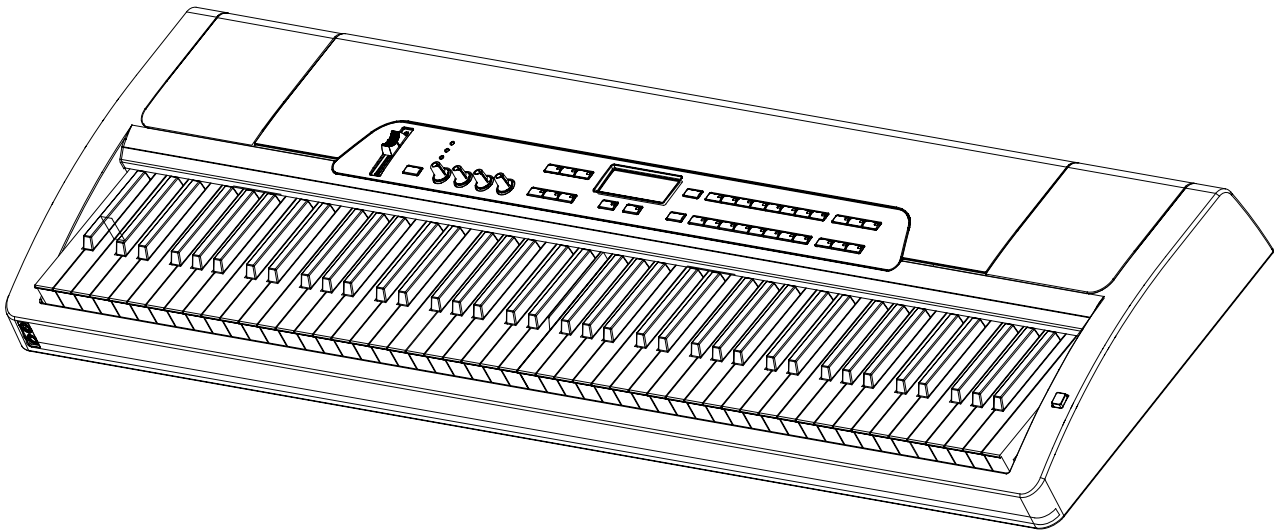


Musician's Guide

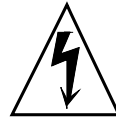
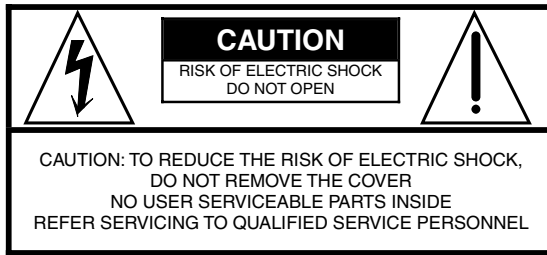
SP2XS

- *Digital Multi-Effects*
- *Built-in USB Terminal*
- *Flexible MIDI Controller*
- *Award Winning Sounds*
- *60 Rhythm Patterns*



KURZWEIL

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



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

IMPORTANT SAFETY & INSTALLATION INSTRUCTIONS

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

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

1. Read all of the Safety and Installation Instructions and Explanation of Graphic Symbols before using the product.
2. Do not use this product near water - for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should only be used with a stand or cart that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and speakers or headphones, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. This product may be equipped with a polarized line plug (one blade wider than the other). This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.
9. The power supply cord of the product should be unplugged from the outlet when left unused for a long period of time. When unplugging the power supply cord, do not pull on the cord, but grasp it by the plug.
10. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
11. The product should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged;
 - B. Objects have fallen, or liquid has been spilled into the product;
 - C. The product has been exposed to rain;
 - D. The product does not appear to be operating normally or exhibits a marked change in performance;
 - E. The product has been dropped, or the enclosure damaged.
12. Do not attempt to service the product beyond that described in the user maintenance instructions. All other servicing should be referred to qualified service personnel.
13. **WARNING:** Do not place objects on the product's power supply cord, or place the product in a position where anyone could trip over, walk on, or roll anything over cords of any type. Do not allow the product to rest on or be installed over cords of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.

RADIO AND TELEVISION INTERFERENCE

WARNING: Changes or modifications to this instrument not expressly approved by Young Chang could void your authority to operate the instrument.

IMPORTANT: When connecting this product to accessories and/or other equipment use only high quality shielded cables.

NOTE: This instrument has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This instrument generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this instrument does cause harmful interference to radio or television reception, which can be determined by turning the instrument off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the instrument and the receiver.
- Connect the instrument into an outlet on a circuit other than the one to which the receiver is connected.
- If necessary consult your dealer or an experienced radio/television technician for additional suggestions.

NOTICE

This apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

AVIS

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

SAVE THESE INSTRUCTIONS

Young Chang Distributors

Contact the nearest Young Chang office listed below to locate your local Young Chang/Kurzweil representative.

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Tel : 1-310-637-2000

Fax : 1-310-637-2025

Web : www.youngchang.com

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Fax : 1-781-890-2014

Web : www.kurzweilmusicsystems.com

Official distributors in other countries are listed on the web site.

World Wide Web Home Page

<http://www.kurzweilmusicsystems.com>

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Kurzweil SP2

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KURZWEIL *SP2XS* Quick Guide

SP2XS Quick Start Guide

Thank you for purchasing a Kurzweil/Young Chang SP2XS stage piano. Here's a brief description of all the essential operations you need to know to get started with your SP2XS immediately. Through this manual, [] means "Button". For an example, [Yes] means you need to press the "Yes" button from the front panel of your SP2XS.

^Initialize	[Global]Button → [Reset]Button → [+/Yes]Button → [+/Yes]Button → [+/Yes]Button <input type="checkbox"/>
^Playing the Demo Song	Sound Select/Data Entry → Category → [+/–]Button + [Enter]Button → [+/Yes]Button <input type="checkbox"/>
^Selecting Program Voices	[Program/Setup] Button → Sound Select/Data Entry → Category → Select Sound Banks → Select Program Voices <input type="checkbox"/>
^Selecting Setup Voices	[Program/Setup] Button → Sound Select/Data Entry → Category → Select Program Voices <input type="checkbox"/>
^Selecting Rhythm Patterns	[Rhythm/Metronome] Button → Select Rhythm Patterns → [+/Yes]Button <input type="checkbox"/>
^Setting Metronome Tempo	[Rhythm/Metronome] Button → Select r57 → [0]Button from numeric pad → [+/Yes]Button <input type="checkbox"/>
^Editing Effects	[Effect] button → Sound Select/Data Entry → Category → Select Effects → [Store] button → [+/Yes] button <input type="checkbox"/>
^Saving	Select Programs or Setups → [Store] Button → [+/Yes] Button <input type="checkbox"/>
^Local On, Off	On : [Global]Button → [Local]Button → [+/Yes]Button <input type="checkbox"/> Off : [Global]Button → [Local]Button → [–/No]Button <input type="checkbox"/>
^Selecting Layers	In Program or Setup mode → [Layer]Button → Select Programs <input type="checkbox"/>
^Auto Split	In Program or Setup mode → Select Programs → [Split] Button → Select Programs <input type="checkbox"/>
^Panic	[Key.Range]Button + [Vel.Range]Button <input type="checkbox"/>

CHAPTER 1

Introduction

Thank you for purchasing a Kurzweil/Young Chang stage piano SP2XS instrument. With its 32 megabytes of high quality Kurzweil ROM sounds and an array of MIDI-control features, your SP2XS is an ideal suit for both stage and studio work. The USB port on the rear panel enables the immediate use of your SP2XS as a MIDI controller in studios.

Also, the logical and friendly user interface really shines whenever you're at a gig or in the recording studio.

This chapter will help you...

- overview the main features of the SP2XS
- check the components of the SP2XS package

Please, refer to the following list for information you need.

◀ Main features.	1-1
◀ Options.	1-2
◀ Do I Have Everything?.	1-3
◀ How to use this manual.	1-3

For people who do not want to read manuals

We recommend that you read at least chapter 1&2, just to get comfortable with your SP2XS more quickly. Even if you're an experienced keyboard player, you will learn about the advanced features of the SP2XS and most likely, discover some new ideas. Also, the information about upgrades and service will be very valuable for you.

Main Features

The Sound

The SP2XS offers 64 voices of polyphony and features balanced left and right analog audio outputs. There are 64 factory programs and 60 preset rhythm patterns. The programs includes stereo triple-strike Grand Piano, Wurlitzer electric piano, stereo strings, brasses, guitars, basses, drums and percussion sounds, as well as the world-renowned A cappella group Take 6 vocal samples. The rhythm patterns include various styles of drum grooves such as ballad, pop, r&b, dance, rock, funk, country, latin, jazz, and world. Setup mode makes the SP2XS an amazingly flexible MIDI controller as well as a powerful live instrument. In this mode, you can divide the SP2XS's keyboard into four different zones, each of which can cover part or all of the keyboard. Each zone can use a different MIDI channel, play a different program and have its own controller assignments. Also, you can program the SP2XS to start rhythm patterns automatically. The SP2XS comes with 16 factory setups and user programmed setups can be stored in the quick access (Q. Access) bank for instant use.

Keyboard and Controllers

The SP2XS has a fully-weighted 88 key piano action. The array of physical controllers include pitch wheel, modulation wheel and 4 knobs on the front panel as well as jacks for continuous and switch pedal on the rear panel. Because all of them are fully programmable, the SP2XS can be not only a performance keyboard, but also a MIDI controller in a studio. You can use the SP2XS as a sound module receiving MIDI data from a computer based sequencer or external MIDI device, too.

Effects

To perfect the ROM sounds, the SP2XS provides over 64 multiple effects and 64 reverbs. These effects can be applied to both setups and programs and the wet/dry mix can be controlled in real time very easily. You can also program the internal multi-effect and reverbs for even more control in performance and recording.

Options

Your SP2XS can use various optional devices. Ask your Kurzweil dealer about the following options.

Pedal

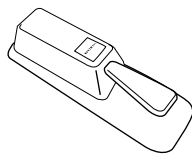
The SP2XS has two jacks for optional pedals on the rear panel. One is for a switch pedal (for functions like sustain or program change) and the other is for a continuous control pedal (for functions like volume/expression control).

The compatible pedals from Kurzweil are;

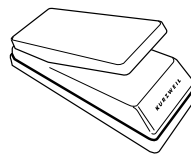
FS-1 / Standard box-shaped switch pedal

KP-1 / Single piano-style switch pedal

CC-1 / Continuous pedal



Kurzweil KP-1



Kurzweil CC-1

Do I Have Everything?

Your SP2XS carton should include all of the following components.

- The SP2XS Stage Piano
- AC adapter (9VAC, 2.0A)
- Single Switch Pedal
- This manual
- Warranty Card
- Four adhesive-backed rubber feet

Be sure to keep the box and packing materials during the warranty periods, in case you need to ship the unit for any reason.

How To Use This Book

This manual will greatly help you learn and use the various features of the SP2XS. If you know electronic instruments and MIDI already, you might want to start from Chapter 2, “Getting Started” on page 2-1. If you need more help on using the SP2XS’s many features, you should read all of Chapter 3 and 4. Chapters 5 and 6 give more information on global functions and description of some typical applications. The remaining chapters provide troubleshooting and reference materials that can be referred to when needed. Chapter 8 provides a few easy-to-follow tutorials which will help you understand your instrument more quickly. Finally, don’t underestimate the index. When you need quick access to certain topics, the index will be the next best thing to a search engine! For any late-breaking information on the SP2XS and other Kurzweil products, visit our web site.

<http://www.ycpiano.co.kr/>

<http://www.kurzweilmusicsystems.com/>

Above all, enjoy, and make great music with your SP2XS

CHAPTER 2

This chapter will help you hook up the SP2XS to your sound and MIDI system. Also, you will learn how to play the demonstration songs. To find specific information, refer to the following list.

◀ Setup.....	2-1
◀ Basic Connections.....	2-2
◀ Powering UP.....	2-13
◀ Playing the Demo Songs.....	2-14
◀ Software Upgrades.....	2-15
◀ Troubleshooting.....	2-15

Setup

Attaching rubber feet

After you unpack the carton and make sure that all of the components are in the box, attach the four stick-on rubber feet to the bottom. < Figure 2-1 > shows the best places to attach the feet.

Basic Connections

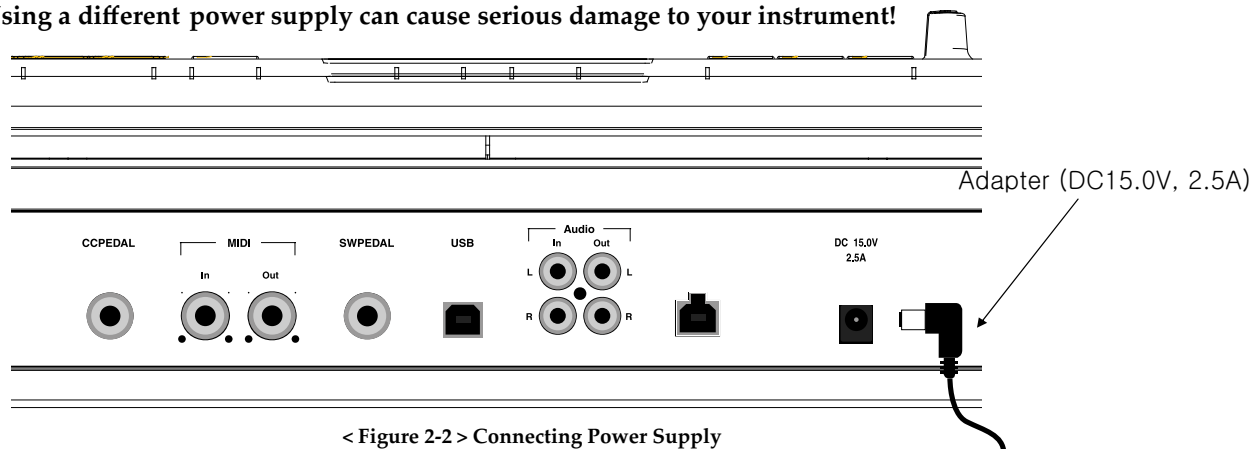
Connecting Power Supply

Before connecting the power supply, make sure your SP2XS is off. After that, connect the plug to the AC In connector on the rear panel.

For your safety, place the power supply somewhere dry and out of the way. Also, to prevent overheating, do not cover the power supply with anything.

Caution : Use only the power supply that comes with your SP2XS.

Using a different power supply can cause serious damage to your instrument!



< Figure 2-2 > Connecting Power Supply

Connecting to Your Audio System

The SP2XS features balanced left and right analog audio outputs. For the best results, use balanced cables to connect to balanced, line-level inputs on your mixer or sound system.

It is very important to use proper type of cables. The cables should have each 1/4 inch stereo (tip-ring-sleeve) plugs on one end to connect to the SP2XS and the other end of cable should have the same 1/4 inch stereo plugs or XLR plugs. Using balanced cables will greatly reduces noise.

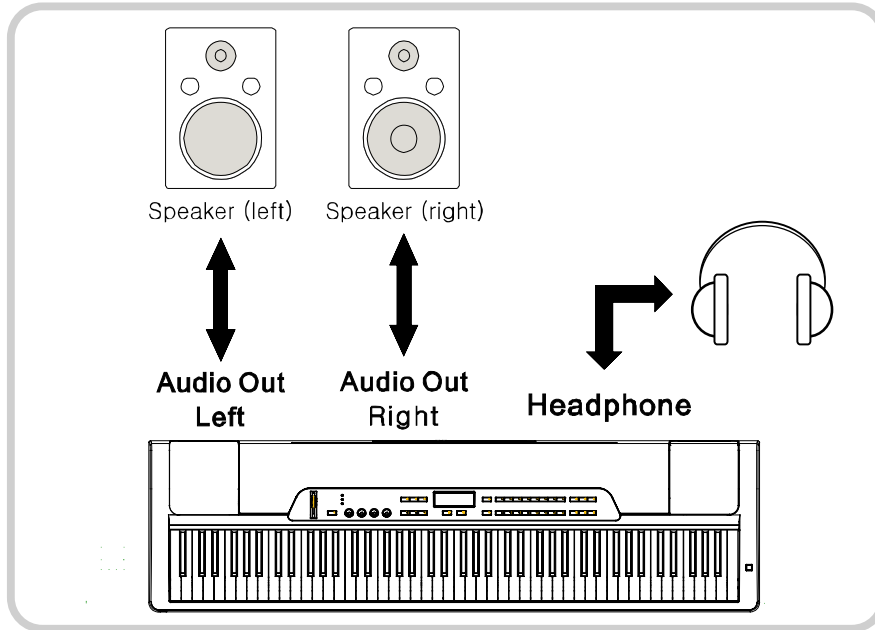
For the best audio quality

1. Set the volume level of your sound system to its minimum. Be cautious! Not doing so may cause damage to your sound system such as speakers.
2. Set the SP2XS's volume level to its maximum.

☑NOTE When you connect audio cables, make sure to turn down the level on your sound system.

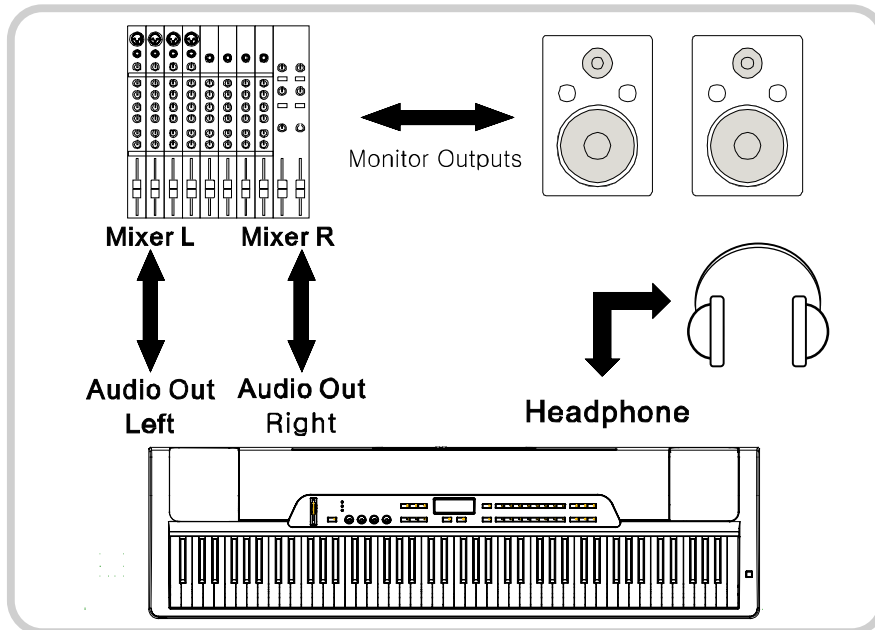
3. Adjust the volume of your sound system to the appropriate level.
4. The SP2XS has a headphone jack which duplicates the signal from the main outputs. Plugging into the headphone jack does not mute the other audio outputs. You can also use the headphone jack as an unbalanced stereo line-level output. In this case, just connect a stereo cable from the headphone jack to a stereo input on any sound system.

◀ connecting powered speakers



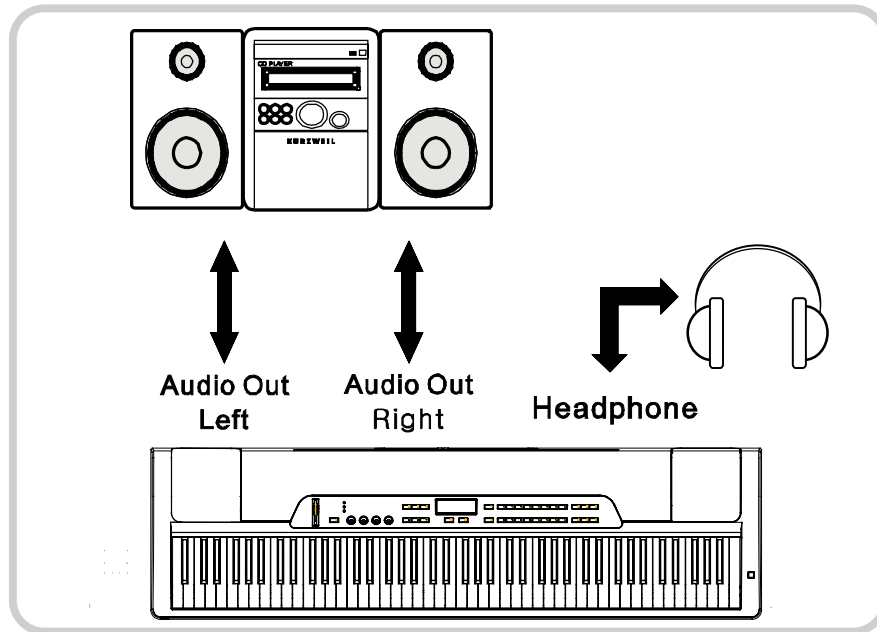
< Figure 2-3 connecting powered speakers >

◀ connecting an audio mixer



< Figure 2-4 connecting an audio mixer >

◀ connecting a home audio system

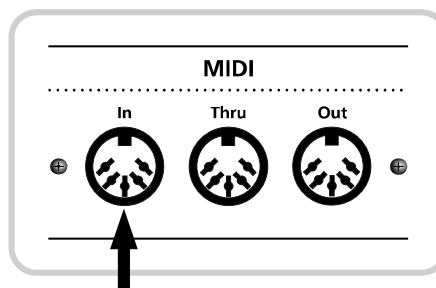


< Figure 2-5 connecting a home audio system >

Connecting MIDI

MIDI IN

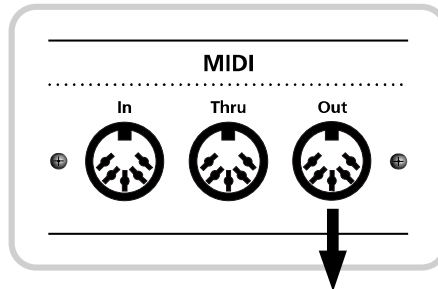
The MIDI In port is for receiving MIDI data. When another MIDI device sends MIDI data to control the SP2XS, this makes the SP2XS a MIDI slave, which enabling you to use the SP2XS as a sound module. MIDI In port also can be used for upgrading software via system exclusive data.



