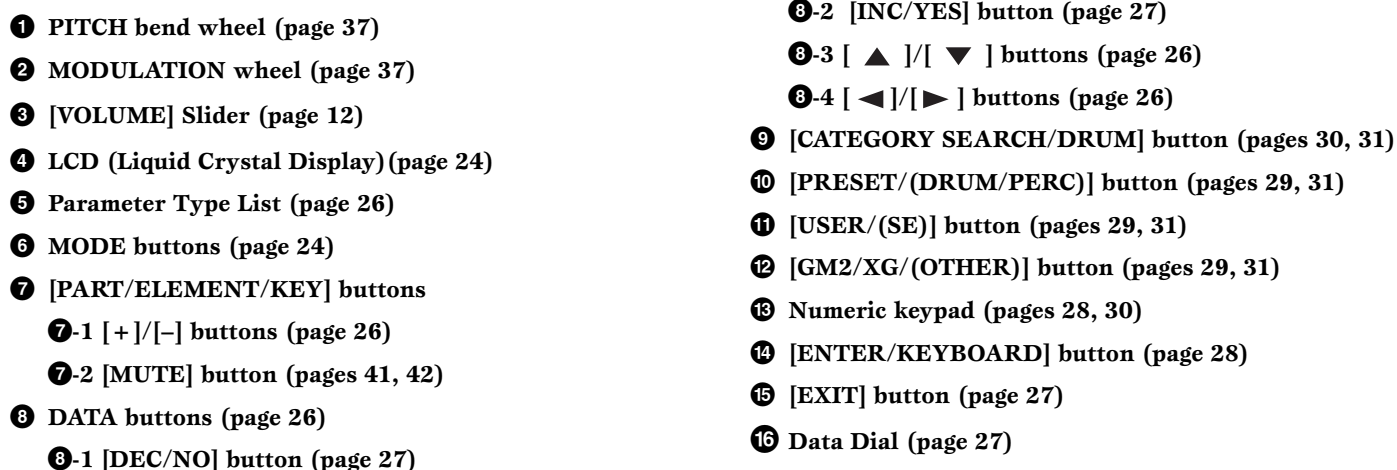


Diagram of the rear panel of the device showing various ports and controls. The ports are labeled: USB (17), 3.5V CARD (18), THRU (19), FOOT SWITCH (20), FOOT CONTROLLER (21), STANDBY (22), DC IN (23), R OUTPUT (24), and PHONES (25).

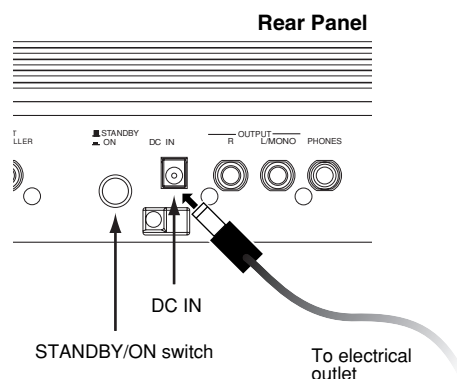
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NOTE Host Select parameter is set in the Utility

NOTE Host Select parameter is set in the Utility mode (page13).

Before Use

Power Supply



- 1 Make sure that the S08's STANDBY/ON switch is at the STANDBY (off) position.
- 2 Connect the PA-5C's DC plug to the S08's DC IN terminal on the instrument's rear panel.
- 3 Connect the adaptor's AC plug to the nearest electrical outlet.

! Do not attempt to use an AC adaptor other than the Yamaha PA-5C or an equivalent recommended by Yamaha. The use of an incompatible adaptor may cause irreparable damage to the S08, and may even pose a serious shock hazard! ALWAYS UNPLUG THE AC ADAPTOR FROM THE AC POWER OUTLET WHEN THE S08 IS NOT IN USE.

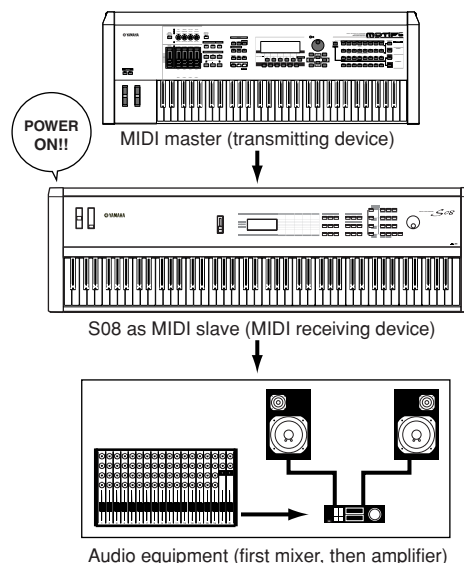
! Even when the switch is in the "STANDBY" position, electricity is still flowing to the instrument at a minimum level. When not using the S08 for an extended period of time, be sure to unplug the AC power adaptor from the wall AC outlet.

Power-on Procedure

When you have made all the necessary connections between your S08 and any other devices (page 13), make sure that all volume settings are turned down all the way to zero. Then turn on every device in your setup in the order of MIDI masters (senders), MIDI slaves (receivers), then the audio equipment (mixers, amplifiers, speakers, etc.). This ensures smooth MIDI operation and prevents speaker damage.

When powering down the setup, first turn down the volume for each audio device, then switch off each device in the reverse order (first audio devices, then MIDI).

When using the S08 as MIDI slave:

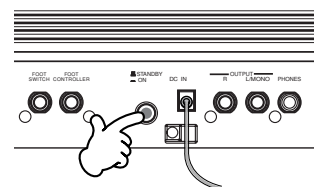


Turning on the S08

! In order to avoid possible damage to the speakers or other connected electronic equipment, always switch on the power of the S08 before switching on the power of the amplified speakers or mixer and amplifier. Likewise, always switch off the power of the S08 after switching off the power of the amplified speakers or mixer and amplifier.

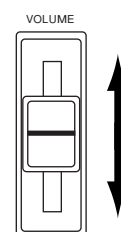
NOTE Before you switch your S08 on or off, first turn down the volume of any connected audio equipment.

- 1 Press the STANDBY/ON switch.



A splash screen ("Welcome to S08") is displayed briefly. The Multi or Voice Play Mode screen appears next.

- 2 Turn up the amplifier's volume as necessary.
- 3 Adjust the S08's [VOLUME] slider to set an appropriate volume level.



Connections



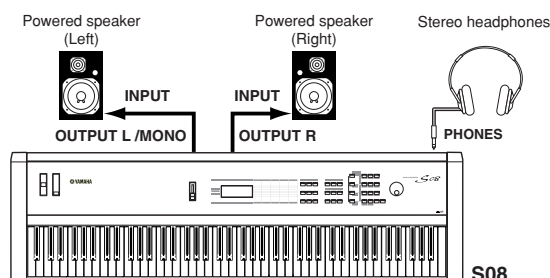
Before connecting the S08 to other electronic components, turn off the power to all the components. Before turning the power on or off to all components, set all volume levels to minimum(0). Otherwise, electrical shock or damage to the components may occur.

Connecting to External Audio Equipment

Since the S08 has no built-in speakers, you need to monitor its sound output via external audio equipment. Alternatively, you could use a pair of headphones. There are several methods of connecting to external audio equipment, as described in the following illustrations.

Connecting Stereo Powered Speakers

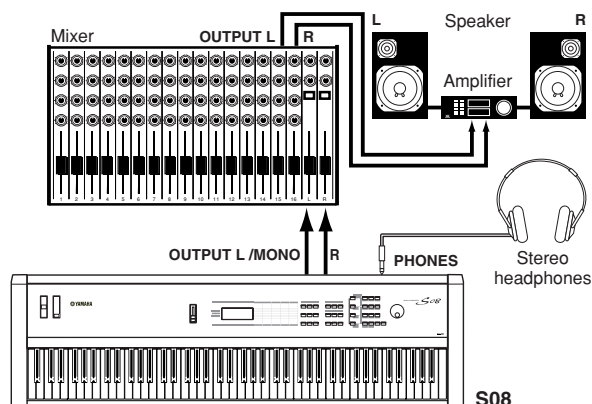
A pair of powered speakers can accurately produce the S08's rich sounds with their own pan and effect settings. Connect your powered speakers to the OUTPUT L/MONO and R jacks on the rear panel.



NOTE When using just one powered speaker, connect it to the OUTPUT L/MONO jack on the rear panel.

Connecting to a Mixer

If you want to integrate the S08 into a larger system with other instruments and additional audio processing capabilities, connect it to a mixer, amplifier and stereo monitor system as shown below.



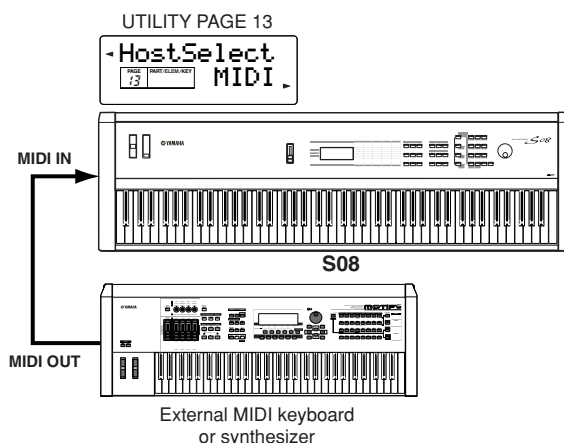
NOTE Connecting a pair of headphones does not affect audio output from the OUTPUT (L/MONO and R) jacks. The audio output at the PHONES jack and the OUTPUT jacks is exactly the same.

Connecting External MIDI Equipment

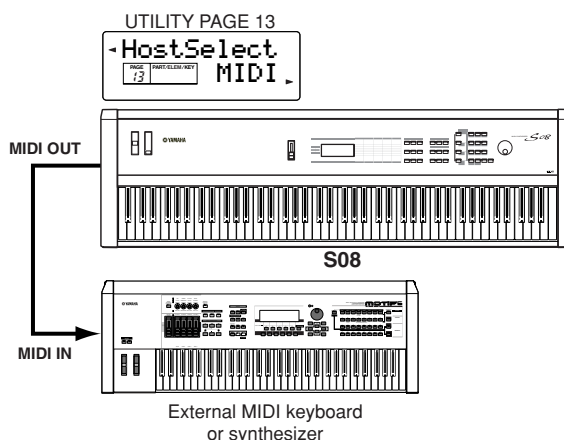
You can connect an external MIDI device using a MIDI cable (available separately) and control it from the S08. You can also use an external MIDI keyboard or sequencer to control the S08's internal sounds. This section introduces several different MIDI applications.

NOTE The HOST SELECT (UTILITY PAGE 13) should be set to "MIDI." Otherwise, MIDI data will not be transmitted from the S08's MIDI OUT connector.

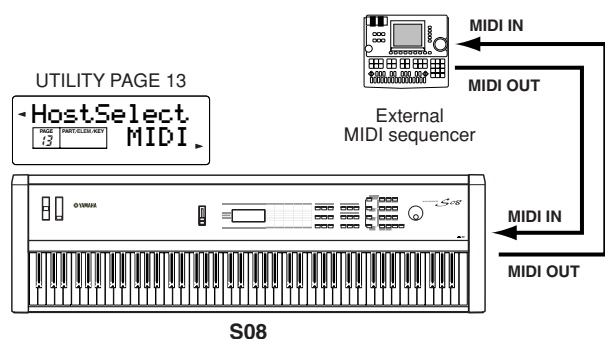
Controlling the S08 from an External MIDI device



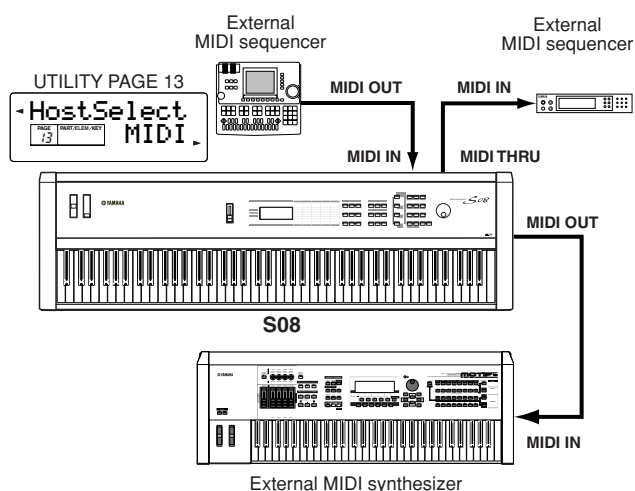
Controlling an External MIDI device with the S08



Recording and Playback using an External MIDI Sequencer



Controlling Another MIDI Device via MIDI THRU



With the above MIDI connections, you can send MIDI data from the S08's MIDI OUT terminal, while sending MIDI data from the external sequencer to an external MIDI synthesizer via the S08's MIDI THRU terminal.

NOTE MIDI THRU simply relays the MIDI messages received via MIDI IN.

NOTE The MIDI cable should be no greater than 15 meters in length, and there should be no more than three devices in a MIDI chain (chained in series via each unit's MIDI THRU). To connect more units, use a MIDI Thru Box for parallel connections. You may encounter errors if the MIDI cables are too long or if too many devices are chained together via their MIDI THRU connectors.

Connecting to a Personal Computer

You can use a connected computer to control the S08 and to transfer S08 data to/from computer via MIDI. With the included Voice Editor program, for instance, you can edit the Voices of the S08.

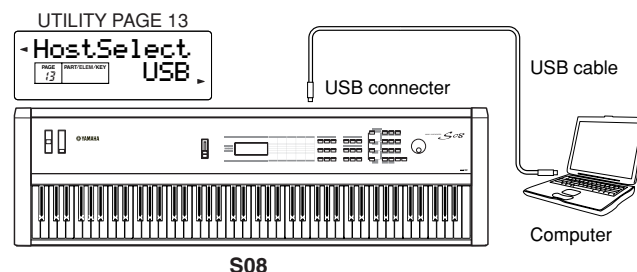
There are two ways to connect your S08 to a computer:

Depending on your particular computer, the connections may differ. (See below.)

NOTE You may also want to change the Local On/Off setting (pages 15 and 67), depending on how you are using the S08 in your MIDI system.

NOTE You will also need the appropriate MIDI application (sequencer, editor, etc.), compatible with your computer platform.

1: USB connection



NOTE The data via the MIDI IN terminal is ignored when using the USB port (Host Select set to "USB").

NOTE When connecting the S08 to a computer with a USB cable, make sure that the USB cable is properly connected before turning on the power.

Be careful not to turn off the power of the S08 if an application using the USB/MIDI connection is currently running.

NOTE The USB connection can only be used for transfer of MIDI data. No audio data can be transferred via USB.

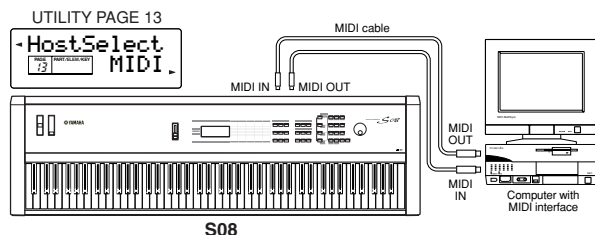
NOTE Once connected via USB, the S08 begins communication after a short time.

NOTE Keep in mind that when using Windows 2000/XP, some operating problems on the computer may occur during startup. If this happens, try turning on the power of the S08 only after the computer is properly running.

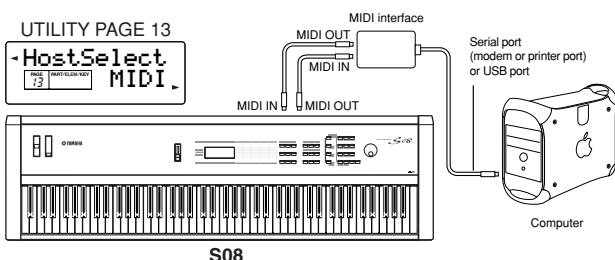
NOTE When connecting the S08 and your computer via USB, make sure to connect them directly without routing through a USB hub.

2: MIDI connection

Using the computer's MIDI interface



Using an external MIDI interface

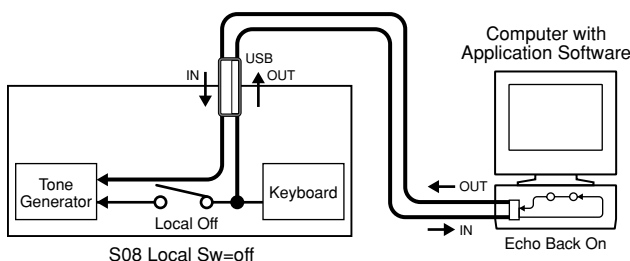


NOTE Please use the appropriate MIDI interface for your computer.

Local On/Off — When Connected to a Computer (UTILITY PAGE 12)

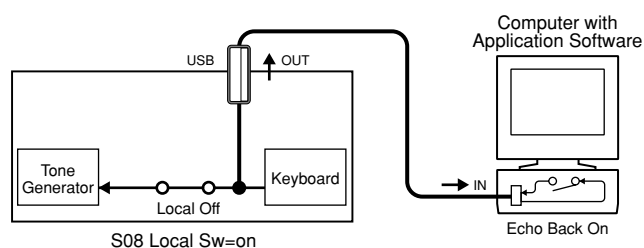
When connecting the S08 to a computer, the keyboard performance data is generally sent to the computer, and then returned from the computer to play the tone generator or sound source. If the Local Switch is set to “on,” a “double” sound may result, since the tone generator is receiving performance data from both the keyboard directly and the computer. Use the setting suggestions below as a guideline; specific instructions may differ depending on your computer and the software used.

When MIDI “Echo” is enabled on the software/ computer, set the S08 Local Switch to “off.”



NOTE When transmitting or receiving System Exclusive data (such as with the Bulk Dump function, pages 36 and 49), use the setting example below, making sure that MIDI “Echo” on the computer software is set to “off.”

When MIDI “Echo” is disabled on the software/ computer, set the S08 Local Switch to “on.”



NOTE Although not indicated in the illustration above, the S08 actually receives and responds to MIDI data from the computer application (sequencer), regardless of the Local Sw setting on the S08.

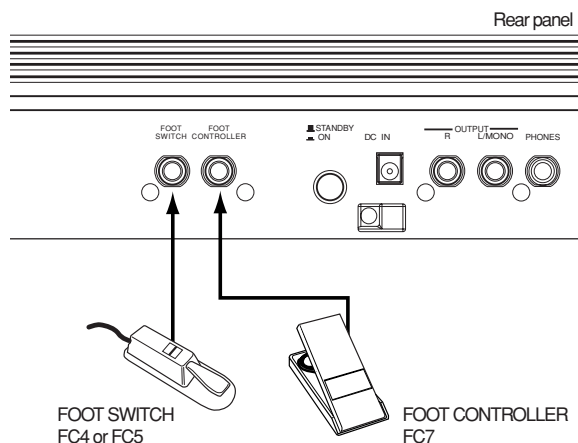
* MIDI “Echo” is a function on sequencers that takes any data received via the MIDI IN and “echoes” it (or sends it as is) through the MIDI OUT. In some software, this function is also called “MIDI Thru.”

NOTE Refer to the owner’s manual of your particular software for specific instructions.

Connecting Controllers

The S08 has controller jacks on the rear panel, including FOOT SWITCH and FOOT CONTROLLER. You can connect optional controllers such as a footswitch (the FC4 or FC5) and foot controller (the FC7) to control tone, volume, pitch and other parameters.

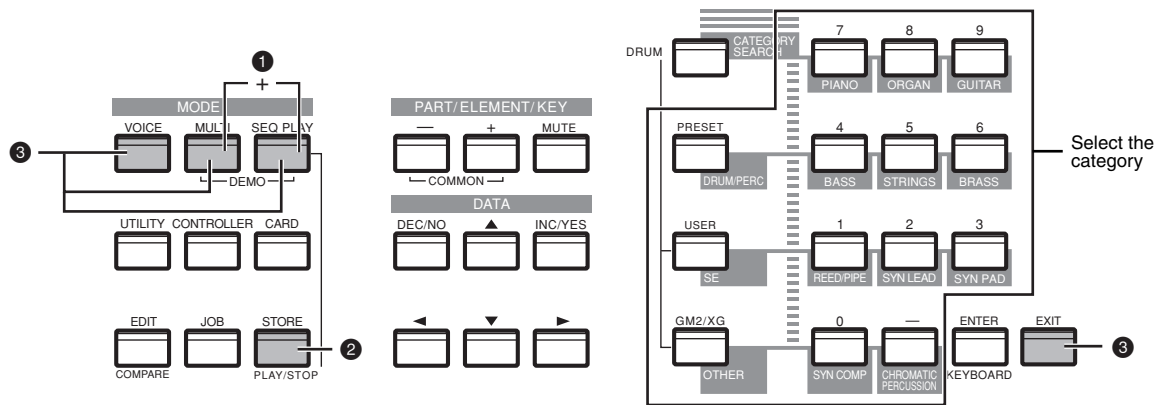
NOTE Details about how to use these controllers are given on page 37.



Demo Playback

The S08 features a variety of demo songs, showcasing its dynamic sound and sophisticated functions.

NOTE Make sure the synthesizer is ready for playback. Details are given in the section “Before Use” on page 12.



1 Press the [MULTI] and [SEQ PLAY] buttons simultaneously to call up the Demo screen and automatically start playback of the Demo song.

Demo Song Selection

While the Demo song is playing back, you can select the particular Demo song that you wish to hear. Enter the desired Demo song category from the numeric keypad to call up the song.

For example, you can play the piano song by pressing button 7 (PIANO) in the numeric keypad. If you don't select a particular song, an ensemble (OTHER) song will play back automatically.

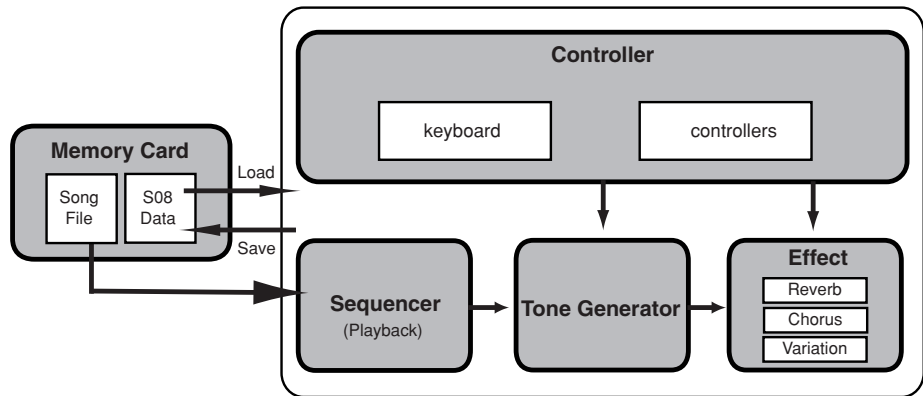
NOTE When there are several Demo songs contained in one category, you can select from among the available songs by using the [DEC/NO] and [INC/YES] buttons.

- 2** The [PLAY/STOP] button lets you pause playback and then start again from the same point in the song.
- 3** To stop Demo playback, press one of the following buttons: [VOICE], [MULTI], [SEQ PLAY] or [EXIT]. This exits from the Demo mode and automatically returns to the Multi mode, Voice mode, or the mode previously selected.

NOTE Demo song playback continues indefinitely until stopped.

Overview of the S08

The S08 has a wide variety of advanced and convenient features. This section gives you an overview of these features. The following diagram shows the various component sections or “blocks” of the S08.

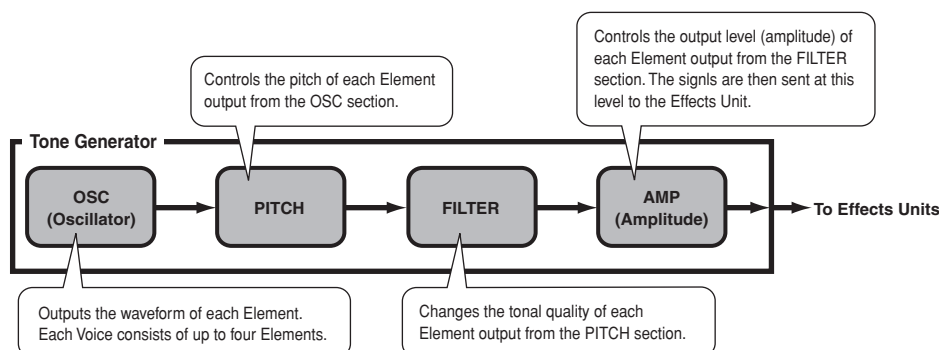


Controller

This block consists of the keyboard, Pitch Bend and Modulation wheels and so on (page 37). The keyboard itself doesn't generate sounds, but instead sends note, velocity and other information to the S08's tone generator section for the notes you play. The controllers also send non-note performance data. Information from the keyboard and controllers can be transmitted to other external MIDI devices through the MIDI OUT connector.

Tone Generator

This block plays back sounds according to information received from the keyboard and controllers. The following example illustrates the path taken by the signal from an Element in the Voice Mode.



About the Tone Generator (AWM2) & Waveform (Wave)

The tone generator of the S08 utilizes the sophisticated AWM2 system. AWM2 (Advanced Wave Memory 2) is a synthesis system based on the use of sampled waveforms, and is used in many Yamaha synthesizers. For extra realism, each AWM2 Voice uses multiple samples of a real instrument's waveform. Furthermore, a wide variety of envelope generator, filter, modulation, and other parameters can be applied to the basic waveform.

NOTE AWM2 is not just limited to conventional pitched instruments (Normal Voices), but also produces various drum and percussion instruments (Drum Voices). For details about Normal and Drum Voices, see page 22.

Maximum Polyphony

The maximum polyphony of the S08 is 64 notes. However, the actual note polyphony will vary depending on the number of Elements in the Voice. To calculate the actual polyphony, divide the total polyphony of 64 by the number of Elements in the Voice. For instance, if a Voice consists of two Elements, the maximum note polyphony for the Voice is 32.

Effects

The effects can be used to change or enhance the sound of a Multi or Voice. These include the effects of the Reverb section (17 types) for adding ambient after-tones to the sound, the Chorus section (17 types) that add animation and depth, and the Variation section (54 types) which features a wealth of additional effects.

NOTE For more details about the effects, see page 46.

Card Drive/Sequencer

The Card Drive block lets you save data or load data to/from the Memory Card (page 53). The sequencer block can be used to play back Standard MIDI Files held on Memory Card (page 51).

Parameter Table

The numbers in each column indicate the display PAGE corresponding to the parameter at left (with the exception of the column on the far right, which indicates the corresponding manual page). For example, you can see that the Reverb Send parameter is found on three separate display pages: PAGE 22 of Multi Part Edit, PAGE 11 of Normal Voice Common Edit, and PAGE 9 of Drum Voice Key Edit.

This table is helpful in locating the corresponding display pages in different modes. This is handy when you want to make the same or similar settings to the same parameter in a different mode — for example, setting the Reverb Send in the Multi mode to the same value as Reverb Send in the Voice mode. It's also handy for cross-checking same parameters for programming complex sound changes — such as setting the Voice's Filter Cutoff to a certain value, then going to Cutoff in the Multi mode and tweaking it further.

Since the owner's manual page reference is also provided, you can quickly find the corresponding explanation by checking the currently selected mode and PAGE number on the S08, and referring to this table.

