



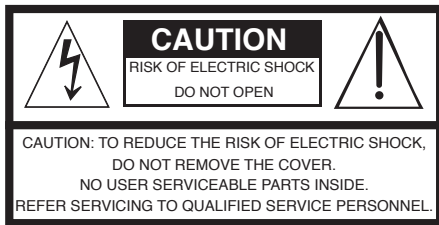
# MUSICIAN'S GUIDE

## SP 8 STAGE KEYBOARD

**KURZWEIL**®

It's the **sound**.®

FLASH⚡PLAY™



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 the Safety and Installation Instructions and Explanation of Graphic Symbols before using the product.
2. This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a power supply cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet which is properly installed and grounded in accordance with all local codes and ordinances.
- DANGER:** Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Do not modify the plug provided with the product – if it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use an adaptor which defeats the function of the equipment-grounding conductor. If you are in doubt as to whether the product is properly grounded, check with a qualified serviceman or electrician.
3. 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.
4. This product should only be used with a stand or cart that is recommended by the manufacturer.
5. 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 a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
6. This product should be located so that its location or position does not interfere with its proper ventilation.
7. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.

8. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
9. 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.
10. 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.
11. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
12. 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.
13. 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.
14. **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 the instrument not expressly approved by HDC-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.

The normal function of the product may be disturbed by strong electromagnetic interference. If so, simply reset the product to resume normal operation by following the instructions in the manual. If normal function does not resume, please use the product in another location.

### 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.

# IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any of the ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet
- 10) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.



- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

**Warning:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.

To completely disconnect this equipment from the AC Mains, disconnect the power supply cord plug from the AC receptacle.

**PROP 65 WARNING:**

This product contains chemicals known to the State of California to cause cancer, or birth defects or other reproductive harm.

As with most electronic equipment, the outer cables may contain phthalate and the copper alloy power plug contains lead. Wash hands after handling.

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# Kurzweil International Contacts

Find your local Kurzweil representative at [www.kurzweil.com/dealers\\_portal/](http://www.kurzweil.com/dealers_portal/) or contact the Kurzweil office listed below.

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## Kurzweil Online



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[www.x.com/KurzweilMusic](http://www.x.com/KurzweilMusic)



<https://www.youtube.com/user/KurzweilTutorials>



<https://www.instagram.com/kurzweilmusic/>



<https://www.threads.net/@kurzweilmusic>



<https://soundcloud.com/kurzweil-music-systems>

[www.kurzweil.com](http://www.kurzweil.com)

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# Chapter 1

## Getting Started

Designed for performers who demand expressive sound, immediate control, and rock-solid reliability, the SP8 Stage Keyboard delivers Kurzweil's legendary performance DNA in a powerful, streamlined instrument built for the modern stage.

Built on Kurzweil's legendary V.A.S.T. engine, the SP8 combines authentic acoustic realism, deep synthesis, and intuitive hands-on control—giving you everything you need to command the moment.

### **Built to Play. Master Your Stage.**

This chapter will give you a quick overview of the SP8.

## Software Updates

Visit the Kurzweil website at [www.kurzweil.com](http://www.kurzweil.com) for the latest sounds, documentation, and software updates. To verify your currently installed OS version, navigate to the Utilities page in Global Mode.

To get the best performance, always update to the latest software version. Make sure to follow the instructions included in the update package carefully, one step at a time.