< Figure 2-6 SP2XS as a MIDI slave >

MIDI OUT

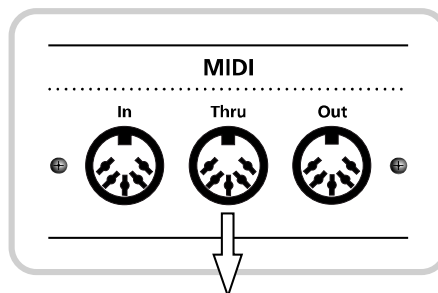
The MIDI Out port is for transmitting MIDI data that the SP2XS generates. MIDI data does not contain any audio signal. It carries digital “performance data” such as the pitch, note velocity, control signals, etc.



< Figure 2-7 SP2XS as a MIDI master >

By connecting a MIDI cable from the MIDI Out port of the SP2XS to the MIDI In port of another MIDI device, you can use the SP2XS as a MIDI master to play and control its slaves.

MIDI Thru

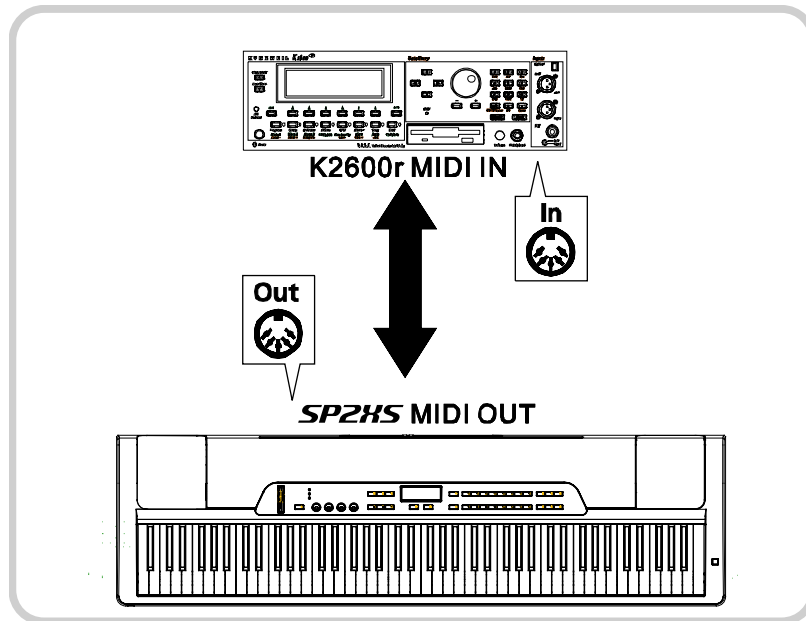


< Figure 2-8 MIDI Thru jack >

The MIDI Thru port sends MIDI data being sent to the SP2XS's MIDI In port. MIDI Thru port does not transmit the MIDI information that the SP2XS itself generates.

Basic MIDI connection

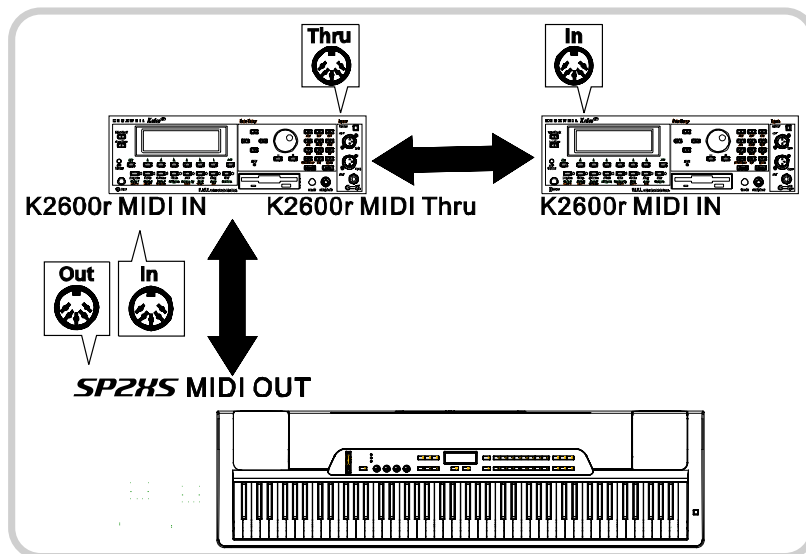
The simplest application of MIDI is to connect and control an external sound module for more sounds, more polyphony, and more timbre control than the internal sound module offers. The following figure shows how simple this can be.



< Figure 2-9 SP2XS connected to an external sound module (K2600r) via MIDI >

Connecting More Sound Modules

With MIDI, you are not limited to just one add-on sound module; You can connect 2, 3, or even more using the basic method illustrated below. The SP2XS can play independent sounds on 1 multi-timbral or 2 mono-timbral modules at once.



< Figure 2-10 SP2XS connected to Module A and Module B >

Connecting to a Computer via USB

Without a MIDI interface, the SP2XS can be connected to a computer via USB. A single USB cable can carry incoming and outgoing MIDI data between the SP2XS and a computer. You don't even need to install any additional driver.

NOTE Though the SP2XS can use MIDI port and USB port at the same time, it may cause problems with running out of polyphony. So, we recommend you to use either MIDI port or USB port at a time.

What is USB?

USB is the abbreviation for Universal Serial Bus, which is a serial bus standard to interface devices. The SP2XS support "Plug and Play" feature of Windows XP.

How to Install Device Driver?

What you need

- 1) Any PC, Windows XP installed. (recommend Service Pack 2)
- 2) Working SP2XS unit with OS V1.0(or later) installed.
- 3) Type A, USB cable.
- 4) Go to our download page below, get "SP2XSseries.inf".
<http://www.kurzweilmusicsystems.com/downloads.html>

How to install

- 1) Make sure where SP2XSseries.inf file located.
- 2) Power up SP2XS.
- 3) After power up, connect USB cable between PC and SP2XS.
- 4) Shortly after, you might hear "ding" sound, and in the system tray Found new hardware popup open.



- 5) After a while, you can see popup about new audio device.



Chapter 2

SP2XS Getting Started

6) After finished enumeration with host, PC displays following message.



7) As you see in the device manager, SP2XS connected as "USB Audio Device".



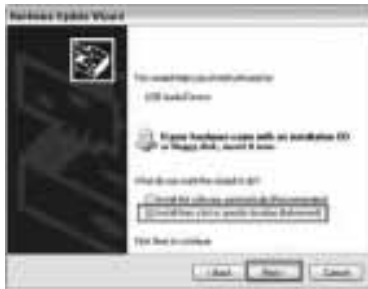
8) For install device driver, you need to update device driver of "USB Audio Device". Select "USB Audio Device" and press right mouse button and Select "Update Driver" popup menu.



9) Now, you might see new hardware wizard, select "No, not this time" radio button click next.



10) And next step, select “Install a list of specification(Advanced)” radio button and click next.



11) Now select “Don’t search, I will choose driver to install” and click next.



12) Click “Have Disk...” button.



13) Ok, next press “browse” button.



Chapter 2

SP2XS Getting Started

14) Find out where “SP2XSseries.inf” located and press “Open” button for open it.



15) Press “OK” button again for further steps.



16) Now make sure uncheck “Show compatible hardware”. Select “Kurzweil” in manufacturer, and select “Kurzweil SP2XSX MIDI” for SP2XSX or select “Kurzweil SP2XS MIDI” for SP2XS. Finally press “Next” button.



17) You can see warning window, because this driver is not signed by Microsoft, It's ok ignore it. Click “Yes” button.



18) You can see the warning box again, press “Continue Anyway” button.



19) Driver install is in progress.



20) After a while Install finished, press “Finish” button.



21) In the device manager, you can see new device name “Kurzweil SP2XS Series MIDI”.



Chapter 2

SP2XS Getting Started

22) You can also see a new device name in "Sound and Audio Devices Properties".

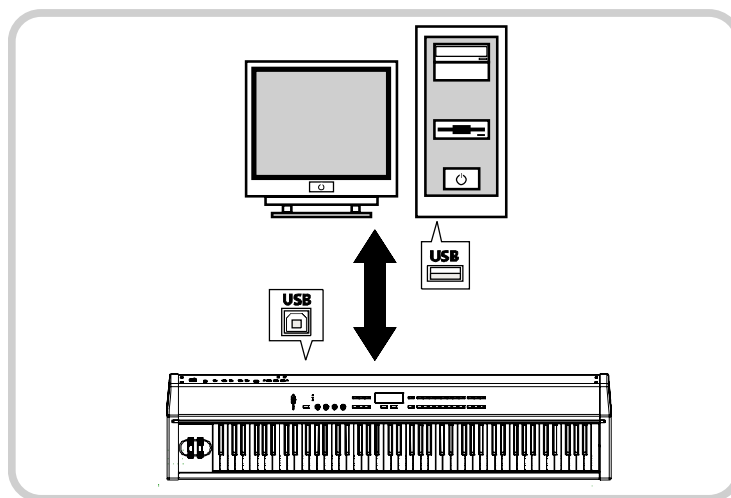


23) Now, you can also see a new device name in any sequencer software.

(Nuendo in picture)



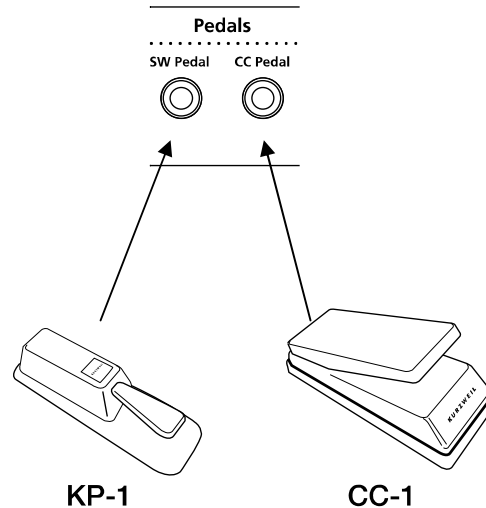
NOTE Use USB Type A cable which is the most widely used type.



< Figure 2-11 Connecting to a Computer via USB >

Connecting Pedals

Plug your switch or continuous pedals into the corresponding jacks on the SP2XS's rear panel. Although we recommend using the Kurzweil pedals described on page 1-2, you can use almost any switch or continuous pedal, as long as it adheres to the following specifications..

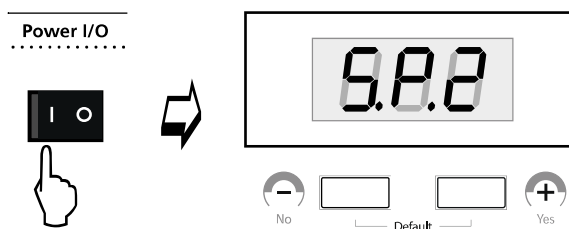


- switch pedals 1/4 inch tip-sleeve plugs
- continuous pedals 10k Ohm linear-taper potentiometer 1/4 inch tip-sleeve plug

NOTE When using non-Kurzweil pedal, make sure it's connected before you turn on your SP2XS. Also, do not press any of your pedals while powering up, or it might work backwards because the SP2XS verifies each pedal's orientation during power up.

Powering Up

When you've made all your connections, turn on the SP2XS. After the LEDs on the front panel flash, the numeric display on the front panel will show a series of information. When the SP2XS is ready to play, the display will look like following:

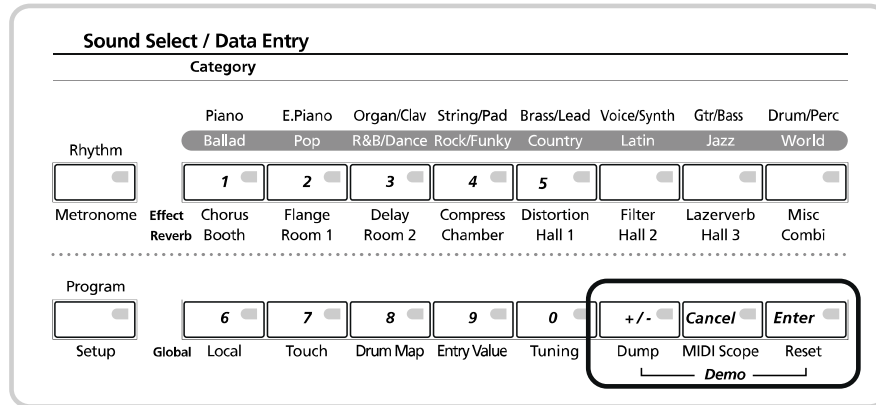


< Figure 2-12 Initial Display >

To prevent any damage to your sound system, set the SP2XS's master volume slider all the way down before you turn on the SP2XS. And then, gradually push up the slider while playing the keyboard

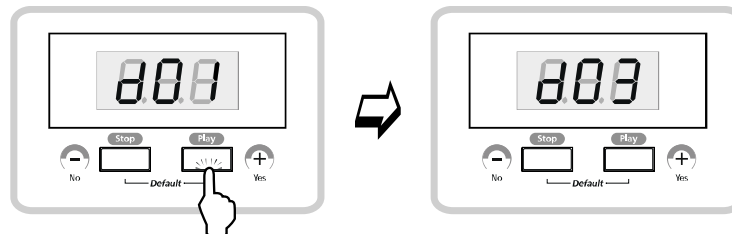
Playing the Demo Songs

1. Press [+/-] button and [Enter] simultaneously to enter Demo mode.



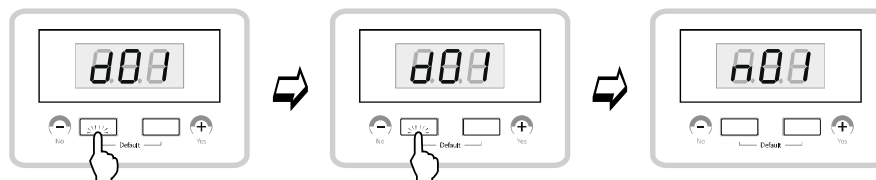
< Figure 2-13 Demo mode >

2. [Play] button below the display starts the demo song. There are three demo songs. Press numeric button in Sound Select/Data Entry region to select one of the demo songs like < Figure 2-14 >.



< Figure 2-14 Starting Demo Songs >

3. If you want to stop the demo before it finishes, press [Stop] button below the display to stop the demo song. To exit Demo mode, press [Stop] button when the demo songs are not playing.



< Figure 2-15 Stop and Exiting Demo mode >

Software Upgrades

Because the SP2XS contains flash ROM, the system software can be upgraded via MIDI. You can get software upgrades for your SP2XS from authorized Kurzweil dealers or our home page (<http://www.kurzweilmusicsystems.com/>). For software installation instructions, refer to Chapter 6, Software Upgrades.

Troubleshooting

- No Text in Display

If no messages are displayed when you turn on the power on your SP2XS and no LEDs light, check the power adapter connections at the AC outlet and the SP2XS Adapter In jack. For more information about troubleshooting, see Chapter 9, troubleshooting.

CHAPTER 3

Performance Features

In this chapter, you will learn how to get the most out of your SP2XS's internal voices. The overview introduces a few basic concepts and the important features of your instrument. The SP2XS has two different type of internal voices: Programs and Setups. Use the following list to find specific information more quickly.

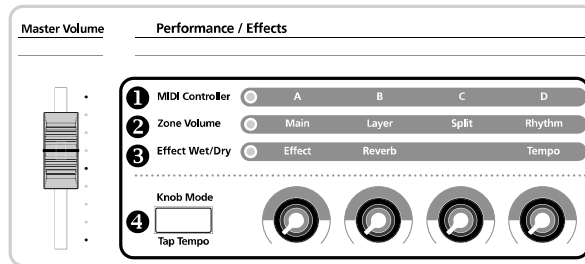
◀ Overview	3-1
◀ Front Panel, Rear Panel	3-2
◀ Programs	3-5
◀ Setups	3-6
◀ Rhythm Patterns and Metronome	3-7
◀ Using Quick Access Bank	3-10
◀ Transpose Function	3-11
◀ Multi Function Knob	3-12

Overview

The SP2XS provides a wide variety of features. For logical and friendly operation, the front panel is divided into three different regions.

- The **Performance / Effect** region provides real time controllers for modifying your sound as you play. You can control the volume level of each zone, MIDI control messages, effect wet/dry level and the tempo of rhythm patterns with 4 assignable Knobs.
- In the **Sound Select / Data Entry** region, you make selection of desired instrumental category, sounds, rhythm patterns and metronome sounds. Also, the buttons in this region let you enter numeric values for Global parameter or MIDI control numbers.
- In the **Edit** region, you can modify the timbre of existing sounds to your taste and store them into Quick Access bank for easy usage.

Performance / Effect



< Figure 3-1 >

❶ MIDI controller mode

- Knobs A-D control MIDI control change depending on the current program.

❷ Zone Volume mode

- Knobs A-D control volume level of each layer.

❸ Effect Wet / Dry mode

- Knobs A-D control the wet / dry mix of FX blocks.

❹ Knob Mode / Tap Tempo Button

- Knob Mode / Tap Tempo button is used for selecting Knob Mode or setting the tempo of the internal metronome / rhythm patterns in realtime by tapping it.

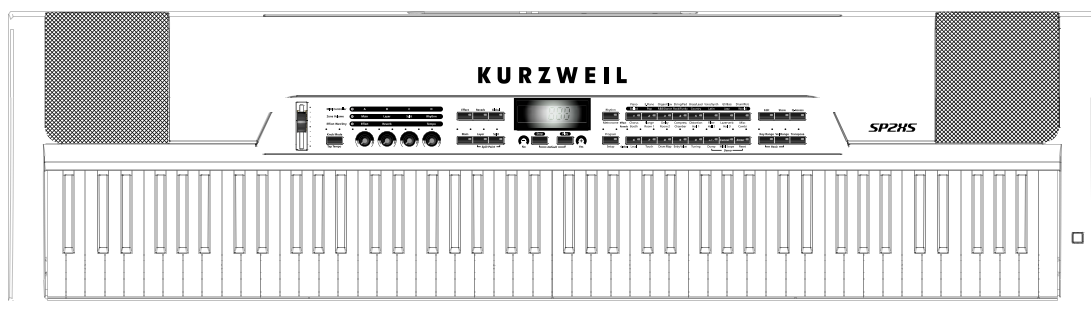
Global

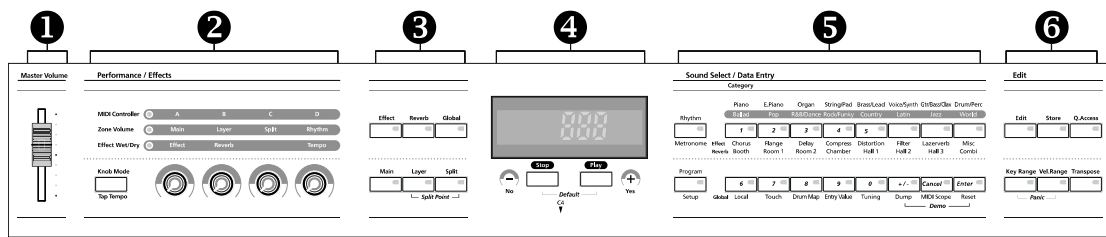
The Global menu provides several parameters that you can control the SP2XS with. In the Global menu, you can make changes that affect the entire SP2XS, for example, Local on / off, Drum Map, Drum Channel, Tuning, SysEX dump, MIDI scope, Reset, and more.

Effect (Effect, Reverb)

The SP2XS provides more than 50 types of effects including reverb, delay, chorus, flanger, phaser, tremolo, panner, distortion, compressor, rotary speaker simulator, sound enhancer, waveform shaper, and more. There are 30 of preset reverb. For more detailed information, please read page 7-1

Front Panel





< Figure 3-2 Front Panel >

1 Master Volume Slider

The Master Volume Slider is located on the leftmost side of the front panel. The slider adjusts the overall volume of the SP2XS's audio outputs. We recommend that you set this slider all the way down before you turn on your SP2XS.