Parameter Type	LCD Display (parameter name)	Voice Edit				Multi Edit		UTILITY	CONTROLLER	Owner's Manual Page
		Common		Element/Key		Common	Part			
		Normal	Drum	Normal	Drum					
GENERAL	Name	1	1			1				58, 62, 63
	Total Vol (Total Volume)	2				2	(2)			58, 63
	Total Lvl (Level)	2		3	(1)					58, 59, 62
	Transpose					3				63
	Rcv Ch (MIDI Receive Channel)						6	3		64, 66
	NoteShift/Detune			7			7			59, 64
	Mono/Poly	3					8			58, 64
	Part Mode						9			64
	OrgKt (Original Kit)		2							62
EFFECT*	RevEF (Reverb Effect Type)					4				63
	(Reverb Parameters)					5				63
	Rev Return (Reverb Return)					6				63
	Reverb Pan					7				63
	ChoEF (Chorus Effect Type)					8				63
	(Chorus Parameters)					9				63
	Cho Return (Chorus Return)					10				63
	Chorus Pan					11				63
	SndCho→Rev (Send Chorus to Reverb)	13				12				58, 63
	VarEF (Variation Effect Type)	14				13				58, 63
	(Variation Parameters)	15				14				59, 63
	VarConnect (Variation Connection)					15				63
	Var Return (Variation Return)					16				63
	Var Pan					17				63
	Snd Var→Rev (Send Variation to Reverb)					18				64
	Snd Var→Cho (Send Variation to Chorus)					19				64
	MW VarCtl (MW Variation Effect Control Depth)	16				20				59, 64
	AC1VarCtl (AC1 Variation Effect Control Depth)	17				21				59, 64
	ReverbSend	11			9		22			58, 62, 65
	ChorusSend	12			10		23			59, 62, 65
	Var Send (Variation Send)						24			65
	V EfBypass (Voice Effect Bypass)							14		67
VOICE	(Voice Selection)						1			64
MIX	Volume	(2)		(3)	(1)	(2)	2			64
	Pan			4	2		3			59, 62, 63
	NtLmt-L/H (Note Limit Low/High)			5			4			59, 64
	VelLmt-L/H (Velocity Limit Low/High)			6			5			59, 64
TONE	VelSnsDpt/Ofs (Velocity Sensitivity Depth/Offset)	4					10			58, 64
	Cutoff/Resonance			13	7		11			60, 62, 64
	Attack/Decay/Release Tm (Attack/Decay/Release Time)						12			64
	PEG L/Tm (PEG Level/Time)						13			65
	Vib Rate/Depth/Delay (Vibrato Rate/Depth/Delay)						14			65
CONTROLLER*	Porta Sw/Time (Portamento Switch/Time)	5					15			58, 65
	PB Range (Pitch Bend Range)	6					16			58, 65
	MW FltCtl (MW Filter Control)	7					17			58, 65
	MW PMod (MW LFO Pitch Modulation Depth)	8					18			58, 65
	MW FMod (MW LFO Filter Modulation Depth)	8					18			58, 65
	MW AMod (MW LFO Amplitude Modulation Depth)	8					18			58, 65
	AC1 CC No (AC1 Control Number)						19		8	65, 67
	AC1FltCtl (AC1 Filter Control)	9					20			58, 65
	AC1 FMod (AC1 LFO Filter Modulation Depth)	10					21			58, 65
	AC1 AMod (AC1 LFO Amplitude Modulation Depth)	10					21			58, 65

Parameter Type	LCD Display (parameter name)	Voice Edit				Multi Edit		UTILITY	CONTROLLER	Owner's Manual Page
		Common		Element/Key		Common	Part			
		Normal	Drum	Normal	Drum					
OSC/MIX (Oscillator/Mixer)	Element Sw (Element Switch)			1						59
	(Wave Number)			2						59
	Level	(2)	(3)	3	1	(2)	(2)			59, 62
	Alt.Group (Alternate Group)				3					62
	Key Assign				4					62
	RxNoteOff/On (Receive Note On/Off)				5					62
PITCH	NoteShift/Detune			7			7			59, 64
	PchScI Sns (Pitch Scaling Sensitivity)			8						59
	PchScI CN (Pitch Scaling Center Note)			8						59
	PEG R (PEG Rate)			9						59
	PEG L (PEG Level)			10						59
	PEGScI Sns (PEG Scaling Sensitivity)			11						60
	PEGScI CN (PEG Scaling Center Note)			11						60
	PEGRtVel (PEG Rate Velocity)			12						60
	PEGLvlVel (PEG Level Velocity)			12						60
PitchCrsr/Fine (Pitch Coarse/Fine)				6					62	
FILTER	Cutoff/Resonance			13	7		11			60, 62, 64
	CutoffVel (Cutoff Velocity Sensitivity)			14						60
	ResoVel (Resonance Velocity Sensitivity)			14						60
	FltScIFlag (Filter Scaling Flag)			15						60
	Flt BP1~4 (Filter Scaling Break Point 1~4)			16						60
	Flt Of1~4 (Filter Scaling Offset 1~4)			17						60
	FltScI Sns (Filter Scaling Sensitivity)			18						60
	FltVelCrv (Filter Scaling Velocity Sensitivity)			18						60
	FEG R (FEG Rate)			19						60
	FEG L (FEG Level)			20						60
	FEGScI Sns (FEG Scaling Sensitivity)			21						60
	FEGAtkVel (FEG Attack Velocity)			22						60
	FEGOthVel (FEG Other Velocity)			22						60
	AMP (Amplitude)	AEG R (AEG Rate)			23					
AEG L (AEG Level)				24						61
AEGScI Sns (AEG Scaling Sensitivity)				25						61
AEGLvlVel (AEG Level Velocity Sensitivity)				26						61
AEGAtkVel (AEG Attack Velocity Sensitivity)				26						61
LvlScIFlag (AEG Level Scaling Flag)				27						61
Lvl BP1~4 (Level Break Point 1~4)				28						61
Lvl Of1~4 (Level Offset 1~4)				29						61
LvlScI Sns (Level Scaling Sensitivity)				30						61
KeyonDelay				31						61
EG Attack/Decay1/Decay2(EG Attack/Decay1/Decay2 Rate)				8					62	
LFO (Low Frequency Oscillator)	LFO Wave			32						61
	LFO Phase (LFO Phase Initialize)			32						61
	LFO Speed			33						61
	LFO PMod (LFO Pitch Modulation Depth)			34						61
	LFO FMod (LFO Filter Modulation Depth)			34						61
	LFO AMod (LFO Amplitude Modulation Depth)			34						61
	PLFODelay (Pitch LFO Delay)			35						61
	PLFO Fade (Pitch LFO Fade Time)			35						61
TG (Tone Generator)	MasterTune							1		66
MIDI CHANNEL	Device No (Device Number)							2		66
	Rcv Ch (Voice Mode MIDI Receive Channel)						(6)	3		66
	Trans Ch (MIDI Transmit Channel)							4		66
MIDI FILTER	Thru Port							5		66
	RxPgmChng (Receive Program Change On/Off)							6		66
	RxBankSel (Receive Bank Select On/Off)							7		66
	TxPgmChng (Transmit Program Change On/Off)							8		66
	TxBankSel (Transmit Bank Select On/Off)							9		66
SEQ SETUP	Sync							10		66
	Seq Ctl (Sequencer Control)							11		66
MIDI SETUP	Local Sw (Local Switch)							12		67
	HostSelect							13		67
CTRL ASSIGN (CONTROLLER ASSIGN)	MWTxCtlNo (MW Transmit Control Number)								1	67
	FCTxCtlNo (Foot Controller Transmit Control Number)								2	67
	FSTxCtlNo (Footswitch Transmit Control Number)								3	67
KEYBOARD	Kbd Trans (Keyboard Transpose)								4	67
VELOCITY	Vel Curve (Velocity Curve)								5	67
	Fixed Vel (Fixed Velocity)								6	67
CTRL SETUP (CONTROLLER SETUP)	Ctl Reset (Controller Reset)								7	67
	AC1 CC No (AC1 Control Number)						19		8	65, 67

NOTE For parameters in different modes having the same name, the available parameter values and settings for that parameter may differ depending on the mode.

NOTE For details on parameters for the Reverb, Chorus and Variation effects, refer to the separate Data List.

NOTE For information on the SEQ PLAY, CARD and JOB PAGES, refer to the Function List (page 58).

* In the Multi mode, the Voice Common Effect/Controller settings are ignored, and the Multi settings become effective. The Variation Effect/Controller settings of the Voice mode can be copied to the Multi mode by using the Multi Job function (page 49).

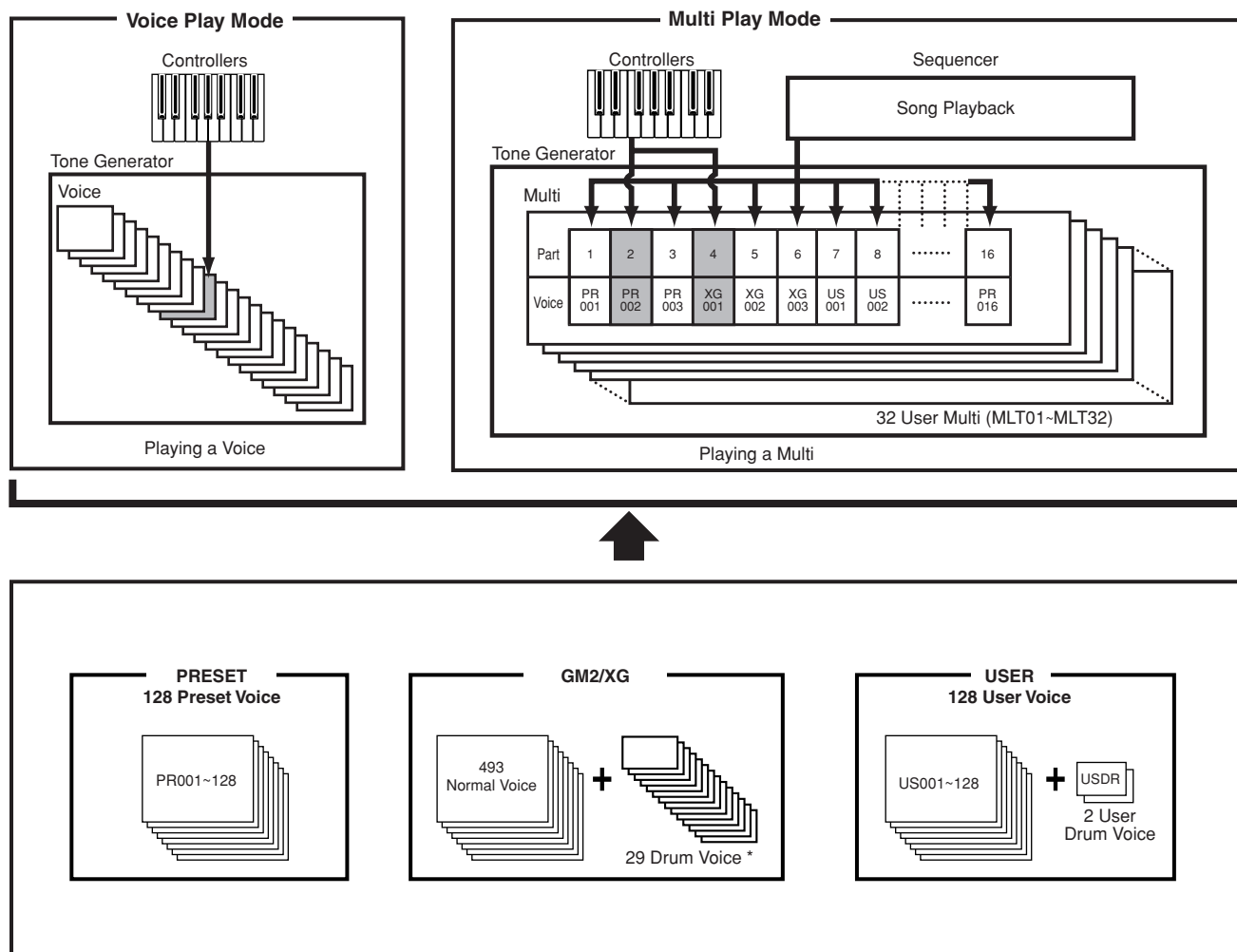
Voices & Multis

Memory Structure

A Voice is a single instrument sound, created by using the Elements and setting various parameters. In the Voice Play mode, you can select and play any of these Voices. In the Multi Play mode, you assign a different Voice to each part and use a sequencer to play several Voices simultaneously.

Voices are stored in the internal memory (PRESET, USER, GM2/XG).

Multis are stored in the internal memory (USER).



* Drum Voices XG121 ~ 128 are not of the GM2/XG set, but are original drum kits specifically programmed for the S08.

NOTE A total of 493 (GM2/XG) and 128 (Preset) Normal Voices plus 29 Drum Voices are available as presets. You can create and store your own original Voices; the S08 has User memory space for 128 User Normal Voices and two User Drum Voices.

Overview of Voice/Element/Multi

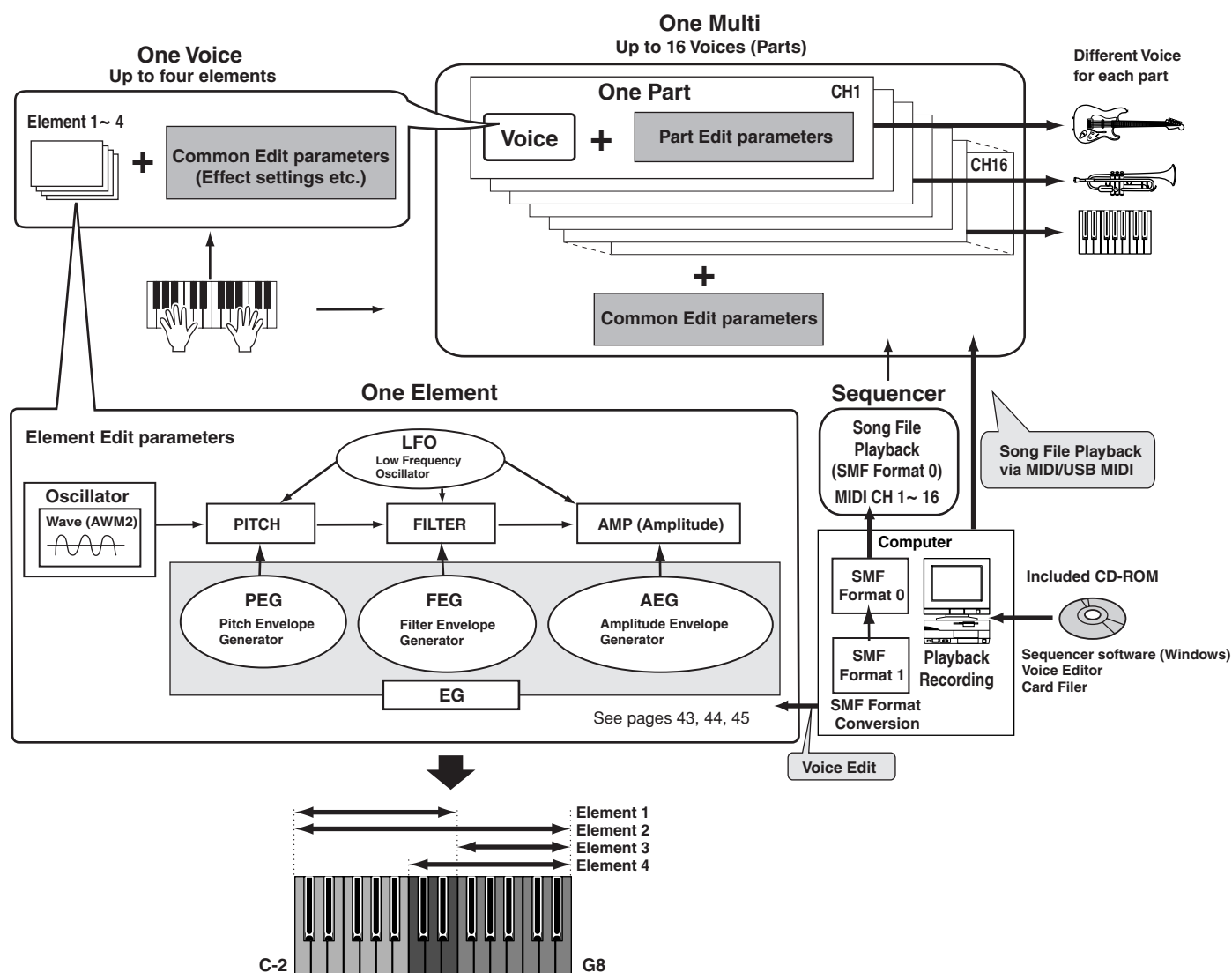
Each Voice can consist of up to four Elements. Each Element itself is a high-quality waveform or instrument sound.

Voice & Element

Each Voice can consist of up to four Elements. Elements are made from waveforms, and the quality of the Elements is high enough that each can be used on its own as a voice. Since you can combine up to four Elements together in a voice, highly expressive and richly textured sounds are possible. You can also split different instrument sounds across the keyboard to be playable separately with your left and right hands — without having to specially set up a Multi program (page 42).

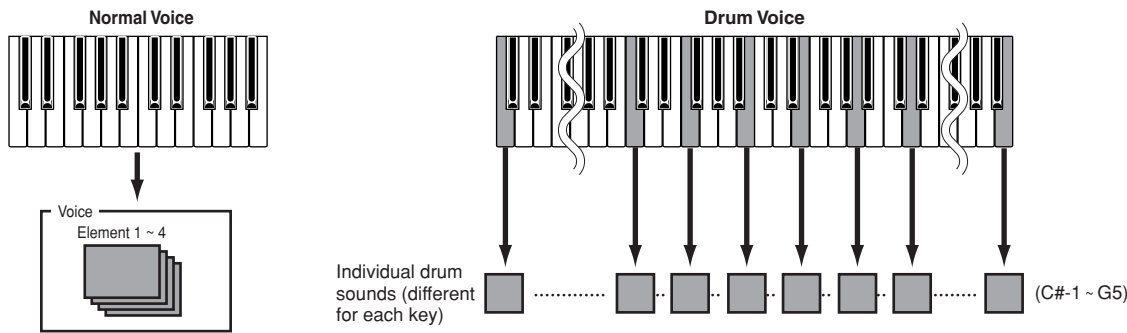
Multi

A Multi consists of up to 16 Parts, each of which can play a Normal Voice or Drum Voice Part. By assigning different Voices and MIDI channels to each part, and by using a sequencer or computer for song data playback, you can have a complete ensemble of 16 independent instrument sounds. You can also play Multis from the keyboard. This allows you to set up layers of different Voices, or special key splits in which your right and left hands can play separate Voices (page 34).



Normal Voices & Drum Voices

There are two Voice types: Normal Voices and Drum Voices. Normal Voices are mainly pitched instrument sounds that can be played over the range of the keyboard. Drum Voices are mainly percussion/drum sounds that are assigned to individual notes on the keyboard. The Drum Voices also include special sound effects (SFX Kit).



- NOTE** The sound-to-key assignments for the Kit are fixed and cannot be changed.
- NOTE** You can select whether each Part uses a Normal Voice or a Drum Voice in the Part Mode PAGE (MULTI PART EDIT PAGE 9).

Part Mode Setting (MULTI PART EDIT PAGE 9)

norm (Normal Voice)

.....
With this setting, Normal Voices can be assigned to the Part.

drum (Drum Voice)

.....
With this setting, Drum Voices can be assigned to the Part.

drumS1/2 (Drum Setup 1/2)

.....
Used to play commercially available song data (switches automatically).

- NOTE** The part set to a setting other than “norm” is called a Drum Part.
- NOTE** If you’ve edited a drum kit in Drum Voice Edit mode and you wish to use that kit, set this to “drum.”
- NOTE** When an XG System On message is received from an external sequencer, this is automatically set to “drumS1.” In order to use the settings made in Drum Voice Edit, record the appropriate message in the song data (when Part Mode is set to Drum). Refer to the MIDI Data Format section in the separate Data List.
F0 43 10 4C 08 nn 07 01 F7 (nn = Part number) (hexadecimal)

Parameters that are effective only for parts
to which normal voices are assigned:

Parameter	MULTI EDIT PAGE	Owner’s Manual page
Transpose	COMMON 3	page 63
Mono/Poly	PART 8	page 64
Porta Sw	PART 15-1	page 65
PortaTime	PART 15-2	page 65

Factory Set (Restore Factory Defaults)

This lets you restore the synthesizer's default Internal Voices (User Memory) and Multis, as well as its System and other settings.

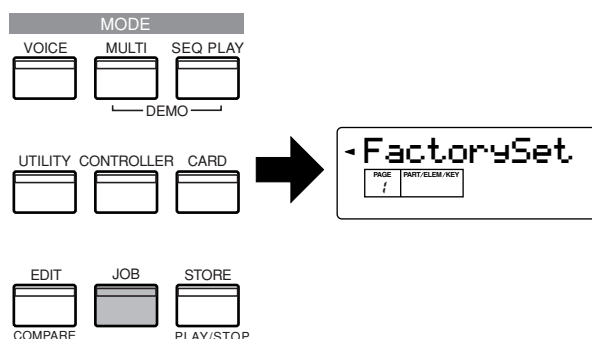
Once you edit any settings, the corresponding factory defaults will be overwritten and lost.

Use the procedure below to restore the factory default settings.



When you restore the factory default settings, all the current settings for the all the Multis and User Voices will be overwritten with the factory defaults. Make sure you are not overwriting any important data. You should back up any important data to Memory Card or to your computer beforehand.

- 1 Press the [JOB] button in Utility Mode (page 24). The Factory Set display appears.



- 2 Press the [ENTER] button. A confirmation message appears.

NOTE To cancel the job, press the [DEC/NO] button.

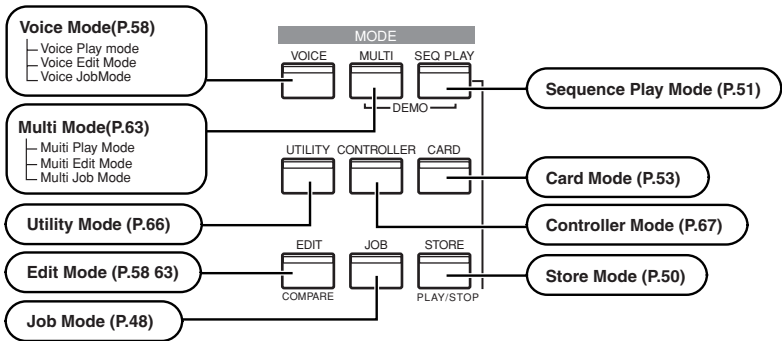
- 3 Press the [INC/YES] button to execute the Factory Set job. After the job has been completed, a “Completed!” message appears.
- 4 Press the [EXIT] button to return to the Utility mode.

Basic Operations

In this section, you'll learn about the structure of the modes of the S08, its panel display indications and its fundamental operations.

Modes

The S08 is organized into various modes, each covering a different set of operations and functions.



Mode Table

Mode (status)	PLAY	EDIT (LED lights. When comparing, it flashes.)	JOB (displayed)	STORE (displayed)	Relevant function
VOICE (LED lights)	page 29	page 40	page 48	page 50	Play/Edit/Save the Voice
MULTI (LED lights)	page 32	pages 33, 63	page 48	page 50	Play/Edit/Save the Multi
SEQ PLAY (LED lights. When playing, it flashes.)	page 51		page 52		Song playback (from memory card)
UTILITY (Upper ◀ in LCD lights)			page 23		Global settings for the entire system
CARD (Both upper and lower ◀ in LCD light)					Save/Load the S08 data (page 54)
CONTROLLER (Lower ◀ in LCD lights)					Controller settings (page 38)

NOTE You need to select the Voice/Multi before entering Edit mode. All parameters can be set and stored per Voice/Multi. Parameters are divided into two basic groups: 1) functions that are related to each Voice (or Multi), and 2) functions that affect all Voices (or Multis). The former are set in the Voice/Multi Edit mode and latter in the Utility mode. Utility mode settings can be saved to memory card along with the Voices and Multis.

Selecting a Mode

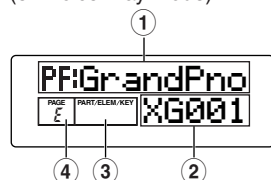
There are separate Play modes for Multis and Voices. To enter each of these modes, use the appropriate MODE button ([VOICE] for Voice Play mode, [MULTI] for Multi Play mode). There are also separate Edit and Job modes for Multis and Voices. To enter the Edit or Job mode, simply press the [EDIT] or [JOB] button while in each respective Play mode.

Similarly, pressing the [STORE] button in the Voice or Multi mode takes you into the Store mode where you can store Multis or Voices. In addition, the modes mentioned above, there is also a Utility mode, which is for making global settings to the instrument, a Controller mode, which contains Controller related settings, and the Card mode, which contains Card related settings. Finally, there is the Demo mode, which allows you to play back the Demo songs.

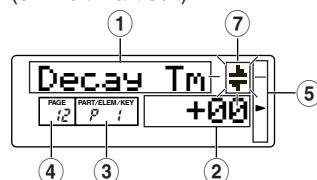
To select these, press the [UTILITY] button for the Utility mode, the [CONTROLLER] button for the Controller mode and the [CARD] button for the Card mode. To exit to another mode, press the respective button for that mode or the [EXIT] button.

Display Indications

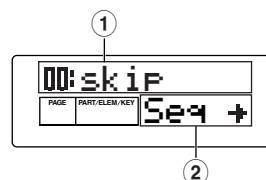
Voice mode
(ex. Voice Play mode)



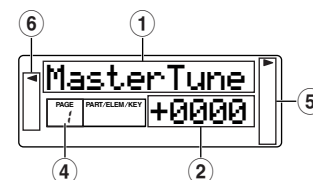
Multi Mode
(ex. Multi Part edit)



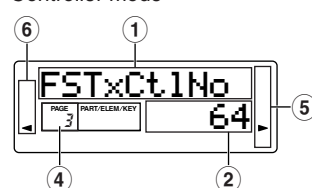
Sequence Play mode



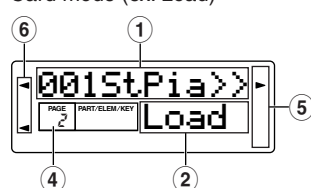
Utility mode



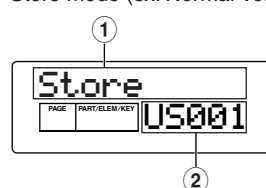
Controller mode



Card mode (ex. Load)



Store mode (ex. Normal Voice)



Mode	① Top line : 10 characters	② Bottom line : 5 characters	③ (PART/ELEM/KEY)
	Details		
Voice Mode			
Voice Play (page 29)	Voice Category (page 50) Voice Name	Voice Memory Type/Voice Number PR: Preset, US: User, XG: GM (2)/XG, GM: GM2, USDR: User Drum, BK: Bank, BKsfx: Bank SFX, BK dr: Bank Drum, GM dr: GM2 Drum	
Voice Edit (pages 40, 58)	Parameter name (rarely settings)	Settings (rarely Parameter name)	EC = Common Edit Status E1 to E4 = Element Edit status Editing Element (this flashes when Element is muted)
Voice Job (page 48)	Job Name	Settings/Source Element/Key	
Multi Mode			
Multi Play (page 32)	Multi Category (page 50) Multi Name	Multi (MLT) Number	Target Part for Mute (this flashes when Part is muted)
Multi Edit (page 33, 63)	Parameter name (rarely settings)	Settings (rarely Parameter name)	PC = Common Edit status P1 to P16 = Part Edit status Editing Part (this flashes when Part is muted)
Multi Job (page 48)	Job Name	Settings/Source Part	Destination Part
Sequence Play Mode			
Sequence Play (page 51)	Chain Step Number/Settings (Song file)	Parameter name/tempo	
Sequence Play Job (page 52)	Job Name		
Other Modes			
Utility (page 66)	Parameter name	Settings	
Utility Job (page 23)	Job Name		
Controller (pages 37, 67)	Parameter name	Settings	
Card (page 53)	File name/settings (Song file)	Function Name	
Store (page 50)	Store:Store mode status	Destination Store (US:User, USDR:User Drum, MLT:Multi)	

NOTE For information on the meaning of the display messages, see page 77. For details on each parameter, see page 58.

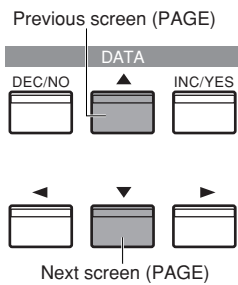
- ④ Indicates PAGE number in that mode. “E” means that the current Multi/Voice has been modified but is not yet stored (page 50).
- ⑤ Indicates the parameter type of the currently selected parameter (page 26).
- ⑥ Indicates the relevant mode (Utility or Controller). In the card mode, both indicators light.
- ⑦ Further screens are available. Use the [◀]/[▶] buttons to select the PAGEs (page 26).

Selecting a Screen

You can switch between screens by using the [▲]/[▼], [◀]/[▶], [+]/[-] and [EXIT] buttons.

[▲]/[▼] buttons

Many of the displays consist of different screens. Use the [▲]/[▼] buttons to select the various screens.



When selecting the various display pages, an arrow appears at the right of the LCD, indicating the parameter type in the printed list on the panel. For example, if the display for the Total Volume parameter in the Multi Edit mode is called up, the arrow in the LCD indicates that this parameter belongs to the General type.

Total Vol

PAGE

2

PART/ELEM/KEY

P

L

127

VOICE

MIX

GENERAL

TONES

CONTROLLER

EFFECT

In the example below, the display for the (Element) Cutoff parameter in the Voice Edit mode is shown, and the arrow indicates that this parameter belongs to the Filter type.

Cutoff

PAGE

13

PART/ELEM/KEY

E

1

1338

VOICE

MIX

GENERAL

TONES

CONTROLLER

EFFECT

OSC/MIX

PITCH

FILTER

AMP

LFO

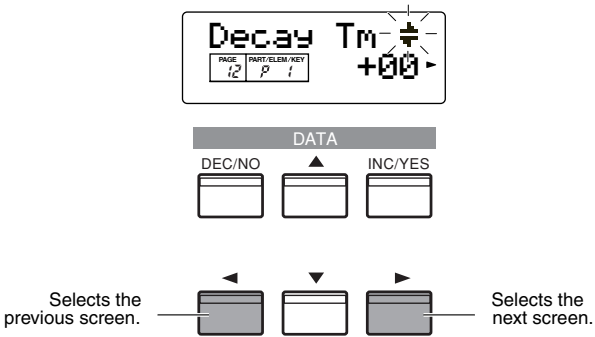
EFFECT

[◀]/[▶] buttons

Some of the display pages have multiple “screens.” These are indicated by special arrow marks in the top right of the LCD (see below). Use the [◀]/[▶] buttons to select these pages.

When the first screen of a multiple-page set is called up, the arrow points to the right (→), indicating further screens are available. When a page in the middle of the set is called up, arrows point in both directions (← →), indicating you can select either the next or previous screens. When the last screen is called up, the arrow points to the left (←), indicating no further screens are available.

For certain parameters (such as Voice Name, etc.), these buttons are used to move the cursor position in the display.



[+]/[-] buttons

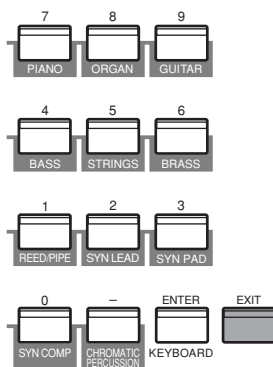
In the Multi Edit mode, these buttons are used to select each part. To select the Common parameters, press both buttons simultaneously. In the Voice Edit mode, these buttons are used to select each Element. To select the Common parameters, press both buttons simultaneously.



NOTE For details on the parameters and page configurations of the Multi Edit and Voice Edit modes, refer to the relevant mode explanations in the Reference section of this manual.

[EXIT] button

Press the [EXIT] button to move up (exit) in the hierarchical structure and return to the previous screen.



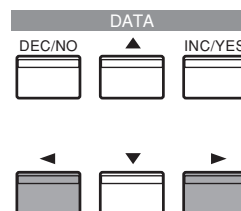
NOTE Depending on the particular operation, the [EXIT] button performs other functions as well. These alternates functions are indicated in the appropriate sections of the manual.

Entering Data

Use the [INC/YES] and [DEC/NO] buttons to increment through the values, or input the value directly by using the numeric keypad and the [ENTER] button.

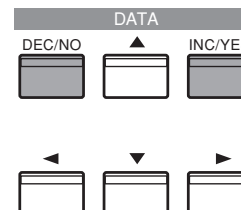
Moving the Cursor Position

For certain parameters, such as Voice Name and others, the [◀]/[▶] buttons are used to move the cursor position in the display. (The selected character flashes.) Move the cursor to the desired position, then set the value.