# Features of the SP8

## Sounds

- FlashPlay technology utilizing ~2 GB of instrument Samples including:
- German D, Triple Strike Piano, Classic Tine Electric Piano, Clavinets, Harpsichords, Celeste, Bells, Glockenspiel, Bowed and Hit Crotales, Vector Synthesis Waveforms.
- Updated sounds from Kurzweil's K2700, K2088/61, PC4, and classic Kurzweil keyboards
- 10 Categories of Programs (Piano, E. Piano, Clav, Organ, Strings/Pads, Brass/Winds, Vox/Misc, Lead/Synths, Guitar/Bass, Drum/Perc).
- KB3 ToneReal™ organ simulations with knobs acting as drawbars.
- FM: Classic 6 operator FM synthesis.
- KSR: Kurzweil String Resonance (piano string resonance simulation).
- Half-damper pedal support (for piano “half pedaling” sustain techniques).
- Kurzweil's highly acclaimed VAST Synthesis and Effects (FX) engine.
- 1000 Factory Programs divided into 10 Categories.
- More than 200 Factory Multis.
- More than 4000 User IDs to save your own Programs and Multis.
- Audio input jack with Effects (stereo pair accepting line/instrument/mic from 1/8” cable).
- 256 voices of polyphony.
- 5 Zone MIDI controller in Multi Mode for Splits and Layers.
- Riff or Metronome ready to play.
- Arpeggiator with dedicated front panel control (up to 5 simultaneous in Multi Mode).
- CC Sequencer with dedicated front panel control (up to 5 simultaneous in Multi Mode).

## Keyboard and Controllers

The SP8 has an 88-key fully-weighted graded hammer action keyboard that provides you with a piano-like feel.

The array of physical controllers includes:

- 15 Virtual Knobs: 5 assignable physical knobs paired with a 3-position shift button for triple the control.
- 15 Virtual Buttons: 5 assignable physical buttons paired with a 3-position shift button for triple the control.
- Programmable Variation button.
- Pitch Wheel and assignable Modulation Wheel.
- Tap tempo button and programmable tempo.
- 2 Transpose buttons that can change the transposition by semitones or octaves.
- 1 assignable switch pedal jack (2 pedals or a dual pedal can be connected)\*.
- 1 assignable CC pedal jacks\*.
- 4 buttons to directly control the Arpeggiator (On/Off and Latch), CC Sequencers and Riffs.

\*Pedals sold separately.

## Pedals (Optional)

The SP8 rear panel features two jacks for optional pedal controllers:

**Switch Pedal Jack:** Typically used for two-state (on/off) parameters such as sustain, sostenuto, and soft pedal. This jack supports half-damper pedals (continuous switch) for realistic sustain techniques on SP8 piano programs. It also supports dual-switch pedals, allowing for the use of two pedals via a single connection.

**Continuous Control (CC) Pedal Jack:** Designed for controlling variable parameters such as volume, expression, or wah.

Your Kurzweil dealer stocks the following pedals:

- KP-1            Single piano-style switch pedal.
- KP-1H        Single piano-style Half Damper pedal.
- CC-1           Continuous pedal.

# Quick Start

## Setting Up Your SP8

### 1. Preparation & Placement

If the SP8 has been in a cold environment (such as during shipping), allow it to reach room temperature before powering it on to prevent damage from internal condensation.

Place the SP8 on a dedicated keyboard stand or a stable, flat, level surface.

Your instrument arrives with a protective film on both the front and back panels to prevent scuffing during shipment. When removing this film from the front panel, it is recommended to peel it slowly. In some instances, the tension of the film may cause a knob to pull off; if this occurs, simply align the knob with its shaft and press it back into place. This is a normal occurrence and does not damage the internal components. Ensure the protective film on the back panel is also removed to allow for clear visibility of the rear ports and labels.

### 2. Audio & Peripheral Connections

Before making connections, turn the MASTER VOLUME knob (located on the left side of the front panel) to the minimum position.

Connect any optional pedals to the rear panel before powering on

- Switch Pedal: Plug into the SW1 (SUSTAIN) jack.
- CC Pedals: Plug expression or volume pedal into the CC (VOLUME) jack.

If using external speakers, lower the volume on your amplifier or mixer first. Use 1/4-inch cables to connect the amplifier inputs to the SP8 AUDIO OUT jacks.

- For Mono: Use only the LEFT (MONO) jack.
- For Stereo: Use both Left and Right jacks.
- Balanced (TRS) cables are recommended for noise reduction.