2 Performance / Effect 1-1

In this region, you can control the volume level of each layer, effect wet / dry mix or send MIDI control message with the four knobs A-D. See page 3-1 for more information.

3 Performance / Effect 1-2

In this region, you can select effect presets. Also, you can use the auto layer and split feature. The Global button provides several system parameters that affect the entire system and initializing function. See page 4-4 for more information.

4 Display

Basically, the display tells you what's going on, whether you're playing or editing. The information varies depending on which mode the SP2XS is in. There are two buttons labeled [+ / Yes] and [- / No] below the display. These buttons have multiple functions. For example, when playing rhythm patterns, pressing [+ / Yes] button means "Play" and pressing [- / No] button means "Stop". Or, pressing two buttons at the same time will reset any parameter change made to Transposition or Tuning to the default setting.

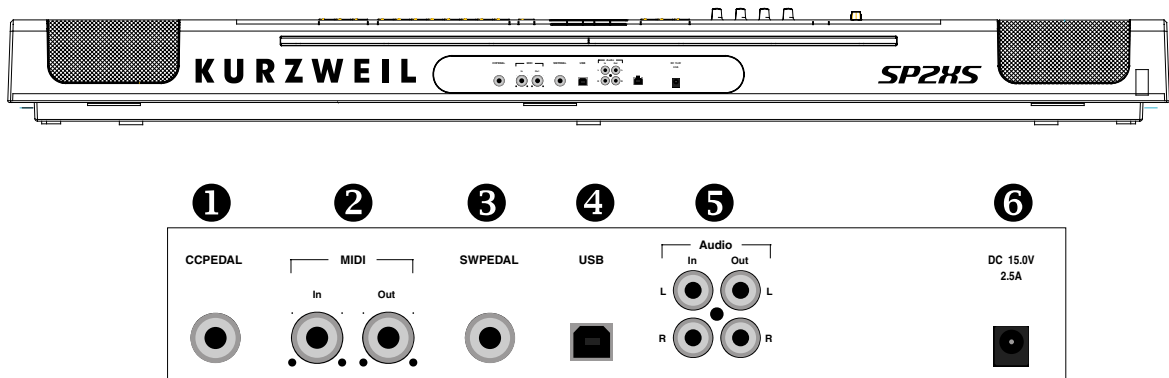
5 Sound Select / Data Entry Region

The SP2XS's sounds and effects are organized by type into 8 categories. The buttons in this region are used as Sound Select buttons. The upper 8 buttons are used to select the desired category of instruments, rhythm pattern or effects. The lower 8 buttons are used to make selections within the current category. These buttons also are used to select menus in Global mode. Depending on which mode the SP2XS is in, these buttons can be used to enter numeric values for parameters. [Enter] and [Cancel] buttons are used for storing setups. Pressing [Dump] and [Reset] button will start Demo mode. See page 2-14 discuss for more information.

6 Edit

In this region, you can change the timbre of the internal sounds and save the modified sounds easily. See page 4-2 for more information.

Rear Panel



< Figure 3-3 Rear Panel >

1 Pedal Jacks**Continuous Control (CC) Pedal Jack**

You can plug a control pedal in here. A control pedal is very useful when controlling volume, expression, vibrato, and more MIDI effects with your foot. You can use a Kurzweil CC-1 pedal of course, or just use a third-party control pedal for generic synthesizers. With some pedals, you may not be able to get the results that you want according to your control pedal setting. If you need more detailed information about control pedal or having problems making it work properly, see “Control Pedal Problems” on page 9-4.

2 MIDI Ports

Use the MIDI Out and MIDI Thru ports to connect to an external sound module such as Kurzweil K2600R or PC2R. Use the MIDI In port when you are using the SP2XS as a sound module for a sequencer application or another MIDI controller. See “Connecting MIDI” on page 2-4 for more information.

3 Switch (SW) Pedal Jack

Use this jack to plug in a switch pedal. You can plug the single piano pedal that came with your SP2XS here. By default, it will perform a sustain (or damper) function. Of course, you can use Kurzweil KP-1, KP-2 or KP-3 too.

NOTE Kurzweil keyboards determine the polarity of the pedal when it is turned on. If your switch pedal works backwards, you can reverse the polarity by pushing it while turning on your instrument.

④ USB Port

Use the USB port to connect to a computer. When the SP2XS is connected to a computer via USB cable, it can transmit and receive MIDI data without using MIDI In and Out ports. See “Connecting to a Computer via USB” on page 2-7 for more information.

NOTE The USB port of the SP2XS carries only MIDI data, not audio data.

USB (Universal Serial Bus) is a serial bus standard to interface devices.

⑤ Audio Outs

The left and right audio jacks are used to connect to your audio system. See “Connecting To Your Audio System” on page 2-2 for connection details.

⑥ Power Jack

Plug the cord from the included power adapter into this jack. You must use the adapter comes with your SP2XS. However, if it should become lost or forgotten, refer see page 2-2 for information about possible substitutes.

Programs

Programs consist of presets that include various instrumental sounds and 60 types of drum patterns. With such a variety of excellent sounds, the SP2XS can be many instruments you want it to be. Be it a guitar, a bass or even a string ensemble. You can use those sounds for either performance or MIDI composition. Programs are also the sound source to build up your setups. You can modify them to your taste, of course.

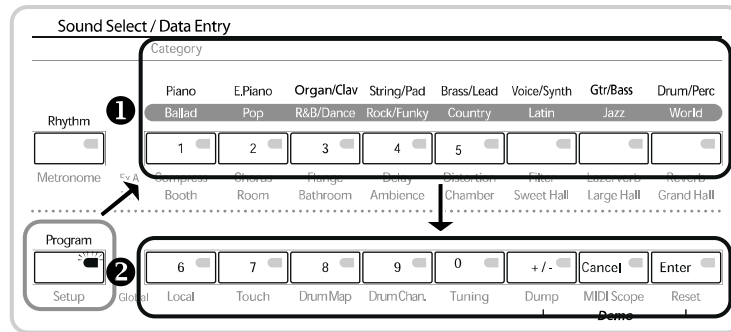
To select a program, press [program/setup] button. Pressing the button will toggle the small LED in the button between green and red. If the LED turns red, it means that the SP2XS is in Program mode. The LED turns green when SP2XS is in Setup mode.

In Program mode, use the Sound Select button in the Sound Select / Data Entry region to select the desired instrumental category(Piano, E.Piano, etc.) and select a program by pressing one of the eight buttons below the category buttons as suggested in < Figure 3-4 >.

- ① **Selecting Categories** / You can select the desired instrumental category in this region.
- ② **Selecting Programs** / You can select the desired program within the current category in this region.

Chapter 3

SP2XS Performance Features



< Figure 3-4 >

Program Sound Patch List

	1	2	3	4	5	6	7	8
Piano	1 Stereo Grand	2 Classic Grand	3 Dynamic Grand	4 Concert Grand	5 Yearning	6 Piano For Layers	7 HardRock Piano	8 Ragtime Piano
E.Piano	9 Studio Rhds	10 Fagen Phaser	11 Old Sly Rhds	12 Dyno My E.Pno	13 Digital E.Piano	14 FantAsm Atron	15 90's FM Ballad	16 Big Red Wurl
Organ/Clav	17 Pipes 16'8" Reed	18 Orgiano	19 Pipe Organ	20 Ballad of 3 Bar	21 Prog Rocker'sB	22 Clav Classic	23 Dual Wha Clav	24 Harpsichord
Strings/Pads	25 Film Strings	26 Touch Strings	27 Fast Strings	28 Octave Strings 2	29 Kupiter	30 Orch Pad	31 U Say Tomita ...	32 Spider's Web
Brass/Lead	33 Williams Brass	34 Synth Brass	35 Brass Section	36 Saxes X Trumpets	37 Indy Lead	38 Alazawi	39 Hybrid Pan	40 Old lead
Voice/Synths	41 Scatman	42 Bright Voices	43 Doo><Daa	44 The Croons	45 Eurythm	46 FLG Synth	47 Solar Lead	48 Attack Stack
Gtr/Bass	49 Acoustic Guitar	50 Chours Elec Guitar	51 Lead Rock Guitar	52 Jazz Frets	53 Round and Wound	54 Two Finger Bass	55 Slap Bass	56 Upright Bass
Drum.Perc	57 Studio Drum 1+2	58 Radio Kings /Rods	59 Dirt/ Triphop Kit	60 Electro Kit	61 Virtuoso Perc	62 Rhythm Maker	63 Dual Marimba	64 Vibes

< Chart 3-1 >

The display will show the ID number of the current program. For example, P64 means that the current program is Vibes (the 8th program of 8th category from the above chart).

Setups

While you can play just one sound at a time within a program, a setup consists of two or more programs. Setup mode shines most during live shows. You can combine up to four distinct sounds in a single setup to your need for band or solo performance situations. The SP2XS can store 16 setups which are assigned to each of Sound Select buttons.

NOTE Although an SP2XS setup can have up to four zones, the 4th zone is reserved for playing rhythm patterns.

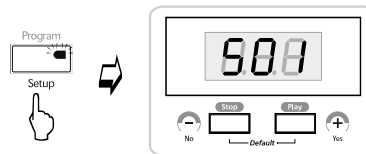
Selecting Setups

Setup List

Setup	1	2	3	4	5	6	7	8
	Piano+Pad	Get up	Acoustic+Synth	Crazy Jam	Yo! Hop	Slider Setup	Summer time	Diano
Sounds	9	10	11	12	13	14	15	16
	Baroque Split	Heavenly	Brass&Strings	Untitled	Chord	The Romancer	Clip	Voice / E.Pno

< Chart 3-2 >

Press [Program/Setup] button a few times till its LED changes to green. Press correspondingly numbered Sound Select buttons to select desired one from the SP2XS's 16 setups. The display will show the ID number of the selected setup (S01~S16) like <Figure 3-5>



< Figure 3-5 Selecting Setups >

Rhythm Patterns and Metronome

Selecting Rhythm Patterns

The SP2XS has 60 types of pre-recorded drum patterns, as well as a metronome. When used with these features, the [+ / Yes] and [- / No] buttons below the display function as [Play] and [Stop] buttons. To select a drum pattern, press [Rhythm/Metronome] button to enter Rhythm Selection mode and use Sound Select buttons to select desired patterns.

Sound Select / Data Entry									
Category									
	Piano	E.Piano	Organ/Clav	String/Pad	Brass/Lead	Voice/Synth	Gtr/Bass	Drum/Perc	
	Ballad	Pop	R&B/Dance	Rock/Funky	Country	Latin	Jazz	World	
Rhythm	1	2	3	4	5				
Metronome	Effect	Chorus	Flange	Delay	Compress	Distortion	Filter	Lazerverb	Misc
	Reverb	Booth	Room 1	Room 2	Chamber	Hall 1	Hall 2	Hall 3	Combi

< Figure 3-6 >

The upper 8 buttons in Category region are used to select the genre of the drum patterns and the lower 8 buttons are used to select 8 variations of each genre. The pattern list is like following:

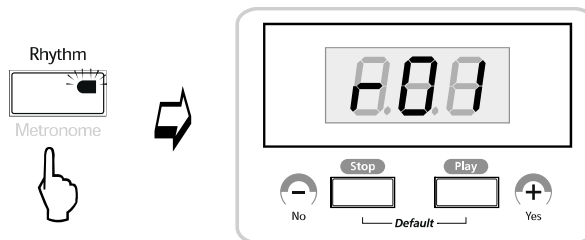
Chapter 3

SP2XS Performance Features

	1	2	3	4	5	6	7	8
Ballad	1 Ballad 01	2 Ballad 02	3 Ballad 03	4 Ballad 04	5 Ballad 05	6 Ballad 06	7 Ballad 07	8 Ballad 08
Pop	9 Pop 01	10 Pop 02	11 Pop 03	12 Pop 04	13 Pop 05	14 Pop 06	15 Pop 07	16 Pop 08
R&B/ Dance	17 R&B 01	18 R&B 02	19 R&B 03	20 Dance 01	21 Dance 02	22 Dance 03	23 Dance 04	24 Dance 05
Rock/ Funky	25 Funky 01	26 Funky 02	27 Funky 03	28 Rock 01	29 Rock 02	30 Rock 03	31 Rock 04	32 Rock 05
Country	33 Country 01	34 Country 02	35 Country 03	36 Country 04	37 Country 05	38 Country 06	39 Country 07	40 Country 08
Latin	41 Latin 01	42 Latin 02	43 Latin 03	44 Latin 04	45 Latin 05	46 Latin 06	47 Latin 07	48 Latin 08
Jazz	49 Jazz 01	50 Jazz 02	51 Jazz 03	52 Jazz 04	53 Jazz 05	54 Jazz 06	55 Jazz 07	56 Jazz 08
World	57 World 01	58 World 02	59 World 03	60 World 04	M 2/4	M 3/4	M 4/4	M 6/8

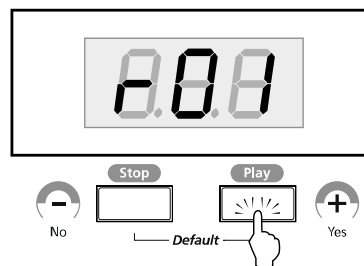
< Chart 3-3 >

When you select drum patterns, the display will look like < Figure 3-7 >.



< Figure 3-7 Drum Pattern Number Displayed >

Pressing [Play] button below the display will start the rhythm pattern and [Stop] button will stop the play. While playing rhythm patterns, the LEDs in those buttons blink red and green alternately.

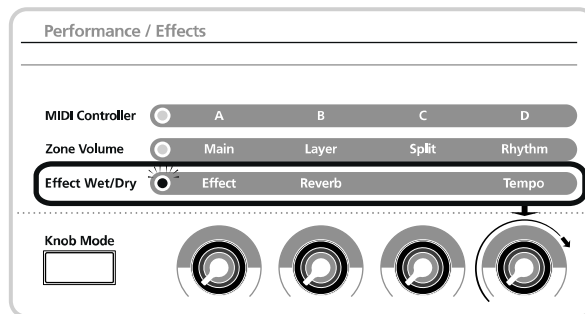


< Figure 3-8 >

Setting the Tempo

◆ Using Knob D

You can change the tempo of the selected rhythm pattern in real time with knob D and the display will indicate the changed tempo. The tempo can be set from 40 to 280 bpm.



< Figure 3-9 Changing Tempo >

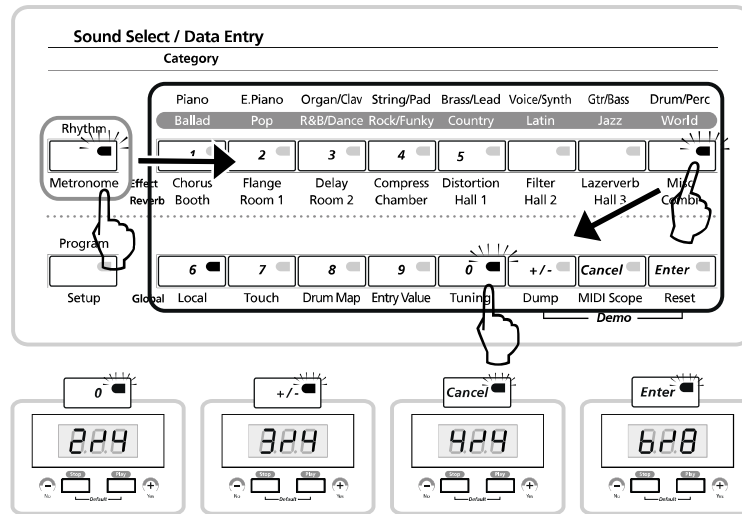
◆ Using [Tap Tempo] Button

As you tap a key four times along with the beat while pushing the [Knob Mode] button, the SP2XS will determine the tempo automatically. During performance, tapping the [Tap Tempo] button two times will do the same thing.

☑ NOTE While patterns are playing, you can still play the keyboard and change programs using [Program/Setup] button. If you want to stop patterns playing during performance, enter Rhythm Selection Mode again by pressing [Rhythm/Metronome] button and press [No] button to stop it.

Metronome Feature

To activate Metronome feature, press [Rhythm/Metronome] button and select "world" drum pattern category. And then, press [0], [+/-], [Cancel] and [Enter] button in order. The SP2XS supports 4 types of time signature including 2/4, 3/4, 4/4 and 6/8. After you make selection, the display will look like < Figure 3-11 >. Use Knob D to control the tempo as you do with the drum patterns.



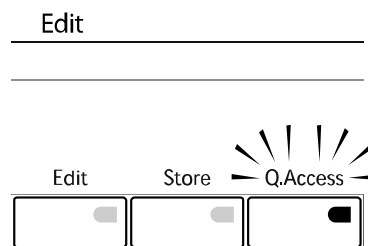
< Figure 3-10 >

NOTE Metronome On / Off

Like rhythm patterns, [Play] button will start the metronome and [Stop] button will stop it. While the metronome is running, you can still play the keyboard and change programs using [Program/Setup] button. If you want to stop the metronome during performance, enter Rhythm Selection mode again by pressing [Rhythm/Metronome] button and press [No] button to stop it.

Using Quick Access Bank

The SP2XS has 16 empty slots for storing frequently used sounds, or user created programs and setups. We call them Quick Access bank. You can quickly save sounds to those slots within Quick Access bank and later, select any of the stored programs or setups with a single press of a button. This is a very convenient feature, especially for a live show.



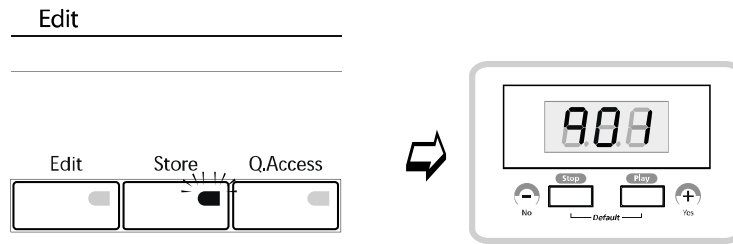
< Figure 3-11 >

Editing Quick Access Bank

If you need instant access to specific SP2XS sounds frequently, that's what Quick Access bank is for. Each of the 16 slots corresponds to the 16 buttons in the Sound Select / Data Entry section on the SP2XS's front panel.

Make one of your favorite programs or setups the current sound and press [Store] button. The sound will be stored in one of the empty slots and the SP2XS will enter Quick Access mode.

Pressing the [+/Yes] button completes the saving procedure. After saving completes, the display shows the slot number you just stored your sound in like < Figure 3-12 >

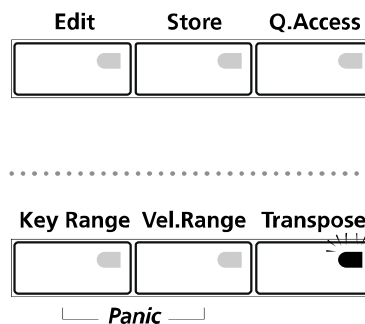


< Figure 3-12 >

◆ Using Quick Access Bank

Quick Access mode is very useful in live situations. If your duty in a band is to make a variety of sounds, not just piano, arrange the sounds into your SP2XS's Quick Access bank in the order. Especially for situations when a few bands may share a single keyboard instrument such as church gigs or practicing rooms, having your own Quick Access bank will be really handy. You will never need to spend any time to search sounds.

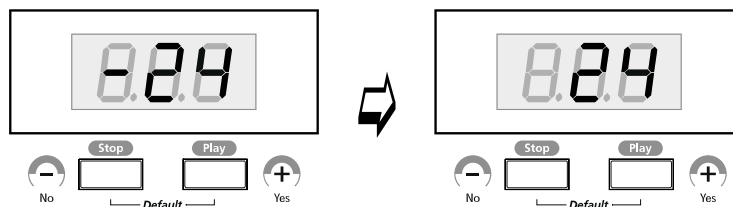
Transpose



< Figure 3-13 >

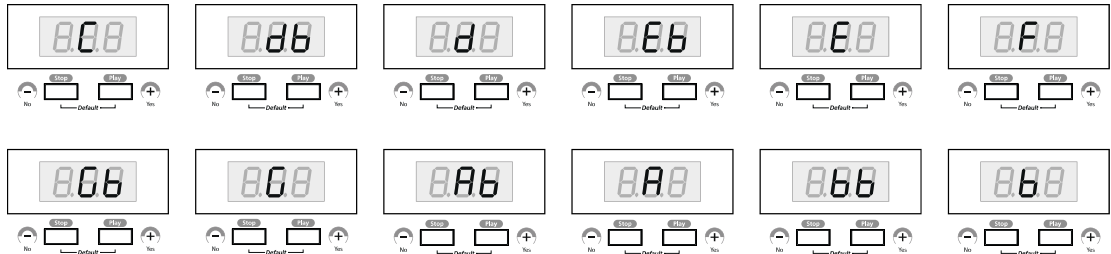
The SP2XS offers a quick and easy transpose feature. While holding down [Transpose] button, use [+/Yes], [-/No] button below the display to subtract or add semitones. The SP2XS can be transposed up to two octaves in both directions.