[INC/YES] and [DEC/NO] buttons

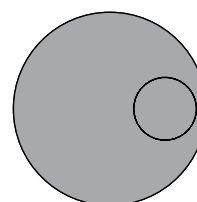
These are used to change the value of the currently selected parameter. You can use the [INC/YES] button to increment a parameter setting by one step, or the [DEC/NO] button to decrement it. If you hold down either button, the value is continuously changed. You can also use these buttons to answer “YES” or “NO” when a confirmation message is displayed.



NOTE To decrease the value by 10, simultaneously hold down the [DEC/NO] button and press the [INC/YES] button. To increase the value by 10, simultaneously hold down the [INC/YES] button and press the [DEC/NO] button.

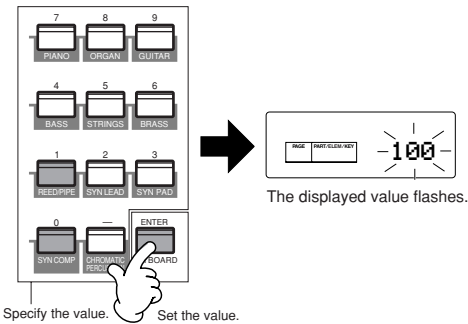
Data Dial

Rotating the data dial to the right (clockwise) increases the value, while rotating it to the left counter-clockwise) decreases it.



Numeric keypad, [ENTER] button

You can specify the value for the selected parameter by using the numeric keypad, then actually set that value by pressing the [ENTER] button. For example, to set a value of “100,” press (in order) the numeric keypad buttons [1], [0], and [0]. (The parameter indicator flashes.) Finally, press the [ENTER] button to set the value.



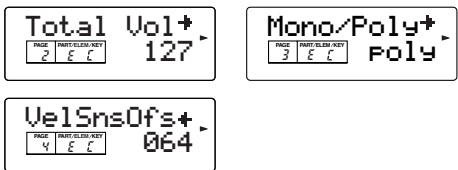
Enter the value with the numeric keypad or the keyboard

Parameter	ENTER + keyboard (note number input)	Numeric Keypad								
		0	17	18	1-63	64	65-128	96/97	98	129-130
Pan (Normal Voice)		Scale: the note position			L63 (hard left)-L01	C (Cener)	R01-R63 (hard right)			
Pan (Drum Voice/Multi)		Rnd: Random			L63 (hard left)-L01	C (Cener)	R01-R63 (hard right)			
NtLmt-L/H	Lowest/highest note									
PchScIcN	Basic pitch									
PEGSclCN	Basic pitch									
Flt BP1-4	Break point									
Lvl BP1-4	Break point									
Alt.Group		off								
Reverb/Chorus /Var Pan		L63 (hard left)			L63 (hard left)-L01	C (Cener)	R01-R63 (hard right)			
Device No			all	off						
Rcv Ch			omni							
FSTxCtINo		off						PCInc PCDec	PLAY (START/ STOP)	
Load (User voice)		all			Normal 1 to 128					User Drum 1/2
Sequence Play (tempo)		default tempo								

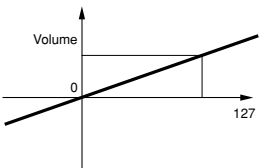
Types of Parameters (Absolute and Relative)

There are many ways to set parameters. Some parameters require you to directly enter numerical settings or alphabetic characters. With others, you can choose from a number of available settings. Furthermore, some types of parameters are “absolute” whereas others are “relative.”

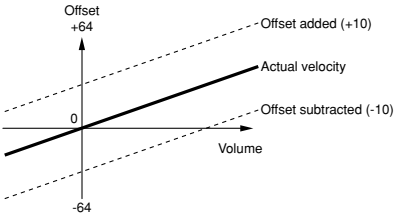
For example, the absolute parameter in the following illustration can be set to either “mono” or “poly.” For other absolute parameters such as Volume, the setting can be any value between zero and 127. The Volume setting has a linear, one-to-one relationship with the actual volume, as shown in the graph on the left. However, relative parameters do not follow the same relationship. The graph on the bottom shows the role of the Velocity Offset parameter. The value you have set here, known as an “offset,” is added to, or subtracted from, the actual value. With Velocity Offset, the specified offset value is added to, or subtracted from, the actual velocity of the notes you play on the keyboard. Sometimes, these types of relative parameters are set as a percentage.



1. Total Volume (absolute)



2. Velocity Sensitivity offset (relative)

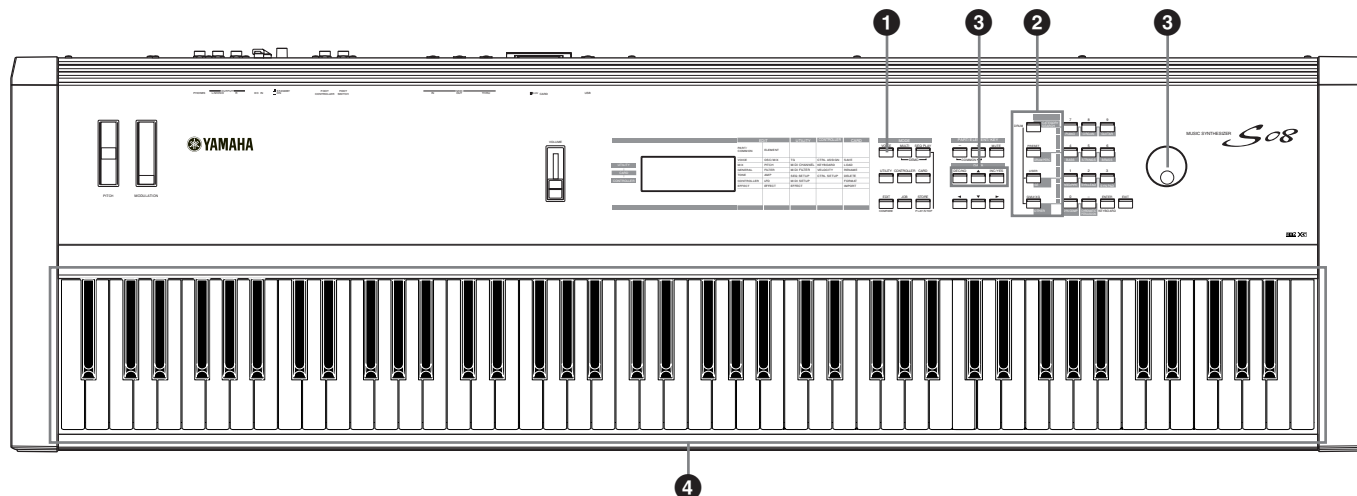


Playing Voices

You can freely select and play Voices (instrument sounds) from the PRESET, USER and GM2/XG memory groups, as explained below.

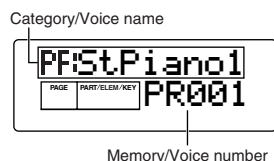
NOTE For details about voice, see page 20. For information on the Voice List, see the separate Data List.

NOTE The user memory can contain up to 128 Normal Voices and 2 Drum Voices (page 20).
The Voice setting is set in the Voice Edit mode. (pages 40, 58)



1 Press the [VOICE] button.

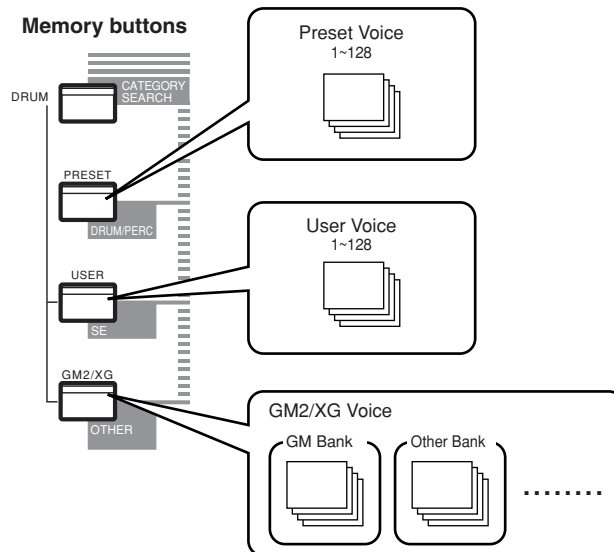
Press the [VOICE] button (the LED lights) to enter the Voice Play mode. The following display appears.



Now, play the Voice (indicated in the display) from the keyboard.

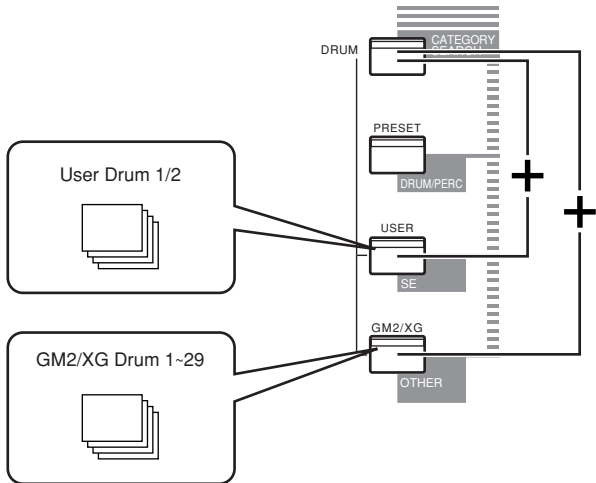
2 Press a MEMORY button to select a Voice Memory.

There are three different memory sections for the Normal Voices (page 22): PRESET, USER, and GM2/XG. The various Voices are assigned to each memory section as shown below. The GM2/XG Voices are divided into several different banks.



The Drum Voices (page 22) are stored in separate areas of the User and GM2/XG memory sections.

- **To call up the User Drum memory (USDR1/USDR2):**
Press the [USER] button while holding down the [DRUM] button.
- **To call up the GM2/XG Drum memory**
- **To call up the XG SFX Kit memory**
Press the [GM2/XG] button while holding down the [DRUM] button.

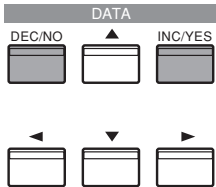


NOTE PRESET, of course, contains the Preset Voices. The XG Voices are assigned in order according to the GM format, starting with Bank 1, and various GM2/XG Voices are distributed throughout the GM2/XG memory banks. USER is stored in internal RAM memory and contains factory default Voices. These can be overwritten, but can be recalled from the original factory settings at any time if required.

③ Select a Voice number.

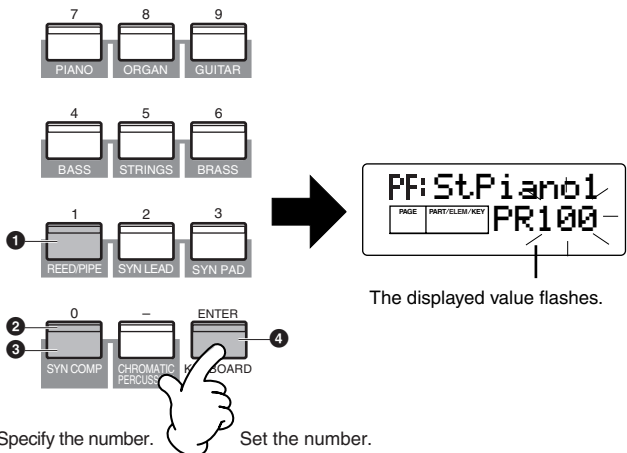
Selecting with the [INC/YES] and [DEC/NO] buttons

First, press the [ENTER] button to specify the Voice Memory, then press the [INC/YES] button to increment the Voice Number, and press [DEC/NO] to decrement it.



Selecting with the numeric keypad and [ENTER] button

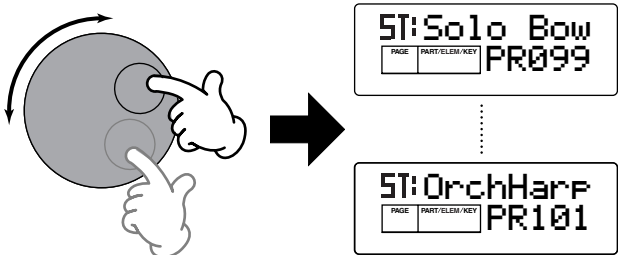
First, specify the Voice number with the numeric keypad, then press the [ENTER] button to actually set it. For example, to select voice number 100, press buttons [1], [0] and [0] in order. (The indicated number flashes.) Finally, press the [ENTER] button to select the Voice.



NOTE For one- or two-digit numbers, it's not necessary to enter all three digits (such as, "001" or "010"). For example, to enter Voice number "3," simply press numeric keypad button [3], then press the [ENTER] button.

Selecting with the data dial

Rotating the data dial to the right (clockwise) increases the voice Number, while rotating it to the left counter-clockwise) decreases it.

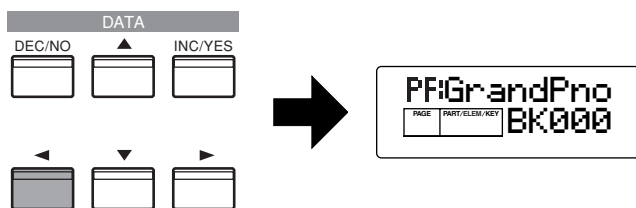


④ Now, play the keyboard and hear the selected Voice. Try selecting and playing other Voices as well.

Selecting GM2/XG Banks

The GM2/XG Voices are divided up into several different banks. This gives you access to an even greater number of Voices and a wider variety of sounds.

- 1 Make sure that GM2/XG memory is selected, then call up the BK (Bank Select) display by using the [◀] button.



- 2 Select the desired Bank number by using the [INC/YES] and [DEC/NO] buttons, or by using the data dial.

GM2/XG Bank

Normal Voice

Display	MSB	LSB
BK000	0	0
BK001	0	1
↓	↓	↓
BK101	0	101
BKsfx	64	0
GM000	121	0
↓	↓	↓
GM009	121	9

Drum Voice

Display	MSB	LSB
BKsfx	126	0
BKdr	127	0
GMdr	120	0

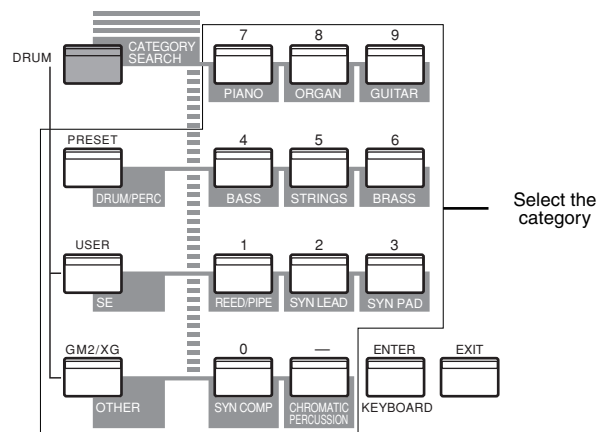
The bank is now changed. Return to the GM2/XG display by using the [◀]/[▶] buttons and select the desired Voice number.

NOTE For details about Bank types, refer to the separate Data List.

Using Voice Category Search

With the Voice Category Search feature, you can quickly find Voices within a specified Voice Category. For example, by selecting the PIANO Voice Category, you can instantly call up for selection all and only those Voices which fall into the “PF” (PIANO) Voice Category.

- 1 Press the [CATEGORY SEARCH] button in Voice Mode. Its LED will light and Category Search will be enabled. The Memory buttons and the numeric keypad are used for selecting categories.



NOTE Press the [EXIT] button to disable Category Search.

NOTE The category names are printed under each button. To switch between the “ME” and “CO” categories, press the [OTHER] button.

NOTE Refer to the Category List on page 50 for more information on Voice category types.

- 2 Specify the desired Category using the buttons above. The first Voice in that Category will be automatically selected.

NOTE In this step, the lowest numbered Voice of the category is selected.

NOTE The S08 searches in the following order: PRESET, then USER, then GM2/XG.

- 3 Press the [INC/YES] button to increment the Voice number in that category and press the [DEC/NO] button to decrement it.

NOTE You can use the same operation as described here in selecting Voices for Multi Part Edit (page 64).

Using Multi Mode

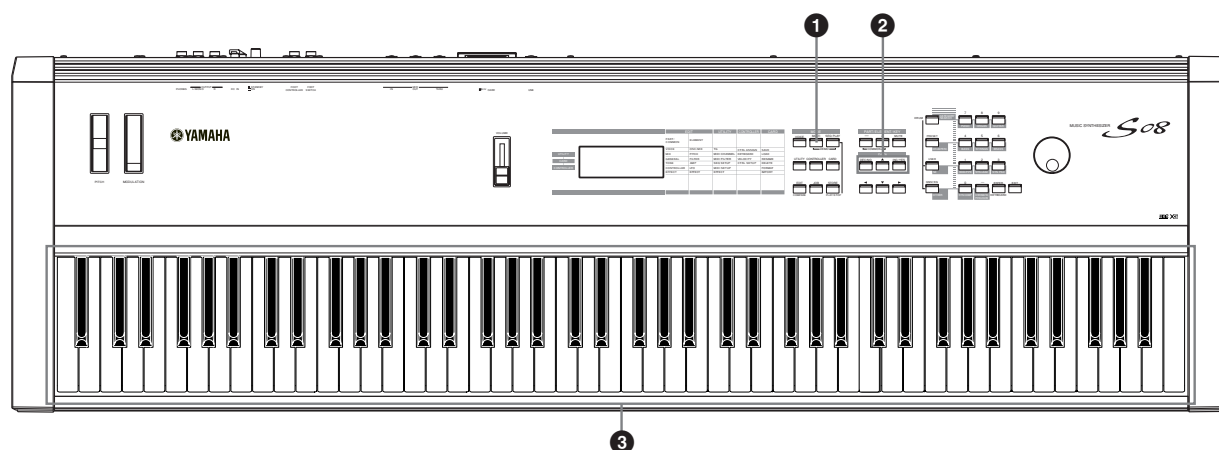
Playing in Multi Mode

In the Multi Play mode, you can select and play any of the Multis.

NOTE For more details about Multis, see pages 20 and 21. For information on the Multi List, see the separate Data List.

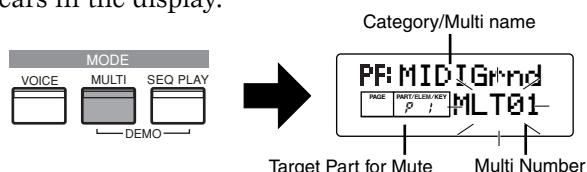
NOTE Up to 32 Multis can be stored in the USER (internal) memory. These Multi settings are available in Multi Edit mode (page 63).

Here, we'll show you how to get started with Multi Play after selecting a Multi.



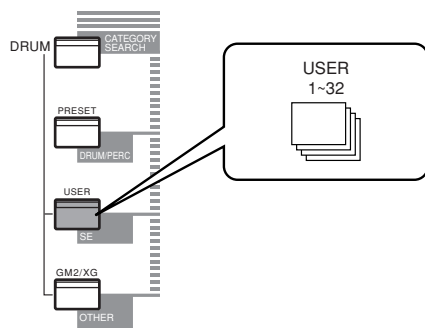
① Press the [MULTI] button

The [MULTI] button LED will light, showing that you are now in the Multi Play mode. The following appears in the display.



At this point, you can play the Multi (named on the screen) via keyboard.

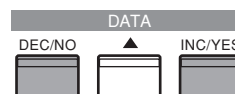
Up to 32 Multis can be stored in the USER (internal) memory.



NOTE USER is stored in internal Random Access Memory (RAM) and contains the factory default Multis. These can be overwritten but can be recalled at any time (page 23).

② Select a Multi Number

Press the [INC/YES] button to increment the Multi Number. Press the [DEC/NO] button to decrement the Multi Number.



NOTE This is selected in the same way as in selecting Voices, using the numeric keypad and the [ENTER] button. Refer to the instructions on selecting Voice numbers (page 30).

③ You can now play Parts in the Multi via the keyboard.

If the MIDI receive channel parameter is the same for any Parts, those Parts can be played in unison. Now try selecting other Multis.

NOTE To play a Voice from the keyboard, make sure that the MIDI Receive Channel for that Voice's Part and the MIDI Transmit Channel for the keyboard are both set to the same value.

Using the S08 as a Multitimbral Tone Generator (Multi Edit)

Multi mode lets you configure the S08 as a multitimbral tone generator for use with computer-based music software or external sequencers. If each track in a song file uses a different MIDI channel, then the Parts in a Multi can be each assigned to those MIDI channels correspondingly. Therefore, you can play back a song file on an external sequencer and have different Voices playing on different tracks simultaneously.

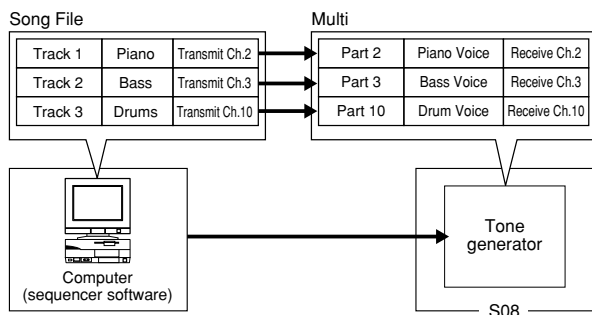
In the following example, we will create a Multi suited to playing back a song file consisting of three Parts: piano, bass and drums. The piano track is assigned to MIDI channel 2, the bass track to channel 3, and the drums to channel 10.

NOTE The particular part(s) can be switched on/off temporarily (Mute).

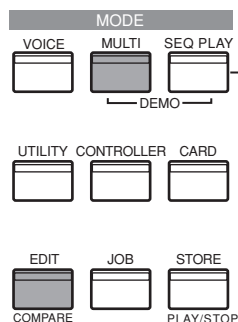
NOTE You can hear the difference between the newly edited Multi and the same Multi prior to editing (page 41).

NOTE For details about MIDI channels, see page 72.

NOTE You can use the included sequencer software (Windows only; see the attached Installation Guide) to play multiple Parts on the S08. Before doing that, however, make sure that all connections between the computer and the S08 have been properly made (page 14).



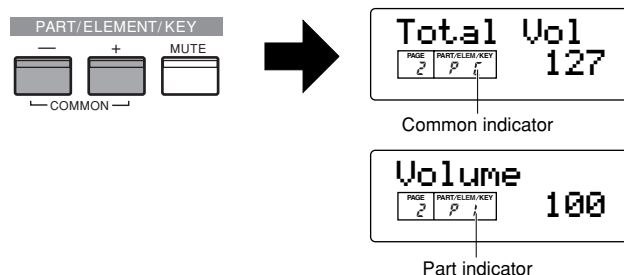
- After pressing the [MULTI] button, press the [EDIT] button (the respective LEDs will light). You are now in the Multi Edit mode.



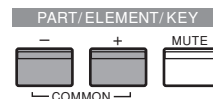
NOTE Before entering the Multi Edit mode, you need to select a Multi for editing.

NOTE You can initialize the Multi, if necessary (page 48).

- If the Common Edit display is shown, press the [+] or [-] button to switch to the Part Edit display.



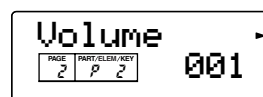
- Use the [+] and [-] buttons to select Parts. Here, you can select P2 (Part 2) for the piano, P3 (Part 3) for bass and P10 (Part 10) for drums. First, let's select P2 (Part 2).



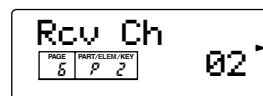
- Use the [▲] and [▼] buttons to switch to the Voice Selection screen (PAGE 1), then specify the Voice to be used as the piano Part.



- Next, use the [▲] and [▼] buttons to switch to the Volume screen (PAGE 2), then set the volume for the piano Part as well as its Pan position, Chorus and Reverb Send levels, if necessary. For details, see page 65.



- Continue using the [▲] and [▼] buttons and switch to the Rcv Ch (MIDI Receive Channel) screen (PAGE 6). Set the parameter to 2.

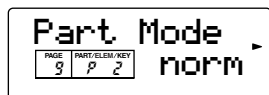


- Use the [▲] and [▼] buttons and switch to the Mono/Poly screen (PAGE 8). Set the parameter to “poly” (polyphonic).



NOTE For Parts that do not require polyphony, the Mode parameter can be set to “mono” (monophonic).

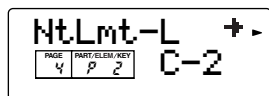
- Use the [▲] and [▼] buttons and switch to the Part Mode screen (PAGE 9). Set the parameter to “norm” (normal).



NOTE In the case of a Drum Part, set the mode to “drum.”

NOTE For details about the Part mode, see page 22.

- Use the [▲] and [▼] buttons to call up the NtLmt (Note Limit) and VeLmt (Velocity Limit) settings, and check whether or not the Part of the piano Voice is set appropriately — in other words, make sure that the Note or Velocity settings do not prevent the Voice from being played normally. Except in special cases, you should generally avoid setting limits on the note and velocity ranges, in order to ensure that notes are sounded properly and are not cut off.



By following steps 3 to 9 above, when you play back a song file in the sequencer, the piano track is transmitted through MIDI channel 2. The MIDI data is received by the S08 which then plays the Voice for the Part assigned to MIDI channel 2.

- Repeat steps 3 to 9 above, but set up Part 3 for bass and to receive on MIDI channel 3.
- Repeat steps 3 to 9 again, setting up Part 10 for drums and to receive on MIDI channel 10.

NOTE To avoid situations where the Voices of unused Parts are suddenly played back, you should set the MIDI receive channels for unused Parts to “off.”

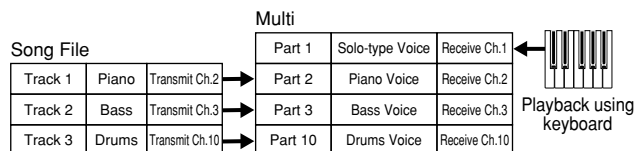
NOTE There are many other Part-specific parameters in the Multi Edit mode. For details, see page 63.

- Before exiting Multi Edit Mode, you need to store the settings for the Multi. For details about storing Multis, see page 50.

Now, when you select this Multi in the Multi Play mode, you can play back the song file on computer (sequencer), and the piano, bass and drum Parts will be played back according to each track’s MIDI channel.

Performing Live While Playing Back a Song File

While playing back the song file with the piano, bass and drum Parts assigned earlier, you can set up the Multi so that you can also play another Part live.



This is the same as the Multi created earlier (page 33), but with the addition of another Part for live playback. Be careful to make the following important settings.

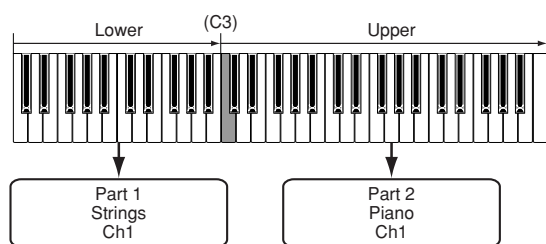
- In the Multi created earlier, Parts 2, 3 and 10 were being used. As an example, we will now assign another Part (Part 1) to a solo-type Voice and set the MIDI Receive Channel to 1.
- At the Trans Ch (PAGE 4) screen in MIDI Mode, set the MIDI Receive Channel to 1. The Voice for Part 1 can now be played live using the keyboard.

NOTE Because the S08 features a fully-compatible XG tone generator, you can play any of the wide variety of commercially available XG/GM/GM2 song software. This ensures broad dynamic and expressive range, with a wide variety of rich instrument sounds and effects. You can also mute specific parts of the MIDI data — allowing you to practice the missing parts yourself, or to use the song data as instrumental backing for your own singing and playing.

Splitting the Keyboard — Setting Upper and Lower Ranges for the Voices

The illustration below shows an example in which the keyboard has been effectively divided into two separate key ranges, letting you play one Voice over one range, and a second Voice over the other. In the following example, the Voices change at the note C3, letting you play a string Voice in the lower range and a piano Voice in the upper. To set up the Voices in this way, follow the instructions below.

NOTE For information on setting up a key split in the Voice mode, see page 42.



- 1 Press the [MULTI] button, followed by the [EDIT] button (each LED will light) to enter the Multi Edit mode.

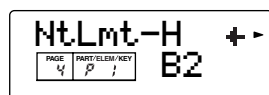
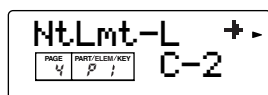
NOTE You need to select the Multi before entering the Multi Edit mode (page 32).

- 2 If the Common Edit screen is shown, press the [+] or [-] button to select the Part Edit display.
- 3 Select a Part for the lower range by using the PART [+] and [-] buttons. For this example, select “P1 (Part 1).”
- 4 Use the [▲] and [▼] buttons (if necessary) and call up the Voice Selection screen (PAGE 1) to select a strings Voice for the lower range Part.



NOTE For details about Voice selection, see page 70.

- 5 Use the [▲] and [▼] buttons to call up the Volume screen (PAGE 2), then set the volume for the piano Part as well as its Pan position, Chorus and Reverb Send levels, if necessary. For details, see page 62.
- 6 Use the [▲] and [▼] buttons to call up the NtLmt screen (PAGE 4), and specify a key range for the lower and upper Parts. Switch between the NtLmt-L (Note Limit Low) and NtLmt-H (Note Limit High) screens by pressing the [◀] and [▶] buttons. Select “C-2” for the lowest note and “B2” for the highest.



- 7 Use the [▲] and [▼] buttons to call up the Rcv Ch (MIDI Receive Channel) screen (PAGE 6). Select “1” for “RcvCh.”

NOTE Set the MIDI Transmit Channel to 1 from the Trans Ch display (PAGE 4) in the MIDI mode. Now you are ready to play the Part 1 Voice within the lower range. The Voice assigned to Part 1 can be played over MIDI Receive Channel 1.

- 8 Use the [▲] and [▼] buttons to call up the Mono/Poly screen (PAGE 8). Set the parameter to “poly” (polyphonic).