Connect stereo headphones to the dedicated HEADPHONE jack on the rear panel.

### 3. Powering On

Plug the power adapter cable into the DC Power Jack on the SP8 rear panel.

Ensure your wall outlet is compatible with the adapter's voltage requirements, then plug the adapter into the outlet.

## Booting Up the SP8

1. Power on the SP8 by pressing the POWER button on the right rear panel.
2. If you are using speakers, turn up the volume on your amplifier or mixer.
3. Slowly turn up the SP8 MASTER VOLUME Knob and play some notes to check the volume level. (If you have a CC pedal plugged into the CC (VOLUME) jack, make sure it is set to the maximum volume position.)
4. If you are using speakers and the SP8 is not loud enough, turn up the volume on your amplifier or mixer.
5. If you are using a mixer and hear distortion, reduce the gain level on the mixer, or use the mixer's Pad button if it has one.
6. After using the SP8, if you are using speakers, turn the master volume all the way down on your amplifier or mixer before powering off the SP8.

## Auditioning SP8 Sounds

1. The SP8 starts up in Program Mode by default. This can be changed in Global Mode if you prefer the keyboard to start up in Multi Mode. Use the PREVIOUS and NEXT buttons, Alpha Wheel, Favorite buttons, or Category buttons to select a different Program. See "Selecting Programs" on page 1-17 for more details.
2. To hear a Program Demo song for the current Program, press the KEYPAD and ENTER buttons simultaneously.
3. To hear the capabilities of the SP8, you can play the demo songs. Press the KEYPAD and 0/DRUMS/PERC buttons simultaneously to listen to a multi-channel Demo Song.
4. To switch between auditioning Programs or Multis, press the PROGRAM or MULTI Mode button under the MODE label to the right of the display.

## Automatic Power Saving

The SP8 has an automatic power saving feature (Auto Power Off) that can automatically power off the SP8 after a period of inactivity, in order to conserve electricity. The Auto Power Off feature is enabled by default. The default Power Off Time is 8 hours, which will cause the SP8 to power off after 8 hours of inactivity.

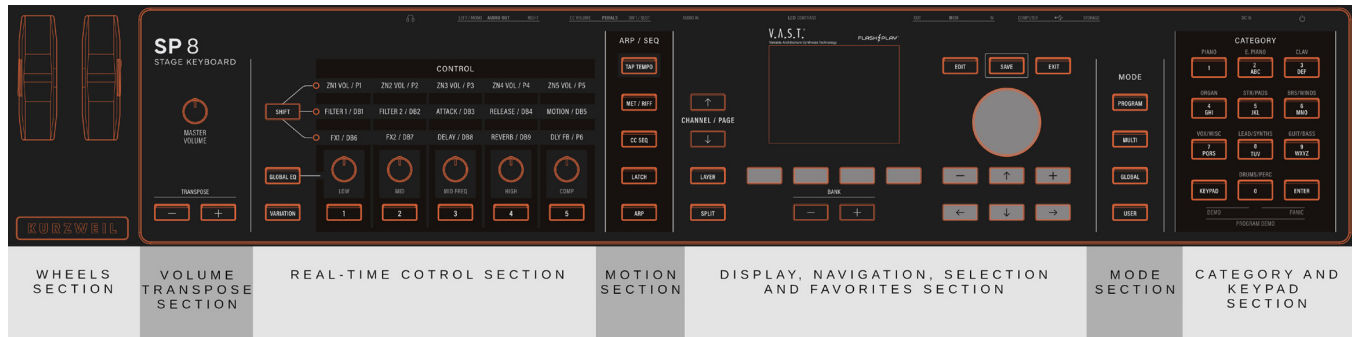
A count down timer warning will be shown in the display a few minutes before the SP8 is powered off. At any time, touching any SP8 control or playing a note will cause the SP8 to remain powered on, until the SP8 has been inactive for the set Power Off Time.

Auto Power Off can be disabled in Global Mode. The Power Off Time can also be adjusted in Global Mode.