☑ **NOTE** Pressing [+/Yes] and [-/No] button at the same time will reset the transposition.



< Figure 3-14 >

Also, while holding down [Transpose] button, you can select a desired key signature by pushing a corresponding key from C to B. In this case, the display looks like < Figure 3-15 > according to the selected key signature.



< Figure 3-15 Transpose with keys >

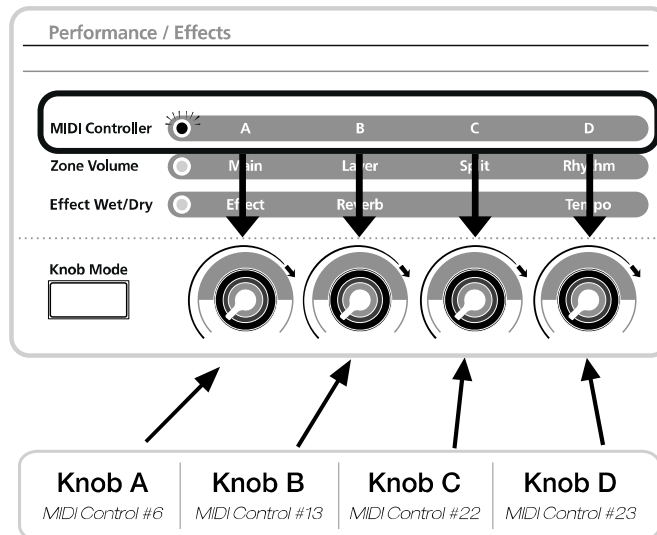
Using Multi Function Knobs

The SP2XS has 4 multi-function knobs labeled A, B, C, D in the Performance/Edit Region. By using [Knob Mode] button, various functions can be assigned to each knob, which include MIDI data, zone volume, effect wet / dry mix, and tempo control. The functions of Knobs A-D depend on “Knob mode”. Each time you press [Knob Mode] button, Knob mode will be selected alternately and the corresponding LED will light.

◆ MIDI Controller Function

The SP2XS can transmit four different kinds of MIDI message with 4 knobs. Those knobs are programmable and any MIDI control change number, from 0 to 127, can be assigned to them. This feature is very powerful when controlling external MIDI devices, or when using with a computer based sequencer, especially controlling virtual instruments in real time.

The default settings for knobs are described in < Figure 3-16 >



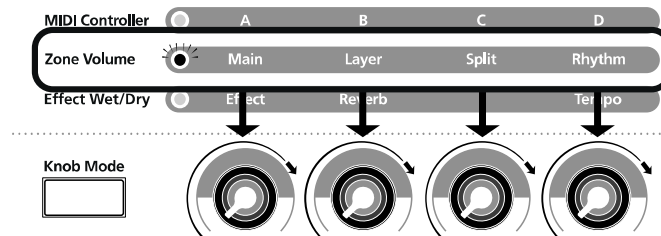
< Figure 3-16 >

The SP2XS shares the same MIDI CC assignment with other Kurzweil instruments. For example, the destinations of knobs A and B are MIDI CC 6 and 13 which PC-series instruments also assigned to slider/knob A and B. In addition, MIDI CC 6, 22, and 23 are assigned to slider B, C and D of the K-series instrument. This makes the SP2XS a good controller keyboard for other Kurzweil rack modules, such as PC2R, K2000R, K2500R, and K2600R.

If you want to change the default setting, see Assigning Knobs on page 4-12 in Chapter 4 Programming Your SP2XS.

◆ Zone Volume

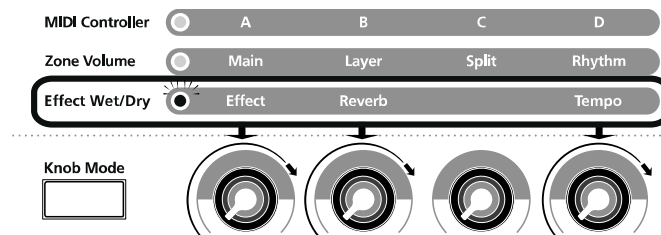
You can control the volume levels of main, layer, and split sounds and rhythm patterns with 4 knobs. It is very useful for live performance, especially when playing with the internal rhythm patterns.



< Figure 3-17 >

◆ Effect Wet / Dry Mix & Tempo Control

You can use 4 knobs to control Effect Wet / Dry mix level and the tempo of rhythm patterns and the SP2XS's metronome. For more information about Effects, see Chapter 7.

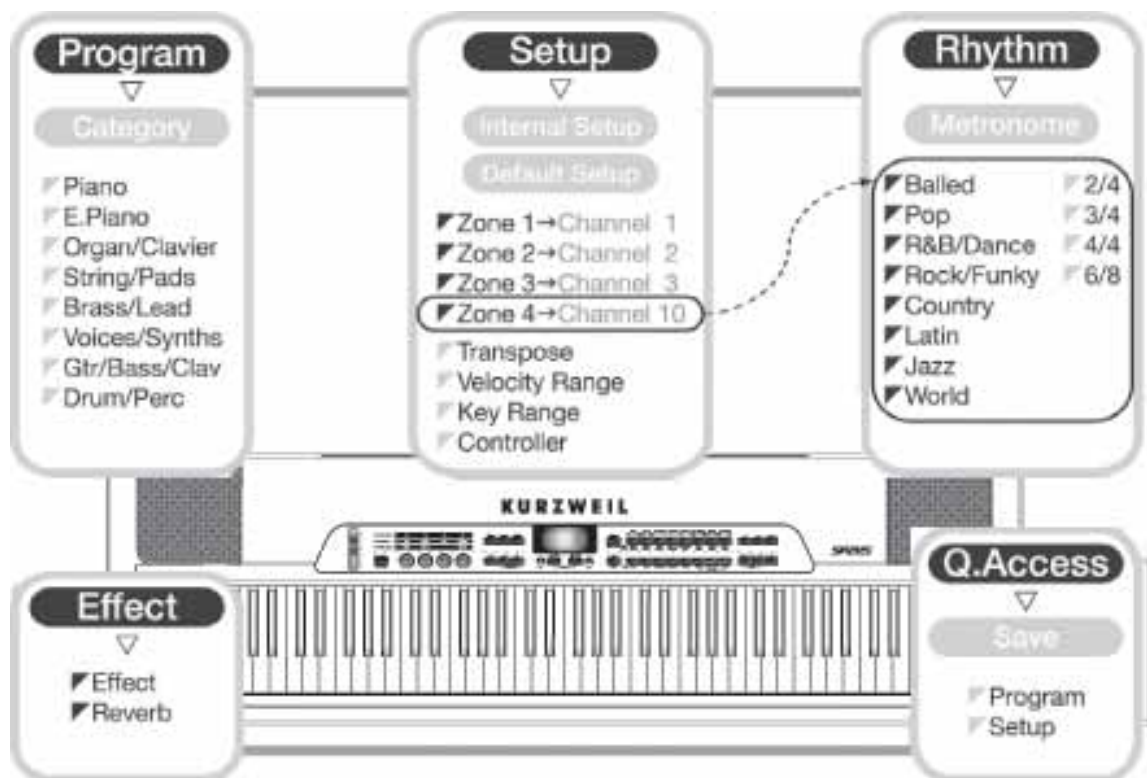


< Figure 3-18 >

CHAPTER 4

This chapter will show you how to modify existing programs, setups and effects to your own specific use or taste. Use the following list to find specific information more quickly.

- ◀ Easy Editing..... 4-2
- ◀ Changing Effect Setting..... 4-4
- ◀ Editing Setup..... 4-8
- ◀ Knob Assigning..... 4-12



< SP2XS Internal Structure Diagram >

Easy Editing (Auto Layer / Split)

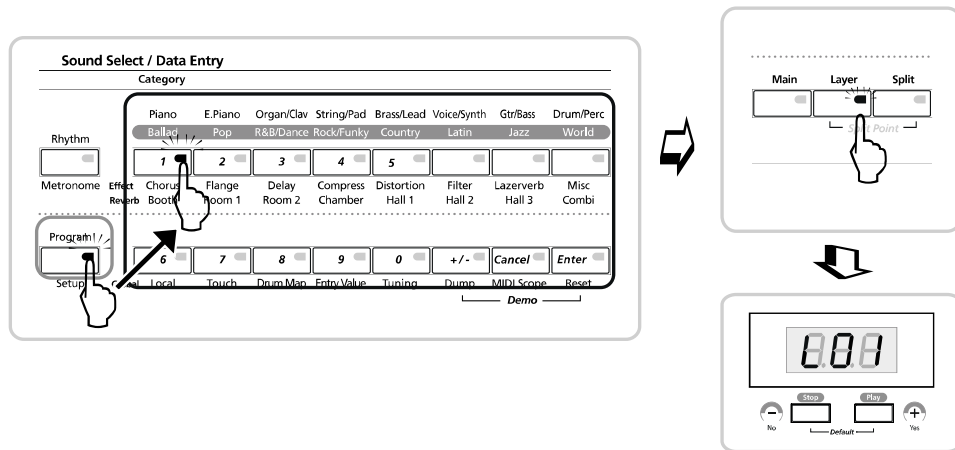
With the AutoSplit feature, users can create new sounds very easily. Tasks such as mixing additional sounds with current ones or splitting the keyboard into multiple parts, each with a different sound, can be done in a very convenient way. Basically, current programs are set to Main sound. You can easily layer additional sounds on top of it or split keyboard into multiple zones with different programs in each, using [Layer] and [Split] button.

Layering

Layering is playing two sounds on the same part of the keyboard.

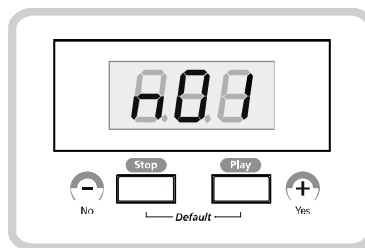
The procedure is as follows:

1. Select a program. If you want to mix another sound with it, press [Layer] button.



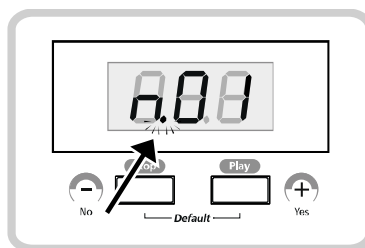
< Figure 4-1 >

2. The LED on the [Layer] button will blink red and the display will look like < Figure 4-1 >, which means the first sound from the first category will be layered. ("L"ayer Program "0" from Category "1")
3. Or, you can select another sound to be layered with the Sound Select button
4. If you want to change your Main sound, press [Main] button and use Sound Select button. (In this case, the display will look like < Figure 4-2 >)



< Figure 4-2 >

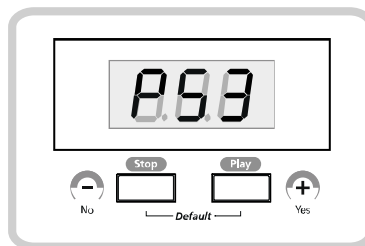
5. One more push of [Main] button will turn off the LED on the button and the Main sound will be muted. The display will indicate this by showing a dot (.).



< Figure 4-3 >

Split

Splitting is playing two or more programs on different parts of the keyboard. For example, using the split feature, you can play a piano sound in the upper register and bass sound in the lower register within a single SP2XS instrument. Pressing [Split] button will flash the LED on it and the display will look like < Figure 4-4 >.

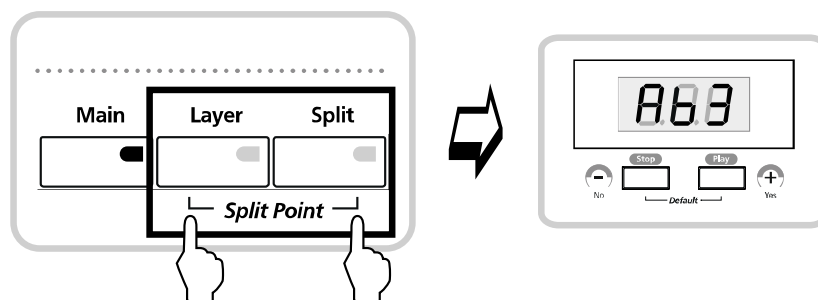


< Figure 4-4 The display indicates that the added split is 053 Bass Guitar >

You can select a split sound with Sound Select button like when you select sounds for layering and the SP2XS splits the keyboard at a predetermined point which by default, is Ab3.

◆ Split Point

If you want to change this automatic split point, press and hold down [Layer] and [Split] button at the same time. The SP2XS will indicate the current split point in the display. Trigger a key which you want to be a new split point. That's it. You have a new split point.



< Figure 4-5 Split Point >

Also, [Layer] button and [Main] button can be used to change or mute the corresponding sounds. As you see in < Chart 4-1 >, the display indicates mute status with a dot (.).

	Display	Button
Main Mute	n.01	OFF
Layer Mute	L.01	OFF
Split Mute	P.53	OFF

< Chart 4-1 Indication of Mute Status >

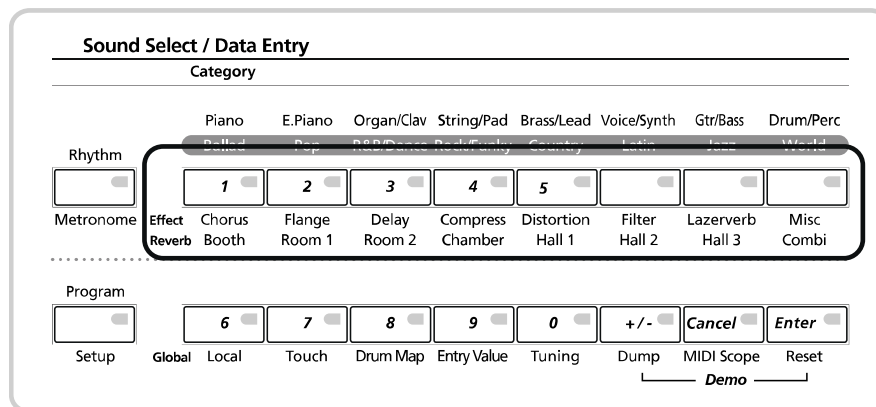
You can store user created sounds in Quick Access Bank. See page 3-10 for more information.

Changing Effect Setting

In Program mode, users can change the effects associated with the current program or setup. The SP2XS has two separate effect blocks called Effect and Reverb. The effects available for Effect block includes choruses, reverbs, distortions, etc. Reverb block is mainly for reverberation adding dimension to sounds, so the effects for Reverb consist of presets such as Room, Hall, Chamber, etc. You can change effects for each block with [Effect] and [Reverb] button in Program mode. The chart below shows the available effects.

	1	2	3	4	5	6	7	8
Effect	Chorus	Flange	Delay	Compress	Distortion	Filter	Lazerverb	Misc
Reverb	Booth	Room 1	Room 2	Chamber	Hall 1	Hall 2	Hall 3	Combi

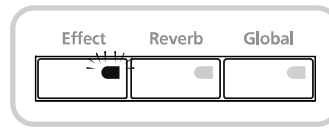
< Chart 4-2 Effect List >



< Figure 4-6 >

- Changing Effects

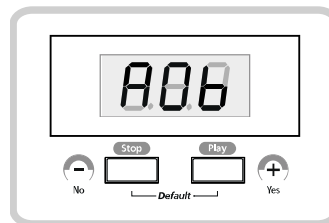
To change an effect, press [Effect] button. The LED in Effect button will light. Users can select types of effects with the upper part of Sound Select buttons and select variations with the lower part of Sound Select buttons. The same method will work for Reverb and you can store your changes in a Quick Access bank with the associated programs. You can use the two effect blocks at the same time.



< Figure 4-7 Buttons for Effect Setting >

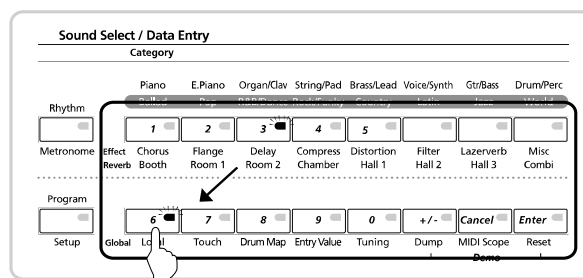
→ For this example, we're going to change the Effect associated with Program 1 Stereo Grand Piano.

1. Select Program 1 (n01) Stereo Grand Piano.
2. Press [Effect] button. The display will show "E06" and the LED in [Edit] button in the Edit region of the SP2XS's front panel will blink. The capital "E" means that the SP2XS is now in Effect Editor mode and the following two digits indicate the type and the variation number of the effect associated with the currently selected program. For more information about the effects and reverbs, refer to Appendix B-7, Effects and Reverbs.



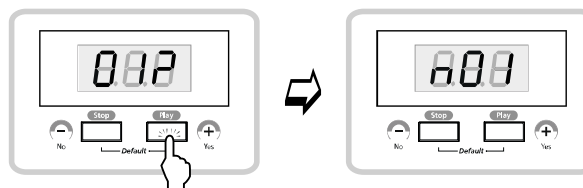
< Figure 4-8 The display in Effect Editor mode >

3. Select the desired type of effect with the upper part of Sound Select buttons in the Category region. The buttons are labeled Chorus, Flanger, Delay, Compressor, Distortion, Filter, LazerVerb, and Misc.(Rotary Speaker, Enhancer, Simple Motion, etc.) After making selection, select the desired preset with one of the the lower 8 buttons.



< Figure 4-9 Selecting Effect Presets >

4. Press [Store] in the Edit region. The SP2XS will ask if you want to store the changed effect setting of the current Program. Store the change with [+ / Yes] button and the procedure is completed. Now, the SP2XS will return to Program mode.

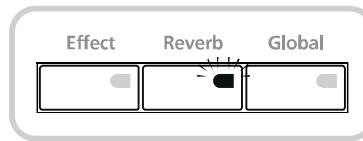


< Figure 4-10 Storing Effect Setting >

Chapter 4

Programming SP2XS

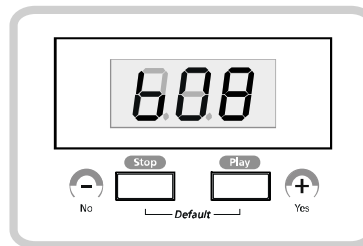
- Changing Reverbs



< Figure 4-11 Reverb button >

→ For this example, we're going to change the Reverb applied to Program 49, Acoustic Guitar.

1. Select Program 49 (n49) Acoustic Guitar
2. Press [Reverb] button. The display will show "b08" and the LED in [Edit] button in the Edit region of the SP2XS's front panel will blink. This means that the SP2XS is now in Reverb Editor mode. The capital "b" means that the SP2XS is now in Reverb Editor mode and the following two digits indicate the type and the variation number of the reverb associated with the currently selected program.



< Figure 4-12 The display in Reverb Editor mode >

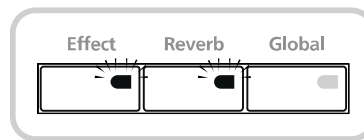
3. Select the desired type of reverb with the upper part of Sound Select buttons in the Category region. The buttons are labeled Room1, Room2, Chamber, Hall1, Hall2, and Hall3. After making selection, select the desired preset with one of the the lower 8 buttons. For more information about the reverbs, refer to Appendix B - 7, Effects and Reverbs.
4. Press [Store] in the Edit region. The SP2XS will ask if you want to store the changed effect setting of the current Program. Store the change with [+ / Yes] button and the procedure is completed. Now, the SP2XS will return to Program mode.

- Saving Programs

When saving a program with a new/different effect, you will be prompted to overwrite the original program with the newly edited program. The display will show the program number followed by a question mark. Select the [+ / Yes] button to store the new program. (Note: This will overwrite the factory program.) The original programs can be restored by performing a reset in the Global menu.

Warning : Performing a reset from the Global menu will restore all factory programs and erase any changes you have made as well as any programs you have stored in the Quick Access bank.

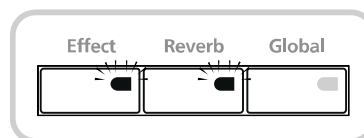
- Changing Combination Effect



< Figure 4-13 The Buttons Used within Combination Effect >

→ For this example, we're going to change the Combination Effect applied to Program 17, Pipe 16'8, reed organ.

1. Select Program 17 (n17), Pipe 16'8, reed organ.
2. Press [Effect] button. The display will show "A55" and the LED in [Edit] button in the Edit region of the SP2XS's front panel will blink. This means that the SP2XS is now in Effect Editor mode.
3. First, select the desired type of effect with the upper part of Sound Select buttons in the Category region. The buttons are labeled Chorus, Flanger, Delay, Compressor, Distortion, Filter, LazerVerb, and Misc.(Rotary Speaker, Enhancer, Simple Motion, etc.) After making selection, select the desired preset with one of the the lower 8 buttons.
4. While holding down [Effect] button, press [Reverb] button. Make sure that the two LEDs in each button light.