- 9 Use the [▲] and [▼] buttons to call up the Part Mode screen (PAGE 9). Set the parameter to “norm” (normal)

With settings made in steps 3 to 9 above, you can now play the strings voice assigned to “P1” (Part 1) and set to MIDI Receive Channel 1 (RcvCh) — when you play in the key range of B2 and lower.

- 10 Make the settings for the upper Part (Part 2), in the same manner as you did in steps 3 to 9.

For Part 2, select a piano Voice, setting the Note Limit Low to “C3” and the Note Limit High to the maximum of “G8.” Also set the MIDI Receive Channel to 1, as you did with Part 1. The piano Voice of Part 2 sounds when you play keys higher than C3.

NOTE In the Edit mode, the selected Part’s Voice is played back.

NOTE To avoid situations where the Voices of unused Parts are suddenly played back, you should set the MIDI receive channels for unused Parts to “off.”

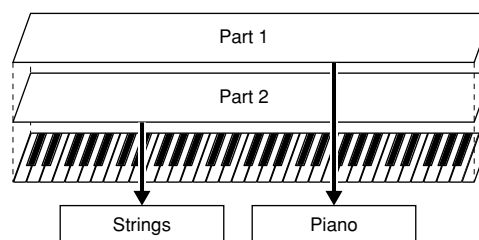
NOTE There are many other Part-specific parameters in the Multi Edit mode. For details, see page 64.

- 11 Before exiting the Multi Edit mode, store the above settings to a Multi. For instructions on storing a Multi, refer to page 50.

Now that you’ve created and stored the Multi, you can call it up anytime within the Multi play mode — and play a strings Voice from keys B2 and below, while playing a piano Voice from keys C3 and above.

Layering Two Voices (Parts) Together

The illustration below gives one application example of combining two Voices in a layer. In this example, a strings Voice is selected for Part 1 and a piano Voice is selected for Part 2, and the two are played together in unison.



This Multi can be easily created and set so that both Parts 1 and 2 are layered together across the entire range of the keyboard.

- For both Part 1 and Part 2, set the Note Limit Low parameter to “C-2” and the Note Limit High parameter to “G8.”

NOTE In the Edit mode, the selected Part’s Voice is played back.

Saving S08 Settings to an External Device (Bulk Dump Send)

Using the Bulk Dump function, you can transmit your S08 settings to an external device, such as a computer, and save them. This is a fast and convenient way to back up your important data. You can also use this function to record important S08 data at the beginning of a song, so that all your original settings and data are automatically reset when your play back the song.

The following explanation shows you how to do this using the realtime recording functions of the included sequence software (Windows only). In this example, one of the MIDI track is used for recording the User Multi data.

NOTE Naturally, this operation is not limited to use with the included sequence software; other sequencers will work for this just as well. For specific information and operation instructions, refer to the owner's manual (or help messages) of your particular sequencer.

NOTE The actual sequence software operations described here may differ slightly depending on the version of the software you are using and your particular computer.

NOTE Make sure that the S08 is properly connected to the computer (page 14). For information on settings for the included sequence software, refer to the on-line manual included with the software.

- 1 In the Multi mode, select the S08 Multi you want to transmit.
- 2 Press [JOB] to enter the Multi Job mode.
- 3 From the "BlkDmp" parameter (PAGE 5) in the Multi Job mode, select the data type for transmitting. Here, select "Curnt" (Current) by using the [INC/DEC] button to transmit the currently selected Multi data, then press the [ENTER] button.



- 4 In your particular sequence software, specify a MIDI track for recording.

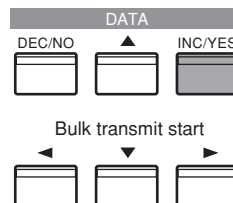


Select the track for recording



Press the Record button to activate recording standby

- 5 After starting recording on the sequence software, press the S08's [INC/YES] button to transmit the data.



Press the Play button to activate recording

- 6 When data transmission is finished, stop recording on the sequence software. Check the List Window to confirm that the data (shown in hexadecimal) has been properly received and recorded by the sequence software.

NOTE For information about recording or saving, refer to the on-line manual included with the sequence software.

Now, whenever you play back the song file with this recorded data, the appropriate S08 Multi settings are sent as System Exclusive messages (page 76) from the sequence software.

NOTE For best results, try to keep the playback tempo at the same setting as was used for recording.

NOTE When you assign the User Voice to the selected Multi's Part, record the User Voice as the same manner. Select the AllUS (All User Voices) in the BlkDmp screen (PAGE 3) in the Voice Job mode, then transmit the bulk data using the same method as Multi.

NOTE If necessary, S08 system (Utility and MIDI) data can also be recorded. In the BlkDmp screen of the Multi Job or Voice Job mode, select "System."

NOTE To save the S08 settings, transmit the three data types below, and record/save them to the computer.

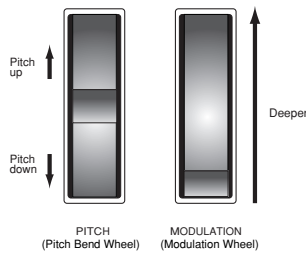
- **All:** All Multis (Multi Job mode)
- **AllUs:** All User Voices (Voice Job mode)
- **System:** System (Multi Job or Voice Job mode)

Using Controllers

The S08 is equipped with Pitch Bend and Modulation Wheels. By connecting an optional Foot Controller or Footswitch, you can also control a variety of parameters (such as changing the sound, changing Program Numbers, etc.) with your feet— and leave your hands free to play the keyboard.

Pitch Bend Wheel & Modulation Wheel

Pitch Bend wheel's function is to control pitch. Move the wheel upward/downward to bend the pitch upward/downward. The effect can also be reversed. The more you move modulation wheel upwards, the greater the modulation that is applied to the sound.



NOTE The Pitch Bend Range can be set for each Voice/Part (pages 58 and 65).

NOTE The Modulation Depth can also be set. Also, the wheel can be assigned to control different parameters, such as Volume or Pan (page 67).

NOTE The Modulation Wheel can also be set to control the tone, amplitude (volume), pitch, or filter setting of the Voice. The Modulation Wheel can be used to control the parameters below.

- MW Variation Effect Control Depth (VarCtl)
- MW Filter Control (FltCtl)
- MW LFO Pitch Modulation Depth (PMod)
- MW LFO Filter Modulation Depth (FMod)
- MW LFO Amplitude Modulation Depth (AMod)

MW/AC1/LFO Control Depth Edit PAGE number

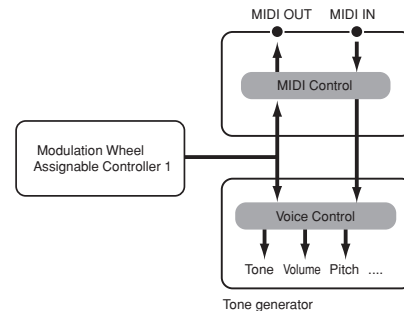
		PMod	FMod	FltCtl	AMod	VarCtl
NORMAL VOICE	MW	ELEMENT 8	ELEMENT 8	ELEMENT 7	ELEMENT 8	COMMON 16
	AC1		ELEMENT 10	ELEMENT 9	ELEMENT 10	COMMON 17
	LFO	ELEMENT 34	ELEMENT 34		ELEMENT 34	
MULTI	MW	PART 18	PART 18	PART 17	PART 18	COMMON 20
	AC1		PART 21	PART 20	PART 21	COMMON 21

The numbers in each column indicate the edit display PAGE corresponding to the MW/AC1/LFO control depth parameter at left. If vibrato is also applied and you want to control only the cutoff frequency by the Modulation wheel, set the PMod parameter (assigned to the same controller or LFO) to “0.”

NOTE You can copy the controller settings of the Voice mode to the Multi mode.

Controllers and External MIDI Control

Various control functions can be assigned to the Modulation Wheel and the Assignable Controller (See below). Besides these other functions, the controllers are already set to control the tone, volume, pitch, and filter settings. When the controller is used, it not only affects the built-in tone generator of the S08, but also simultaneously outputs corresponding MIDI data via the MIDI OUT terminal.



NOTE When the Multi mode is active, this controls the Part for which the Transmit Channel setting of the MIDI mode (PAGE 4) and the Receive Channel setting of Multi Part Edit (PAGE 6) are the same.

AC1 (Assignable Controller 1)

The AC1 (Assignable Controller 1) is available by using an external MIDI controller (such as a foot controller connected to a MIDI keyboard). By setting the AC1 Control number here to match the controller on the connected MIDI device, you can use that controller to change the sound, according to the settings made in the other AC1 parameters — such as AC1FltCtl, AC1 FMod/PMod, or the Variation Effect's AC1VarCtl.

For example, by setting AC1 to “2” here, you can use a breath controller to control the Voice of a Part.

For best results, also make sure that the sensitivity parameters (AC1FltCtl, AC1 FMod/PMod, or the Variation Effect's AC1VarCtl) are set appropriately, as needed.

Foot Controller

An optional Foot Controller (such as the FC7), connected to the FOOT CONTROLLER jack (page 15) on the rear panel, can be assigned to any one of a number of controller parameters (page 39). By using a foot controller for parameter control, both your hands are left free to play the keyboard (or to operate other controllers). This is very convenient when performing live.

NOTE By setting the AC1 to the same control number as the Foot Controller, you can use the Foot Controller to continuously control the parameters below for each Part or Voice.

- AC1 Filter Control
- AC1 LFO Filter Modulation Depth
- AC1 LFO Amplitude Modulation Depth
- AC1 Variation Effect Control Depth

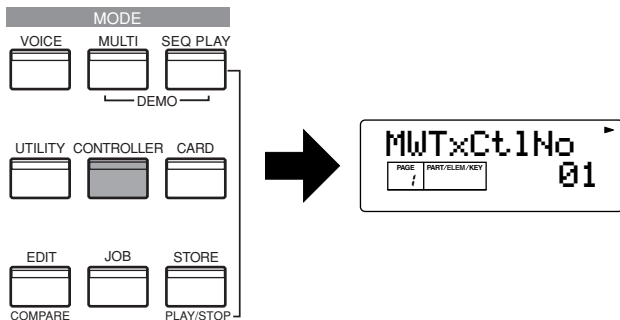
The control number for AC1 can be set in the following pages:
Multi Part Edit PAGE 19 (when controlling in the Multi mode)
Controller PAGE 8 (when controlling in the Voice mode)

See next section below for information on setting the control number for the Foot Controller.

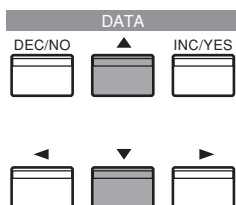
Using the Foot Controller to Control Parameters

In live performance, you can use the Foot Controller onstage to keep your hands free to play the keyboard, yet still be able to control various functions necessary for your songs or performance. In the following example, we'll show you how to set up the Foot Controller to function the same as (and substitute for) the Modulation Wheel.

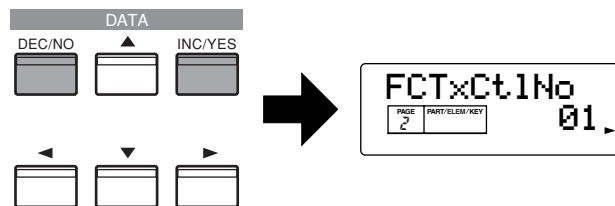
- 1 Press the [CONTROLLER] button to enter the Controller mode.



- 2 Press the [▲] and [▼] buttons to call up the FCTxCtlNo (FC transmit Control Number) screen (PAGE 2).



- 3 Use the [INC/DEC] buttons to select "01" (Modulation Wheel).



The Foot Controller can now be used to perform the same control function as that of the Modulation Wheel.

NOTE For details about Control Numbers and Control Change messages, refer to the separate Data List.

Foot Switch

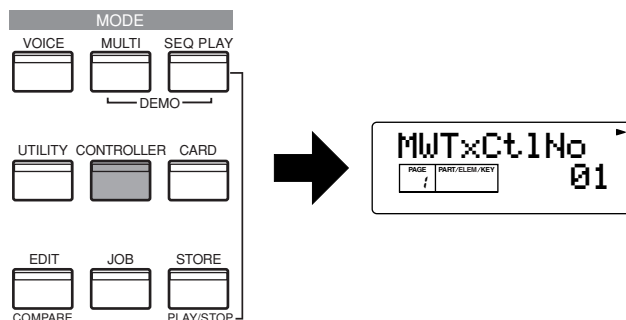
An optional Yamaha FC4 or FC5 Foot Switch connected to the rear panel FOOT SWITCH jack (page 15) can be assigned to a range of parameters. This is designed for switch-type (on/off) controls such as incrementing/decrementing Voice or Multi numbers, and cannot be used for continuous control of a parameter. The default factory setting for this is to control sustain (FSTxCtlNo = 64).

NOTE See next section below for information on setting the control number for the Foot Switch. For details about Control Numbers and Control Change messages, refer to page 73 and the separate Data List.

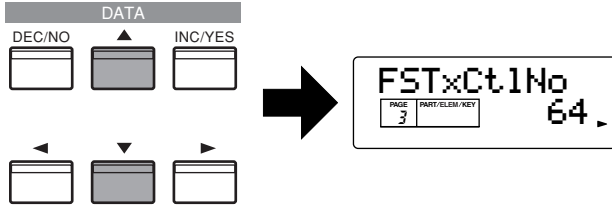
Using the Foot Switch to Advance Through Programs

When performing live, you can set up the Foot Switch to change Voices or Multis with your feet, without having to take your hands from the keyboard. For example, if you arrange the Voices/Multis in memory in consecutive order (as you'll use them), you can easily advance through them one-by-one by pressing the Foot Switch while you perform. The following instruction steps show you how to do this.

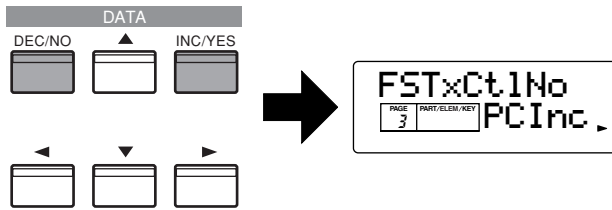
- 1 Press the [CONTROLLER] button to enter the Controller mode.



- ② Use the [▲] and [▼] buttons to call up the FSTxCtrlNo (FS transmit Control Number) screen (PAGE 3).



- ③ Press the [INC/DEC] buttons to select “96” (PCInc). (Or, input the number 96 and press the [ENTER] button.)



In the Voice/Multi mode, the Foot Switch can now be used to advance through program numbers.

Primary control number and function

MW/AC1/FC (Variable control)	FS (on/off switch)
7 Volume	64 Hold 1 (Sustain)
10 Pan	65 Portamento Switch
11 Expression	66 Sostenuto
71 Harmonic Contents (Resonance)	67 Soft Pedal
72 Release Time	96 Program Change INC
73 Attack Time	97 Program Change DEC
74 Brightness	98 PLAY/STOP
75 Decay Time	
76 Vibrato Rate	
77 Vibrato Depth	
78 Vibrato Delay	
91 Reverb Send Level	
93 Chorus Send Level	
94 Variation Effect Send Level	

See page 73

Controlling the Rate/Level of the Pitch, Filter, AMP, EG without Controllers (Normal Voice Element Edit PAGE number)

You can control the various parameters according to the note position or velocity (how strongly you play the keys).

The table is helpful in locating the corresponding display pages in different parameters. For example, if you want to control the filter cutoff frequency and AEG level by velocity, you can set the relevant parameters in PAGE 14-1/26-1.

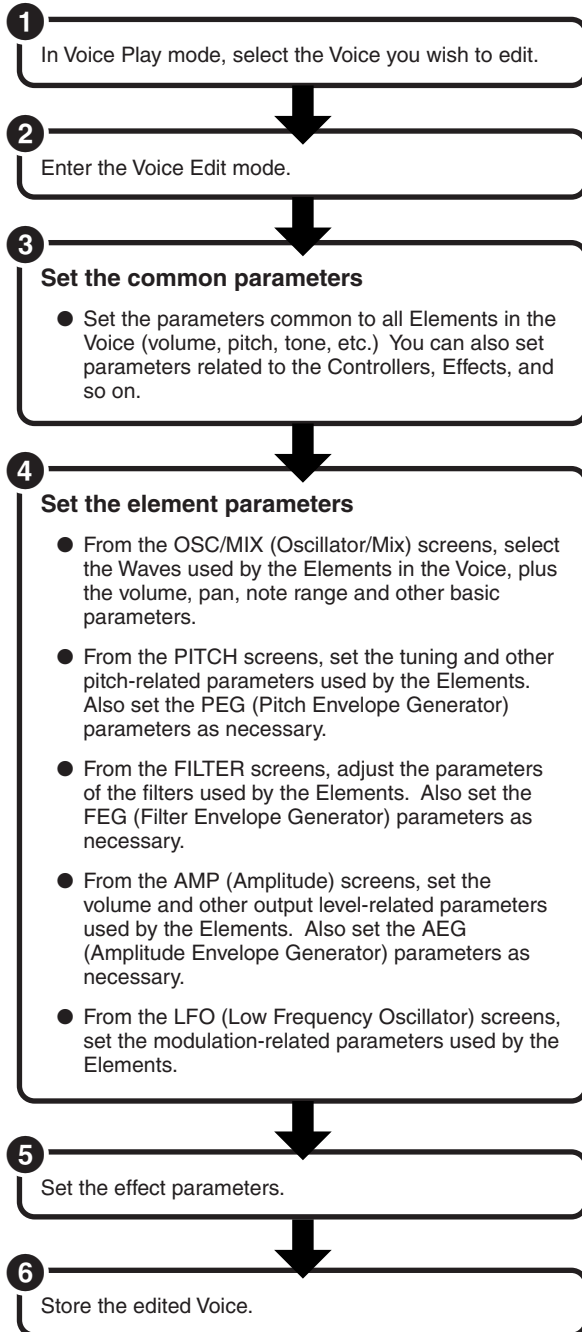
Control parameters	Target parameters											
	PITCH (P)			FILTER (F)					AMP (A)			
	PITCH	PEG		FILTER		FEG			AMP	AEG		
		Rate	Level	Cutoff	Resonance	Rate	Attack Rate	Other Rate		Rate	Attack Rate	Level
Velocity Sensitivity		12-1	12-2	14-1	14-2		22-1	22-2	(MULTI PART 10) (VOICE COMMON 4) (CONTROLLER 5)		26-2	26-1
Scaling Sensitivity	8-1	11-1		18-1		21				25		30
Scaling (BP/Ofs)				15/16/17					27/28/29			
EG rate/EG level	9/10			19/20					23/24			

Voice Edit

The following procedure shows you the fundamentals in creating and editing Voices.

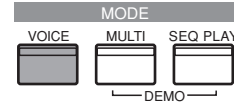
Of course, this is just one example; you are free to set any parameters in any way you like. Details about each parameter are given in the Reference section of this manual (page 58).

NOTE All parameter settings are stored along with the Voice itself.



1 Selecting a Voice to Edit

Enter the Voice Play mode by pressing a [VOICE] button.



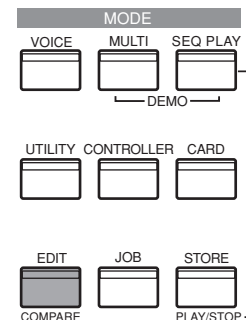
Select the Voice Number of the Voice you wish to edit (page 29).

NOTE When you're creating a Voice by editing an existing one, it helps to select a Voice with a sound that's relatively similar to the one you intend to create. In this way, you can avoid having to make large changes and many parameter edits — allowing you to create a Voice quickly and easily. If you are creating a Voice from scratch, use the convenient Initialize function (in the Voice Job mode) to initialize a Voice in internal user memory. For details, see page 48.

2 Entering the Voice Edit Mode

All Voice creation and editing is carried out in Voice Edit Mode.

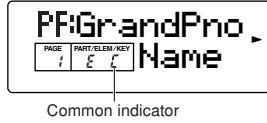
To enter the Voice Edit mode, press the [EDIT] button while in the Voice Play mode.



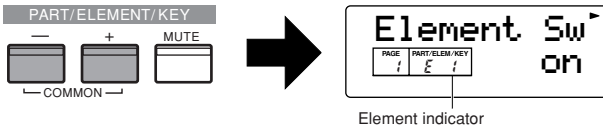
Common Edit and Editing Individual Elements

Voices can consist of up to four Elements (page 21). Use Common Edit to edit the settings common to all four Elements. The Voice Edit mode can be divided into screens for Common Edit and those for editing each Element. In the Voice Edit mode, simultaneously press both the [–] and [+] buttons to switch between the Common Edit screens and the screens for editing each Element.

Common Edit screens



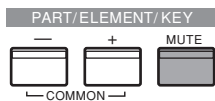
Element Edit screens



NOTE In the same manner as in the Voice edit mode, you can also switch between the Common Edit screens and the Part Edit screens in the Multi Edit mode.

Switching Elements (or Keys, Parts) On/Off (Mute)

In Edit Mode, an Element can be switched on/off temporarily when you press the [MUTE] button. The Element indicator which is muted will flash. This lets you mute other Elements in the Voice so that you can listen to the changes to the Element that you are editing.



NOTE In the Multi mode (including the Play mode), in the same manner as in the Voice Edit mode, Parts can be switched on/off temporarily.

The Compare Function

Use this to listen to the difference between the Voice/Multi with your edited settings and the same Voice/Multi prior to editing.

- 1 Press the [COMPARE (EDIT)] button while in Edit mode. The EDIT LED will flash and the settings prior to editing will temporarily be reinstated for comparison purposes.

NOTE While the Compare function is enabled, the [DEC/NO] and [INC/YES] buttons cannot be used for editing.

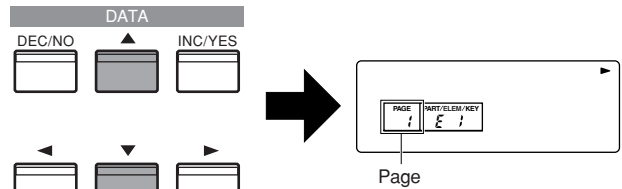
- 2 Press the [EDIT] button again to disable the Compare function and restore your recently edited settings.

NOTE The compare function is also available in the Multi Edit mode.

NOTE The Multi parameters that cannot be set from the panel will be initialized when using the compare function in the Multi Edit mode.

Switching Between Screens and Entering Settings

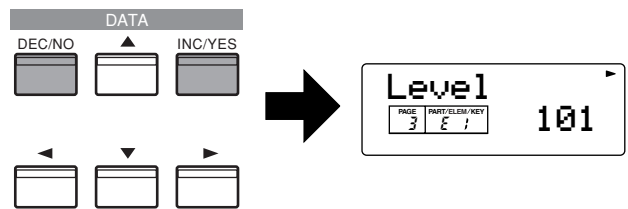
After selecting a Common Edit screen or an edit screen for an Element (1 to 4), press the [▲] and [▼] buttons to switch to other screens.



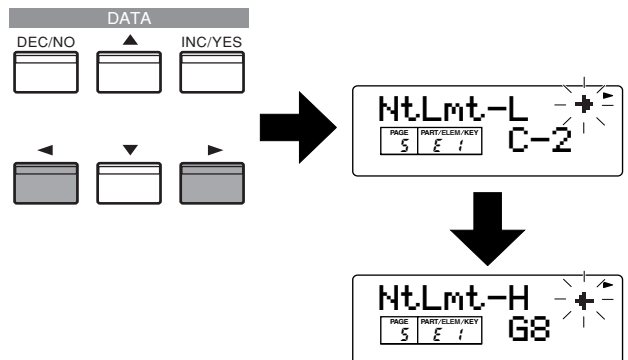
The S08 has a huge variety of available parameters. As you change the display pages, an arrow mark on the right side of the display points to the parameter chart printed on the panel, indicating the parameter type and what aspect of the instrument it's related to.



Use the [INC/YES] and [DEC/NO] buttons to set each parameter value.



Some parameters have multiple “pages,” indicated by a special arrow mark (“→”) in the top right of the LCD (see below). Use the [◀]/[▶] buttons to select these pages.



③ Set the Common Parameters

Each Voice consists of up to four Elements. Here, the parameters common to all Elements are explained.

● GENERAL (Common General)

In PAGES 1 to 4, you can set the Voice Name, Voice output settings and other general parameters.

● CONTROLLER (Common Controller)

In PAGES 5 to 10, you can assign and set various functions for the controllers on the front (such as the Modulation and Pitch Bend Wheels) and the controllers connectable to the rear panel. For example, you can assign parameters to the Modulation Wheel so that you can change the tone of Voice in real time. For details about different controller uses, see page 38.

● EFFECT (Common Effect)

In PAGES 11 to 17, you can set the Effects parameters for the Voice. There are System Effects (Reverb and Chorus) and Variation Effects.

④ Set the Element Parameters

NOTE The Element settings whose Element Switch is set “off” cannot be changed and “***” appears in the display.

Monitoring the Element for Editing (Checking the Voice Structure and Muting)

Since Voices are made up of a maximum of four Elements, you can better hear the edits you make by setting only the Elements you are editing to sound.

Check how many Elements are used with the steps below.

NOTE You can also check the number of Elements used by referring to the Voice List in the separate Data List.

- 1 In the Voice Edit mode, press the [+] or [-] button to switch to the Element Edit display.
- 2 Use the [▲] button to switch to the Element Sw screen (PAGE 1).
- 3 Move the cursor to the desired Element by using the [+]/[-] buttons. The voice being edited is made up of the Elements which are indicated by “on.”

For example, you can check which Elements create which specific sounds in the case of a Voice made up of Elements 1 and 2 — following the steps below.

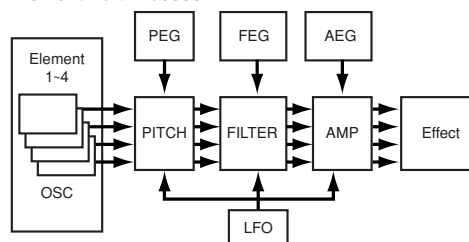
- 4 Move the cursor to Element 1 (E1) by using the [-] button.

- 5 Press the [MUTE] button. E1 flashes and the selected Element is muted. When you play a key, only Element 2 will sound. Cancel mute by pressing the [MUTE] button again.
- 6 Move the cursor to Element 2 (E2) by using the [+] button.
- 7 Press the [MUTE] button. E2 flashes and the selected Element is muted. When you play a key, only Element 1 will sound. Cancel mute by pressing the MUTE button again.

By performing the above operation, you can check the sound of the specific Element you wish to edit, and mute the other Elements so that you can clearly hear the changes you make.

After you finish editing, cancel muting for all Elements. Now, all the Element sounds (including the one you edited) are mixed — letting you hear how the changes you made affect the overall sound of the Voice.

Element Edit Process



● OSC/MIX (Oscillator/Mix)

In PAGES 1 to 6, you can set the various parameters controlling the waveforms on which the Voice is based. You can select the Wave used for the Element, the volume and note range of each Element and so on.

Element Sw (Element Switch)

Determines whether each Element sounds or not.

Wave Number

Select the Wave for each Element.

Level

Pan

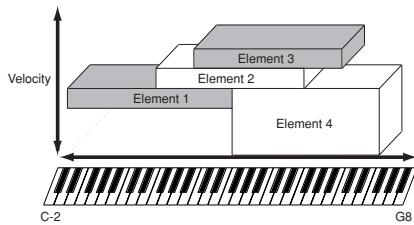
Set the volume (output level) and stereo pan position of each Element.

NtLmt-L/H (Note Limit Low/High)

VelLmt-L/H (Velocity Limit Low/High)

Set the note range for each Element (the range of notes on the keyboard over which the Element will sound) and also the velocity response (the range of note velocities within which the Element will sound). You can assign different settings for each Element. With these parameters, you can layer Elements and control their output.

For example, you could set one Element to sound in an upper range of the keyboard, and another Element to sound in a lower range. Thus, even within the same Voice, you can have two different sounds for different areas of the keyboard or you can make the two Element ranges overlap so that their sounds are layered over a set range. Furthermore, you can set each Element to respond to different velocity ranges so that one Element sounds for lower note velocities, whereas another Element sounds for higher note velocities.



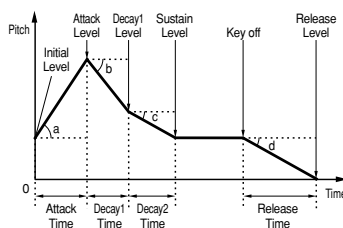
NOTE In the Multi mode, similar settings can be assigned for each Part.

PITCH

In PAGES 7 to 12, you can set the basic pitch parameters for each Element. You can detune Elements, apply Pitch Scaling and so on. Also by setting the PEG (Pitch Envelope Generator), you can control how the pitch changes over time.

PEG (Pitch Envelope Generator)

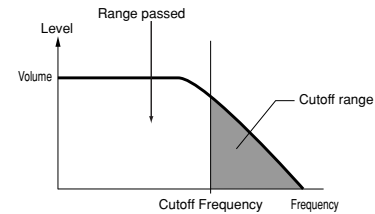
You can set four Rate parameters (which control how fast the pitch changes from one Level to the next) and five Level (pitch) parameters, which control the change in pitch from the moment you press a note on the keyboard to the moment at which the sound stops. The Initial Level and Attack Rate settings determines from what pitch the note starts when it is played and the time it takes to reach the Attack Level pitch setting. The Decay 1 and 2 Rates control how long it takes for the pitch to reach the Decay 1 and 2 Levels, respectively. Finally, the Release Rate and Release Level parameters determine the final pitch that the sound goes to when a key is released and how long it takes to reach that pitch. In the illustration, the letters a - d indicate the respective Rate (R) settings for Attack - Release. The greater the value for each Rate, the faster the pitch goes to the next set Level — in other words, the time it takes for the pitch to change (between Level settings) becomes shorter. Velocity Sensitivity and other parameters can also be set if required.



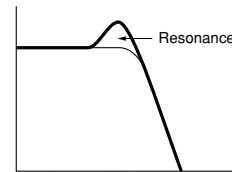
FILTER

In PAGES 13 to 22, you can use the filter to change the tonal characteristics of each Element, by adjusting overtones (harmonic tones) included in the waveform from the Element. The S08 employs an LPF (low pass filter). Only frequencies below this point are passed. In addition, you can set the amount of Resonance (harmonic boost) applied to the signal around the cutoff frequency. This is a useful way of adding further character to the sound.