## Getting Started

### The Front Panel

# The Front Panel



The SP8 front panel is organized into seven functional sections:

- 1. Wheels Section:** Contains the Pitch and Modulation wheels for real-time performance expression.
- 2. Volume/Transpose Section:** Features the MASTER VOLUME knob and two dedicated Transpose buttons.
- 3. Real-Time Control Section:** This section features a space-saving “Triple-Control” architecture, utilizing a 3-position Shift button to expand five physical knobs and buttons into 15 virtual controls each. This performance hub also includes a dedicated Variation button for instant sonic alternatives and a Global EQ button, which reassigns the knobs and the first and fifth buttons for immediate EQ and Compressor management.
- 4. Motion Section:** Includes five buttons dedicated to controlling Riffs, Arpeggiators, and Global Tempo.
- 5. Display, Navigation, & Favorites:** The central interface surrounding the LCD facilitates total system control through a comprehensive navigation set featuring a Spin Wheel, directional arrows, and Channel/Page buttons. This section includes dedicated Split and Layer buttons for sound creation, four Favorite buttons with bank-switching functionality, and core system commands—Edit, Save, and Exit—for modifying and storing Programs and Multis.
- 6. Mode Section:** Four buttons providing instant access to the three primary modes—Program, Multi, and Global—plus a User mode for filtered access to custom sounds.
- 7. Category & Keypad Section:** A 12-button matrix used to select sounds by Category or by specific ID (when the KEYPAD button is active).

## Wheels Section

### Pitch Wheel and Modulation Wheel

Use the Pitch and Modulation wheels to bend notes or add expression. The Modulation Wheel controls assigned parameters for each Program or Multi; when moved, the current assignment name and value appears instantly on the display.

## Volume/Transposition Section

### Volume

The MASTER VOLUME knob controls the output volume of the keyboard.

### Transpose Buttons

The TRANSPOSE buttons can be used to shift the pitch of notes played on the SP8 keyboard in semitones (also known as half steps). The current transpose amount is shown in the top line of the display. Press both TRANSPOSE buttons simultaneously to reset the transposition to 0.

Alternatively, if the Global Xpose parameter is configured to Octave, these buttons will shift the pitch in increments of 12 semitones. This allows for rapid octave jumps across the keyboard.

## Real-Time Control Section

### Knobs and Programmable Buttons

The CONTROL section is used to control various Program and Multi parameters.

**In Program Mode:** The knobs and buttons control synthesis and Effects (FX) parameters for the current Program. Controller assignments can be adjusted in Program Edit Mode.

**In Multi Mode:** The knobs and buttons typically control Zone volume, synthesis and Effects (FX) parameters for the current Multi. Controller assignments can be adjusted or set to user-assignable parameters in Multi Edit Mode.

**In Program and Multi Mode:** When a KB3 Organ Program is selected, some of the knobs and buttons may perform Organ functions labeled on the front panel. The display shows “KB3” when a KB3 Program is selected.

## SHIFT Button

The SHIFT button acts as a multiplier for your physical controls. By toggling through its three positions, you can change the assignment of the hardware, effectively tripling your available parameters.

While the SP8 features 5 physical Knobs and 5 physical Programmable Buttons, the SHIFT button expands these into 15 Virtual Controls each.

Throughout this guide, we will frequently refer to the “15 Knobs” or “15 Programmable Buttons.” Unless specified as “physical,” these terms refer to the total number of virtual assignments available across all shift states.

## VARIATION Button

Pressing the VARIATION button will perform an assigned variation for each Program or Multi. The name of the current assignment is shown in the display when the button is pressed.

The VARIATION button will typically modify the sound by adding an orchestral string section or synth pad layer, or enabling an effect.

For KB3 Organ Programs, the VARIATION button controls the Rotary Speaker speed, changing between fast and slow. The display shows “KB3” when a KB3 Program is selected.