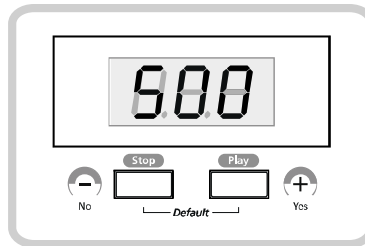
< Figure 4-14 The LEDs blink together with Combination Effect >

5. The display will show "b21" that indicates the current Combination Effect preset associated with the program.
6. Now, select the desired type of reverb with the upper part of Sound Select buttons in the Category region. The buttons are labeled Room1, Room2, Chamber, Hall1, Hall2, and Hall3. After making selection, select the desired preset with one of the the lower 8 buttons.
7. Press [Store] in the Edit region. The SP2XS will ask if you want to store the changed effect setting of the current Program. Store the change with [+ / Yes] button and the procedure is completed. Now, the SP2XS will return to Program mode.

Editing Setups

This section will help you understand and tame the most powerful feature of the SP2XS, Setup, through a few examples.

- There are three basic steps in editing setups.
1. In Setup mode, press [-/No] button and [+/Yes] button at the same time. The display will show “S00” that means Default Setup is selected. Press [Edit] button. The blinking LED in the button indicates that the SP2XS is in Editing mode.



< Figure 4-15 Default Setup is Selected >

2. [-/No] and [+/Yes] button, or Sound Select buttons in the Category region, select a setup to be edited and then, edit parameters such as Key Range, Velocity Range or Transpose if necessary.
3. After editing, store the changes with the associated setup.

The Structure of Setup

Before we begin with the details of setup editing, you may want to know how setups are constructed.

Basically, a setup is a combination of up to 4 distinct programs which can be individually played on different regions of the SP2XS's keyboard. Each region is called a “Zone”. Each zone has its own parameter set which define MIDI transmit channel, controller assignment and key range of the assigned program.

Although the SP2XS can receive MIDI data on only one channel at a time when using with external MIDI devices, the SP2XS will remap the incoming data from the external devices so that you can use the setup's four zones together. The fourth zone is fixed to drum and percussion sounds.

The SP2XS has two special setups you need to check out. They are template setups with basic settings, which are very convenient for creating new setups.

- **Special Setups**

Naturally, you can edit any setup you want, changing values of any of dozens of available parameters. However, the existing setups often have complex interaction between several parameters. Changing the value of one parameter can have greater impact than you anticipated. Consequently, we've made a very handy template setup for your convenience.

1. Internal Setup

In fact, you can consider a program as a setup with only one zone. Thus, changing zone parameters actually can affect how the program works. For example, in program mode, pressing [Split] button activates the Autosplit feature because the value for Autosplit parameter of the corresponding zone is set to ON by default. Thus, you can select any program or internal setup and make it a starting point for your own setup.

2. Default Setup

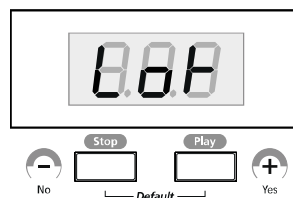
Default Setup is a “blank” setup except for a handful of typical controller assignments with Autosplit Off. If you want to create a completely new setup from scratch, we recommend you to use Default Setup as a starting point.

Now you’re ready to create new setups or edit existing setups and store them in Quick Access bank.

To make changes to setups, press [Setup] button and then, press [Edit] button. Pressing [Edit] button will light the LED in it and the display will show the information about Main sound. Users can edit parameters associated with those sounds with [Layer] or [Split] button. Select sounds you want to edit with [Main], [Layer] or [Split] button. Use [Key Range Button] to edit the key range for the selected sound.

Key Range

Key Range determines where Main, or Split sound plays on the keyboard. For example, you need to set appropriate ranges for each of your basses, pads and leads to enjoy the real power of the split feature. To set Key Range, press [Setup] button, [Edit] button, and then press [Key Range] button in order. The LED in [Key Range] button will flash. The display will look like < Figure 4-16 >.



< Figure 4-16 Setting the Lowest Note for the Zone >

Trigger the key you want to be the lowest note for the zone. When you do, the display will look like < Figure 4-17 >.



< Figure 4-17 Setting the Highest Note for the Zone >

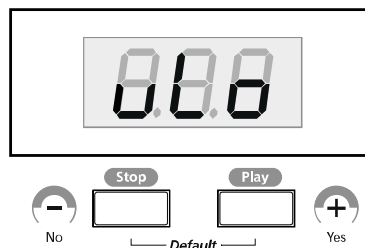
Trigger the key you want to be the highest note for the zone. When you do, the LED in [Key Range] button will be turned off, and setting the key range is done.

Velocity Range

Velocity Range has the same meaning as Velocity Switching in the layering. With this, you can use your key-strike velocity (how hard you play) to change the timbre of sounds. For example, you can create a program which plays leads or pads when played normally and triggers percussion sounds, such as a ride cymbal of drum kits when played at a greater velocity.

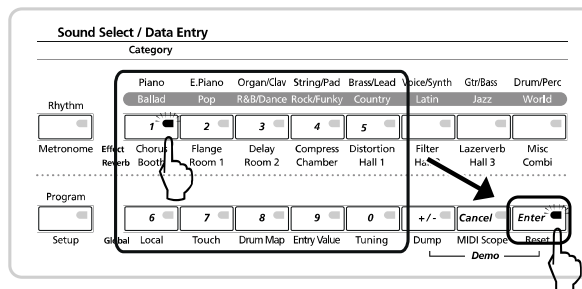
To edit Velocity Range, press [Setup] button and [Edit] button. Then, press [Velocity Range] button. The LED in [Velocity Range] will flash and the display will look like < Figure 4-18 >.

- Low Velocity
- High Velocity



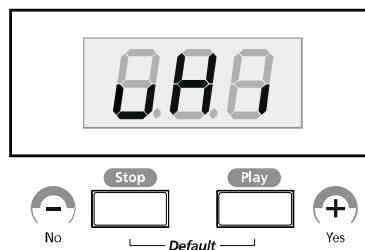
< Figure 4-18 Setting the Lowest Velocity >

Using Sound Select Buttons as numeric buttons, enter the lowest velocity for the sound you want to be triggered within specific range.



< Figure 4-19 Entering Value for the Lowest Velocity with numeric buttons >

Press [Enter] button. Now, the display will set for the highest velocity input like < Figure 4-20 >



< Figure 4-20 Setting the Highest Velocity >

Using Sound Select Buttons as numeric buttons again, set the highest velocity this time. Press [Enter] to complete the procedure. The LED in the [Velocity Range] button will be turned off, and setting the velocity range is done.

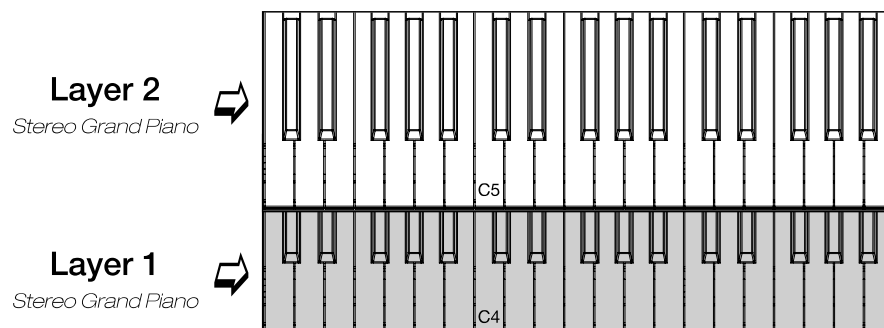
NOTE The values for Velocity Range should be from 0 to 127.

Transpose

You can use [Transpose] button to set the amount of transposition for each zone. The method is:

1. Select any sound from Main, Layer or Split sounds, which you want to transpose.
2. Press [Setup] and [Edit] button.
3. Press [Transpose] button.
4. Set a value of transposition with Sound Select buttons.
5. Press [Transpose] button again to confirm.

< Figure 4-21 > shows an example of the transposition feature. Two kinds of piano sounds are layered and the second piano sound is transposed up an octave (12st). The result is so called an "Octave Piano" sound, which plays in octave unison.



< Figure 4–21 Transposition >

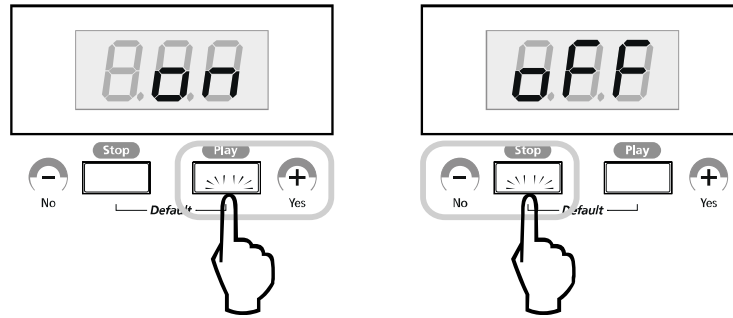
Editing Effect Settings

You can change the effect setting for setups the same way as you do with programs. Without changing, the effect setting for Main sound will be globally applied to the entire setup.

Pedal Setting

Sometimes, you want to apply different pedal settings to different sounds, especially when you are in Split mode. For example, if you are playing a split with piano and bass sounds, you may not want to sustain your bass sound with a switch pedal as you do with piano. In this case, you will want your switch pedal to work for the piano sound but not for the bass. To do this, select a program, press [Setup] button and [Edit] button. While holding down [Knob Mode] button, press your switch pedal to enable or disable the switch pedal associated with the selected program. The display will show whether the switch pedal is enabled or disabled.

See < Figure 4-22 >

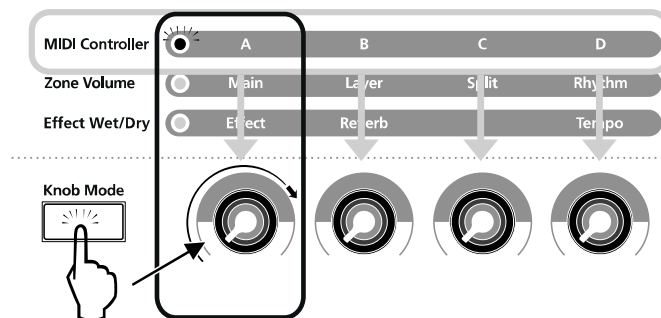


< Figure 4-22 Turning On and OFF switch pedal >

Assigning Knobs

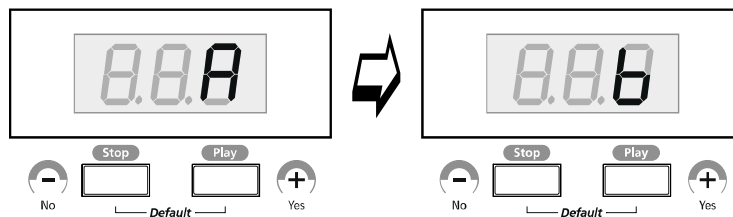
You can program Knobs A-D to send any MIDI control change number. The procedure is like following:

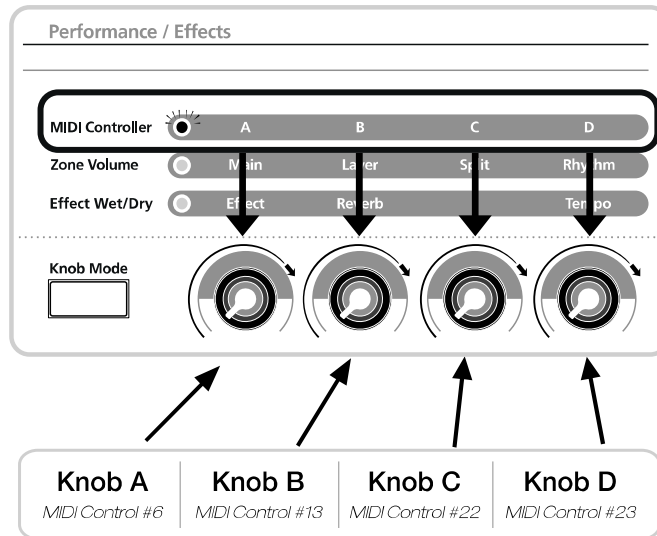
Press [Setup] button and [Edit] button. While holding down [Knob Mode] button, turn one of the knobs you want to program.



< Figure 4-23 Selecting a Knob to be programmed >

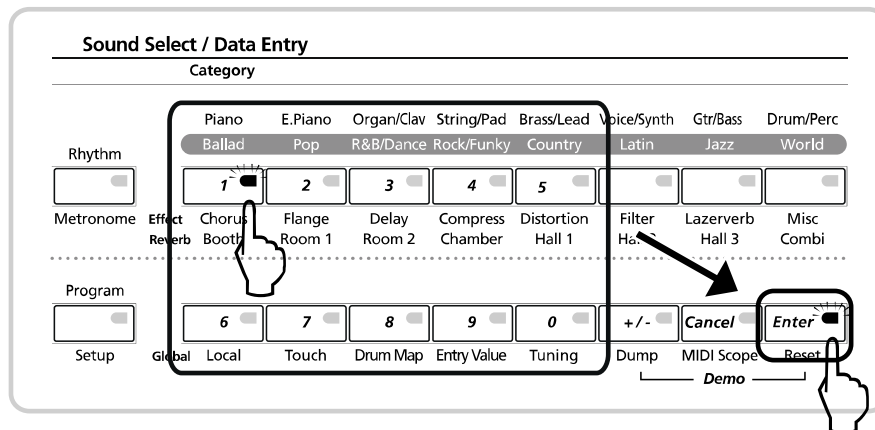
The display will show which knob will be programmed for a short while and then the MIDI control number currently assigned to it. See < Figure 4-24 >. The Knob to be programmed is A and the assigned MIDI control number is 6.





< Figure 4-24 >

Assign a MIDI control number you want with Sound Select buttons and press [Enter] button. For more information about MIDI control number, refer to the MIDI Implementation Chart in Appendix A.



< Figure 4-25 Assigning a MIDI control Number >

CHAPTER 5

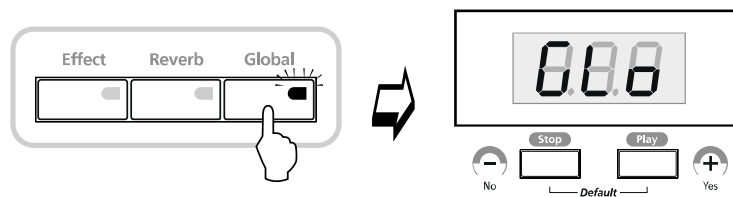
Global parameters affect the operation of instrument-wide behavior. This chapter will help you understand what each parameter does. Also, you learn how to initialize the entire system in Global mode. To find subject-oriented information, use the following list.

- ◀ Local.5-2
- ◀ Touch / Drum Map / Entry Value / Tuning. 5-2
- ◀ Dump / MIDI Scope / Reset. 5-4

Entering Global Mode

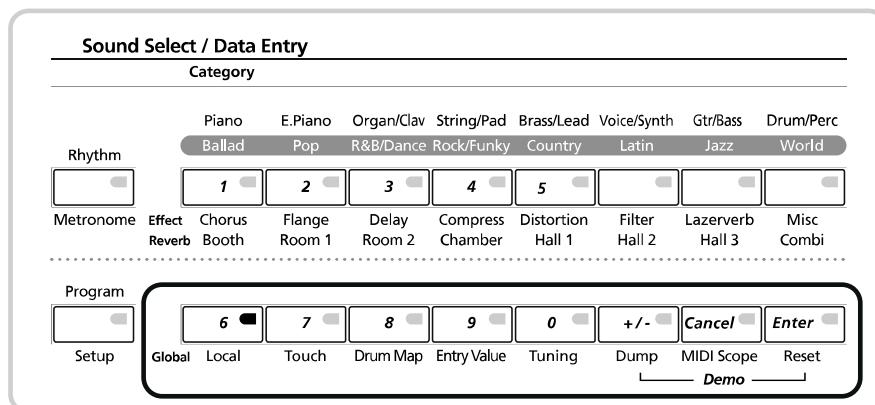
Press the [Global] button to enter Global mode.

After you enter Global mode, the display looks like < Figure 5-1 >.



< Figure 5-1 Entering Global Mode >

In Global mode, you can select each of 8 global parameters using the lower row of Sound Select buttons as labeled below them.

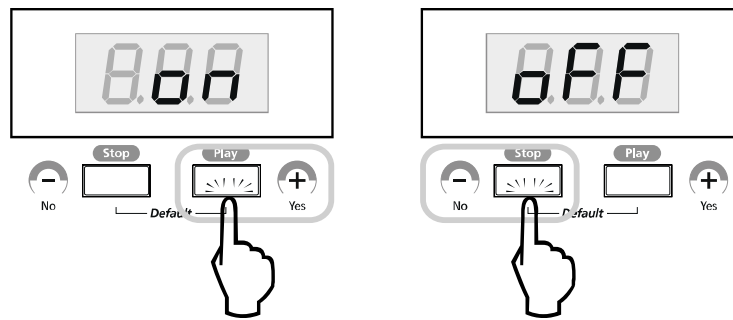


< Figure 5-2 Selecting Global Parameters >

Local

This parameter establishes (On) or breaks (Off) the internal link between the MIDI-generating components (keyboard and physical controllers) and the internal sound module. When you want to be able to play the SP2XS from its own keyboard, set Local Control to On. When the SP2XS is receiving MIDI from an external source, set Local Control to Off. Otherwise, MIDI looping (notes get doubled) might occur. This is particularly important when you're using the SP2XS with a sequencer.

[+/Yes] and [-/No] buttons will turn on and off Local control. The term "Local" means connection between the internal sound generator and the triggering devices such as the keyboard part of your SP2XS. Generally, On is appropriate for standalone use and Off is used with a computer sequencer or external MIDI processor.



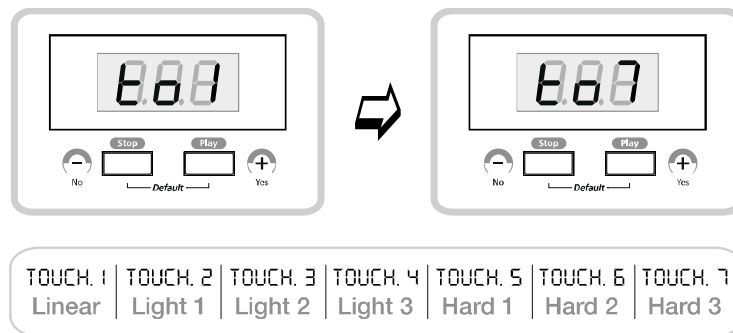
< Figure 5-3 >

Touch

This parameter determines how sensitively the keyboard responds to your playing. By default, a value of Linear is the standard, unaltered level of keyboard sensitivity. Values of Light1 - Light3 are for players who prefer a light touch. You can play more lightly and still get the same attack-velocity values with these settings. The sensitivity level increases as the numeric number suggests.

Values of Hard1 - Hard3 are for players who have a heavier touch. You should play harder to get the same attack-velocity values. Also, the numeric number suggests the sensitivity level. Linear is less sensitive than Light1 and more sensitive than Hard1.

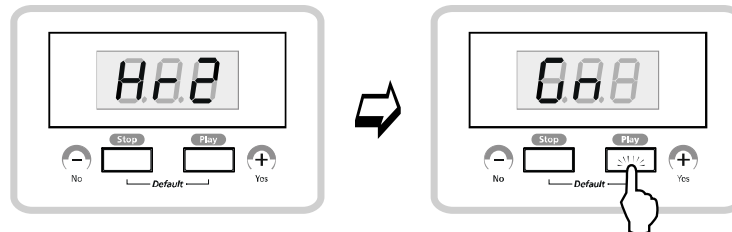
With [+/Yes] and [-/No] button, you can select one of those seven types of sensitivity level of your SP2XS's keyboard like < Figure 5-4 >.



< Figure 5-4 Selecting Velocity Sensitivity >

Drum Map

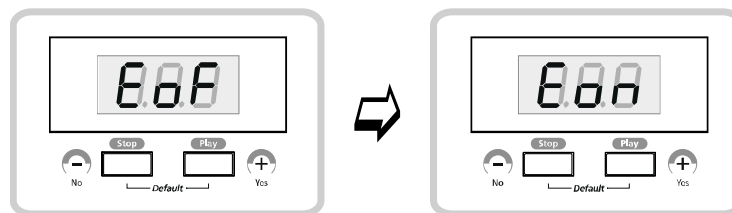
This parameter determines the layout of percussion timbres in drum programs (Unlike other programs, drums or percussion programs should consist various percussion instruments within a single patch). You can select either General MIDI style layout (GM) or Kurzweil style layout (KRZ) with [+ / Yes] and [- / No] button like < Figure 5-5 >. The default setting is KRZ.



< Figure 5-5 >

Entry Values

You can assign initial values for controllers if necessary. For example, when changing setups between songs at a gig, you want to specify initial settings for any controller such as effect wet / dry level or volume setting for each setup. You can activate this feature by setting the Entry Value parameter to ON. (See < Figure 5-6 >.) The default state is OFF. There are a few important points you need to understand about Entry Values.