Cutoff



Resonance

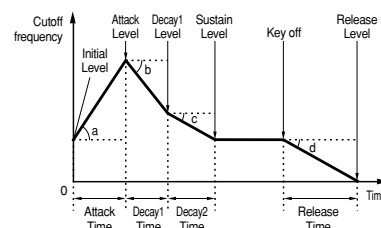


NOTE Filter is also provided in each Multi Part.

You can also set the Filter Envelope Generator (FEG) for time variance of how the filter works, which results in a dynamic change in tonal characteristics. Here, we'll show you how the FEG works.

FEG (Filter Envelope Generator)

There are five Rate settings (controlling the speed of changes to the sound) and five Level settings (controlling the amount of filtering applied). As soon as a note is played, the filter is fixed at the Initial Level setting, and maintains that level for the length of time set in Hold Rate. The degree to which the filter changes after that is determined by the Attack Level and Decay 1 and 2 Levels; the time it takes between those changes is determined by the Attack Rate and Decay 1 and 2 Rates. When the note is released, the change in tone is determined by the Release Rate/Level settings. In the illustration, the letters a - d indicate the respective Rate (R) settings for Attack - Release. The greater the value for each Rate, the faster the filter goes to the next set Level — in other words, the time it takes for the filter to change (between Level settings) becomes shorter. Velocity Sensitivity and other parameters can also be set if required.



● AMP (Amplitude)

In PAGES 23 to 31, you can set the volume of each Element after the OSC (Oscillator), PITCH and FILTER parameters have been applied, as well as the final overall volume of the signal sent to the outputs.

The signal of each Element is sent at the specified volume to the next Effect section.

Also, by setting the AEG (Amplitude Envelope Generator), you can control how the volume changes over time.

NOTE The final volume for all Elements is set in the Total Vol (Total Volume) parameter, Common Edit PAGE 2.

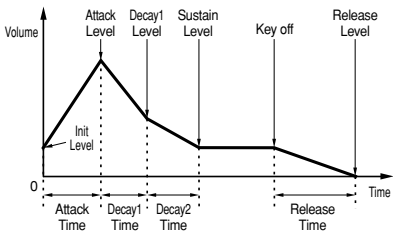
Level (Volume) related Parameters

Parameter	Type	PAGE
Volume Slider	Top panel	
Total Vol	Multi Common Edit	2
Volume	Multi Part Edit	2
Total Lvl	Voice Common Edit	2
Total Vol	Voice Common Edit	2
Level	Voice Element Edit	3
Level	Voice Key Edit	1

AEG (Amplitude Envelope Generator)

There are four Rate settings (which control how fast the volume changes from one Level to the next) and three Level settings (which control the actual volume). When you play a key, the volume goes to the Initial Level, at the speed set in Attack Rate. From there it goes to the Decay and Sustain Levels, at speeds set in Decay 1 and 2 Rates, respectively. When the note is released, the volume goes down to zero, at the speed set in Release Rate.

In the illustration below, the letters a - d indicate the respective Rate (R) settings for Attack - Release. The greater the value for each Rate, the faster the filter goes to the next set Level — in other words, the time it takes for the volume to change (between Level settings) becomes shorter. Velocity Sensitivity and other parameters can also be set if required.



Example of AEG Settings

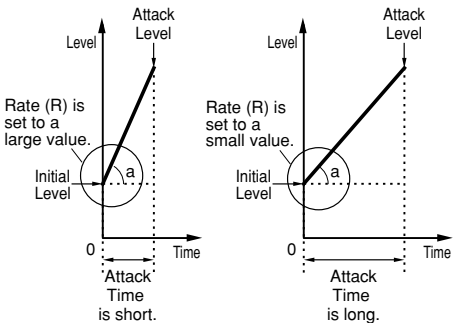
Category	AEG Rate				AEG Level		
	AtkR	Dcy1R	Dcy2R	RelR	InitL	Dcy1L	SusL
Piano	127	34	12	65	0	124	0
Organ	127	10	0	100	255	255	255
Guitar	127	33	16	93	255	200	107
Bass	127	33	0	95	0	0	0
Strings	63	18	0	43	0	250	200
Brass	127	39	0	73	0	234	0
Reed/Pipe	127	39	0	83	0	234	0
Synth Lead	106	18	0	77	0	255	255
Synth Pad	64	26	0	42	0	250	200

About EG Rate and Time (Voice Mode)

The EG (Envelope Generator) processes and shapes the output level of the tone generator from the moment you press a key until the sound decays to silence. The level (Y-axis in the illustrations below) is a different aspect of the sound, depending on which EG is being used. For the PEG, level corresponds to Pitch. For the FEG, it corresponds to the cutoff frequency. For the AEG, it corresponds to the volume.

The behavior of the EG over time is controlled by the Rate (R) parameters. Rate refers to the time it takes to go from one level to the next (for example, from the initial level to the attack level).

The illustrations below show how different Rate settings affect the sound. To extend the time between level changes and make it long, set the Rate (R) to a small value.



EG Types

EG + Cutoff Pitch Amplitude (Volume) → FEG PEG AEG

● LFO (Low Frequency Oscillator)

In PAGES 32 to 35, you can edit the LFO, which (as its name suggests) produces waveforms of a low frequency. These waveforms can be used to vary the pitch, filter or amplitude of each Element to create effects such as vibrato, wah and tremolo. However, the actual available LFO parameters will vary according to the type of Element.

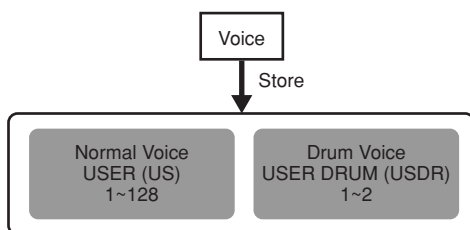
The LFO is capable of producing a wide variety of effects in various ways. By modulating the pitch over an adjustable amount, it creates vibrato. By modulating the filter over an adjustable range of frequencies, it creates wah-wah and dynamic filter sweep effects. By modulating the volume (or “amplitude”) of the sound over an adjustable depth, it creates tremolo.

⑤ Set the Effect Parameters

For an application example showing how to use the effect, see page 46.

⑥ Storing Edited Voices

Up to 128 new/edited Normal Voices and 2 new/edited Drum Voices can be stored to internal user memory.



When storing a Voice, any existing data at the storage location will be lost. You should always back up important data to computer or some other storage medium beforehand.

NOTE For details about storing Voices, see page 50.

Effects

In the final stages of programming, you can set the effects parameters to further change the sound's character. The S08 has two System Effect units (Reverb and Chorus) plus a Variation Effect unit (see below). Different effects settings can be set per Voice (in the Voice mode) and per Multi (in the Multi mode), though the connection between the Effect units will vary in each case.

Reverb

The Reverb block includes a selection of 17 different reverb-type effects, including realistic simulations of the natural reverberation found in various halls and rooms. In the Multi mode, the Reverb settings will apply to the Multi as a whole. In the Voice mode, the Reverb Send parameter can be set for each Voice.

Chorus

The Chorus block includes a selection of 17 chorus-type effects, including a flanger and others. Most of these effects are ideal for adding thickness to the sound. In the Multi mode, the Chorus settings will apply to the Multi as a whole. In the Voice mode, the Chorus Send parameter can be set for each Voice.

Variation

A total of 54 different Effect types are available in the Variation block. These range from conventional effects such as Reverb, for enhancing the sound, to wilder effects such as Distortion, for actively changing the sound, or creating new sounds.

NOTE For details about each Effect Type, refer to the Effect Type List in the separate Data List.

System and Insertion Effects

The S08 effects units can be designated as either System or Insertion effects. Reverb and Chorus are always System effects, which means they can be applied to any or all Parts. The Variation effect can also be a System effect, or it can be designated as an Insertion effect, which means it can be dedicated to a specific Part.

Basically, S08 System and Insertion effects work the same way as in a sound mixer, as shown in the diagram on the next page. For example, System effects can be applied to instruments (i.e., Parts) which are connected to the various mixer channels; the amount of each System effect is determined by channel "send" and system "return" level controls. An Insertion effect can be connected ("inserted") into the signal flow of a specific channel in order to

process the sound of that instrument (i.e., Voice/Part) only.

In the Voice mode of the S08, the Insertion effect (Variation) can be applied to a Voice, while in the Multi Play mode it can only be applied to a single Part.

The System and Insertion effect configurations can be controlled in detail by XG song data (signified by the XG mark) when the S08 is in the Multi Play mode.

Example of Effect Settings

Here we'll show an example of editing effect settings in the Voice Edit mode (page 40). In this example, we'll change the variation effect setting of the Voice OR: Cathedr1 (PR070) from HALL1 to GM FLANGER (a jet-like sound).

- 1 Select the Voice Number of the Voice you wish to edit (Here, OR: Cathedr1 = PR070), then enter the Voice Edit mode (pages 29 and 40).
- 2 Simultaneously press both the [-] and [+] buttons to select the Common Edit display (page 41).
- 3 Use the [▲] and [▼] buttons to call up the VarEF screen (displayed in the bottom line; PAGE 14).
- 4 Use the data dial to select "GM FLANGER," then play the keyboard. Try out other different Effect Types, referring to the Effect Type List in the separate Data List.

NOTE You can listen to and compare the difference between the edited Voice with your edited settings and the same Voice prior to editing (page 41).

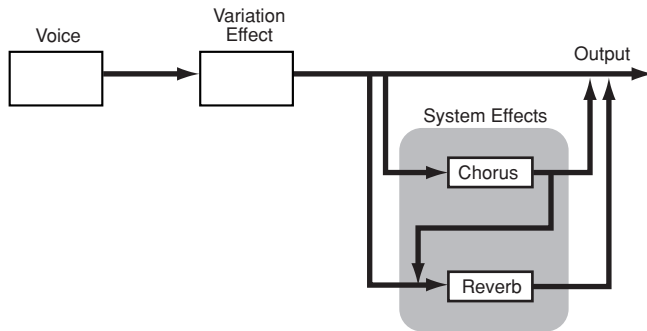
NOTE In the effect parameter page (PAGE 15), you can make various detailed parameter settings. For information on the Effect Parameters, refer to the separate Data List.

- 5 If you wish to save your new settings, store the settings as a single Voice before you leave the Voice Edit mode. For details about storing Voices, see page 50.

Effects in Voice Mode

In the Voice mode, you can set the Effect Send parameter for the Reverb and Chorus sections, and store them with each Voice.

For the Variation Effect, the Effect Type and the various effect parameters can be set, as well as the effect on/off setting for each Voice. The signals that are processed by the Variation block are mixed and sent to the Reverb and Chorus sections.



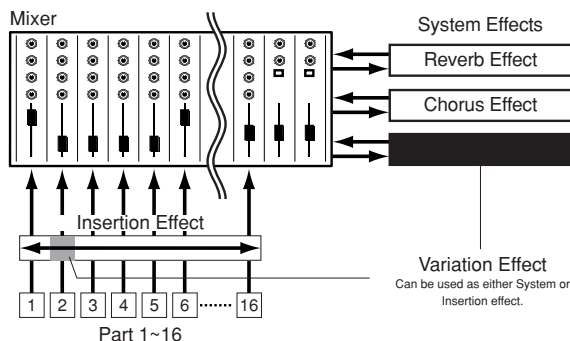
NOTE Drum Voices in Voice mode have no Variation effect.

NOTE System effects can be bypassed in the Voice mode (UTILITY PAGE14)

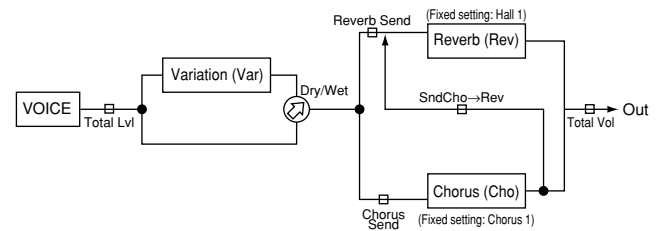
Effects in Multi Mode

You can set the desired Effect type for each Effect section as well as its parameter values for each Multi in the Multi mode. By using Variation as an Insertion effect, you can apply the effect to only one of the Parts (see illustration below).

As shown in the illustration below, the Reverb section and Chorus section function as System effects, which process all of the Parts, according to each Part's effect send setting and the global effect return setting — just like on an actual mixer. When using Variation as an Insertion effect, the signal connection is serial, and the effect is applied only to the selected Part — just like patching in an outboard effect on a single instrument channel.

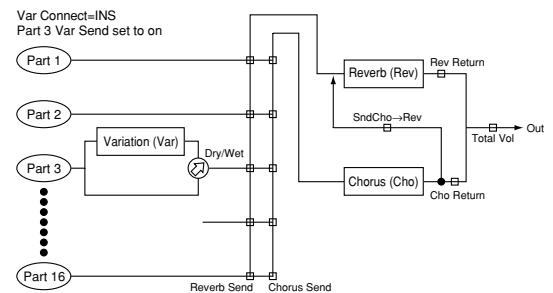


Voice

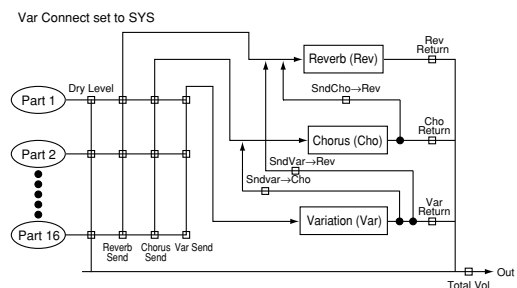


* Depending on the selected effect type, the Dry/Wet parameter may not be available. For details, refer to the Effect Parameter List in the separate Data List booklet.

Multi



* Depending on the selected effect type, the Dry/Wet parameter may not be available. For details, refer to the Effect Parameter List in the separate Data List booklet.



* The default value of Dry Level is 127. This cannot be set from the panel of the S08; however, it can be set by transmitting appropriate MIDI messages from an external device.

Using the Jobs

You can perform various operations (Jobs) in the Job mode. For example, you can initialize Voices/Multis to their original settings (including those currently being edited) or copy Elements/Parts.

Job (PAGE)

MODE	JOB				
	Initialize	Copy	Bulk Dump	Sequencer All chain	Factory Set
VOICE	1	2 (Element/Key)	3		
MULTI	1	2 (Variation Effect) 3 (Controller) 4 (Part)	5		
SEQ PLAY	1 (page 52)			2 (page 52)	
UTILITY					1 (page 23)

The numbers in each column indicate the display PAGE corresponding to the Job parameters.

Performing a Job

- 1 In the Voice/Multi Play mode, select the Voice/Multi Number you wish to perform the Job on.
- 2 Press the [JOB] button to enter the Job mode.
- 3 Use the [▲][▼] buttons and switch to the screen showing the Job you wish to perform.



- 4 Use the [DEC/NO] and [INC/YES] buttons to select the parameter you wish to perform the Job on.

NOTE Use the [+]/[-] buttons to set the destination Element/Key when using Copy CpyElm/CpyKey(Voice).

NOTE Use the [+]/[-] buttons to set the Part or destination Part when using Init Part/CpyVar/CpyCtl or Copy Part (Multi).

- 5 When you press the [ENTER] button, you will be prompted for confirmation.



- 6 Press the [INC/YES] button to confirm. A "Completed" message appears when the Job has been completed, and operation returns to the original screen.

Press the [DEC/NO] button to cancel the Job.

NOTE For Jobs that take longer to process, you will see the message "Executing" during processing. If you switch off the power to the S08 while this message is displayed, you risk corrupting your data.

- 7 Press the [VOICE]/[MULTI] button to exit the Job mode and return to the Play mode.

Resetting (initializing) parameters of a Voice/Multi to their default settings

This is useful for setting up a "blank slate" when you want to build a completely new Voice/Multi from scratch. Keep in mind that this does not return the Multi to its original state prior to editing.

Select parameter Type to be Initialized

Target	Settings in the LCD		
	Multi	Normal Voice	Drum Voice
Whole currently selected data	multi	voice	kit
Common data for currently selected Voice/Multi	cmmn		
Part/Element/Key data for currently selected Voice/Multi	part	elemnt	key

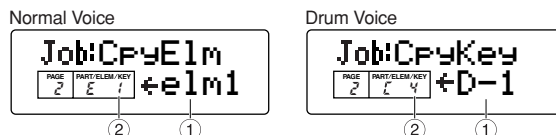
Use the [DEC/NO] and [INC/YES] buttons to select the parameter to be initialized. When this is set to "Part1," use the [+]/[-] buttons to select the desired Part (1 to 16)/Element (1 to 4)/Drum Key C#-1 to G5). Select the desired Drum Key by pressing the appropriate key on the keyboard.

Using the Copy function

Voice

CpyElm (Copy Element)/CpyKey (Copy Drum Key)

This lets you copy Element/Drum Key parameter settings of the Voice being edited to another Element/Drum Key in the same Voice.



- 1 **Source Element/Drum Key**
Select the source Element/Drum Key (the data to be copied) of the Voice.

Settings:

Normal Voice:

elm1 ~ elm4 (Element 1 ~ 4)

Drum Voice:

C#-1 ~ G5 (Drum Key C#-1 ~ G5)

② Destination Element/Drum Key

Set the Element/Drum Key of the Voice that is to be the destination for the copy.

□ Settings:

Normal Voice:

E1 ~ E4 (Element 1 ~ 4)

Drum Voice:

C#-1 ~ G5 (Drum Key C#-1 ~ G5)

Multi

CpyVar (Copy Variation Effect)

When Var Connect is set to “SYS,” this lets you copy the Effect settings for the Voice assigned to the Current Part. When Var Connect is set to “INS,” this lets you copy the Variation Effect settings for the Voice assigned to the Part for which “Var Send” (PAGE 24 in Multi Part Edit) was set to “on.” If all of the Parts’ Var Send settings are “off,” the Part having the Voice Effect settings to be copied can be selected, just as above (when Var Connect is set to “SYS”).

Var Connect=SYS



Var Connect=INS



- **Settings:** P1 ~ P16 (Part 1 ~ 16) (When Var Connect is set to “SYS,” or when Var Connect is set to “INS” and all Parts’ Var Send settings are “off.”) No Parameter (When Var Connect is set to “INS” and one Part’s Var Send settings is “on.”)

NOTE The following parameters can be copied.

- Variation Effect Type
- Variation Parameters
- MW Variation Effect Control Depth
- AC1 Variation Effect Control Depth

NOTE When you copy the Variation effect data of a Drum Voice, the 2 Band EQ effect settings are copied.

CpyCtl (Copy Controller)

This let you copy the Controller settings for the Voice assigned to the Part.



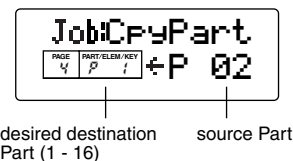
- **Settings:** 1 ~ 16, A (All Parts)

NOTE The following parameters can be copied.

- MW Filter Control
- MW LFO Pitch Modulation Depth
- MW LFO Filter Modulation Depth
- MW LFO Amplitude Modulation Depth
- Pitch Bend Range
- AC1 Filter Control
- AC1 LFO Filter Modulation Depth
- AC1 LFO Amplitude Modulation Depth
- Portamento Switch
- Portamento Time

CpyPart (Copy Part)

This lets you copy Part parameter settings of the Multi being edited to another Part in the same Part. Use the [DEC/NO] and [INC/YES] buttons to select the source Part. Use the [-] and [+] buttons to select the desired destination Part (1 - 16).



- **Settings:** P1 ~ P16 (Part 1 ~ 16)

Saving Data to an External Device (Bulk Dump)

You can send all the parameter settings for the current Multi or all Multis to your computer or some other external MIDI device using Bulk Dump.



NOTE In order to perform a Bulk Dump, the appropriate MIDI Device Number must be set. For details, see page 66.

NOTE For an application example showing how to use the Bulk Dump function, see page 36.

NOTE The parameters below can not be transmitted.

- Seq/Tempo (SEQ PLAY)
- Device No (UTILITY)
- Sync (UTILITY)
- SeqCtl (UTILITY)

Select parameter type to be transmitted

Display	Voice Job mode	Multi Job mode
Currt (current)	Whole currently selected Voice data	Whole currently selected Multi data
AllUs (Voice)/All (Multi)	All User Voices (Normal 1 to 128, Drum 1 and 2)	All Multis (1-32)
System (System)	System data (Utility/Controller)	

NOTE When receiving All User Voice as bulk data, the loaded voice data isn't actually active until a Voice is selected.

NOTE After receiving the current voice as bulk data, the voice will be lost if you select another Voice or Mode. To avoid losing the data, you should use Voice Store to store your received data (page 50).

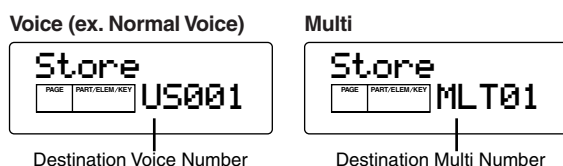
Saving the Settings (Store)

You can store (save) your original parameter settings for up to 128 Normal Voices, 2 Drum Voices and 32 Multis to User Memory. The procedure is as follows.

 When you perform this, the settings for the destination Voice will be overwritten. Important data should always be backed up to computer, Yamaha MIDI Data Filer MDF3 or some other storage device.

NOTE When changing the Voice/Multi Name, refer to the explanation below.

- 1 Press the [STORE] button after editing a Voice/Multi. The Store screen appears.



- 2 Use [DEC/NO] and [INC/YES] buttons to select the destination Voice/Multi Number.
- 3 When you press the [ENTER] button, you will be prompted for confirmation.

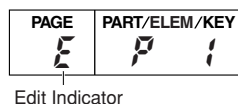


- 4 Press the [INC/YES] button to confirm. The message "Executing" will be displayed while the job is being processed. When it has been completed, a "Completed" message appears, and operation returns to the Play mode.

NOTE You can press the [DEC/NO] button to cancel the Job. This will return you to the original screen.

The E Indicator

If you alter any parameters in Edit mode, the E (Edit) indicator will be displayed in the PAGE column of the screen after exiting from the Edit mode. This gives a quick indication that the current Voice/Multi has been modified but not yet stored.



Voice/Multi/File Name Settings (Entering Characters)

The instructions that follow show you how to enter characters in the Name screen (Voice/Multi Edit mode) and the Save/Rename screen (Card mode).

- 1 (When entering Voice/Multi name) Use the [◀] and [▶] buttons to move the cursor to the position of the next character. By assigning a Category Name, it will be easier to identify the Voice/Multi later. The Category Search function (page 31) can also be used to search for it. If no Category Name is set, the Category will be shown as two hyphens.
- 2 Use the [◀] and [▶] buttons to move the cursor to the position of the first character. The selected character will flash.
- 3 Use the [DEC/NO] and [INC/YES] buttons to enter an alphabetic character/symbol or use the numeric keypad to enter a numeric character.
- 4 Use the [◀] and [▶] buttons to move the cursor to the position of the next character.
- 5 Repeat Steps 3 and 4 until all the characters have been set for your Name.

Available numbers and letters (Voice/Multi)

	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	0	1	2
3	4	5	6	7	8	9	:	;	<	=	>	?	@	A	B	C	D	E
F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X
Y	Z	[	]	^	_	`	a	b	c	d	e	f	g	h	i	j	k	
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{	}	~	→
←																		

Available numbers and letters (File)

	!	#	\$	%	&	'	(	)	-	0	1	2	3	4	5	6	7	8
9	@	6	7	8	9	A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	^	_	`	{	}	~

Category List

LCD	Category	LCD	Category
--	Unassigned	SC	Synth Comping
PF	Piano	CP	Chromatic Percussion
OR	Organ	DR	Drums
GT	Guitar	SE	Sound Effects
BA	Bass	ME	Musical Effects
ST	Strings/Orchestral	CO	Combination
BR	Brass	(OTHER)	Musical Effects/Combination
RP	Reed/Pipe		
LD	Synth Lead		
PD	Synth Pad		

Playing the Songs

You can directly play back the Song files stored on Memory Card. Up to 100 Song files can be played back end-to-end by using the Chain Step feature. This Chain Step data can also be saved to Memory Card.

NOTE A Memory Card containing Song files must already be slotted in the Card Slot.

NOTE Make sure to read the section “Handling the Memory Card” on page 53.

NOTE Format 0 Standard MIDI Files (SMFs) on the highest directory of the Memory Card can be played back. With the included software “Card Filer,” you can convert Standard MIDI file on your computer from format 1 to format 0.

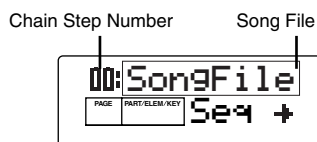
! Never attempt to remove/insert the Memory Card in the SEQ PLAY mode.

Setting the Chain

You can set up to 100 Steps in a Chain here. Each Chain Step is assigned a Song file. You can play back one particular Chain Step or multiple Chain Steps end-to-end.

Chain Step Number

Change each Chain Step by using the [▲]/[▼] buttons. If you choose a Step Number here, the screen for the selected Chain Step will be displayed.



Settings: 00 ~ 99

NOTE You can jump to the next Chain Step screen and change the Chain settings in advance, even while a Song is being played back.

NOTE When a Song is being played back, a [P] indicator appears in the PART/ELEM/KEY column of the Chain Play screen for the current Song.

Song File

Assign a Song file to the Chain Step. Any Song files with the “.MID” extension can be selected. When you select a file Number here, the file name is shown in the top line of the display.

For continuous (chained) playback of multiple Chain Steps, you can specify how to play this Chain Step after playback of a previous one by selecting an option from among “skip,” “end” and “stop.”

If you select “skip,” the Chain Step is skipped and playback will jump to the next Chain Step. If you choose to skip the 99th Chain Step, playback will jump back to the first Chain Step after the 98th Chain Step. If you select “end,” when the Song reaches this Chain

Step, chained playback is stopped and you are returned to the first Chain Step.

If you select “stop,” the Song stops when it reaches this Chain Step.

Settings: skip, end, stop, song file

1 Press the [SEQ PLAY] button to enter the Sequence Play mode.



2 Use the [▲] and [▼] buttons to select the chain step number, then press the [ENTER] button to specify it.

3 Use the [DEC/NO] and [INC/YES] buttons to assign the song file or skip/end/stop to the chain step, then press the [ENTER] button to specify it.

4 Repeat steps 2 and 3 above to set up the chain.

Song Playback

1 Select a Song file you wish to play back, in the same manner as you did 1 to 3 above.

NOTE When playing back a single Song, you do not need to select a Chain Step Number (You can have any Chain Step screen open).

2 Set the tempo (if necessary).

3 Press the [PLAY/STOP] button to playback the Song.

4 Press the [PLAY/STOP] button again to stop the Song playback.

Chained Playback

1 Use the [▲] and [▼] buttons to select the Chain Step Number of the first Song you wish to play back.

2 Set the tempo (if necessary).

3 Press the [PLAY/STOP] button to play back the Song.
When the Chain Step playback has finished, the Song of the next Chain Step Number will automatically be started. Songs can be played back continuously this way.

4 Press the [PLAY/STOP] button again to stop the chained playback.
Also, if an “end” or “stop” Chain Step is reached, playback will stop.

Changing the Tempo

This determines the playback tempo for the Song at the currently selected Chain Step. When the Song is played back, the tempo setting made here automatically takes precedence over the original tempo setting of the Song. To restore the song's own playback tempo, select "*****" by entering a value less than 25.



❑ **Settings:** 25 ~ 300

- ❶ Set the chain step by following the setting chain procedure (steps 1 to 4).
- ❷ Use the [▲] and [▼] buttons to call up the chain step of which you wish to change the tempo, then press the [ENTER] button to specify it.
- ❸ Press the [▶] button to enter the screen for the tempo setting.
- ❹ Using the [DEC/NO] and [INC/YES] buttons to set the playback tempo.

Sequence Play Job

You can two operations in th e Sequence Play Job mode. For information on the Job table, see page 48.

InitSeq (Initialize Sequence Chain)

You can reset (initialize) all chain step settings.

SeqAll (Sequencer All Chain)

This let you automatically assign all Songs on the highest directory of the Memory Card to each chain step.

NOTE Song files are assigned alphabetically according to the file name.

- ❶ In the Sequence Play mode, press the [JOB] button. Job display appears.
- ❷ Use the [▲] and [▼] buttons to select "InitSeq" or "SeqAll"
- ❸ When you press the [ENTER] button, you will be prompted for confirmation.

ex. Sequencer All Chain



- ❹ Press the [INC/YES] button to confirm.
A "Completed" message appears when the Job has been completed, and operation returns to the original screen. Press the [DEC/NO] button to cancel the Job.

NOTE For Jobs that take longer to process, you will see the message "Executing" during processing. If you switch off the power to the S08 while this message is displayed, you risk corrupting your data.

- ❺ Press the [EXIT] button to exit the Job mode.

Using the Memory Card

In the Card mode, you can use a Memory Card (commercially available SmartMedia™ cards) for saving and loading data from/to the instrument, as well as perform other data-exchange operations. With the included Card Filer software, you can use a computer to manage data on Memory Card. You can also use it to exchange data between the computer and Memory Card.

NOTE Never attempt to remove/insert the Memory Card in the SEQ PLAY mode.

NOTE Only files from the highest directory of the Memory Card can be accessed.

NOTE The Card mode cannot be entered unless a Memory Card has been properly inserted into the Card slot.

Handling the Memory Card (SmartMedia™*)

Be sure to handle Memory Cards with care. Follow the important precautions below.

*SmartMedia is a trademark of Toshiba Corporation.

Compatible Memory Card Type

3.3V(3V) Memory Cards can be used. 5V type Memory Cards are not compatible with this instrument.

Memory Capacity

There are seven types of Memory Cards: 2MB/4MB/8MB/16MB/32MB/64MB/128MB.