## GLOBAL EQ Button

The GLOBAL EQ Button allows you to access and change the Global EQ and Compressor using the 5 knobs and two programmable buttons. Enabling the Global EQ temporarily disables the SHIFT button. The functionality of each knob is shown on the front panel.

- Button 1 will turn ON/OFF the EQ.
- Button 5 will turn ON/OFF the Compressor.

The other three programmable buttons will be non-functional.

When the Global EQ page is active, the button LED remains a solid red. When you are not on this page, the LED provides a status at a glance: the button will be white if both the EQ and Compressor are OFF, and light red if either (or both) of them are ON.

More details in Global Mode.

## Motion Section

### TAP TEMPO button

Use the TAP TEMPO button to tap a tempo or just to bring the Tempo page to the screen so that you can select your desired tempo for synced Effects (such as Delay) or the tempo of the current Arpeggiator, Riff or Metronome.

### MET/RIFF Button

The MET / RIFF button provides performance and practice utility depending on your current mode:

- Multi Mode: Press this button to trigger Riffs assigned to the current Multi. Note that this button is only active in Multis where Riffs have been specifically programmed and assigned.
- Program Mode: Press this button to activate or deactivate the Metronome, providing a steady click for practice or timing reference.

### CC Seq Button

This button will turn ON and OFF the CC Sequencer of your Program or Multi if it has one programmed.

### Latch Button

If an Arpeggiator is playing, you can Latch it with this button.

### Arp Button

This button will turn ON and OFF the Arpeggiator of your Program or Multi if it has one programmed.

# Display, Navigation, Selection and Favorites Section

## Display

The display serves as the primary interface for the SP8. It provides real-time visual feedback for Program and Multi selection, controller assignments, editing functions, and Global parameters.

## CHANNEL/PAGE Buttons

These buttons serve a dual purpose based on your current operating mode:

- Program Mode: Use these to increment or decrement the active MIDI Channel.
- All Other Modes: Use these to navigate through available display pages. When multiple pages are present, a page indicator appears in the top-right corner of the display (e.g., 4/5), representing the current page relative to the total number available.

## Navigation Buttons

Use these buttons to navigate the SP8 display interface. They allow you to cycle through available parameters and highlight the specific value you wish to edit.

## Alpha or Spin Wheel

In Program and Multi Mode, use the Alpha Wheel, also known as Spin Wheel, to navigate through the Program or Multi list.

In Program Edit or Multi Edit Mode, use the Alpha Wheel to scroll through the list of values for the currently selected parameter. Turn the Alpha Wheel counter-clockwise or clockwise to select the previous or next value. Turn the Alpha Wheel slowly to change the value by one increment, or turn it quickly to jump several increments.

## PREVIOUS and NEXT Buttons

In Program and Multi Mode, use the PREVIOUS and NEXT buttons to navigate through the Program or Multi list. In any mode, use the PREVIOUS and NEXT buttons to navigate through the list of values for the currently selected parameter.

## **SAVE Button and EDIT Button**

The SAVE and EDIT buttons provide direct access to the SP8's customization and data management features. The EDIT button illuminates when the currently highlighted element on the screen is editable; press it to enter the specific menus for the active Program or Multi. Once you have modified a parameter, the SAVE button lights up to indicate that the current object has been altered and can be stored. Press SAVE to commit your changes to internal memory, where you can also rename and select a specific ID location for your custom user presets.

## **EXIT Button**

Press the EXIT button to close the current editor and return to the previous Mode. Pressing EXIT repeatedly will back you out of all sub-menus until you return to the main Program Mode page.

## **FAVORITE Buttons**

The SP8 has 4 Favorite buttons to select your favorite Programs or Multis. The SP8 has a maximum number of 99 Favorite banks and each bank will store 4 Programs or Multis.

Use the Favorite Bank buttons to select a different bank. A double button press of the two Favorite Bank buttons will select the first bank.