< Figure 5-6 >

Crossing the Entry Value

Suppose that Knob A happens to be all the way to the left when you select a new setup and the entry value assigned to Knob A is 95. You don't want it to suddenly jump to the current value. Since the knob is all the way down (sending a MIDI Controller message with a value of 0), it would jump to a value close to 0. If Knob A controls effect wet/dry mix level, the moment you move the knob, the effect would suddenly disappear.

This is very common problem with generic MIDI controllers. To avoid this problem, the SP2XS is designed so that once you set an entry value for a physical controller, it won't become active until you pass the point of the entry value. So, in the previous example, as you move Knob A up, nothing happens until you reach 95. At that point, the sliders begins to send MIDI controller message.

Avoid Extra Controller Motion

Now suppose you want to have a piano-and-strings setup with chorus effect, but you don't want to hear the effect at all when you select the setup. Instead, you want to bring it in later. To do this, you could set the entry value for Knob A in Zone 1 to 0.

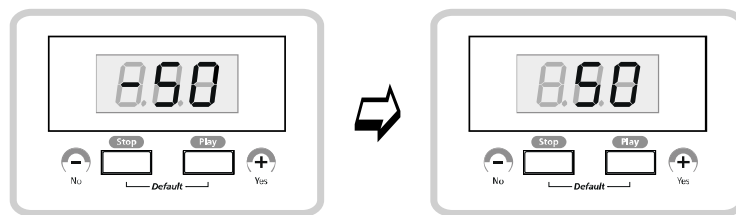
Chapter 5

Global

Imagine that the knob is all the way to the left when you first call up the setup. Remember that the knob must go past the entry value before it becomes active. In this example the entry value is 0 and the current MIDI controller value sent by the knob is 0 (minimum). When you move the knob up, the MIDI controller value goes to 1, and therefore hasn't crossed the entry value, and therefore nothing happens as you continue to turn the knob. You'd have to turn the knob to the right slightly, then back to the left so that it goes to MIDI Controller value 0, then the next time you turn it to the right, the knob will be active. To avoid having to turn the knob right, left, and right again, set the entry value to a very low number other than 0, such as 5. The value is so low that you won't hear the effect, but as you turn the knob to the right the first time, it will go past value 5 and become active.

Tuning

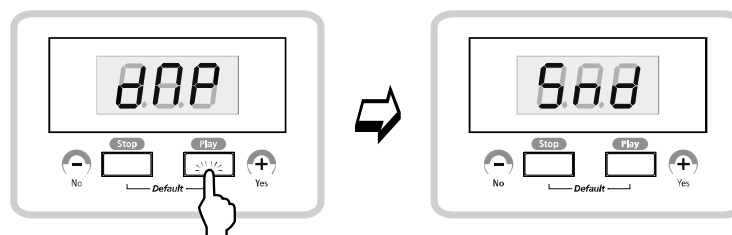
The SP2XS is tuned to 440 Hz. You can tune the SP2XS up or down to -50 (Ab) ~ 50 (A#) in one-cent increments. To recall the default setting, press [+ / Yes] and [- / No] button simultaneously. This can be useful if you are playing along with a recording, or playing with other acoustic instruments that can't be easily retuned. The default value is 0 cent.



< Figure 5-7 >

Dump

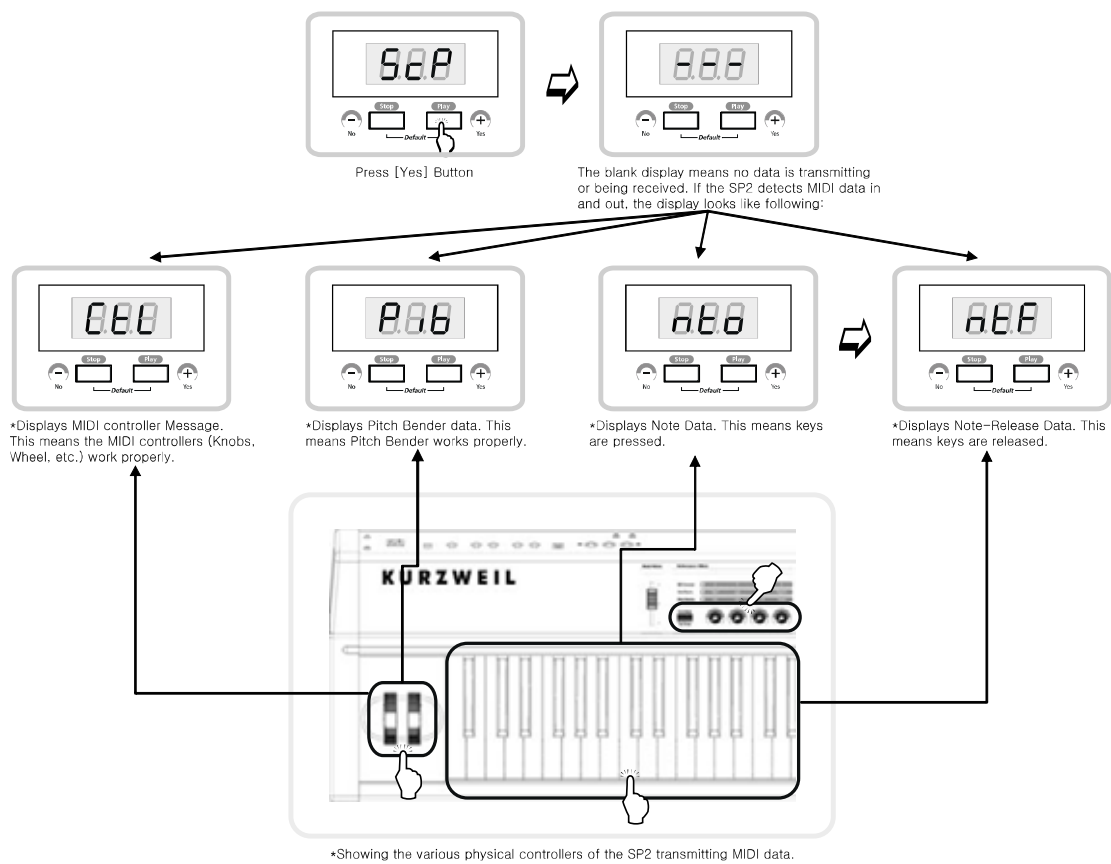
Use when you want to store all the data in memory externally as System Exclusive message. The data will be sent over a MIDI cable. Press [Dump] button and the display will show "dmp" (Dump) message. [+ / Yes] button will start transmitting and the display will show "Snd" (Send) message.



< Figure 5-8 >

MIDI Scope

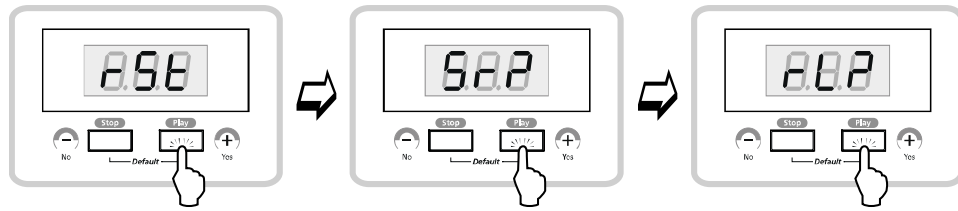
This small utility is used for monitoring MIDI data, either coming into the SP2XS or being produced by the instrument itself. Whenever you play a key or controller or send and receive any MIDI data, the data show up on the display. You can monitor if the SP2XS properly receives incoming MIDI data. When you select MIDI scope, the display will show "ScP" (scope) message. The [+ / Yes] button will clear the display. "Nte" means note message and "Ctl" means control message. This can be highly useful for diagnosing problems or monitoring MIDI data flow especially when the SP2XS is transmitting MIDI control message.



< Figure 5-9 >

Reset

This will initialize the SP2XS. When you select [Reset], the display will show "Rst" (Reset). Press [+ / Yes] once again, and the SP2XS will ask you if you are sure. Press [+ / Yes] button one more time and you will see a prompt asking "rL?" (Really) to be sure for the last time. This will prevent you from executing a hard reset inadvertently, which erases all user-stored data. One more push of the [+ / Yes] button will initialize the SP2XS.



< Figure 5-10 Resetting the SP2XS >

CHAPTER 6

This chapter will help you understand how to upgrade the internal software of the SP2XS as well as a few miscellaneous menus. Use the following list to find specific information more quickly.

- ◀ Software Upgrades. 6-1
- ◀ Miscellaneous Menus. 6-2

Software Upgrades

You can get software upgrades for your SP2XS from Kurzweil's FTP website or from your Kurzweil dealer. Because the software upgrades are encoded as one or more standard MIDI files containing MIDI Sysex, you need a computer (Mac or Windows PC) with a MIDI interface and sequencer to transfer the software to your SP2XS. Kurzweil's FTP website address is:

`ftp://ftp:kurzweilmusicsystems.com/pub`

Also, our download page will answer any questions you might have about how to download files and get them into your SP2XS.

`http://www.kurzweilmusicsystems.com/downloads.html`

The software upgrades filenames are in the format SP2XSVVV.MID, where VVV is the version number. The filename with "COMB" in it contains the combination of software upgrades and sound objects.

Setting Up For a Software Upgrade

Connect a MIDI cable from the MIDI Out of the MIDI interface to the MIDI In of the SP2XS.

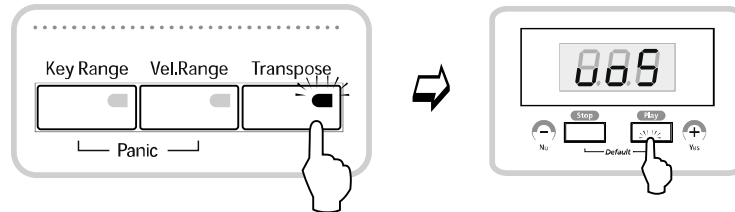
NOTE You need to set up your computer to transmit MIDI data properly. Follow the procedure described below. It is very easy.

1. Open Control Panel
2. Open the Sounds and Audio Devices Properties
3. Click the Audio tab
4. Set the Default device for MIDI music playback to the MIDI interface connected to the SP2XS.
5. Close the dialog box and click OK to complete the setting.

NOTE The following instructions are for PC & Mac

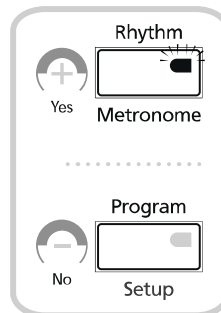
Installing Software Upgrades

1. After powering on, when three dots on the display are blinking, press the [Transpose] button.



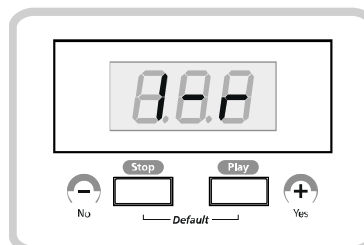
< Figure 6-1 >

2. The display will show “uOS” (Update OS) message.
3. If you want to move to another menu, use [+ /Yes] or [- /No] button.
4. From now on, pressing [Metronome] button means “Yes” and pressing [program] button means “No”.



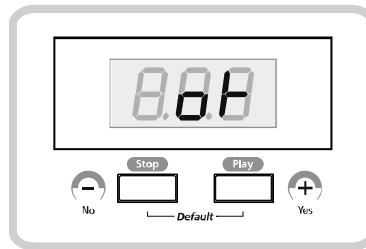
< Figure 6-2 >

5. Thus, if you decide to install software upgrades, press [Metronome] button while the display is showing “uOS”.
6. Then, the display will show “u.O.S.” that means the SP2XS is now waiting for the data transmission.
7. Start playing the MIDI file containing new software from the sequencer, or a MIDI file player such as Windows Media Player.
8. If the SP2XS is receiving the MIDI data correctly, the display will shows “1-r” like < Figure 6-3 >.



< Figure 6-3 >

9. If you start the MIDI file player and still the display shows “u.O.S.”, it means that the data is not being sent to the SP2XS properly.
10. In this case, make sure the MIDI connection and the MIDI file player setting from the computer is correct one more time.
11. If everything works well, the loading may take up to 18 minutes. After the software loading is completed, the display will show “OK” message which means that the software upgrade has been successfully done.



< Figure 6-4 The “OK” message >

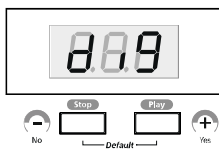
12. Turn power off then on.
13. Now, the software upgrade is completed successfully and your SP2XS will start with the new operating system and / or features. Please, refer to the Read Me File included in the software upgrades.

Miscellaneous Menus

◀ As described above, when the display shows “uOS”, you can select more menu options including diagnostic with [Up] and [Down] buttons.



1. “ubt” – Updating Boot Block: This menu is for updating boot block. The boot block is a tiny piece of software with information that is needed to start the SP2’s system software. The procedure is same as software upgrades. Usually, customers don’t need to update boot block themselves.



2. “dig” – Diagnostics: This menu is for diagnostics. You can choose from a series of diagnostic tests for proper operation of the important components inside your SP2’s hardware including Flash ROM, RAM, sound generator, Delay RAM, etc.



3. “eng” – Engine: This menu executes the engine software which is same as you normally start your SP2.



4. “rSt” – Reset: This menu executes the system initialization. Usually, customers don’t need to use this menu.

CHAPTER 7

Why Use Effects?

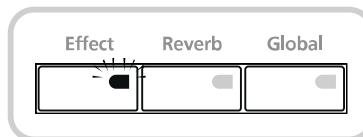
You can enhance the SP2XS's sound even more with the internal effects. With reverbs, you can add depth and reality to the SP2XS's sound. Also, you can enjoy a variety of modulation effects which can dramatically change the timbre of internal sounds. By adding effects such as reverb or delay, you can make your SP2XS sound like a grand piano in a concert hall. Exploring the sonic potential of your SP2XS will be fun and most of all, your audience will be impressed with the full and rich sound of your instrument. For quick reference, use the following list.

- ◀ Description 7-1
- ◀ Controlling Effect 7-1
- ◀ Routing Effect 7-2
- ◀ Selecting Effect 7-2
- ◀ Wet / Dry Mix 7-3
- ◀ Bypassing Effect 7-3

Description

The SP2XS's digital multi-effects consist two independent effect blocks called Effect and Reverb. You can determine which effect block each program or setup goes thorough. We call it Signal Routing.

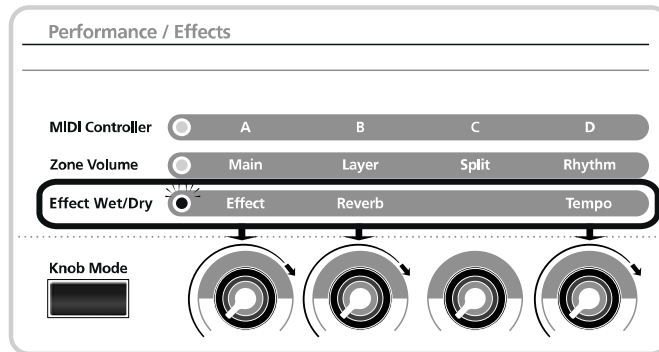
The SP2XS has 64 effect presets. All of them are available for Effect block. For Reverb block, 30 reverbs are available (these reverbs are also available for Effect block). Thus, most programs are routed to Effect block by default.



< Figure 7-1 Effect, Reverb block button >

Controlling Effect

Basically, most programs and setups have at least one assigned effect. The LEDs in the Effect and the Reverb block buttons come on and go off according to the settings for each program or setup. Activating one of those blocks will turn on the LED in the corresponding button. Of course, you can activate both blocks if needed. In this case, both LEDs are turned on. You can assign knobs to control the wet/dry mix of each block in the Performance / Edit region.



< Figure 7-2 Effect Wet/Dry >

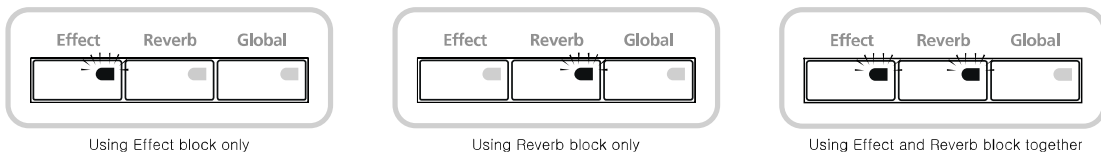
MIDI Controller 93 and MIDI Controller 91 are assigned to control the wet/dry mix of Effect and Reverb block. The value of 0 means completely dry signal with no effect processing at all. The value of 127 is the opposite - processed signal only.

- MIDI91 / REVERB
- MIDI93 / EFFECT

Routing Effect

Routing Effects is determining which block the audio signal will pass through. Literally, the term "Routing" means selecting paths in the SP2XS's effect engine along which to send the audio signal generated by the sound engine. You can also make the audio signal temporarily bypass the effect engine without reprogramming the SP2XS. < Figure 7-3 >

When you select a program or setup, the LEDs in the Effect and Global buttons will indicate the current effect routing.



< Figure 7-3 Routing Effect >

Selecting Effect

1. Press [Effect] button
2. Make sure the LED in the [Edit] button is blinking, which means that you are in the Effect Editing mode.
3. Select the desired effect type from the category. The category includes chorus, flanger, delay, compressor, distortion, filter, laserverb, misc. (rotary speaker, enhancer, simple motion, etc.) After you make selection, choose the desire preset with Sound Select button.
4. Unless you store changes, the effect assignment reverts to its preset state as soon as you you select another program or setup. If you change the effect routing for program or setup and preserve the changed setting, press [Store] button
5. The display will ask you to to be sure. Press [+ / Yes] button to confirm.

Wet / Dry Mix

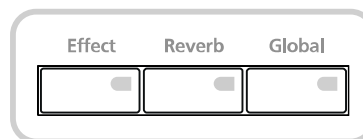
Most programs and setups are routed to Effect block by default. The audio signal processed by the Effect block can be routed to Reverb block before being sent to the main output.

The [Effect] and [Reverb] buttons in the Performance / Edit region of the front panel enables the “sends” to each block. When the button's LEDs are lit, control the send amount with knobs. The numeric value for each block means the following:

- The Effect controls how much of Effect block's effect gets applied to the dry signal coming from the sound engine.
- The Reverb controls how much of the processed signal coming from Effect block goes to Reverb block and gets Reverb block's effect applied to it.

Bypassing Effect

Sometimes, you need to mute all the effects. For example, when you're in the studio, your recording engineers may want to use their own external effects. You can easily silence all your effects and / or reverb temporarily without making any lasting changes to the programs or setups you're playing. Just deactivate each block with the corresponding button. The LEDs are turned off when they are deactivated. In this case, the effect engine is still active although the effects are muted. The audio signal simply bypasses the effect engine.



< Figure 7-4 Effect Bypass >

CHAPTER 8

Tutorials

This chapter provides a few programming examples for ensemble or solo performance situations, which users can easily follow step-by-step by themselves. Create some setups with two or more programs using layering, splitting and velocity switching feature. With the internal rhythm patterns running, you can even run an entire show alone which would need multiple players. While enjoying the tutorials, you will learn the advanced features of the SP2XS quickly.

Programming with Layers

The most often used layering techniques are mixing two sounds (Piano with Strings or Pads) each with fast attack and slow attack for richer and punchier sounds, or layering a few similar sounding programs (Brasses, Strings, Analog Synths, etc.) to fatten the sounds.

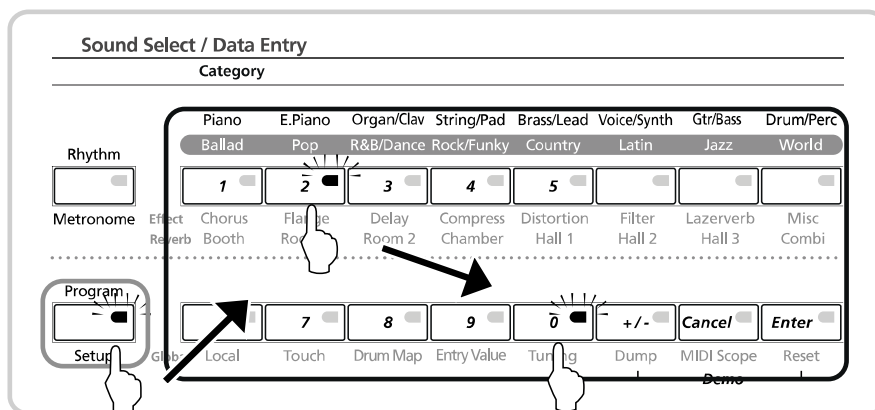
- Layering in Program mode

The program mode is automatically selected when power is turned on. In program mode, you can add another sound to the currently selected sound almost instantly without entering Setup mode. It is very useful when you are on stage because with a few button presses, you can easily create a layer without any actual editing through the display. We'll show you how to do this. Follow the tutorials below a couple of times and you will get the idea quickly.

Creating New Sounds with Layering

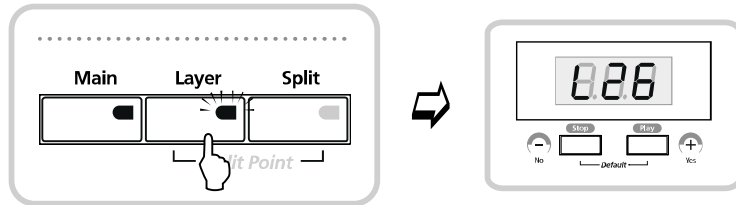
We are going to start with an existing electronic piano sound and layer it with vibes to create a new electric piano sound suitable for ballad tunes.