Inserting/Removing Memory Cards

To insert a Memory Card:

Hold the Memory Card so that the connector section (gold) of the Memory Card is facing downward and forward, towards the Memory Card slot. Carefully insert the Memory Card into the slot, slowly pushing it all the way in until it is fitted in place.

-Don't insert the Memory Card in wrong direction.

-Don't insert anything other than a Memory Card in the slot.

To remove a Memory Card:

Before removing the Memory Card, be sure to confirm that the Memory Card is not in use, or it is not being accessed by the instrument. Then pull the Memory Card out slowly by hand. If the Memory Card is being accessed*, a message indicating that it is in use appears on the instrument's display.

* This includes saving, loading, formatting and deleting. Also, be aware that the instrument will automatically access the Memory Card to check the media type when it is inserted while the instrument is turned on.



Never attempt to remove the Memory Card or turn the power off during accessing. Doing so can damage the data on the instrument/Memory Card and possibly the Memory Card itself.

Formatting Memory Cards

Before using a Memory Card with your instrument it must first be formatted. Once it is formatted all data on it will be erased. Be sure to check if the data is unnecessary or not, beforehand.

NOTE The Memory Cards formatted with this instrument may become unusable with other instruments.

About the Memory Cards

To handle Memory Cards with care:

There are times when static electricity affects Memory Cards. Before you handle Memory Cards, to reduce the possibility of static electricity, touch a metal object, such as a door knob and aluminum sash.

Be sure to remove the Memory Card from the Memory Card slot when it is not in use for a long time.

Do not expose the Memory Card to direct sunlight, extremely high or low temperatures, or excessive humidity, dust or liquids.

Do not place heavy objects on a Memory Card or bend or apply pressure to the Memory Card in any way.

Do not touch the metal part (gold) of the Memory Card or put any metallic plate onto the metal part.

Do not expose the Memory Card to magnetic fields, such as those produced by televisions, speakers, motors, etc., since magnetic fields can partially or completely erase data on the Memory Card, rendering it unreadable.

Do not attach anything other than the provided labels to a Memory Card. Also make sure that labels are attached in the proper location.

To protect your data (Write-protect):

To prevent inadvertent erasure of important data, stick the write-protect seal (provided in the Memory Card package) onto the designated area (within a circle) of the Memory Card. To save data on the Memory Card, make sure to remove the write-protect seal from the Card. Do not reuse the seal that is peeled off.

Data Backup

For maximum data security Yamaha recommends that you keep two copies of important data on separate Memory Cards. This gives you a backup if one Memory Card is lost or damaged.

Burglarproof Lock

This instrument is equipped with a burglarproof lock for the Memory Card. If necessary, mount the burglarproof lock onto the instrument.

To mount the burglarproof lock:

- 1 Remove the metallic part using a Phillips screwdriver.
- 2 Turn the metallic part upside down and then mount it again.

Saving the S08 data to Memory Card (Save)

You can save files to Memory Card as follows.

- ❶ Press the [CARD] button. Card Mode screen appears.
- ❷ Use the [▲] button to select the Save screen.
- ❸ To overwrite an existing file, use the [DEC/NO] and [INC/YES] buttons to select the File, then go to step 6.
- ❹ Press the [ENTER] button to call up the screen for Name entry.
- ❺ Enter the file name (page 50).
- ❻ Press the [ENTER] button to execute the operation. A “Completed!” message appears when the operation has been completed.



NOTE If the Save operation would result in an existing file being overwritten, a confirmation prompt appears. Press the [INC/YES] button to save the file and overwrite the original data, or press the [EXIT] button to cancel.



NOTE The data below can be saved to Memory Card.

- User Normal Voice 1 to 128
- User Drum Voice 1 and 2
- Multi 1 to 32
- System (Utility/controller, Sequence chain)

Loading the S08 Data from Memory Card (Load)

You can load files from Memory Card to the S08, as well as select the type of data to be loaded.

❑ **Settings:** All , An User Normal Voice (1 to 128), An User Drum Voice (1 and 2)

- ❶ Press the [CARD] button. Card Mode screen appears.
- ❷ Use the [▲] and [▼] buttons to select the Load screen.
- ❸ Use the [DEC/NO] and [INC/YES] buttons to select the File you wish to load.

NOTE When selecting a file, the “FileNone” message will be displayed if there is no file on Memory Card.

- ❹ Press the [ENTER] button to call up the display for selecting the data type.



- ❺ Use the [DEC/NO] and [INC/YES] buttons to select the data you wish to load. When selecting “All” here, go to step 8.

NOTE When selecting the “All,” the data below will be loaded.

- User Normal Voice 1 to 128
- User Drum Voice 1 and 2
- Multi 1 to 32
- System (Utility/controller, Sequence chain)

- ❻ Press the [▶] button to call up the display for selecting the destination user voice number.



- ❼ Use the [DEC/NO] and [INC/YES] buttons to select the destination user voice number.
- ❽ When you press the [ENTER] button, you will be prompted for confirmation.



NOTE The operation will be canceled if you press the [EXIT] button.

- ❾ Press the [INC/YES] button to execute the operation. A “Completed” message appears when the operation has been completed.

Renaming the Files (Renam)

You can rename files using up to eight alphabetic and numeric characters.

NOTE Only S08 Format files (saved by the S08) can be renamed.

- 1 Press the [CARD] button. The Card Mode screen appears.
- 2 Use the [▲] and [▼] buttons to select the Renam (Rename) screen.
- 3 Use the [DEC/NO] and [INC/YES] buttons to select the File you wish to rename.

NOTE When selecting a file, the “FileNone” message will be displayed if there is no file on Memory Card.

- 4 Press the [ENTER] button to call up the display for renaming the file.
- 5 Change the file name (page50).
- 6 Press the [ENTER] button to execute the operation. A “Completed” message appears when the operation has been completed.

NOTE When entering a name, the “!Same Name” message will be displayed if there is a file already saved with the same name and cannot apply to the name. In this case, go back to step 5 and enter a different name.

Deleting the Files on Memory Card (Del)

You can delete the files saved on Memory Card.

NOTE Only S08 Format files (saved by the S08) can be deleted.

- 1 Press the [CARD] button. The Card Mode screen appears.
- 2 Use the [▲] and [▼] buttons to select the Del (Delete) screen.
- 3 Use the [DEC/NO] and [INC/YES] buttons to select the File you wish to delete.

NOTE When selecting a file, the “FileNone” message will be displayed if there is no file on Memory Card.

- 4 When you press the [ENTER] button, you will be prompted for confirmation.



NOTE The operation will be canceled if you press the [EXIT] button.

- 5 Press the [INC/YES] button to execute the operation. A “Completed” message appears when the operation has been completed.

Formatting Memory Card (Frmt)

Before you can use a new Memory Card, you will need to format it.



If there is already data on the Memory Card, it will be completely lost when you format it.

- 1 Press the [CARD] button. The Card Mode screen appears.
- 2 Use the [▲] and [▼] buttons to select the Frmt (Format) screen.
- 3 When you press the [ENTER] button, you will be prompted for confirmation.



NOTE The operation will be canceled if you press the [EXIT] button.

- 4 Press the [INC/YES] button to execute the operation. A “Completed” message appears when the operation has been completed.

Loading the files saved by the Voice Editor for S08 on Memory Card. (Imprt)

You can load the data saved by the Voice Editor for S08 (on the included CD-ROM; see the separate Installation Guide). Select Parameter Type to be imported.

Settings:

Source Voice data: All Voice, 001 to 128, DR1 to 2
Destination Voice number: 001 to 128, DR1 to 2

- 1 Press the [CARD] button. Card Mode screen appears.
- 2 Use the [▼] button to select the Imprt (Import) screen.
- 3 Use the [DEC/NO] and [INC/YES] buttons to select the File you wish to import.
- 4 When you press the [ENTER] button, you will be prompted for confirmation.



- 5 Use the [DEC/NO] and [INC/YES] buttons to select the data you wish to import. When selecting “All” here, go to step 8.

NOTE When selecting the “All Voice,” the data below will be imported.

- User Normal Voice 1 to 128
- User Drum Voice 1 to 2

- 6 Press the [▶] button to call up the display for selecting the destination user voice number.



- 7 Use the [DEC/NO] and [INC/YES] buttons to select the destination user voice number.
- 8 When you press the [ENTER] button, you will be prompted for confirmation.



NOTE The operation will be canceled if you press the [EXIT] button.

- 9 Press the [INC/YES] button to execute the operation. A “Completed” message appears when the operation has been completed.

NOTE The file name should include the extension “S6V.” If you save a file to a Macintosh computer, the extension “S6V” is not added automatically. Before loading such files to the S08, you’ll need to manually add the extension “S6V” to the file names.

Card Filer

With the included Card Filer, you can:

- Save your S08 data on Memory Card to your computer.
- Transmit data from your computer to a Memory Card on the S08.
- Delete and rename files on Memory Card of your MIDI instrument using your computer.
- Convert Standard MIDI Files on your computer from Format 1 to Format 0 so that they can be played back on the S08.

When using the Card Filer, all S08 panel operations or playing of the keyboard is ignored. (The Voice and Multi LEDs go out.) In this case, the message “File Mode” appears. For details about Card Filer, refer to the separate Installation Guide or the on-line manual (PDF) included with the software.

NOTE Never attempt to remove/insert the Memory Card when the S08 is communicating with the Card Filer.

NOTE The S08 cannot communicate with the Card Filer in the following conditions. To use the Card Filer, exit from these operations or modes.

- Sequence Play mode
- Card mode
- Bulk transmission
- When an “Executing” message is displayed, such as during execution of a Job.

NOTE Be careful not to disconnect any connected cables when communicating to the Card Filer, otherwise the operation of the S08 may lock up. If this happens, turn the power off and back on again.

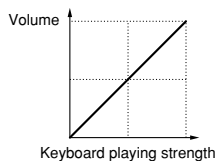
Touch Sensitivity

Six different types of keyboard sensitivity can be selected to match different playing styles and preferences.

- 1 Press the [CONTROLLER] button to enter the Controller mode.
- 2 Use the [▲] and [▼] buttons to select the Fixed Vel screen (PAGE 6), then press the [DEC/NO] button to select “off.”
- NOTE** When you play the keyboard at the same volume, enter the value of the velocity (volume). In this case, the step below is not necessary.
- 3 Use the [▲] button to select the Vel Curve screen (PAGE 5), then press the [INC/YES] and [DEC/NO] buttons to select the desired setting (see below).
- 4 Press the [EXIT] button to exit from the Controller mode.

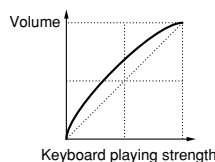
norm (Normal)

The velocity is in proportion to playing strength (how hard you play the keyboard).



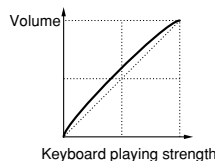
soft1

This curve provides increased response, especially for lower velocities. In other words, playing softly results in higher response than the “norm” curve. Use this curve if you want greater control in the low velocity range.



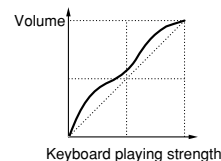
soft2

This curve provides increased response, especially for lower velocities. In other words, playing softly results in higher response than the “norm” curve. Use this curve if you want greater control in the low velocity range; the response is between Soft1 and Normal.



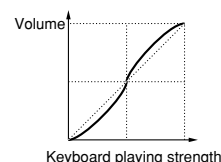
easy

This curve is also designed to increase the volume level with a softer playing style. However, the volume level is stable in all registers since the velocity curve in the mid range is close to Normal.



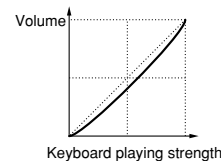
wide

This setting provides opposite response curves for lower and higher velocities. It widens the apparent dynamic range of the controller, producing less sound change in the softer range and more change in the higher range.



hard

This curve effectively lessens the overall response compared to the “norm” curve. Use this curve if you tend to play strongly and want the sound change to be less sensitive.



Reference (Function List)

This list clearly and concisely explains the function of every parameter. Following the table are various footnotes, providing further details and explanations for those items marked with an asterisk (*). The “Related Page” column also provides cross-references for operation examples, other details and relevant parameters.

NOTE For information on the Display Indications, see page 25; for information on the mode selection, see page 24. For information on playing Voices/Multis, see pages 29 and 32.

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page
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■ Voice Edit (Normal)

Common...Settings that apply to all four Elements

Settings... MIDI Data Table 2-9 in the separate Data List

[VOICE] → Normal Voice Selection → [EDIT] → [+] & [-] (Press simultaneously)

GENERAL					
1		Name	Name (Name 1-8/Category)	Sets the Voice Name (up to 8 characters) and Category.	50
2	-1	Total Vol	Total Volume	Determines the overall volume, including the applied effect.	44, 47
2	-2	Total Lvl	Total Level	Determines the level of the Voice that is sent to the effect.	44, 47
3		Mono/Poly	Mono/Poly Mode	Selects whether a voice is played back monophonically (single notes only) or polyphonically (multiple simultaneous notes).	
4	-1	VelSnsDpt	Velocity Sensitivity Depth	Determines the velocity sensitivity, or how much the level of the voice changes in response to your playing strength (velocity).	*1
4	-2	VelSnsOfs	Velocity Sensitivity Offset	Determines the amount by which received velocities are adjusted for the actual velocity effect.	
CONTROLLER					
5	-1	Porta Sw	Portamento Switch	Determines whether Portamento (a smooth transition in pitch from one note to the next) is on or off.	
5	-2	Porta Time	Portamento Time	Determines the Portamento pitch transition time. Higher values result in longer transition times.	
6		PB Range	Pitch Bend Range	Determines the amount (in semitones; 12: one octave) by which the pitch is varied when you move the Pitch Bend wheel up/down.	37
7		MW FltCtl	MW Filter Control	Determines the depth of the MW (Modulation Wheel) over the filter cutoff frequency.	37
8	-1	MW PMod	MW LFO Pitch Modulation Depth	Determines the depth of control the Modulation Wheel has over pitch modulation (vibrato effect).	37
8	-2	MW FMod	MW LFO Filter Modulation Depth	Determines the depth of control the Modulation Wheel has over filter cutoff modulation (wah effect).	37
8	-3	MW AMod	MW LFO Amplitude Modulation Depth	Determines the depth of control the Modulation Wheel has over amplitude modulation (tremolo effect).	37
9		AC1 FltCtl	AC1 Filter Control	Determines the depth of the AC1 (Assignable Controller 1) over the filter cutoff frequency.	37
10	-1	AC1 FMod	AC1 LFO Filter Modulation Depth	Determines the depth of control the AC1 has over filter cutoff modulation (wah effect).	37
10	-2	AC1 AMod	AC1 LFO Amplitude Modulation Depth	Determines the depth of control the AC1 has over amplitude modulation (tremolo effect)	37
					*2
EFFECT					
11		ReverbSend	Reverb Send	Determines the send level of the Reverb Effect.	47
					*3

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
12		ChorusSend	Chorus Send	Determines the send level of the Chorus Effect.	47	
13		SndCho→Rev	Send Chorus To Reverb	Determines the send level of the signal sent from the Chorus Effect to the Reverb Effect.	47	
14		VarEF	Variation Effect Type (Variation Type MSB/LSB)	Determines the Variaton Effect Type (refer to the separate Data List).	46	
15		(Variation Parameters)	(Variation Parameter 1-5,10 MSB/LSB)	Determines the Variation effect parameters (refer to the separate Data List).	46	
16		MW VarCtl	MW Variation Control Depth	Each Variation Effect type has a specific fixed parameter that can be controlled in realtime with the MW or AC1. (Refer to the Effect Parameter List in the separate Data List.)	37	
17		AC1 VarCtl	AC1 Variation Control Depth			
Element...Settings of individual four Elements				Settings...MIDI Data Tables 2-9 and 2-10 in the separate Data List		
[VOICE] → Normal Voice Selection → [EDIT] → [+] or [-]						
OSC(Oscillator)/MIX						
1		Element Sw	Element Switch	Determines whether each Element sounds or not.	42	*4
2		(Wave Number)	Wave Number	Determines the Wave. Each Element can be assigned a different wave (sound).		*5
3		Level	Element Level	Determines the output level of each Element.	44	
4		Pan	Pan	Determines the Stereo Pan position. Scale: the sound is panned left and right according to the note (keyboard) position.	28	
5	-1/-2	NtLmt-L/H	Note Limit Low/High	Determines the lowest and highest notes of the keyboard range.	28, 42	
6	-1/-2	VelLmt-L/H	Velocity Limit Low/High	Determines the minimum and maximum values of the velocity range within which each Element will respond.	42	
PITCH						
7	-1/-2	NoteShift/ Detune	Note Shift/Detune	For Note Shift: Determines the pitch (key transpose) setting in semitones (12: one octave). For Detune: Determines the fine tuning.		
8	-1	PchScI Sns	Pitch Scaling Sensitivity	Determines the sensitivity of the Pitch Scaling (the interval of adjacent notes). At +100%, adjacent notes are pitched one semitone (100 cents) apart. At 0%, all notes are the same pitch (for the percussion sounds, etc.). At 50%, one octave is stretched out over twenty-four notes.	39	
8	-2	PchScI CN	Pitch Scaling Center Note	Determines the basic pitch (note number) used by the PchScI Sns parameter (above). The note number in this setting is the same pitch as normal (100%).	28, 39	
9	-1	PEGAtkR	PEG Attack Rate	Determines the transition in pitch from the moment a note is pressed on the keyboard to the point at which the sound stops. Refer to the Pitch Envelope Generator Settings (page 43).	43	
9	-2	PEGDcy1R	PEG Decay 1 Rate			
9	-3	PEGDcy2R	PEG Decay 2 Rate			
9	-4	PEGRelR	PEG Release Rate			
10	-1	PEGInitL	PEG Initial Level			
10	-2	PEGAtkL	PEG Attack Level			
10	-3	PEGDcy1L	PEG Decay 1 Level			
10	-4	PEGSusL	PEG Sustain Level			
10	-5	PEGRelL	PEG Release Level			

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
11	-1	PEGSclSns	PEG Rate Scaling Sensitivity	Determines the sensitivity of the PEG Rate settings (the speed of the PEG change) to note position.	39, 43	*6
11	-2	PEGSclCN	PEG Rate Scaling Center Note	Determines the basic pitch (note number) used by the PGSclSns parameter (above). When the center note is played, the PEG rate behaves according to its actual settings.	28	*6
12	-1	PEGRtVel	PEG Rate Velocity Sensitivity	Determines the sensitivity of the PEG Rate (the speed of the PEG change) to velocity.	39	*7
12	-2	PEGLvlVel	PEG Level Velocity Sensitivity	Determines the sensitivity of the PEG Level (the width of the PEG change) to velocity.	39	*7
FILTER						
13	-1	Cutoff	Filter Cutoff Frequency	Determines the cutoff frequency for the low pass filter.	43	
13	-2	Resonance	Filter Resonance	Determines the amount of filter resonance or emphasis of the Cutoff Frequency.	43	
14	-1	CutoffVel	Cutoff Velocity Sensitivity	Determines how the cutoff frequency responds to velocity.	39, 43	
14	-2	ResoVel	Resonance Velocity Sensitivity	Determines how the resonance effect responds to velocity.	39, 43	
15		FltSclFlag	Filter Cutoff Scaling Flag	Determines the Filter Scaling type, or how the filter cutoff frequency responds to note position.	39	*8
16		Flt BP1-4	Filter Cutoff Scaling BP 1-4	Determines the Break Points (note numbers). BP1 to BP4 are automatically arranged in ascending order across the keyboard.	28, 39	*9
17		Flt Of1-4	Filter Cutoff Scaling Offset 1-4	Determines the Filter Scaling Offset Levels. These Offsets are used by the Break Points (note positions).	39	*9
18	-1	FltSclSns	Filter Cutoff Scaling Sensitivity	Determines the Filter Scaling Sensitivity, or how much the level of the cutoff frequency in response to the note positions on the keyboard (scale).	39	*10
18	-2	FltVelCrv	Filter Velocity Curve Sensitivity	Appropriate preset cutoff velocity sensitivity curves are available for each element. To decrease the effect, reduce this value (0: flat, or no effect).		
19	-1	FEGHoldR	FEG Hold Rate	Determines the transition in tone (cutoff frequency) from the moment a note is pressed on the keyboard to the point at which the sound stops. Refer to the Filter Envelope Generator Settings (page 43).	39, 43	
19	-2	FEGAtkR	FEG Attack Rate			
19	-3	FEGDcy1R	FEG Decay 1 Rate			
19	-4	FEGDcy2R	FEG Decay 2 Rate			
19	-5	FEGRelR	FEG Release Rate			
20	-1	FEGInitL	FEG Initial Level			
20	-2	FEGAtkL	FEG Attack Level			
20	-3	FEGDcy1L	FEG Decay 1 Level			
20	-4	FEGSusL	FEG Sustain Level			
20	-5	FEGRelL	FEG Release Level			
21		FEGSclSns	FEG Rate Scaling Sensitivity	Determines the sensitivity of the FEG Rate settings (the speed of the PEG change) to note position.	39	*6
22	-1	FEGAtkVel	FEG Attack Rate Velocity Sensitivity	Determines the sensitivity of the FEG Attack Rate to velocity.	39	*7
22	-2	FEGOthVel	FEG Other Rate Velocity Sensitivity	Determines the sensitivity of all FEG Rates, other than Attack and Hold Rates to velocity.	39	*7

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
AMP (Amplitude)						
23	-1	AEGAtkR	AEG Attack Rate	Determines the transition in volume (AMP) from the moment a note is pressed on the keyboard to the point at which the sound stops. This let you reproduce many characteristics of natural acoustic instruments – such as the quick attack and decay of percussion sounds, or the long release of a sustained piano tone. Keep in mind that different sounds have varying degrees of natural decay. For example, a piano sound gradually decreases in volume as you hold the key; however, an organ sound stays at the same volume. Also, if the AEG Release Rate is set to a small value, the sustain becomes long. Refer to the Amplitude Envelope Generator Settings (page 44).	44	
23	-2	AEGDcy1R	AEG Decay 1 Rate			
23	-3	AEGDcy2R	AEG Decay 2 Rate			
23	-4	AEGRelR	AEG Release Rate			
24	-1	AEGInitL	AEG Initial Level			
24	-2	AEGDcy1L	AEG Decay 1 Level			
24	-3	AEGSusL	AEG Sustain Level			
25		AEGScLsens	AEG Scaling Sensitivity	Determines the sensitivity of the AEG Rate settings (the speed of the AEG change) to note position.	39	*6
26	-1	AEGLv1Vel	AEG Level Velocity Sensitivity	Determines the sensitivity of the AEG Level, or the width of the AEG(volume) change to velocity.	39	*7
26	-2	AEGAtkVel	AEG Attack Rate Velocity Sensitivity	Determines the sensitivity of the AEG Attack Rate to velocity.	39	*7
27		LvlScLFlag	Level Scaling Flag	Determines the Amplitude (level) Scaling type, or how the volume responds to note position.	39	*8
28		LvlBP1-4	Level Scaling BP1-4	Determines the Break Points (note numbers). BP1 to BP4 are automatically arranged in ascending order across the keyboard.	28, 39	*11 *12
29		LvlOfs1-4	Level Scaling Offset 1-4	Determines the Level Scaling Offset Levels. These Offsets are used by the Break Points (note positions).	39	*11 *12
30		LvlScLsens	Level Saling Sensitivity	Appropriate preset Level Scaling sensitivity curves (determining how note position affects the volume) are available for each element. To decrease the effect, reduce this value (0: flat, or no effect).	39	
31		KeyonDelay	Key on Delay	Determines the time (delay) between the moment you press a note on the keyboard and the point at which the sound is played.		
LFO (Low Frequency Oscillator)						
32	-1	LFO Wave	LFO Wave	Determines the LFO waveform.		*12
32	-2	LFO Phase	LFO Phase Initialize	Determines whether or not the LFO is reset each time a note is pressed.		
33		LFO Speed	LFO Speed	Determines the speed of the LFO waveform.		
34	-1	LFO PMod	LFO Pitch modulation Depth	Determines the amount (depth) by which the LFO waveform varies (modulates) the pitch of the sound.	37	
34	-2	LFO Fmod	LFO Filter Modulation Depth	Determines the amount (depth) by which the LFO waveform varies (modulates) the Filter Cutoff frequency.	37	
34	-3	LFO AMod	LFO Amplitude modulation Depth	Determines the amount (depth) by which the LFO waveform varies (modulates) the amplitude of the sound.	37	*2
35	-1	PLFODelay	Pitch LFO Delay	Determines the delay time before the LFO comes into effect.		*14 *15
35	-2	PLFO Fade	Pitch LFO Fade-in Time	Determines the amount of time for the LFO effect to fade in (after the Delay time has elapsed).		*15 *16

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page
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■ Voice Edit (Drum)

Common... Settings that apply to all drum keys

Settings...MIDI Data Table 2-11 in the separate Data List

[VOICE] → Drum Voice Selection → [EDIT] → [+]&[-] (Press simultaneously)

GENERAL

	Name	Name (Name 1-8/Category)	Sets a Voice Name (up to 8 characters) and Category.	50	
	OrgKt	Original Kit	Selects the Original Kit (the Wave set in which a different sound is assigned to each key). The sound-to-key assignments for the Kit are fixed. Refer to the Original Kit List in the separate Data List.		

Key...Settings of individual drum keys (C#-1~G5)

Settings...MIDI Data Table 2-12 in the separate Data List

[VOICE] → Drum Voice Selection → [EDIT] → [+] or [-] (Drum key can be selected by pressing the appropriate key.)

OSC(Oscillator)/MIX

1	Level	Level	Adjusts the output level of each Drum Key.	44	
2	Pan	Pan	Determines the Stereo Pan position. (Rnd: Pan position moves randomly each time a key is played.)	28	
3	Alt.Group	Alternate Group	Assign the same number to the drum notes you don't want to have sound simultaneously (such as open and closed hi-hats).	28	
4	Key Assign	Key Assign	This setting applies when the same note number (key) is received by the tone generator. When set to "Sngl," the previous sound is cut off to accommodate the next. When set to "multi," the note sounds for its original duration.		*17
5 -1	RxNoteOff	Receive Note Off	Select whether Note Off (Key Off) messages are received (on) or not (off).		
5 -2	RxNote On	Receive Note On	Select whether Note On (Key On) messages are received (on) or not (off).		

PITCH

6 -1	PitchCors	Pitch Coarse	Determines the pitch setting in semitones (12: one octave) (NoteShift).		
6 -2	PitchFine	Pitch Fine	Determines the fine tuning.		

FILTER

7 -1	Cutoff	Filter Cutoff Frequency	Determines the cutoff frequency for the low pass filter.	43	
7 -2	Resonance	Filter Resonance	Determines the amount of filter resonance or emphasis of the Cutoff Frequency.	43	

AMP (Amplitude)

8 -1	EG Attack	EG Attack Rate	Determines Amplitude Envelope Generator (the transition in volume from the moment a note is pressed on the keyboard to the point at which the sound stops).		*18
8 -2	EG Decay1	EG Decay 1 Rate			
8 -3	EG Decay2	EG Decay 2 Rate			

EFFECT

9	ReverbSend	Reverb Send	Determines the send level of the Reverb Effect.	47	
10	ChorusSend	Chorus Send	Determines the send level of the Chorus Effect.	47	

Selected by ▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page
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■ Voice Job [VOICE] → Voice Selection → [JOB]

1	Init	Initialize	Resets (initializes) all parameters of a Voice to their default settings. The [DEC/NO] and [INC/YES] buttons can be used to select the parameter type to be initialized.	48
2	CpyElm/ CopyKey	Copy Element/Copy Key	Copies Element/Drum Key parameter settings of the Voice being edited to another Element/Drum Key in the same Voice.	48
3	BlkDmp	Bulk Dump	Sends all your edited voice data to a computer or another MIDI device for data archiving.	36, 48

■ Voice Store → [VOICE] → [STORE]

Stores your original parameter settings.