## **MODE Section**

Press the dedicated MODE buttons to access the three primary operating environments of the SP8:

- **PROGRAM Mode:** The default mode for performing with a single instrument sound.
- **MULTI Mode:** For performing with sophisticated setups of up to five Programs, including splits and layers.
- **GLOBAL Mode:** To adjust universal system settings, manage files, and perform system maintenance.

The LED on the currently active MODE button will be illuminated, providing a clear visual indication of your current operating environment.

# Category and Keypad Section

In Program Mode, the Category buttons allow you to select and browse Programs in 10 categories of instruments if the Category button is on. The CATEGORY button is always OFF in Multi Mode, and where needed for editing parameter values.

When the KEYPAD button is ON, these buttons are used for numeric entry, either a Program or Multi ID, or a value of a parameter. Press the ENTER button after entering the desired number.

When the KEYPAD button is active, Program navigation becomes strictly linear. In this state, the instrument ignores category boundaries, allowing you to scroll or enter ID numbers to access the entire list of Programs in sequential numerical order rather than being restricted to a specific instrument group.

Additionally there are very useful double button presses in this section, to trigger Program Demos, Song Demos and MIDI Panic.

# The Rear Panel



## POWER Section

Plug the included power cable into the Power jack.

Press the POWER switch to power the SP8 on or off.

## MIDI Section

Use the MIDI ports to communicate with other MIDI modules and controllers. The OUT port is the MIDI transmitting port, and the IN port is the MIDI receiving port.

To use the SP8 as a MIDI controller for another sound module or keyboard, use a MIDI cable to connect the SP8's MIDI OUT port to the MIDI input port of the module or keyboard that you want to control.

To control the SP8 using another MIDI controller, use a MIDI cable to connect the SP8's MIDI IN port to the MIDI output port of the controller that you will be using.

## USB Section

The SP8 features USB connectivity to facilitate data transfer, MIDI communication, and system maintenance. Use these ports to interface with a computer, tablet, or USB storage device for the following applications:

- Use the SP8 as a MIDI controller to play and trigger virtual instruments on a computer or tablet.
- Control another Kurzweil keyboard by connecting the two instruments directly via USB. In this configuration, the keyboard connected to the USB Type B port (square) acts as the controller, while the keyboard connected to the USB Type A port (rectangular) functions as the sound module.
- Play and control the SP8 using an external USB MIDI controller.

## Getting Started

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### The Rear Panel

- Use a computer or tablet to sequence multi-channel MIDI compositions on the SP8.
- Backup and restore User Programs and Multis using a USB storage device.
- Update the SP8.



**Note:** When the USB COMPUTER port is in use, a SP8 disk volume may appear on your computer. This disk volume is non-functional and can be ignored or ejected. Your computer may show a warning if USB is unplugged before ejecting the disk volume, this warning can be safely ignored.



**Note:** Some models of USB Flash Drives are not supported: SanDisk Cruzer Blade, SanDisk Cruzer Ultra Flair, Generic U305 (32GB), Techkey (64GB).

## LCD and Audio Input Section

Use the LCD knob to control the display brightness.

Use the AUDIO IN stereo jack to integrate external audio sources with the SP8. This allows you to mix external signals with the SP8's internal sounds or apply professional Effects to the incoming audio. This feature is ideal for playing along with backing tracks from a smartphone, computer, or another electronic instrument.

- The jack accepts a 1/8" (3.5mm) stereo plug.
- The input is versatile and can accommodate line, instrument, or microphone level signals.
- Advanced settings for signal routing and Effects processing can be configured within Global Mode.

## Pedals Section

### SW1 Pedal

Use the SW1 (SUSTAIN) jack to connect a switch pedal to the SP8.

- Program Mode: By default, this pedal controls Sustain. However, for KB3 Organ Programs, the pedal defaults to controlling the Rotary Speaker speed, toggling between Fast and Slow. You can identify these sounds by the "KB3" indicator on the display. This default assignment can be adjusted in Global Mode.
- Multi Mode: Pedal assignments vary by Multi. You can customize the pedal's function for each individual Zone within Multi Edit Mode.
- Global Overrides: Global Mode allows you to set pedal overrides, which apply a universal assignment to the pedal across all Programs and Multis, regardless of their individual settings.