1. In Program mode, select n13 (Digital E.Piano)



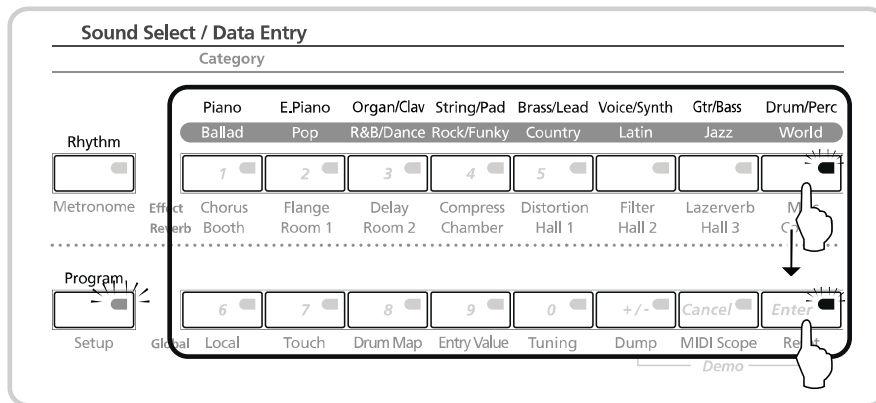
< Figure 8-1 >

2. Press [Layer] button located on the left side of the display. This will change the LED on the [Program] button from red to amber and "L26" will appear on the display. The color change of LED means that the SP2XS is in Editing mode and "L26" indicates that program number 26 is (L)ayered.

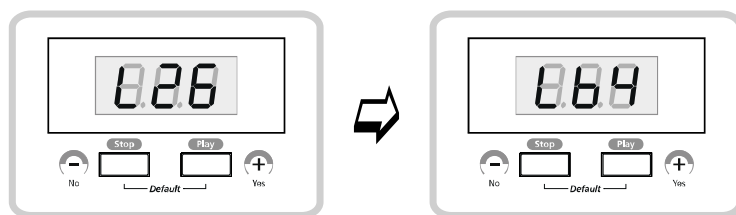


< Figure 8-2 >

3. Press [Drum/Perc] button in the category region and press [Enter] button. The "L26" on the display will change to "L64" (Vibes).

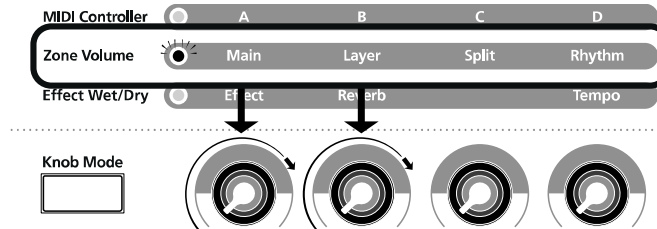


< Figure 8-3 >



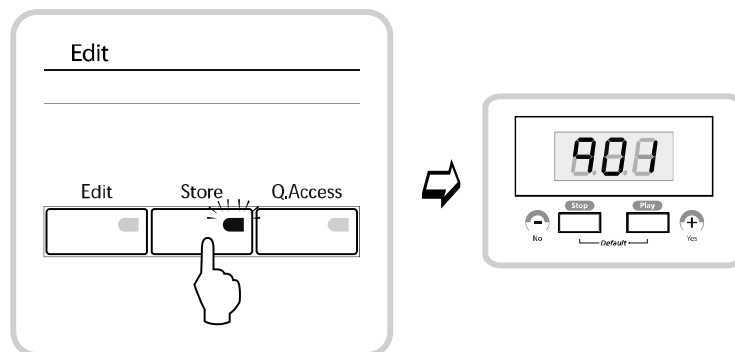
< Figure 8-4 >

- Select Zone Volume mode with [Knob Mode] button. Use knob 1-2 to adjust the volume level of each sound. Set Main volume level to 110 and Layer volume level to 100.



< Figure 8-5 >

- Press [Store] button in the Edit region and press [Yes] button below the display. The SP2XS will ask you once more to be sure. One more press of [Yes] button will complete the saving procedure and the display will show "q01" indicating the slot number you just stored your program in. You can select one of the stored programs with [Q.Access] button at any time.



< Figure 8-6 >

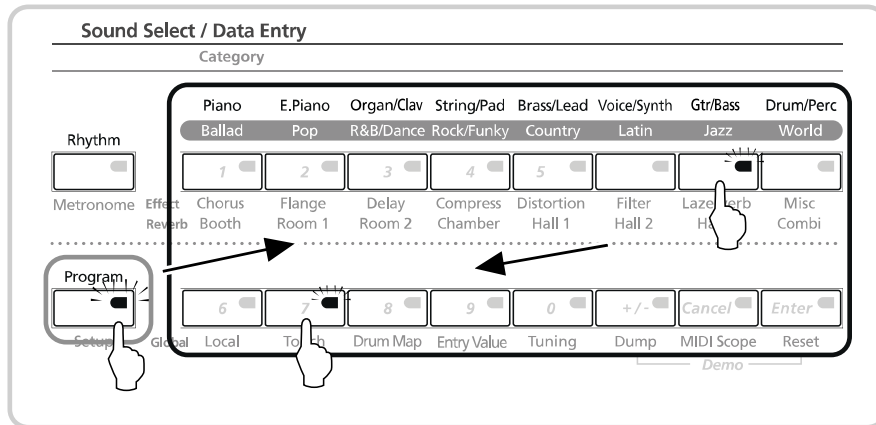
Splitting in Program mode

When you need two sounds on different parts of the keyboard, splitting comes in handy. For example, if you want to play a flute melody part with your right hand while playing a piano accompaniment part with your left hand. Layering is playing two sounds on the same part of the keyboard and splitting is playing two sounds on different parts of the keyboard.

Creating New Sounds with Layering and Splitting

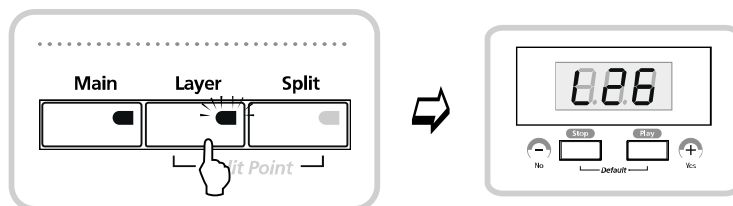
We are going to create a sound which combines guitar sound in the upper register and bass sound in the lower register of the keyboard.

1. In Program mode, select n50 (Chorus Guitar)



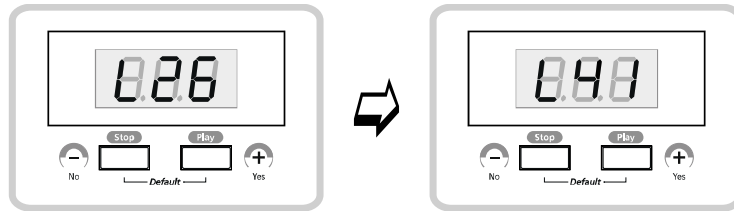
< Figure 8-7 >

2. Press [Layer] button located on the left side of the display. This will change the LED on [Program] button from red to amber and "L50" will appear on the display. The color change of LED means that the SP2XS is in Editing mode and "L26" indicates that program number 50 is (L)ayered.



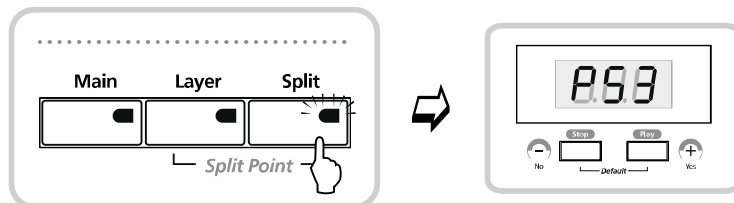
< Figure 8-8 >

- Press [Drum/Perc] button in the category region and press [6] button below. Then “L50” on the display will change to “L41” (Scatman).



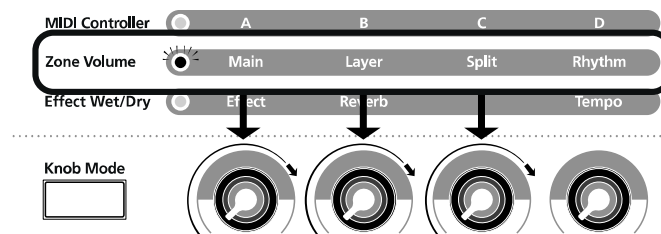
< Figure 8-9 >

- Press [Split] button next to [Layer] button. The display will show “p53” (Pd Clav o Bass). Now you have a bass sound assigned to the lower register of the keyboard.



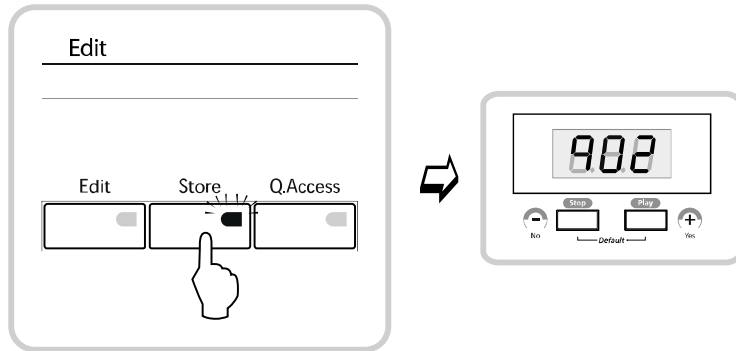
< Figure 8-10 >

- Select Zone Volume mode with [Knob Mode] button. Use knob 1-3 to adjust the volume level of each sound. Set Main volume level to 110, Layer volume level to 90 and Split volume level to 120.



< Figure 8-11 >

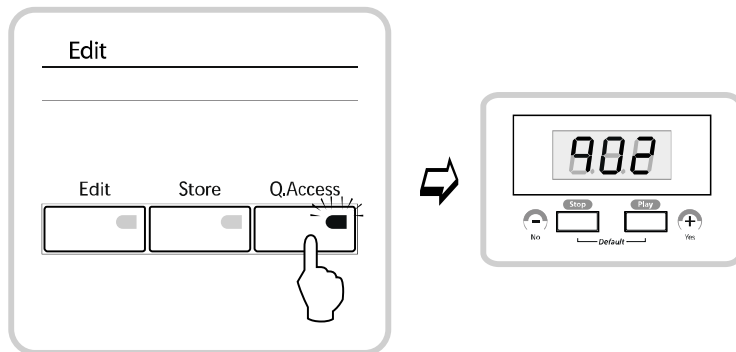
6. Press [Store] button in the Edit region and press [Yes] button below the display. The SP2XS will ask you once more to be sure. One more press of [Yes] button will complete the saving procedure and the display will show "q01" indicating the slot number you just stored your program in. You can select one of the stored programs with [Q.Access] button at any time.



< Figure 8-12 >

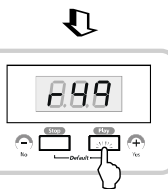
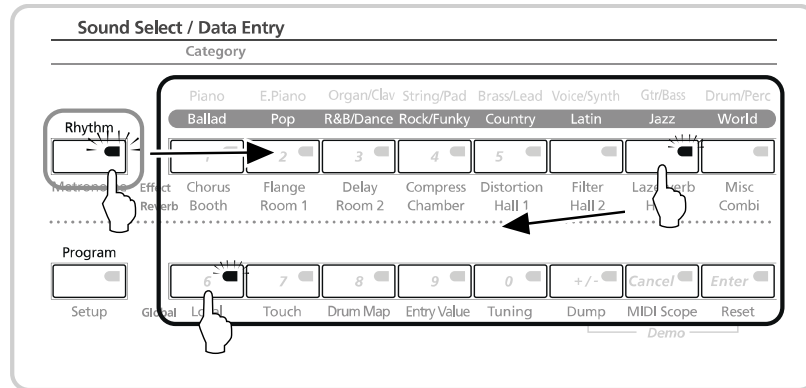
Using Layered Sounds with Rhythm Patterns

1. Press [Q.Access] in the Edit region and press [2] button to load the sound that you've just stored in the previous example.



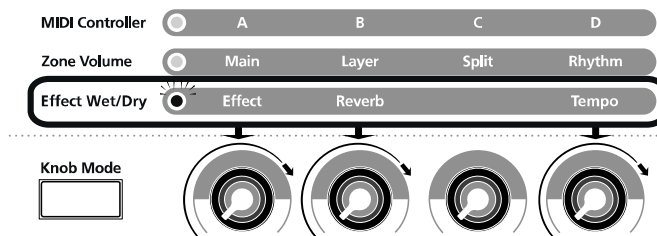
< Figure 8-13 >

- Press [Rhythm] button below the display. Press [Jazz] button in the Category region and then press [6] button. The display will indicate "r49" (Jazz Rhythm 1). Pressing [Yes] button below the display will start the selected rhythm pattern..



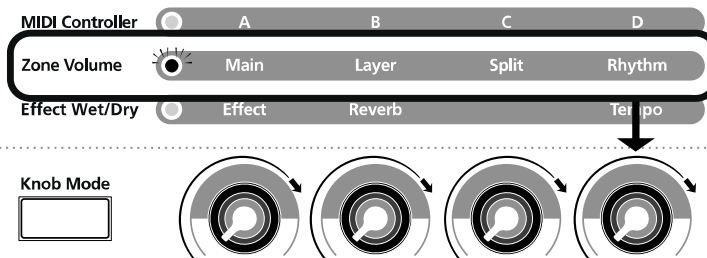
< Figure 8-14 >

- Select Effect wet/Dry mode with [Knob Mode] button. Adjust the tempo of the rhythm pattern with knob 4.



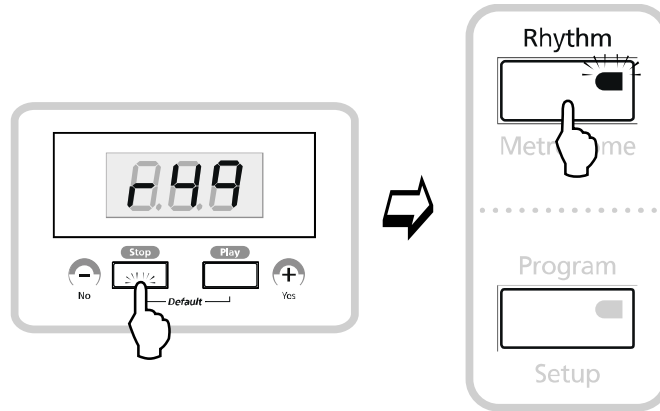
< Figure 8-15 >

- Select Zone Volume mode with [Knob Mode] button. Adjust the volume level of the rhythm pattern with knob 4. For this example, set it to 100.



< Figure 8-16 >

5. Pressing [No] button below the display will stop the rhythm pattern playing. With one more press of [Rhythm] button, you will return to Program mode.



< Figure 8-17 >

☑NOTE When editing, always try to listen to the sounds closely. Also, comparing the edited sounds to the similar sounds in commercial songs is a good way to be familiar with programming more quickly.

CHAPTER 9

Troubleshooting / FAQ (Frequently Asked Questions)

Maintenance

Aside from normal care in handling and use, your Stage Piano requires no regular maintenance. Do not use abrasives or solvents as they may damage the unit's exterior such as paint, markings, info strip and display lens, etc. Clean with a soft cloth dampened with water.

Unlike other instruments, the SP2XS uses nonvolatile flash memory for storage, which needs no power or batteries to retain information. So, unplug the power adapter from the wall if your SP2XS will be off for a long period of time.

Common Problems

Below is a list of the most commonly encountered problems and diagnoses for each.

Power Problems

NOTE The normal power-up sequence should follow:

1. The display and the LEDs of your SP2XS are turned on and off in a certain order for a while.
2. The initial display appear.

If nothing at all happens when you turn on the power, check these items:

1. Power module not plugged securely in wall outlet.
2. Cord from power module not fully plugged into the SP2XS.
3. Input voltage rating of power module does not match your power system.
4. Incorrect or defective power module.
5. Dead wall outlet, power strip, or extension cord.

If all of the above are checked okay, yet you still don't see normal operation, check these items:

1. Input voltage rating of power module does not match your power system.
2. Incorrect or defective power module. For information about the power module specifications, see page A-1. Voltage or current rating less than specified will cause unusual or intermittent operation.
3. Power system voltage abnormally low. Try a different, unused outlet.
4. Intermittent operation can be caused by a replacement power module with the wrong size plug. The correct plug fits snugly into the jack, and doesn't wobble.

Audio Problems

Before diagnosing audio problems, make the SP2XS play the demo songs. If there is no sound from your SP2XS, check the following:

1. Set the master volume slider all the way down. Gradually move the slider upwards.
2. Check the position of the MIDI controller foot pedal if connected.
3. Volume control on audio system or mixer turned down.
4. Signal source selection on audio system or mixer is incorrect.
5. Audio cables not securely plugged in at both ends.
6. Incorrect type of audio cable.

If you can hear sound but it is too low, look into these possibilities.

1. Audio cables not securely plugged in at both ends.
2. Low voltage output from power module. Check Power Problems above.
3. A received MIDI volume or Expression message has specified a low volume.
4. Check the position of the MIDI controller foot pedal if connected.
5. Input to audio system is set for low impedance instead of high impedance.
6. Input trim to audio system or mixer is set too low.

MIDI Problems

If you connected your SP2XS to a computer running sequencer application, and are experiencing problems, check these:

1. MIDI cables not securely plugged in at both ends.
2. Wrong MIDI connections. To send MIDI, plug into the SP2XS's MIDI Out connector and the external device's MIDI In connector.
3. Defective MIDI cable.
4. Check if the Global parameter "Local" is on. Setting this parameter to ON makes the SP2XS send MIDI information only to itself. The Local parameter must be set to OFF when you work with an external sequencer. For standalone use, set Local to ON; otherwise you won't hear any sounds from your SP2XS.

If you are trying to control the SP2XS from an external MIDI device such as a drum machine, and the SP2XS does not respond to incoming MIDI information properly, check following items:

1. Set external device to transmit MIDI information on Channel 1.
2. MIDI cables not securely plugged in at both ends.
3. Wrong MIDI connections. To receive MIDI, plug into the SP2XS's MIDI In connector and the external device's MIDI Out connector.

Prerecorded General MIDI (or GS, or XG) sequences may not play correctly through the SP2XS when played from a sequencer application because the SP2XS is "NOT" a GM (General MIDI) compatible sound module. The differences between the SP2XS and a typical General MIDI module are like following:

1. Most of the sound program numbers are different.
2. Effects setting messages are different.
3. The SP2XS's drum channel is not fixed to MIDI Channel 10.

Switch Pedal Problems

If you are having problems with switch pedal, check these:

1. Be sure the pedal is plugged into the correct jack which has printed label "SW pedal" above it. Be cautious. Plugging into the wrong jack might cause damage to your instrument.
2. If Sostenuto is stuck, be sure the pedal is plugged in before switching on the power. Turn power off then on if necessary.
3. If the pedal is acting backward (active when up instead of down), turn power off then on. Be sure the pedal is plugged in before turning power on and don't use the pedal until after the unit has completed its power up sequence.

Control Pedal Problems

If you are having problems making a control pedal work properly, check these:

1. Be sure the pedal is plugged into the correct jack which has printed label "CC pedal" above it.
2. Do NOT use MONO Volume Pedal! This will cause system malfunctioning or damage to your instrument.
3. If the pedal works backward, operates very abruptly, or not at all, it's most likely a wiring problem. See below for more information.
4. When using adapter cables to adapt a pedal with two mono cables, make sure that the Y adapter is a stereo splitter type.

Kurzweil Service Centers

To locate the nearest Kurzweil Service Center for further assistance, please visit the following link.