50

■ Multi Edit

Common...Settings that apply to all 16 Parts

Settings...MIDI Data Tables 2-6 and 2-7 in the separate Data List

[MULTI] → Multi Selection → [EDIT] → [+]&[-] (Press simultaneously)

GENERAL

1	Name	Multi Name (Multi Name 1-8/Voice Category)	Sets a Multi Name (up to 8 characters) and Category.	50
2	Total Vol	Total Volume	Determines the overall volume of the Multi.	44
3	Transpose	Transpose	Determines the overall Transpose setting of the Multi in semitones (12: one octave). It does not affect information transmitted via MIDI. This parameter has no effect if Part Mode is set to anything other than “norm.”	22

EFFECT

4	RevEF	Reverb Effect Type (Reverb Type MSB/LSB)	Determines the Reverb Effect Type(refer to the separate Data List).	
5	(Reverb Parameters)	(Reverb Parameter 1-16 MSB/LSB)	Determines the Reverb effect parameters (refer to the separate Data List).	
6	Rev Return	Reverb Return	Determines the Return level of the Reverb Effect.	47
7	Reverb Pan	Reverb Pan	Determines the stereo pan position of the Reverb Effect.	28
8	ChoEF	Chorus Effect Type (Chorus Type MSB/LSB)	Determines the Chorus Effect Type (refer to the separate Data List).	47
9	(Chorus Parameters)	(Chorus Parameter 1-16 MSB/LSB)	Determines the Chorus effect parameters (refer to the separate Data List).	47
10	Cho Return	Chorus Return	Determines the Return level of the Chorus Effect.	47
11	Chorus Pan	Chorus Pan	Determines the stereo pan position of the Chorus Effect.	28, 47
12	SndCho → Rev	Send Chorus To Reverb	Determines the send level of the signal sent from the Chorus Effect to the Reverb Effect.	47
13	VarEF	Variation Effect Type (Variation Type MSB/LSB)	Determines the Variaton Effect Type (refer to the separate Data List).	46
14	(Variation Parameters)	(Variation Parameter 1-10 MSB/LSB)	Determines the Variation effect parameters (refer to the separate Data List).	46
15	VarConnect	Variation Connecton	Determines how the Variation Effect is used in the signal processing chain – as an Insertion (INS) effect (for a particular part) or as a System (SYS) effect (common to all parts).	46 *19 *29
16	Var Return	Variation Return	Determines the Return level of the Variation Effect.	47 *20
17	Var Pan	Variation Pan	Determines the stereo pan position of the Variation Effect.	28 *20

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
18		SndVar → Rev	Send Variation To Reverb	Determines the send level of the signal sent from the Variation Effect to the Reverb Effect.	47	*20
19		SndVar → Cho	Send Variation To Chorus	Determines the send level of the signal sent from the Variation Effect to the Chorus Effect.	47	*20
20		MW VarCtl	MW Variation Control Depth	Each Variation Effect type has a specific fixed parameter that can be controlled in realtime with the MW or AC1. (Refer to the Effect Parameter List in the separate Data List.)	37	*21
21		AC1 VarCtl	AC1 Variation Control Depth		37	

Part...Settings of individual 16 parts

Settings...MIDI Data Table 2-8 in the separate Data List

[MULTI] → Multi Selection → [EDIT] → [+] or [-]

VOICE

1		Voice Selection	Bank Select MSB/LSB, Program Number	Assigns a Voice to each Part.	31	*22
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MIX

2		Volume	Volume	Adjusts the output level of each Part.	44	
3		Pan	Pan	Determines the Stereo Pan position. (Rnd: Pan position moves randomly each time a key is played)	28	
4	-1/-2	NtLmt-L/H	Note Limit Low/High	Determines the lowest and highest notes of the keyboard range.	28	
5	-1/-2	VelLmt-L/H	Velocity Limit Low/High	Determines the minimum and maximum values of the velocity range within which each Part will respond.	42	

GENERAL

6		Rcv Ch	MIDI Receive Channel	Each Part receives MIDI messages according to the channel set here. Select "off" for Parts that you do not want to respond to MIDI.	28	*23
7	-1/-2	NoteShift/Detune	Note Shift/Detune	For Note Shift: Determines the pitch (key transpose) setting in semitones (12: one octave). For Detune: Determines the fine tuning.		*24
8		Mono/Poly	Mono/Poly	Selects whether each part is played back monophonically (single notes only) or polyphonically (multiple simultaneous notes).	22	
9		Part Mode	Part Mode	Determines whether the Part uses Normal Voices (norm) or Drum Voices (drum).	22	

TONE

10	-1	VelSnsDpt	Velocity Sensitivity Depth	Determines the velocity sensitivity , or how much the level of the voice changes in response to your playing strength (velocity).	39	*1
	-2	VelSnsOfs	Velocity Sensitivity Offset	Determines the amount by which received velocities are adjusted for the actual velocity effect.	39	
11	-1	Cutoff	Filter Cutoff Frequency	Determines the cutoff frequency for the low pass filter.	43	
	-2	Resonance	Filter Resonance	Determines the amount of filter resonance or emphasis of the Cutoff Frequency.	43	
12	-1	Attack Tm	Attack Time	Controls how the tone (filter) or volume (amplitude) changes from the moment a note is pressed on the keyboard to the moment it is released, or the point at which the level has faded to zero.		*25
	-2	Decay Tm	Decay Time			
	-3	Releas Tm	Release Time			

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
13	-1	PEGIntL	Pitch EG Initial Level	Controls how the pitch changes from the moment a note is pressed on the keyboard to the moment it is released or the point at which the level has faded to zero.		*26
13	-2	PEGAtkTm	Pitch EG Attack Time			
13	-3	PEGRell	Pitch EG Release Level			
13	-4	PEGRelTm	Pitch EG Release Time			
14	-1	Vib Rate	Vibrato Rate	Determines the speed of pitch modulation.		*27
14	-2	Vib Depth	Vibrato Depth	Determines the depth or degree of pitch modulation.		*27
14	-3	Vib Delay	Vibrato Delay Time	Determines the delay time before the Vibrato comes into effect.		*27
CONTROLLER						
15	-1	Porta Sw	Portamento Switch	Determines whether Portamento (a smooth transition in pitch from one note to the next) is on or off.	22	
15	-2	PortaTime	Portamento Time	Determines the pitch transition time for Portamento. Higher values result in longer transition times.	22	
16		PB Range	Pitch Bend Range	Determines the amount (in semitones; 12: one octave) by which the pitch is varied when you move the Pitch Bend wheel up/down.	37	
17		MW FltCtl	MW Filter Control	Determines the depth of the MW (Modulation Wheel) over the filter cutoff frequency.		
18	-1	MW PMod	MW LFO Pitch Modulation Depth	Determines the depth of control the Modulation Wheel has over pitch modulation (vibrato effect).		
18	-2	MW FMod	MW LFO Filter Modulation Depth	Determines the depth of control the Modulation Wheel has over filter cutoff modulation (wah effect).		
18	-3	MW AMod	MW LFO Amplitude Modulation Depth	Determines the depth of control the Modulation Wheel has over amplitude modulation (tremolo effect).		
19		AC1 CC No	Multi Mode AC1 Control Number	Determines the Control number for the AC1 of each Part.		
20		AC1FltCtl	AC1 Low Pass Filter Control	Determines the depth of the AC1 (Assignable Controller 1) over the filter cutoff frequency.		
21	-1	AC1 FMod	AC1 LFO Filter Modulation Depth	Determines the depth of control the AC1 has over filter cutoff modulation (wah effect).		
21	-2	AC1 AMod	AC1 LFO Amplitude Modulation Depth	Determines the depth of control the AC1 has over amplitude modulation (tremolo effect).		
EFFECT						
22		ReverbSend	Reverb Send	Determines the send level of the Reverb Effect.	47	*3
23		ChorusSend	Chorus Send	Determines the send level of the Chorus Effect.	47	
24		Var Send	Variation Send	Determines the send level of the Variation Effect.	47	*29

■ Multi Job [MULTI] → Multi Selection → [JOB]

1	Init	Initialize	Resets (initializes) all parameters of a Multi to their default settings. Use the [DEC/NO] and [INC/YES] buttons to select the parameter type to be initialized.	48	
2	CpyVar	Copy Variation Effect	Copies Effect settings of the Voice to Multi.	48	
3	CpyCtl	Copy Controller	Copies the Controller settings for the Voice assigned to the Part.	48	
4	CpyPart	Copy Part	Copies Part parameter settings of the Multi being edited to another Part in the same Multi.	48	
5	BlkDmp	Bulk Dump	Sends your edited Multi data to a computer or another MIDI device for data archiving.	36, 49	

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
■ Multi Store [MULTI] → [STORE]				Stores your original parameter settings.	50	
■ Sequence Play [SEQ PLAY]						
	Seq	Sequence Chain	Determines the setting of chained playback (Chain Step).			
	(Tempo)	Tempo	Determines the playback tempo.		28	
■ Sequence Play Job [SEQ PLAY] → [JOB]					48	
1	Init Seq	Initialize Sequence	Resets (initializes) the chain step settings.		52	
2	SeqAll	Sequencer All Chain	Sets the chained playback (Chain Step) automatically.		52	
■ Utility [UTILITY]						
TG (Tone Generator)				Settings... MIDI Data Table 2-3 in the separate Data List		
1	MasterTune	Master Tune	Adjusts the tone generator tuning (in 0.1 cent steps; 1000: one semitone).			
MIDI CHANNEL						
2	Device No	Device Number	Determines the MIDI Device Number. This number must match the Device Number of the external MIDI device when transmitting/receiving system exclusive messages.		28	
3	Rcv Ch	Receive Channel	Determines the MIDI Receive channel for using the S08 (in the Voice mode) with an external MIDI device, and for using it as a MIDI tone generator. (Omni: all channels).		28	*30
4	Trans Ch	Transmit Channel	Determines the MIDI Transmit channel for transmitting MIDI from the keyboard, controllers and so on.			
5	Thru Port	Thru Port	Many computer sequencers are capable of transmitting data over several MIDI ports, effectively breaking the 16-channel barrier. When using the USB terminal for MIDI reception, MIDI messages received via the USB connector can be passed through the MIDI OUT connector of the S08 to other connected devices. Set the port number here. This is available when the Host Select (UTILITY PAGE 13) is set to “USB.”			
MIDI FILTER						
6	RxPgmChng	Receive Program Change	Enables (on) or disables (off) reception of Program Change/Bank Select messages on the S08 from an external MIDI device or S08 sequencer.			
7	RxBankSel	Receive Bank Select				
8	TxPgmChng	Transmit Program Change	Determines whether Program Change/Bank Select messages executed from the S08’s panel are transmitted via MIDI (on) or not (off).			
9	TxBankSel	Transmit Bank Select				
SEQ SETUP (Sequencer Setup)						
10	Sync	Sync	Determines whether Song playback are synchronized to the S08’s internal clock (int) or an external MIDI clock (MIDI).			
11	Seq Ctl	Sequencer Control	Determines whether Sequencer Control signals – start, continue and stop – are received and/or transmitted, and whether MIDI clock messages will be transmitted via the MIDI OUT/USB terminal.			

Selected by ▲▼	Selected by ◀▶	Display	Parameter Name	Explanation	Related Page	
MIDI SETUP						
12		Local Sw	Local Switch	When this is set to “off,” the keyboard and controllers are internally disconnected from the synthesizer’s tone generator section.	15	*32
13		HostSelect	Host Select Switch	Determines which physical input/output terminal(s) are used for transmitting/receiving MIDI data:	13	*31
EFFECT						
14		V EfBypass	Voice Effect Bypass	Determines whether or not effects in the Voice Mode can be bypassed. Only System effects (Reverb/Chorus) can be bypassed.	47	

■ Utility Job [UTILITY] → [JOB]

1		FactorySet	Factory Set	Restores your synthesizer’s factory default settings (Factory Set).	23	
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■ Controller [CONTROLLER]

Settings... MIDI Data Table 2-3 in the separate Data List

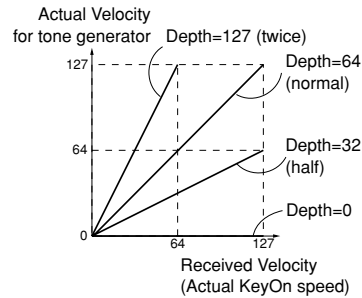
CTRL ASSIGN (Controller Assign)						
1	MWTxCtlNo	MW Transmit Control Number	Determines the MIDI Control numbers assigned to the Modulation Wheel and Foot Controller.	37, 39	*33	
2	FCTxCtlNo	FC Transmit Control Number		37, 39		
3	FSTxCtlNo	FS Transmit Control Number	Determines the MIDI Control numbers assigned to the Footswitch.	28, 39	*33	
KEYBOARD						
4	Kbd Trans	Keyboard Transpose	Transposes the pitch of the keyboard up or down (in semitones). This affects transmitted MIDI data.			
VELOCITY						
5	Vel Curve	Velocity Curve	Determines how the volume of the sound is affected by your playing strength (velocity). Each curve has different response characteristics.	57		
6	Fixed Vel	Fixed Velocity	The velocity is fixed at this setting. The sound output is always the same, regardless of how strongly or softly you play the keyboard. (Off: not fixed)	57		
CTRL SETUP (Controller Setup)						
7	Ctl Reset	Voice Mode Controller Reset	Determines whether the current condition of the controller (Modulation Wheel, Foot Controller) is maintained or reset when you switch between Voices.			
8	AC1 CC No	Voice Mode AC1 Control Number	Determines the Control number for the AC1 in the Voice mode.	37	*28	

■ Card [CARD]

1	Save	Save	Saves the settings to Memory Card as a file.	53		
2	Load	Load	Loads files from Memory Card to your synthesizer.	28, 53		
3	Renam	Rename	Renames files using up to eight characters.	55		
4	Del	Delete	Deletes files saved on Memory Card.	55		
5	Frmt	Format	Formats a Memory Card.	55		
6	Imprt	Import	Imports the designated data from the Voice Editor Library files.	55		

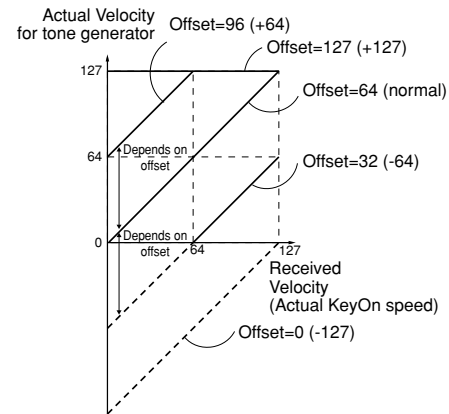
*1 Changes to velocity curve according to VelDepth (with Offset set to 64)

VelSnsDpt



Changes to velocity curve according to VelOffset (with Depth set to 64)

VelSnsOfs



*2

Depending on the selected LFO wave type and the amplitude modulation depth setting, noise may result when the controller is moved. If this happens, reduce the modulation depth value.

*3

If the value is too high, noise may result. If this happens, reduce the value.

*4

The Element settings whose Element Switch is set to "off" can not be changed and "****" appears in the display.

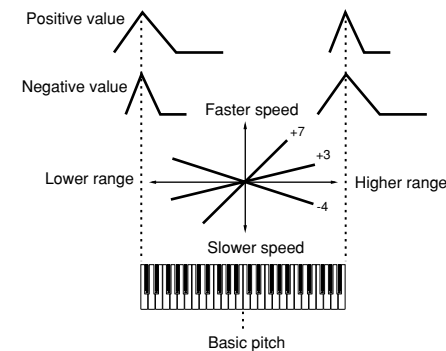
*5

Wave numbers indicated with an asterisk (*) and Wave names indicated with an "at" mark (@) have fixed parameter values (depending on the sound range). For these waves, Element editing is limited to the parameters below. All other parameters values are replaced by a series of asterisks in the LCD, indicating that they cannot be set.

- Element Switch
- Wave Selection
- Note Shift
- Note Limit Low/High
- Velocity Limit Low/High
- Pitch Scale Sensitivity
- Pitch Scale Center Note

*6

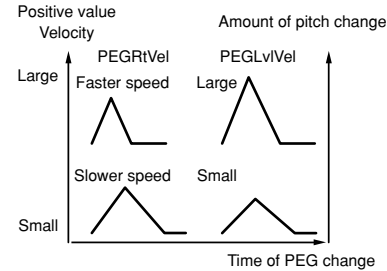
Element control according to the note position on the keyboard (ex. PEG Rate : Speed of PEG change)



* Negative value is only available for PEG

*7

Element control according to Velocity (ex. PEG)



* Only positive values are available for the AEG and Filter settings.

*8

Settings: brk.p (applies the BP parameter settings in the following PAGES), table (applies the settings which are preset for each voice. This setting is effective only for XG Voices.)

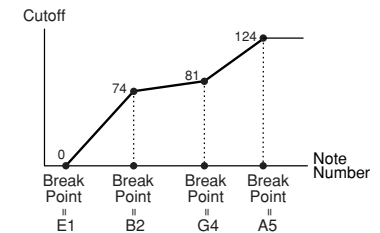
*9

Filter Scaling Settings

By way of example, you could set the Levels (Offsets) and Break Points (BP1 to BP4) as follows.

	1	2	3	4
BP	E1	B2	G4	A5
Ofs	-64	+10	+17	+60

Here, the current Cutoff setting is 64. The Offsets are -64 at BP1 (set to note E1), +10 at BP2 (set to note B2), +17 at BP3 (set to note G4) and +60 at BP4 (set to A5). That is, the Cutoff frequencies at each Break Point are 0, 74, 81 and 124, respectively. For other notes, the Cutoff frequencies will be on the straight line connecting the two adjacent Break Points.



The Break Point Levels are Offsets used to increase or decrease the current Cutoff setting at the specified notes. Regardless of the size of these Offsets, the minimum and maximum Cutoff limits (values of 0 and 127, respectively) cannot be exceeded.

A note set below the BP1 will become the BP1Level. A note set above BP4 will become the BP4 Level.

The availability of the FEG Scaling parameter depends on the Break Point and Offset settings in the Flt BP/Flt OfS PAGES.

*10

When the FltScLSns is set to 0, Filter Scaling Settings (PAGES 15, 16, 17) will be ignored (flat). When set to 15, the values in the Flt OfS settings will be added at a rate of 100%.

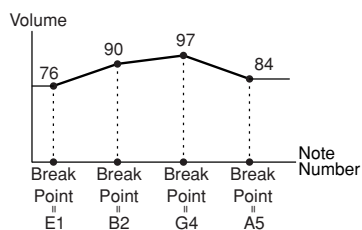
* 11

Level (Amplitude) Scaling Settings

By way of example, you could set the Levels (Offsets) and Break Points (BP1 to 4) as follows.

	1	2	3	4
BP	E1	B2	G4	A5
Ofs	-4	+10	+17	+4

Here, the current amplitude is 80. The Offsets are -4 at BP1 (set to note E1), + 10 at BP2 (set to note B2), + 17 at BP3 (set to note G4) and + 4 at BP4 (set to A5). That is, the amplitudes at each Break Point are 76, 90, 97 and 84, respectively. For other notes, the amplitudes will be on the straight line connecting the two adjacent Break Points.



The Break Point Levels are Offsets used to increase or decrease the current amplitude at the specified notes. Regardless of the size of these Offsets, the minimum and maximum amplitude limits (values of 0 and 127, respectively) cannot be exceeded.

The availability of the AEG Scaling parameter depends on the Break Point and Offset settings in the Lvl BP/Lvl Ofs PAGES.

* 12

A note set below the BP1 will become the BP1Level. A note set above BP4 will become the BP4Level.

* 13

The LFO is used to generate low frequency signals and can be used to create vibrato, wah, tremolo and other effects when applied to pitch/filter/amplitude/etc. parameters. For example, it can be applied simultaneously to both pitch and filter, or to specific parameters of individual Elements.

The following three LFO waveforms are available.

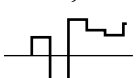
Saw (Sawtooth Wave)



Tri (triangular Wave)



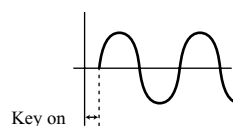
S&H (Sample & Hold)



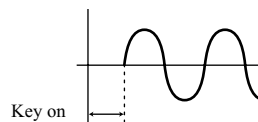
S&H = Adds random changes to the pitch. Tri(Triangle) waves will be applied for the LFO AMod and LFO FMod. Triangle wave is applied even if you select S&H for LFO PMod, when controlling the LFO PMod with the Modulation Wheel.

* 14

Short Delay



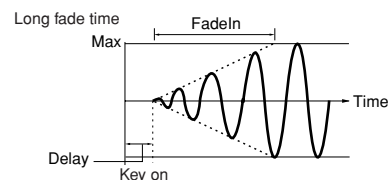
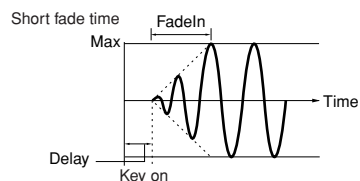
Long Delay



* 15

This setting is not available when the LFO Wave (PAGE 32) is set to "S&H."

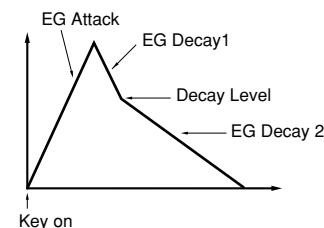
* 16



* 17

To apply the Key Assign setting in Multi Mode, you need to set the SAME NOTE NUMBER KEY ASSIGN in the Multi Part to "INST (for Drum)." This cannot be set from the panel of S08; however it can be set by transmitting appropriate MIDI messages from an external Device. For details, refer to the table 1-5 in the separate Data List.

* 18



This determines the Attack Rate (speed) of the EG(Envelope Generator), or how long it takes for the sound of the selected drum sound to reach full volume when a note is played. Depending on the sound and the Attack Rate set, some sounds may decay before the EG has a chance to bring the sound up. In other words, setting this value too low (slow attack) may result in an unnatural sound or no sound at all. Higher values result in a shorter Attack Time.

This determines the Decay 1 Rate (speed) the EG, or how rapidly the sound dies down to the next Decay level. Higher values result in a shorter Decay time.

This determines the Decay 2 Rate (speed) of the EG, or how rapidly the sound dies out completely. Higher values result in a shorter Decay time.

***19**

The function of the Variation Effect changes depending on this setting, as do the types of parameter changes.

***20**

This can be set only when Variation Connection (PAGE 15) is set to "SYS." When Variation Connection is set to "INS," "****" appears in the display and the setting cannot be changed.

***21**

This can be set only when Variation Connection (PAGE 15) is set to "INS." When Variation Connection is set to "SYS," "****" appears in the display and the setting cannot be changed.

22*Voice Selection for Each Part**

Use the [+] and [-] buttons to select the Part, then select its Voice. The display will vary as follows according to the Memory selected.

Specify the particular Voice Memory by pressing the appropriate Memory button: PRESET, USER or GM2/XG.

To select a Drum Voice, simultaneously hold down the [DRUM] button and press the appropriate Memory button: [USER] or [GM2/XG].

The Voice can be set by using the same method as with Category Search (page 31).

For details about Categories, refer to the Category List on page 50. For details about using Category Search, see page 31.

● PRESET

Settings: PR001 ~ PR128

● USER

Settings: US001 ~ US128, USDR 01 ~ USDR02

● GM2/XG

Use the [◀] and [▶] buttons to switch among the different banks for selecting program numbers.

Settings:

XG001 ~ XG128 (The actual number of available programs differs depending on the selected bank. For details, refer to the XG Voice List and XG Drum List in the separate Data List.)

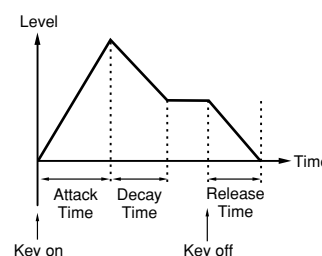
The voice will be switched after pressing the [ENTER] button.

***23**

The Rcv Ch parameter in the Voice Mode is set in the UTILITY mode (PAGE 3).

***24 (Detune)**

Ignore the decimal place when inputting values from the numeric keypad. For example, to enter the value "-1.5," press the following buttons in order: "-", "1," then "5."

***25****Attack Tm**

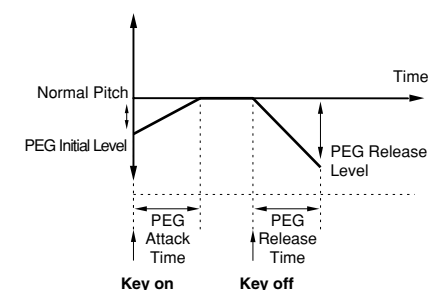
Determines the transition time from the moment a key on the keyboard is pressed to the point at which the level of the Voice reaches its peak. Positive values will lengthen the transition time and negative values will shorten it.

Decay Tm

Determines the transition time from the point at which the level of the Voice reaches its peak to the point at which it levels off. Positive values will lengthen the transition time and negative values will shorten it.

Release Tm

Determines the transition time from when the key is released to when the sound level decays to zero. Positive values will lengthen the transition time and negative values will shorten it.

***26****PEGIntL**

Determines the initial pitch, or the pitch that sounds the moment the key is played.

PEGAtkTm

Determines the time it takes after you play the key for the pitch to return to normal (or original), from the pitch set in PEG Initial Level above.

PEGRelL

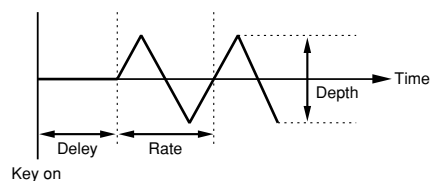
Determines the final pitch that is reached after you release your finger from the key.

PEGRelTm

Determines the time it takes for the pitch to reach the setting made in PEG Release Level above, from when you release your finger from the key.

The settings here are offsets used to increase and decrease the Element PEG settings.

***27**



Vib Rate

Determines the speed of pitch modulation.

Vib Depth

Determines the depth or degree of pitch modulation.

Vib Delay

Determines the amount of time that elapses from when a key is played to when the Vibrato effect starts. The higher the value, the longer the delay before the onset of the Vibrato effect.

The settings here are offsets used to increase and decrease the Element Pitch LFO settings. (PAGE 35)

***28**

The AC1 CC No parameter is set in the following PAGES.

For Voice

CONTROLLER PAGE 8

For Multi (each part)

MULTI PART EDIT PAGE 19

***29**

Settings:

When VarConnect is set to “INS”:
on (effect is applied), off (effect is not applied)

When VarConnect is set to “SYS”:
0 ~ 127

When VarConnect is set to “INS,” this parameter determines whether or not the Variation effect is applied to the particular Part. In this condition, the Variation effect cannot be used for several Parts at the same time. Only the Part last selected will be routed through the Variation effect.

When VarConnect is set to “SYS,” this parameter lets you adjust the send level for the Variation effect for each Part. Also set the related Multi Common Edit parameters (in PAGES 16 to 21) as desired.

***30**

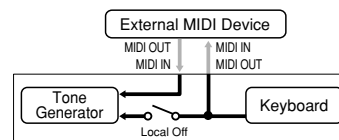
The Rcv Ch parameter in the Multi Mode is set in the MULTI mode (MULTI PART EDIT PAGE 6).

***31**

The data via the MIDI IN terminal is ignored when using the USB port (Host Select set to “USB”).

***32**

Even if the Local Sw is set to “off,” the data will be transmitted through the MIDI OUT terminal. Also, the tone generator section will respond to messages received via MIDI IN.



***33**

For details about Control Numbers and Control Change messages, see page 72 and the separate Data List.

About MIDI

MIDI is an acronym that stands for Musical Instrument Digital Interface, which allows electronic musical instruments to communicate with each other, by sending and receiving compatible Note, Control Change, Program Change and various other types of MIDI data, or messages.

The S08 can control a MIDI device by transmitting note related data and various types of controller data. The S08 can be controlled by the incoming MIDI messages which automatically determine tone generator mode, select MIDI channels, voices and effects, change parameter values, and of course play the voices specified for the various Parts.

Many MIDI messages are expressed in hexadecimal or binary numbers. Hexadecimal numbers may include the letter “H” as a suffix. The letter “n” indicates a certain whole number.

The chart below lists the corresponding decimal number for each hexadecimal/binary number.

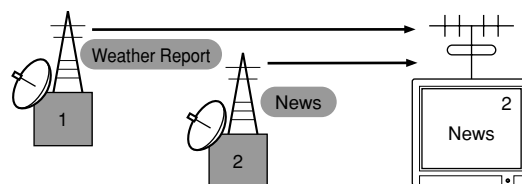
Decimal	Hexadecimal	Binary
0	00	0000 0000
1	01	0000 0001
2	02	0000 0010
3	03	0000 0011
4	04	0000 0100
5	05	0000 0101
6	06	0000 0110
7	07	0000 0111
8	08	0000 1000
9	09	0000 1001
10	0A	0000 1010
11	0B	0000 1011
12	0C	0000 1100
13	0D	0000 1101
14	0E	0000 1110
15	0F	0000 1111
16	10	0001 0000
17	11	0001 0001
18	12	0001 0010
19	13	0001 0011
20	14	0001 0100
21	15	0001 0101
22	16	0001 0110
23	17	0001 0111
24	18	0001 1000
25	19	0001 1001
26	1A	0001 1010
27	1B	0001 1011
28	1C	0001 1100
29	1D	0001 1101
30	1E	0001 1110
31	1F	0001 1111
32	20	0010 0000
33	21	0010 0001
34	22	0010 0010
35	23	0010 0011
36	24	0010 0100
37	25	0010 0101
38	26	0010 0110
39	27	0010 0111
40	28	0010 1000
41	29	0010 1001
42	2A	0010 1010
43	2B	0010 1011
44	2C	0010 1100
45	2D	0010 1101
46	2E	0010 1110
47	2F	0010 1111
48	30	0011 0000
49	31	0011 0001
50	32	0011 0010
51	33	0011 0011
52	34	0011 0100
53	35	0011 0101
54	36	0011 0110
55	37	0011 0111
56	38	0011 1000
57	39	0011 1001
58	3A	0011 1010
59	3B	0011 1011
60	3C	0011 1100
61	3D	0011 1101
62	3E	0011 1110
63	3F	0011 1111

Decimal	Hexadecimal	Binary
64	40	0100 0000
65	41	0100 0001
66	42	0100 0010
67	43	0100 0011
68	44	0100 0100
69	45	0100 0101
70	46	0100 0110
71	47	0100 0111
72	48	0100 1000
73	49	0100 1001
74	4A	0100 1010
75	4B	0100 1011
76	4C	0100 1100
77	4D	0100 1101
78	4E	0100 1110
79	4F	0100 1111
80	50	0101 0000
81	51	0101 0001
82	52	0101 0010
83	53	0101 0011
84	54	0101 0100
85	55	0101 0101
86	56	0101 0110
87	57	0101 0111
88	58	0101 1000
89	59	0101 1001
90	5A	0101 1010
91	5B	0101 1011
92	5C	0101 1100
93	5D	0101 1101
94	5E	0101 1110
95	5F	0101 1111
96	60	0110 0000
97	61	0110 0001
98	62	0110 0010
99	63	0110 0011
100	64	0110 0100
101	65	0110 0101
102	66	0110 0110
103	67	0110 0111
104	68	0110 1000
105	69	0110 1001
106	6A	0110 1010
107	6B	0110 1011
108	6C	0110 1100
109	6D	0110 1101
110	6E	0110 1110
111	6F	0110 1111
112	70	0111 0000
113	71	0111 0001
114	72	0111 0010
115	73	0111 0011
116	74	0111 0100
117	75	0111 0101
118	76	0111 0110
119	77	0111 0111
120	78	0111 1000
121	79	0111 1001
122	7A	0111 1010
123	7B	0111 1011
124	7C	0111 1100
125	7D	0111 1101
126	7E	0111 1110
127	7F	0111 1111

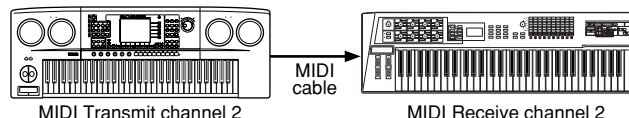
MIDI channels

MIDI performance data is assigned to one of sixteen MIDI channels. Using these channels, 1 - 16, the performance data for sixteen different instrument parts can be simultaneously sent over one MIDI cable.

Think of the MIDI channels as TV channels. Each TV station transmits its broadcasts over a specific channel. Your home TV set receives many different programs simultaneously from several TV stations and you select the appropriate channel to watch the desired program.



MIDI operates on the same basic principle. The transmitting instrument sends MIDI data on a specific MIDI channel (MIDI Transmit Channel) via a single MIDI cable to the receiving instrument. If the receiving instrument’s MIDI channel (MIDI Receive Channel) matches the Transmit Channel, the receiving instrument will sound according to the data sent by the transmitting instrument.



The S08 is a fully multi-timbral tone generator, allowing you to sound several different instrument parts simultaneously — from just the S08 — by assigning a different MIDI channel to each part.

MIDI Messages Transmitted/ Received by the S08

MIDI messages can be divided into two groups: Channel messages and System messages. Below is an explanation of the various types of MIDI messages which the S08 can receive/transmit.

CHANNEL MESSAGES

Channel messages are the data related to the performance on the keyboard for the specific channel.

■ Note On/Note Off (Key On/Key Off)

Messages which are generated when the keyboard is played.

Reception note range = C-2 (0) - G8 (127), C3 = 60

Velocity range = 1 - 127 (Only the Note On velocity is received)

Note On: Generated when a key is pressed.

Note Off: Generated when a key is released.

Each message includes a specific note number which corresponds to the key which is pressed, plus a velocity value based on how hard the key is struck.

■ Control Change

Control Change messages let you select a voice bank, control volume, panning, modulation, portamento time, brightness and various other controller parameters, through specific Control Change numbers which correspond to each of the various parameters.

Bank Select MSB (Control #000)

Bank Select LSB (Control #032)

Messages which select variation voice bank numbers by combining and sending the MSB and LSB from an external device.

MSB and LSB functions differently depending on the tone generator mode.

MSB numbers select voice type (Normal Voice or Drum Voice), and LSB numbers select voice banks.

(For more information about Banks and Programs, see Voice List in the "Data List" book.)

A new bank selection will not become effective until the next Program Change message is received.

Modulation (Control #001)

Messages which control vibrato depth using the Modulation Wheel.

Setting the value to 127 produces maximum vibrato and 0 results in vibrato off.

Portamento Time (Control #005)

Messages which control the duration of portamento, or a continuous pitch glide between successively played notes. When the parameter Portamento Switch (Control #065) is set to on, the value set here can adjust the speed of pitch change.

Setting the value to 127 produces maximum portamento time and 0 results in minimum portamento time.

Data Entry MSB (Control #006)

Data Entry LSB (Control #038)

Messages which set the value for the parameter specified by RPN MSB/LSB (page 75) and NRPN MSB/LSB (page 74).

Parameter value is determined by combining MSB and LSB.

Main Volume (Control #007)

Messages which control the volume of each Part.

Setting the value to 127 produces maximum volume and 0 results in volume off.

Pan (Control #010)

Messages which control the stereo panning position of each Part (for stereo output).

Setting the value to 127 positions the sound to the far right and 0 positions the sound to the far left.

Expression (Control #011)

Messages which control intonation expression of each Part during performance.

Setting the value to 127 produces maximum volume and 0 results in volume off.

Hold1 (Control #064)

Messages which control sustain on/off.

Setting the value between 64 - 127 turns the sustain on, between 0 - 63 turns the sustain off.

Portamento Switch (Control #065)

Messages which control portamento on/off.

Setting the value between 64 - 127 turns the portamento on, between 0 - 63 turns the portamento off.

Sostenuto (Control #066)

Messages which control sostenuto on/off.

Holding specific notes and then pressing and holding the sostenuto pedal will sustain those notes as you play subsequent notes, until the pedal is released.

Setting the value between 64 - 127 turns the sostenuto on, between 0 - 63 turns the sostenuto off.

Soft Pedal (Control #067)

Messages which control soft pedal on/off.

Notes played while holding the soft pedal will be dampened.

Setting the value between 64 - 127 turns the soft pedal on, between 0 - 63 turns the soft pedal off.

Harmonic Content (Control #071)

Messages which adjust the filter resonance set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Higher values will result in a more characteristic, resonant sound.

Depending on the voice, the effective range may be narrower than the range available for adjustment.

Release Time (Control #072)

Messages which adjust the AEG release time set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Attack Time (Control #073)

Messages which adjust the AEG attack time set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Brightness (Control #074)

Messages which adjust the filter cutoff frequency set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Lower values will result in a softer sound.

Depending on the voice, the effective range may be narrower than the range available for adjustment.

Decay Time (Control #075)

Messages which adjust the AEG decay time set for each Part. The value set here is an offset value which will be added to or subtracted from the voice data.

Vibrato Rate (Control #076)

Messages which adjust the vibrato rate set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Vibrato Depth (Control #077)

Messages which adjust the vibrato depth set for each Part.

The value set here is an offset value which will be added to or subtracted from the voice data.

Vibrato Delay Time (Control #078)

Messages which adjust the vibrato delay time set for each Part. The value set here is an offset value which will be added to or subtracted from the voice data.

Portamento Control (Control #084)

Messages which apply a portamento between the currently-sounding note and the subsequent note.

Portamento Control is transmitted specifying the note-on key of the currently-sounding note.

Specify a Portamento Source Key number between 0 - 127.

When a Portamento Control message is received, the currently sounding pitch will change with a Portamento Time of 0 to the next note-on key on the same channel.

For example, the following settings would apply a portamento from note C3 to C4.

90H 3CH 7FH C3 Note on

B0H 54H 3CH Source key number set to C3

90H 48H 7FH C4 Note on (When C4 is on, C3 is raised by a portamento to C4.)

Effect1 Depth (Reverb Send Level) (Control #091)

Messages which adjust the send level for the Reverb effect.

Effect3 Depth (Chorus Send Level) (Control #093)

Messages which adjust the send level for the Chorus effect.

Effect4 Depth (Variation Effect Send Level) (Control #094)

Messages which adjust the send level for the Variation effect.

If Variation effect uses System effect, this message sets the send level for the Variation effect. If it uses Insertion effect, this setting is invalid.

Data Increment (Control #096)

Decrement (Control #097) for RPN

Messages which increase or decrease the MSB value of pitch bend sensitivity, fine tune, or coarse tune in steps of 1. You are required to assign one of those parameters using the RPN in the external device in advance.

The data byte is ignored.

When the maximum value or minimum value is reached, the value will not be incremented or decremented further. (Incrementing the fine tune will not cause the coarse tune to be incremented.)

NRPN (Non-Registered Parameter Number) LSB (Control #098)

NRPN (Non-Registered Parameter Number) MSB (Control #099)

Messages which adjust a voice's vibrato, filter, EG, drum setup or other parameter settings.

First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then use Data Entry (page 73) to set the value of the specified parameter.

Note that once the NRPN has been set for a channel, subsequent data entry will be recognized as the same NRPN's value change. Therefore, after you use the NRPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.

The following NRPN numbers can be received.

NRPN MSB	NRPN LSB	PARAMETER
01	08	Vibrato Rate
01	09	Vibrato Depth
01	0A	Vibrato Delay
01	20	Filter Cutoff Frequency
01	21	Filter Resonance
01	63	EG Attack Time
01	64	EG Decay Time
01	66	EG Release Time
14	rr	Drum Filter Cutoff Frequency
15	rr	Drum Filter Resonance
16	rr	Drum EG Attack Rate
17	rr	Drum EG Decay Rate
18	rr	Drum Instrument Pitch Coarse
19	rr	Drum Instrument Pitch Fine
1A	rr	Drum Instrument Level
1C	rr	Drum Instrument Panpot
1D	rr	Drum Instrument Reverb Send Level
1E	rr	Drum Instrument Chorus Send Level
1F	rr	Drum Instrument Variation Send Level

*rr=Note number for each drum voice instrument.

RPN (Registered Parameter Number) LSB (Control #100)

RPN (Registered Parameter Number) MSB (Control #101)

Messages which offset, or add or subtract values from a Part's pitch bend sensitivity, tuning, or other parameter settings.

First send the RPN MSB and RPN LSB to specify the parameter which is to be controlled. Then use Data Increment/Decrement (page 74) to set the value of the specified parameter.

Note that once the RPN has been set for a channel, subsequent data entry will be recognized as the same RPN's value change. Therefore after you use the RPN, you should set a Null (7FH, 7FH) value to avoid an unexpected result.

The following RPN numbers can be received.

RPN MSB	RPN LSB	PARAMETER
00	00	Pitch Bend Sensitivity
00	01	Fine Tune
00	02	Coarse Tune
00	05	Modulation Sensitivity
7F	7F	Null

■ Channel Mode Messages

The following Channel Mode Messages can be received.

2nd BYTE	3rd BYTE	MESSAGE
120	0	All Sounds Off
121	0	Reset All Controllers
123	0	All Notes Off
126	0 ~ 16	Mono
127	0	Poly

All Sounds Off (Control #120)

Clears all sounds currently sounding on the specified channel. However, the status of channel messages such as Note On and Hold On is maintained.

Reset All Controllers (Control #121)

The values of the following controllers will be reset to the defaults.

CONTROLLER	VALUE
Pitch Bend Change	0 (center)
Aftertouch	0 (off)
Polyphonic Aftertouch	0 (off)
Modulation	0 (off)
Expression	127 (max)
Hold1	0 (off)
Portamento	0 (off)
Sostenuto	0 (off)
Soft Pedal	0 (off)
Portamento Control	Cancels the Portamento source key number
RPN	Number not specified; internal data will not change
NRPN	Number not specified; internal data will not change

All Notes Off (Control #123)

Clears all notes currently on for the specified channel. However, if Hold1 or Sostenuto is on, notes will continue sounding until these are turned off.

Mono (Control #126)

Performs the same function as when an All Sounds Off message is received, and if the 3rd byte (mono number) is in the range of 0 - 16, sets the corresponding channel to Mono Mode (Mode 4 : m = 1).

Poly (Control #127)

Performs the same function as when an All Sounds Off message is received, and sets the corresponding channel to Poly Mode.

■ Program Change

Messages which determine which voice to select for each Part. With a combination of Bank Select, you can select not only basic voice numbers, but also variation voice bank numbers.

■ Pitch Bend

Pitch Bend messages are continuous controller messages that allow the pitch of designated notes to be raised or lowered by a specified amount over a specified duration.

■ Channel Aftertouch

Messages which let you control the sounds by the pressure you apply to the keys after the initial striking of the keys, over the entire channel.

The S08 does not transmit this data from the keyboard; however, the S08 does properly respond to this data when received from an external device.

■ Polyphonic Aftertouch

Messages which let you control the sounds by the pressure you apply to the keys after the initial striking of the keys, for each individual key.

The S08 does not transmit this data from the keyboard; however, the S08 does properly respond to this data when received from an external device.

SYSTEM MESSAGES

System messages are the data related to the overall system of the device.

■ System Exclusive Messages

System Exclusive messages control various functions of the S08, including master volume and master tuning, tone generator mode, effect type and various other parameters.

General MIDI (GM) System On

When “General MIDI system on” is received, the tone generator mode will be changed to XG (Multi) mode. When this happens, the S08 will receive the MIDI messages which are compatible with GM System Level 1, and consequently will not receive NRPN and Bank Select messages.

F0 7E 7F 09 01 F7 (Hexadecimal)

NOTE Make sure that the interval between this message and the first note data of the song is at least a quarter note or greater in length.

GM2 System On

When a “GM2 System on” message is received, the tone generator mode changes to XG (Multi) mode. When this happens, the S08 is set to receive the MIDI messages which are compatible with GM System Level 2.

F0 7E 7F 09 03 F7 (Hexadecimal)

NOTE Make sure that the interval between this message and the first note data of the song is at least a quarter note or greater in length.

GM System Off

When a “GM System off” message is received, the tone generator mode changes to a mode other than GM/GM2 mode. The S08 performs the same function as when an “XG System on” message is received.

F0 7E 7F 09 02 F7 (Hexadecimal)

NOTE Make sure that the interval between this message and the first note data of the song is at least a quarter note or greater in length.

Master Volume

When received, the Volume MSB will be effective for the System Parameter.

F0 7F 7F 04 01 ll mm F7 (Hexadecimal)

* mm(MSB) = appropriate volume value, ll(LSB) = ignored

XG System On

When this data is received, the S08 will switch to XG (Multi) mode and all the parameters will be initialized accordingly, and XG-compatible messages such as NRPN and Bank Select messages can be received.

F0 43 1n 4C 00 00 7E 00 F7 (Hexadecimal)

*n = device number (normally set to “0”)

NOTE Make sure that the interval between this message and the first note data of the song is at least a quarter note or greater in length.

Multi Mode On

F0 43 1n 6C 0A 00 00 01 F7 (Hexadecimal)

*n = device number (normally set to “0”)

NOTE There are some operating conditions in which the S08 does not respond to MIDI data, such as when using the Compare function or when in the Demo mode.

■ System Realtime Messages

Active Sensing (Receive only)

Once FEH (Active Sensing) has been received, if no MIDI data is subsequently received for longer than an interval of approximately 300msec, the S08 will perform the same function as when All Sounds Off, All Notes Off, and Reset All Controllers messages are received, and will then return to a status in which FEH is not monitored.

NOTE Refer to the MIDI Data Format in the “Data List” book for more information on the various messages.

Display Messages

Message	Meanings
Relevant Sequencer Operations or Standard MIDI File Playback	
!Can'tOpen	Can't find the specified type of file.
!Can'tPlay	Can't play the sequencer in these operating conditions.
!IllgIFile	The specified SMF for playing is unusable by the S08.
!No SMF	The SMF was not found on the card.
!Not Frmt0	The SMF format (1) is not supported by the S08 (page 51).
!Not SMF	Can't play the specified type of file (page 51).
!IllgISMF*	An error in reading the SMF (other than those described above) occurred.
Relevant Card Operations	
!Bad File	Data in the file is corrupted and cannot be used.
!Can'tOpen	An error occurred while reading from Memory card.
!Card Full	No more available memory on the Memory Card.
!FileHdErr	File format is not recognized.
File None	Can't find the specified type of file.
!Format	An error occurred while formatting the card. Format the card again.
!Mount Err	An error occurred while mounting the Memory Card.
!No Card	Memory Card has not been inserted, or an incompatible card (5V type) has been inserted.
!No Name	Specify the file name.
!OVER 256	No more files can be created.
OverWrite	There is a file already stored with the same name. Replace it with a newer one with that name?
!Protected	Memory Card is write protected.
!Read Only	File is a read-only type, and cannot be deleted, renamed or overwritten.
!SameName	File with the same name already exists.
!TooMany	The maximum number of displaying files (100) has been exceeded.
!Write Err	An error occurred while writing to Memory card.
Others	
!BatteryLo	The memory-backup battery is low; memory cannot be backed up. Store the necessary data to a Memory Card or a MIDI data storage device such as Yamaha MIDI Data Filer MDF3, and have the battery changed by your local Yamaha dealer or any other authorized Yamaha service personnel.
!Buff Full	Failed to process the MIDI data because too much data was received at once.
Bulk Rx...	MIDI Bulk data being received.
Bulk Tx...	MIDI Bulk data being transmitted.
!Checksum	Error occurred when receiving bulk data.
Completed!	Operation has been completed.
!DeviceNum	Bulk data cannot be transmitted/received because the device number does not match or is set to "off."
Executing	Operation is being executed.
!MIDI Data	Error occurred when receiving MIDI data.
Sure?	Final confirmation.

Troubleshooting

The following table provides troubleshooting hints and page references for some common problems. Most problems may be simply the result of incorrect settings. Before calling for professional service, refer to the troubleshooting advice below to see if you can find and correct the cause of the problem.

In particular, when you have trouble getting sound out of the S08, check the points below as you try to pinpoint the cause of the trouble.

- 1 Connect a set of headphones to check whether the S08 is properly producing sound. If you can hear the sound in the headphones but not from your connected audio system, you can assume that the problem is in the cable connections to the audio system.
 - 2 If no sound can be heard through the headphones, try selecting different Voices or Multis to see whether the problem persists or not. If selecting another Voice or Multi clears up the problem, you can assume that the settings of the original Voice or Multi were at fault.
- NOTE** When song data settings, such as volume or expression (page 73) cause a decrease in volume, selecting a different Voice or Multi will restore the volume.
- 3 If the problem still persists even after changing the Voice or Multi, check the master volume setting of the S08. Increase the volume with the VOLUME slider and, if a foot controller is connected, press it down to the maximum.
 - 4 If still no sound is output after step 3 above, the problem may be in the global settings of the S08 (UTILITY/CONTROLLER), the settings of any connected MIDI device, and/or the connecting MIDI cable.

No sound.

Relevant Volume Settings

- Is the volume set appropriately? (Pages 11 and 12)
- With the S08, if a Foot Controller has been connected to the FOOT CONTROLLER jack and set up for volume/expression control, has it been fully depressed? (Page 15)

Relevant Voice and Multi Settings

- Have the Volume or Level parameters below been set appropriately?
 - Voice Element Edit “Level” (Page 59)
 - Voice Key Edit “Level” (Page 62)
 - Voice Common Edit “Total Vol” (Page 58)
 - Voice Common Edit “Total Lvl” (Page 58)
 - Multi Part Edit “Volume” (Page 64)
 - Multi Common Edit “Total Vol” (Page 63)
- Are any of the Parts or Elements muted? (Page 41)
- Has the “Element Sw” been set to off? (Page 59)
- Have the filters been set so that almost all the sound is muted? (Pages 60, 62, 64)
- Have the effects parameters been set appropriately? (Pages 59, 63)
- Has the effect type been set to something other than “No Effect”? (Page 63)
- Have the Velocity Sensitivity parameters been set appropriately? (Pages 58 and 64)
- Have the Note Limit (Part/Voice) and Velocity Limit parameters been set appropriately? (Pages 59 and 64)
If Note/Velocity Limit Low is set to a value above Note/Velocity Limit High, no sound is output.

Relevant Global Settings of the S08 (UTILITY)

- Have the MIDI receive channels been set correctly? (Pages 64)
- Has the Local switch been set to off? (Page 67)
- Has the Hose Select parameter in Utility mode been set appropriately? (Pages 13 to 15)
- Is either the Demo mode (page 16) or the Compare function (page 41) active? When either of these are active, incoming MIDI data is ignored.

Relevant Settings in the Song Data and on Connected MIDI Devices

- When playing Multis using a MIDI sequencer, have the transmit channels for each sequencer track and the receive channels for each Part in the Multi been set correctly? (Page 64)
- Has the computer's "MIDI Echo" or "MIDI Thru" been set appropriately? (Page 15)
- When playing back a song using a MIDI sequencer, have the volume and expression (page 73) parameters been set appropriately?

Cable and Connection Problems

- Has the audio equipment been connected correctly? (Page 13)
- Is the MIDI cable intact and connected properly? (Pages 13, 14, 15, 81)

The sound is distorted.

- Have the effects been set appropriately? (Pages 46, 58 and 63)
- Has the volume been set too high? (Pages 11 and 12)

The sound is too soft.

- Has MIDI volume or MIDI expression (page 73) been set too low?
- Has the filter cutoff frequency been set too low? (Pages 60, 62, 64)

The pitch is wrong.

- Has the Master Tune parameter in Utility Mode been set correctly? (Page 66)
- Has the KbdTrans parameter in Controller Mode been set correctly? (Page 67)
- Have the pitch related parameters in PITCH menu been set appropriately? (Page 59)
- Has the Pitch Modulation Depth in the LFO screen (Voice Edit Mode) been set too high? (Page 61)
- For Parts or Voices, has the Note Shift parameter been set to a value other than 0? (Pages 59 and 64)
- Has the Detune parameter for each Part or Voice been set to a value other than 0? (Pages 59 and 64)

Sound is choppy and intermittent.

- Has the maximum polyphony been exceeded? (Page 17)

Only one note sounds at a time.

- Has the Mono/Poly parameter been set to "mono"? (Pages 58 and 64)

No effects are applied.

- Has the V EfBypass (Voice Effect Bypass) been set to off? (Page 67)
- In the case of a Multi, has Var Send in Part Edit been set to off or a value too close to 0? (Page 65)
- Has the effect type been set to something other than "Thru" or "No Effect" ? (Page 63)
- In the case of a Multi, have the Insertion Effect Parts been specified? (Page 65)

Edits related to Scaling Sensitivity, Velocity Sensitivity and Scale (of Pan setting parameter) made to the Voice have no effect.

- Has the Sensitivity been set too low? (Page 39)
- Depending on the selected Voice or the settings of related parameters, changes to these parameters may have little or no audible effect.

Cannot find the Drum Voice.

- Drum Voices are selected differently than Normal Voices. (Page 30)

Edits made to the Drum Voice have no effect.

- Has the Part Mode parameter been set correctly? (Page 22)

Cannot play or edit drum voice sounds that are assigned to keys below A-1.

- Set Kbd Trans (CONTROLLER PAGE 4) to a negative value. (Page 67)

Editing can't be done.

- Has the Category Search function been turned on? If Category Search is active, the Edit Mode can't be enabled. (Page 31)
- Have you selected a Wave (001 through 029, and 521) whose parameter settings are fixed? (Pages 59 and 68)
- Is the Utility mode or Controller mode active?
- For the Voice mode, are you attempting to edit? Remember that Chorus and Reverb effect settings are fixed for the Voices and cannot be changed. (Page 46)

When using a controller or LFO, the effect is applied to undesired or unexpected parameters.

- Various parameters can be assigned simultaneously to be controlled by the modulation wheel, Assignable Controller 1 and the LFO. For those parameters you don't want to control, set the depth to "0." (Page 37)

Cannot receive bulk data.

- When using the Voice Editor for S08, have you set a sufficient Dump Interval? The Dump Interval in the Voice Editor Setup dialog must be set to 10ms or greater.
- Has the Device Number parameter been set correctly? When receiving data with the S08's Bulk Dump function, you must set the S08 to the same device number as that specified on the transmitting device. (page 66)
- Has the Host Select parameter in Utility mode been set appropriately? (pages 13 to 15)

Cannot properly receive or respond to data from the connected device.

- Has the Host Select parameter in Utility mode been set appropriately? (pages 13 to 15)
- Is either the Demo mode (page 16) or the Compare function (page 41) active? When either of these are active, incoming MIDI data is ignored.
- Is the MIDI cable intact and connected properly?

Checking the MIDI Cable

Here's a quick way to check a MIDI cable, to make sure it's properly conducting signals.

NOTE Before starting this, set the S08 to Voice mode and make sure that the S08 is properly outputting sound when you play the keyboard.

- ❶ Disable keyboard control over the tone generator by setting Local Sw (PAGE 12 in the Utility mode) to “off.” In this condition, playing the keyboard does not produce any sound. (page 67)
- ❷ Directly connect the MIDI cable in question — one end to the MIDI IN terminal of the S08, the other to the MIDI OUT. This sets up an external MIDI “loop,” routing the keyboard of the S08 to its tone generator, by way of the MIDI cable (and not by Local Switch).
- ❸ Set the Host Select parameter in Utility mode to “MIDI.” (PAGE 13)
- ❹ Set the Receive Channel parameter (PAGE 3 in the Utility mode) to “omni” (all channels). This allows the Voice to respond to the incoming MIDI data, regardless of the MIDI Transmit Channel setting for the keyboard.
- ❺ Play the keyboard. If you've made all the above settings correctly and you hear the Voice, the MIDI cable is intact.

NOTE Keep in mind that the cable or connections could still be faulty, even if you hear sound — especially if the sound is intermittent or cuts in and out.

NOTE After conducting this check, make sure to reset the Local Sw (PAGE 12 in the Utility mode) to “on,” if necessary. If you leave this set to “off,” the S08 keyboard will not control its own sounds.

Cannot play back or stop a song even by pressing the [PLAY/STOP] button.

- Is a song of SMF (Standard MIDI File) format 0 assigned to the chain step? (Page 51)
- Does the SMF (Standard MIDI File) song assigned to the chain step have the extension “.MID”? (Page 51)
- Has the Sync parameter been set to “MIDI”? (Page 66) Normally, make sure that Sync is set to “Int,” except when using the S08 as a MIDI “slave” in synchronization with other devices.
- Is the Sequence Play mode active? If the S08 is set to anything other than Sequence Play mode, the [PLAY/STOP] button functions as the [STORE] button.

Playback of a song file sometimes stops temporarily.

- When a song on Memory Card is played back, the reading of data from the card and playback of the song is done simultaneously. If the amount of song data is too great, playback may lag somewhat behind reading of the data. If this is the case, delete unnecessary data from the tracks of the file on your sequencer software or set the playback tempo slightly slower than normal.

Memory Card files cannot be loaded/saved/imported.

- Are you trying to load files from subdirectories on the Memory Card? The S08 can only handle root directory files.
- Does the root directory of the Memory Card contain more than 100 files? Memory Cards for the S08 can handle up to 100 files for each of the following: All File (file types handled by Save/Load), All Voice File (file types handled by the Voice Editor for S08) and SMFs.
- When importing a file with the Macintosh Voice Editor for S08, enter an “.S6V” extension to the file name on the computer, then save it to the Memory Card.

Memory Card files cannot be renamed/deleted.

- Only file types of the All File (file types handled by Save/Load) designation can be used with the Rename/Delete functions. All Voice File (file types handled by the Voice Editor for S08) and SMFs cannot be renamed/deleted.

Files cannot be transferred using the Card Filer.

- The maximum usable capacity of a Memory Card is 128 MB. Make sure to use Memory Cards of a capacity of 128 MB or less.
- The access speed of your particular computer to the memory device may be affecting file transfer. If this is the case, you may be able to remedy the situation by performing one or more of the operations below:

NOTE Make sure to check the website for the maker of the hard disk for details on updating the driver.

- Use the Defragmentation function in the System Tools to defragment the hard disk.
- Update the driver for the hard disk to a high-speed driver.
- Set the hard disk to a high-speed mode, such as by enabling DMA.

For Windows 98/98SE/Me:

Control Panel → System → Device Manager → Disk drives or Hard disk controllers

For Windows 2000/XP:

Control Panel → System → Hardware → Device Manager

- When using the Card Filer with the S08 connected via USB to the computer, make sure the S08 is properly connected to the computer with a USB cable, and set the Thru On/Off setting of the MIDI-USB Driver to “Off,” by the method described below:

For Windows 98/98SE/Me:

From the Control panel, select MIDI-USB Driver, then set the Thru On/Off check box to Off (no checkmark).

For Macintosh:

From the System folder, select Control Panels, then from Yamaha USB MIDI Patch, set the Thru On/Off check box to off (no checkmark).

- There are some occasions when the Card Filer cannot be used to create directories (folders) on the Memory Card. The S08 can handle only files in the highest directory (root directory). Please do not use the create directory (folder) function of the Card Filer.

The voice name set from the S08 does not display correctly on the Voice Editor for S08.

- Among the valid characters used for naming voices on the S08, the characters “→” and “←” cannot be displayed by the Voice Editor for S08. When using the Voice Editor for S08, avoid using these characters for naming voices from the S08.

The computer hangs up or freezes when using USB.

- Disconnecting/connecting the USB cable or turning the power off/on may cause the computer operation to hang-up, or may stop the S08 from functioning properly. Be careful NOT to disrupt the USB connection or turn the power on/off in the following operating conditions.
 - While the S08 is recognizing the device or while loading the driver.
 - While starting or shutting down the operating system.
 - While computer operation is suspended (with power management controls such as sleep or hibernation).
 - While a MIDI application is starting.
- The computer may also hang up and/or the S08’s functions may stop if you do the following:
 - Turn the power on/off, or connect/disconnect the cable too often.
 - Enter the sleep mode while transmitting the MIDI data, and resume operation.
 - Disconnect/connect the cable while the S08 is on.
 - Turn the S08 on/off, start the computer, or install driver software while a huge amount of data is being transferred.

Specifications

KEYBOARD	88 keys with Initial Touch (Balanced Hammer Effect Keyboard)		
TONE GENERATOR	AWM2		
POLYPHONY	64 notes		
MULTI TIMBRE	16		
WAVE	521 waveforms		
VOICE	Normal Voice	Preset	128
		User	128
		GM2/XG	493
	Drum Voice	User	2
		GM2/XG	29 (including 8 Original Voices)
MULTI		User	32
EFFECT	Reverb		17
	Chorus		17
	Variation		54
SEQUENCE PLAY	SMF Format 0 (Direct Play only)		
EXTERNAL MEMORY	SmartMedia™ (3.3V)		
	* Up to 128MB can be used.		
CONTROLS	STANDBY/ON, VOLUME, Pitch Bend wheel, Modulation wheel, VOICE, MULTI, SEQ PLAY, UTILITY, CONTROLLER, CARD, EDIT/COMPARE, JOB, STORE (PLAY/STOP), EXIT, ◀ / ▶, ▲ / ▼, PART (ELEMENT/KEY) –/ +, MUTE, INC/YES, DEC/NO, PRESET, USER, GM2/XG, CATEGORY SEARCH, Numeric Keypad, ENTER, Data dial		
CONNECTORS & TERMINALS	PHONES (Stereo Phone), OUTPUT (Phone): L (MONO)/R, DC IN, FOOT CONTROLLER, FOOT SWITCH, MIDI IN/OUT/THRU, USB, Card slot		
DISPLAY	LCD (Back Lit)		
POWER SUPPLY	Yamaha AC adaptor PA-5C (included)*		
	* May not be included in your area. Please check with your Yamaha dealer.		
POWER CONSUMPTION	8W		
MAXIMUM OUTPUT LEVEL	OUTPUT: +9 ± 2dBm (10 kΩ), PHONES: +0 ± 2dBm (33 Ω)		
DIMENSIONS	1323 (W) x 389 (D) x 159 (H) mm		
WEIGHT	19.8kg		

Specifications and descriptions in this owner's manual are for information purposes only. Yamaha Corp. reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment or options may not be the same in every locale, please check with your Yamaha dealer.

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