<http://www.kurzweilmusicsystems.com/>

Appendix A

Specifications

Specifications are subject to change without notice

Physical Specification

	SP2XS
Dimension(mm)	1310(L) X 360(W) X 90(H)
Weight	19.6 kg / 20.4 kg (Inclusion Music Stand)

Electrical Specification

Voltage and Frequency Ranges

	120 VAC Adapter Model PM0023A	230 VAC Adapter Model PM0024A
Safe voltage range	100-125 Volts RMS	200-230 Volts RMS
Safe frequency range	58-65 Hz	48-65 Hz

Power Consumption

Voltage Level	Power Consumption
120 VAC	0.35 Amps
230 VAC	0.13 Amps

Environmental Specifications

	Minimum		Maximum	
Temperature Range for operation	40 F	5 C	104 F	40 C
Temperature Range for storage	13 F-	25 C	185 F	85 C
Humidity Range for operation	5%		95% (non-condensing)	
Humidity Range for storage	5%		95% (non-condensing)	

Appendix A

SP2XS Specifications

Audio Specifications

Line-Level Left and Right Analog Audio Outputs

Connectors	Balanced outputs using two 1/4-inch stereo (tip-ring-sleeve) phone plugs and shielded twisted pair cable or unbalanced using two 1/4-inch mono (tip-ring) phone plugs and coaxial cable.
Impedance	400 ohm, Balanced, nominal 200 ohm, Unbalanced, nominal
Maximum output level	20.8 dBu (8.5 Volts RMS) Balanced, high-impedance load 14.7 dBu (4.2 Volts RMS) Unbalanced, high-impedance load
Frequency Response	20Hz-20kHz +/- 0.6 dB
Idle channel noise	Less than -115 dBA, balanced, relative to full-scale signal
Dynamic Range	Greater than 112 dBA, balanced, using -60 dBFS signal
Stereo Channel Separation	96 dB

Headphone Output

Output impedance	47 Ohm, nominal
Maximum output level	-4 dBu (0.5 Volts RMS) with 32 Ohm load

Parameter Reference

Parameter Group	Subgroup (if any)	Parameter	Range of Values	Default
Key Range		Lo	C-1-G 9	G#3(Ab3)
		Hi	C-1-G 9	G 9
		Note Map	Linear	Linear
Transposition		Transpose	-24 to 24	0
Velocity		Vel Min	1-127	1
		Vel Max	1-127	127
Continuous controllers	Wheel 1 Up/Down		2 Semitone	Wheel 1 Up/Down Ctrl Num : Pitch Up
These controllers all have the same three Parameters, called the Basic Parameter Group. Usually the same, of Ctrl Num; its value varies for each controller	Wheel 2	Exit Value	None, 0-127 (default None)	Wheel 2 Ctrl Num: Mod Wheel
	Knob A			Ctrl Num : 6
	Knob B			Ctrl Num : 13
	Knob C			Ctrl Num : 22
	Knob D			Ctrl Num : 23
	Pedal 1			Ctrl Num : 11

MIDI Implementation Chart

Model: Kurzweil SP2XS
Manufacturer:
Kurzweil
Digital Synthesizers

Date: 2007.5.25
Version 1.0

Function	Transmitted	Recognized	Remarks	
Basic Channel	Default	1	1	
	Changed	X	1 - 16	
Mode	Default	Multi*	Multi*	
	Messages	Any	Modes 1	
	Altered	X		
Note Number	0-127	0-127	key range	
	True Voice	1-128	1-128	C 0-C 8
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	Keys	X	O	
	Channels	X	O	
Pitch Bender	O	O		
Control Change**	0, 32	O	O	bank select
	1	O	O	mod wheel
	2	O	O	breath controller
	4	O	O	foot controller
	6, 38	O	O	data entry
	7	O	O	volume
	10	O	O	pan
	11	O	O	expression
	64	O	O	sustain pedal
	66	O	O	sostenuto pedal
	67	O	O	soft pedal
	91	O	O	Reverb Wet/Dry
	93	O	O	Effect Wet/Dry
	96	O	O	data increment
	97	O	O	data decrement
	98, 99	O	O	non-registered param num
	100, 101	O	O	registered param num
120	O	O	all sound off	
121	O	O	reset all controllers	
Program Change		1-64	1-64	
	True #	1-64	1-64	
System Exclusive		O	O	
Aux Messages	Local Control	X	O	
	All Notes Off	O	O	
	Reset	X	X	

Mode 1: Omni On, Poly
Mode 3: Omni Off, Poly

Mode 2: Omni On, Mono
Mode 4: Omni Off, Mono

O = yes
X = no

Appendix B

SP2XS Programs and Controller Assignments

The following list describes the physical controller assignments for each program and setup. Because they are all realtime controllers, you can easily put expressiveness and variety in your performance with them. They are also very useful for sequencing applications.

☑NOTE

When knobs are in MIDI controller mode, the MIDI controller assignments for Knob A-D and the mod wheel are fixed to the factory setting. In program or setup mode, the presets have their own MIDI controller assignments

Factory Setting

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
FootSW 1	MIDI 64 Sustain
C.C Ped	MIDI 11 Expression
Mwheel	MIDI 1
Mpress	MIDI 33

01 Stereo Grand

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

02 Classic Grand

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

03 Dynamic grand

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

04 Concert Grand

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

05 Yearning

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

06 Piano for layers

Knob A	Lopass Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	Strings Mute
Mwheel	Lopass Freq

Appendix B

SP2XS Program and Effect List

07 Hard Rock Piano

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

13 Digital E Piano

Knob A	Timbre
Knob B	MIDI 13
Knob C	Layer Enable
Knob D	MIDI 24
Mwheel	Tremolo Depth

08 Rag Time Piano

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

14 FantAsmAtron

Knob A	Timbre
Knob B	Timbre
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

09 Studio Rhds

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

15 90's FM Ballad

Knob A	Timbre
Knob B	Timbre
Knob C	MIDI 23
Knob D	Layer Enable
Mwheel	Vibrato

10 Fagen Phaser

Knob A	Lopass Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

16 Big Red Wurly

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	Layer Enable
Mwheel	Tremolo Depth

11 Old Sly Rhds

Knob A	Lopass Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

17 Pipe 16'8,reed

Knob A	Timbre
Knob B	Layer Enable
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Amp

12 Dyno My E Pno

Knob A	Lopass Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

18 Orgiano

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

19 Pipe Organ

Knob A	Layer Xfade
Knob B	Layer Xfade
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato

25 Film String

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

20 Ballad of 3 Bar

Knob A	Perc Xfade
Knob B	Bass Cut
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Rotary

26 Touch Strings

Knob A	Attack Depth
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Lowpas Freq

21 Prog Rocker's B

Knob A	Perc Xfade
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Rotary

27 Fast Strings

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

22 Clav Classic

Knob A	Timbre
Knob B	Layer Enable
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

28 Octave Strings 2

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	Layer Enable
Mwheel	Layer Switch

23 Dual Wah Clav

Knob A	Bandpass Wid
Knob B	Bandpass Freq
Knob C	Release Enable
Knob D	MIDI 24
Mwheel	Vibrato

29 Kupiter

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

24 Harpsichord

Knob A	Notch Freq
Knob B	Layer Enable
Knob C	Amp Depth
Knob D	MIDI 24
Mwheel	Decay Depth

30 Orch Pad

Knob A	Lowpas Freq
Knob B	Layer Enable
Knob C	Attack rate
Knob D	MIDI 24
Mwheel	MIDI 1

Appendix B

SP2XS Program and Effect List

31 U Say Tomita...

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo Depth

37 Indy lead

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

32 Spider's Web

Knob A	Timbre
Knob B	Timbre
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

38 Alazawi

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

33 Williams Brass

Knob A	Timbre
Knob B	Timbre
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

39 Hybrid Pan

Knob A	Layer xfade
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

34 Synth Brass

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

40 Old lead

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

35 Brass Section

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

41 Scatman

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

36 saxes X trumpets

Knob A	Layer Swtich
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

42 Bright Voices

Knob A	Timbre
Knob B	Attack
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

43 Doo >< Daa

Knob A	Timbre
Knob B	xFade
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

49 Acoustic Guitar

Knob A	Timbre
Knob B	Timbre
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo

44 The Croons

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

50 Chorus Elec Gtr

Knob A	Notch Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo

45 Eurythm

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

51 Lead Rock Gtr

Knob A	Dist Depth
Knob B	Layer Swtich
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

46 FLG Strings

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

52 Jazzy Frets

Knob A	Attack
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

47 Solar Lead

Knob A	Lowpas Freq
Knob B	Renonace
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Vibrato Depth

53 Round and Wound

Knob A	Lowpas Freq
Knob B	AMP ENV CTL
Knob C	MIDI 23
Knob D	Layer Swtich
Mwheel	Vibrato Depth

48 Attack Stack

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Pitch Shift

54 Two Finger Bass

Knob A	Lowpas Freq
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	Layer Swtich
Mwheel	Vibrato Depth

Appendix B

SP2XS Program and Effect List

55 Slap Bass

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
FootSW 1	Layer Swtich
Mwheel	Vibrato Depth

56 Upright Bass

Knob A	Timbre
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	Layer Switch
Mwheel	MIDI 1

57 Studio Drums 1+2

Knob A	Lowpass Filter
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

58 Radio Kings/Rods

Knob A	Lowpass Filter
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

59 Dirt/Triphop Kit

Knob A	Lowpas Freq
Knob B	Renonance
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

60 Electro kit

Knob A	Lowpas Freq
Knob B	Pitch Shift
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	MIDI 1

61 Virtuoso Perc

Knob A	Pitch Shift
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	AmpEnv CTL

62 Rhythm Maker

Knob A	Pitch Shift
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	AmpEnv CTL

63 Dual Marimba

Knob A	MIDI 6
Knob B	MIDI 13
Knob C	MIDI 23
Knob D	MIDI 24
FootSW 1	Layer Enable
Mwheel	Vibrato Depth

64 Vibes

Knob A	AmpEnv CTL
Knob B	Vibrato
Knob C	MIDI 23
Knob D	MIDI 24
Mwheel	Tremolo

SP2XS Effects and Reverbs

Effect

	1	2	3	4	5	6	7	8
Chorus	1 Stereo Chorus1	2 Stereo Chorus2	3 Basic Chorus	4 Chorus Comeback	5 Everyday Chorus	6 Thick Chorus	7 Chorusier	8 Rock Chorus
Flange	9 Sweet Flange	10 Big Slow Flange	11 Throaty Flange	12 Squeeze Flange	13 Simply Flange	14 Wetlip Flange	15 Flange Delay	16 Flange Booth
Delay	17 Complex Echo	18 Stereo Echoes	19 4-Tap Delay	20 8-Tap Delay	21 Spectral 4-Tap	22 Astral Taps	23 BasicChorusDelay	24 Chorus PanDelay
Compressor	25 HKCompressor 3:1	26 DrumKompres 5:1	27 SKFdbks Comp 6:1	28 SKCompressor 12:1	29 SKCompressor 9:1	30 SKCompressor 18:1	31 HKCompressor 9:1	32 HKCompsor Inf:1
Distortion	33 Subtle DrumShape	34 Subtle Distortion	35 Dist Cab EPiano	36 Distortion +EQ	37 Super Shaper	38 2 Band Shaper	39 Shaper ->Reverb	40 Quantize +Flange QuantizLvl
Filter	41 Phunk Env Filter	42 Trip Filter	43 LFO Sweep Filter	44 Bass Env Filter	45 EPno Env Filter	46 LFO Sweep Filt2	47 DoubleRise Filter	48 Circle Bandsweep
LazerVerb	49 Cheap LazerVerb	50 Spry Young BoyFdbk	51 LaserDelay ->Rvb	52 Lazerfazer EchoesF	53 Drum Neurezotate	54 Flange ->LaserDly	55 Lazertag Flange	56 LazerVerb Loop
Misc	57 VibChor +Rotary2	58 VibChor +Rotary1	59 VC +Dist +Rotary2	60 3 Band Enhancer	61 Extrem Enhancer Hi/Md Xovr	62 Tremolo	63 Simple Panner	64 Dual Panner
	Rotary Speaker			Enhancer		Simple Motion		

Reverb

	1	2	3	4	5	6	7	8
Booth	1 Nice LittleBooth	2 Viewing Booth	3 Drum Booth	4 Drum Room	5 Drum Room B	6 Natural Room	7 Small Wood Booth	8 Half Bath
Room 1	9 Add Ambience	10 SmallStudio Room	11 The Real Room	12 With A Mic	13 Pretty SmallPlace	14 Real Niceverb	15 Classroom	16 Big Studio Room
Room 2	17 BrightSmall Room	18 Tight Perc Room	19 Small DarkRoom	20 Bassy Room	21 Percussive Room	22 Bathroom	23 Real Room	24 Large Room
Chamber	25 Brass Chamber	26 Sax Chamber	27 Plebe Chamber	28 Live Chamber	29 Small Chamber	30 SmallDrum Chamber	31 Small Hall	32 My Garage
Hall 1	33 Sweet Hall	34 Semisweet Hall	35 Classic Chapel	36 Medium Hall	37 Ball Hall	38 Small Hall	39 Reflective Hall	40 Smoooth Hall
Hall 2	41 Grandiose Hall	42 Elegant Hall	43 Bright Hall	44 Medium Hall Too	45 School Stairwell	46 Large Hall	47 Real Big Room	48 Sweet Hall
Hall 3	49 Spacious Hall	50 Opera House	51 Real Niceverb	52 Splendid Palace	53 Weighty Platey	54 Classic Plate	55 Gated Reverb	56 Gate Plate
Combi	57 Chorus SmallRoom	58 Chorus Delay Hall	59 ChorDlyRvb Lead	60 Deep ChorDly Hall	61 FlangeDelay Room	62 FlangeDelay Hall	63 Slo FlangeDly Room	64 FlangeDly BigHall

Appendix B

SP2XS Program and Effect List

MIDI Controllers

	None						
0	Bank MSB	32	Bank LSB	64	Sustain	96	DataInc
1	Mod Wheel	33	Mod Wheel LSB	65	Port Switch	97	DataDec
2	Breath	34		66	Sosten	98	NRg LBS
3		35		67	Soft	99	NRg MSB
4	Foot Control	36		68	Legato	100	Rg LSB
5	Port Time	37	Port Time LSB	69	Hold2	101	Rg MSB
6	Data	38	Data LSB	70	SndCtl1	102	
7	Volume	39	Volume LSB	71	SndCtl2	103	
8	Balance	40	Balance LSB	72	SndCtl3	104	
9		41		73	SndCtl4	105	
10	Pan	42	Pan LSB	74	SndCtl5	106	
11	Expression	43	Expression LSB	75	SndCtl6	107	
12	EfxCt 1	44		76	SndCtl7	108	
13	EfxCt 2	45		77	SndCtl8	109	
14		46		78	SndCtl9	110	
15	AuxBnd2	47		79	SndCtl10	111	
16	Gen 1	48		80	Gen 5	112	
17	Gen 2	49		81	Gen 6	113	
18	Gen 3	50		82	Gen 7	114	
19	Gen 4	51		83	Gen 8	115	
20		52		84	PortCtl	116	
21	AuxBnd1 MSB	53	AuxBnd1 LSB	85		117	
22		54		86		118	
23		55		87		119	
24		56		88		120	SndOff
25		57		89		121	RstCtl
26		58		90		122	LclCtl
27		59		91	FXBWet	123	NtsOff
28		60		92		124	OmniOf
29		61		93	FXAWet	125	OmniOn
30		62		94		126	MonoOn
31		63		95		127	PolyOn

Special Controllers

SP2XS-series Only Message.

128	Pitch Bend	133	Tempo	138	Goto Prog	143	Seq Stop
129	Rev Bnd	134	Key Number	139	Setup Inc	144	Seq Cont
130	Pitch Up	135	Key Veloc	140	Setup Dec	145	Trans Up
131	Pitch Down	136	Prog Inc	141	Goto Setup	146	Trans Down
132	Pressure	137	Prog Dec	142	Seq Start		

Appendix C

SP2XS Drum Map

The drum map defines the placement of the various percussion sounds at key locations. The MIDI data generated by key triggering (or MIDI note data received from the MIDI In port) does not contain any information about timbre. They just determine which note will sound. So, changing a drum map will change the timbre assigned to each key. Simply put, the drum map defines the placement of percussion sounds.

The SP2XS supports three kinds of drum maps. Drums and percussion sounds are differently mapped in accordance with each drum map. There is an advantage in using different kinds of drum maps.

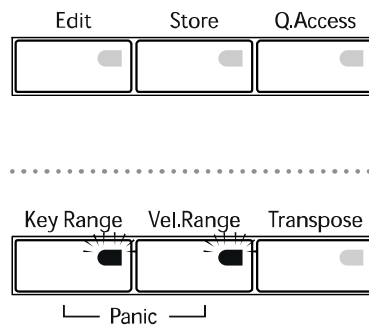
You can select either General MIDI style layout (GM) or Kurzweil style layout (KRZ) in the Global menu. Choose the layout that is most suitable for your performance style. For example, the General MIDI map is useful for playing back General MIDI format MIDI files.

The next page shows how percussion timbres are assigned to each key in each map. The left side description is the mapping for white keys and the right side is for black keys.

There are some keys unlabeled. For General MIDI style layout, they are not assigned to any timbres. For Kurzweil style layout, their timbres change on a program basis.

Panic

When you use MIDI devices, sometimes you may have MIDI note-on commands producing 'stuck' notes which drone on and on. In this case, don't "Panic". Pressing [Key Range] and [Vel Range] button will transmit All Note Off message and Reset All Controller message to shut down the unwanted stuck notes and set the SP2XS back to normal. This is what "Panic" function does.



< Figure C-1 >

Normal

A 0		A# 0
B 0		
C 1		
D 1		C# 1
E 1		D# 1
F 1		
Kick 3	G 1	F# 1 Hard Snare 1
Snare 4	A 1	G# 1 Kick 3
Crash Cymbal	B 1	A# 1 Snare 4
Floor Tom	C 2	
Lo Mid Tom	D 2	C# 2 Floor Tom
Mid Tom	E 2	D# 2 Lo Mid Tom
Mid Tom	F 2	
Hi Tom	G 2	F# 2 Mid Tom
Hi Tom	A 2	G# 2 Hi Tom
Kick 1	B 2	A# 2 Hi Tom
Kick 1	C 3	
Kick 2	D 3	C# 3 Kick 1
Cross Stick Ambient	E 3	D# 3 Kick 2
Cross Stick Ambient	F 3	
Snare 3	G 3	F# 3 Cross Stick
Snare 2	A 3	G# 3 Snare 3
Soft Snare 1	B 3	A# 3 Snare 2
Dual Snare 1	C 4	
Closed Hi-hat	D 4	C# 4 Dual Snare 1
Closed Hi-hat	E 4	D# 4 Closed Hi-hat
Slightly Open Hi-hat	F 4	F# 4 Slightly Open Hi-hat
Slightly Open Hi-hat	G 4	G# 4 Open Hi-hat
Open Hi-hat	A 4	A# 4 Open/Closed Hi-hat
Open/Closed Hi-hat	B 4	
Foot Hi-hat	C 5	
Crash Cymbal	D 5	C# 5 Crash Cymbal
Crash Cymbal	E 5	D# 5 Crash Cymbal
Crash Cymbal	F 5	
Splash Cymbal	G 5	F# 5 Crash Cymbal
Ride Cymbal Rim	A 5	G# 5 Ride Cymbal
Ride Cymbal Bell	B 5	A# 5 Ride Cymbal Rim/Bell
Ride Cymbal Bell	C 6	
Hand Clap	D 6	C# 6 Cowbell
Timbale Shell	E 6	D# 6 Lo Timbale/Hi Timbale
Conga	F 6	
Conga	G 6	F# 6 Hi Tumba
Clave	A 6	G# 6 Lo Tumba
Tambourine	B 6	A# 6 Shakers
Tambourine	C 7	
Tambourine	D 7	C# 7 Shakers
Maracas	E 7	D# 7 Maracas
Lo Agogo	F 7	
Lo Bongo	G 7	F# 7 Hi Agogo
Hi Bongo	A 7	G# 7 Bongo Slap
Muted Triangle	B 7	A# 7 Finger Snap
Open Triangle	C 8	

GM ReMap

	A 0		A# 0
	B 0		
	C 1		
	D 1		C# 1
	E 1		D# 1
	F 1		
	G 1		F# 1
			G# 1
Metronome Click	A 1		A# 1
Kick Drum 2	B 1		
Kick Drum 1	C 2		C# 2 Side Stick
Snare Drum 1	D 2		D# 2 Hand Clap
Snare Drum 2	E 2		
Lo Tom 2	F 2		F# 2 Closed Hi Hat
Lo Tom 1	G 2		G# 2 Pedal Hi Hat
Mid Tom 2	A 2		A# 2 Open Hi Hat
Mid Tom 1	B 2		
Hi Tom 2	C 3		
Hi Tom 1	D 3		C# 3 Crash Cymbal 1
	E 3		D# 3 Ride Cymbal 1
Ride Bell	F 3		
Splash Cymbal	G 3		F# 3 Tambourine
Crash Cymbal 2	A 3		G# 3 Cowbell
Ride Cymbal 2	B 3		A# 3
Hi Bongo	C 4		
Mute Conga	D 4		C# 4 Lo Bongo
Lo Conga	E 4		D# 4 Hi Conga
Hi Timbale	F 4		
Hi Agogo	G 4		F# 4 Lo Timbale
Cabasa	A 4		G# 4 Lo Agogo
	B 4		A# 4 Maracas
	C 5		
	D 5		C# 5
	E 5		D# 5 Clave
	F 5		
	G 5		F# 5
Triangle Open	A 5		G# 5 Triangle Mute
	B 5		A# 5 Shaker
	C 6		
	D 6		C# 6
	E 6		D# 6
	F 6		
	G 6		F# 6
	A 6		G# 6
	B 6		A# 6
	C 7		
	D 7		C# 7
	E 7		D# 7
	F 7		
	G 7		F# 7
	A 7		G# 7
	B 7		A# 7
	C 8		

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