**Note:** Switch pedals must be plugged in before powering on the SP8. Do not step on the switch pedals when powering on the SP8, as the polarity of the pedals is detected as part of the start up sequence.

### Dual Switch Pedals

The SW1 (SUSTAIN) jack supports dual switch pedals, allowing you to connect two pedals to a single input. To use this feature, compatible pedals must utilize a single 1/4-inch Tip-Ring-Sleeve (TRS) plug.



**Note:** You can also connect two individual single-switch pedals to this jack by using a “Y” adapter (1/4-inch TRS male to dual 1/4-inch TS female).

When a dual pedal is connected, the SP8 identifies them as SW1a and SW1b. In Program Mode, these pedals use the following default assignments:

<b>SW1a</b>	Sustain
<b>SW1b</b>	Sostenuto

These default Program Mode assignments can be modified or globally reassigned within the Global Overrides section of Global Mode. Additionally, in Multi Mode, both pedals are fully programmable for each Zone, allowing them to control a wide variety of independent functions.

### Continuous Switch Pedals (Half Damper)

The SW1 (SUSTAIN) jack is also compatible with continuous switch pedals (Half Damper) that utilize a 1/4-inch Tip-Ring-Sleeve (TRS) plug, such as the Kurzweil KP-1H.

- When connected to the SW1 (SUSTAIN) jack, a Half Damper pedal provides a more realistic sustain control than a traditional on/off switch pedal.
- Half Damper functionality is automatically enabled for Programs in the Piano category.
- For Programs outside of the Piano category, the instrument will treat the Half Damper pedal as a standard switch pedal.



**Note:** Only Kurzweil and Korg Half Damper pedals are supported. Roland and Yamaha Half Damper pedals are not supported.

#### CC (VOLUME)

The CC (VOLUME) jack allows you to connect a continuous control pedal (also known as an expression or volume pedal) for real-time parameter adjustments.

By default, this pedal is assigned to control MIDI Expression (CC 11). While similar to volume, MIDI Expression scales the volume of a Program or Multi without affecting the overall master channel volume (MIDI CC 7).

For KB3 sounds, the pedal automatically functions as an Organ Swell. Unlike standard volume control, Organ Swell changes the character of the sound and typically does not reduce the signal to total silence, mimicking the behavior of a classic tonewheel organ. You can identify these Programs by the “KB3” indicator on the display.

For User Programs and Multis, the pedal can be reassigned to control various other parameters within Program Edit or Multi Edit Mode.

Like the switch pedals, the CC pedal has a Global Override setting in Global Mode. When active, this override dictates the pedal’s functionality across all Programs and Multis, regardless of their individual settings.

While the optional Kurzweil CC-1 pedal is recommended for optimal performance, the SP8 is compatible with most third-party expression pedals. To ensure proper operation, compatible pedals should meet the following specifications:

- Potentiometer: 10 k $\Omega$  linear-taper.
- Plug: 1/4-inch Tip-Ring-Sleeve (TRS).
- Wiring: The wiper must be connected to the Tip.

## AUDIO OUT Section

Use the AUDIO OUT jacks to connect to an amplifier or mixer. See [Quick Start on page 1-4](#) for details.

#### HEADPHONE Jack

Use the HEADPHONE jack located on the left rear panel of the instrument to listen to the SP8 on stereo headphones. You will need a 1/8-inch-to-1/4-inch adapter in order to use headphones that have a smaller mini plug connector.

When headphones are plugged in, audio is still transmitted from the AUDIO OUT jacks.

## SP8 Sounds

The SP8 features two primary sound types: Programs and Multis.

A Program is typically a single instrument sound, such as a Piano, Organ, or Synthesizer. For ease of navigation, Programs are organized by instrument type into 10 distinct categories.

A Multi is a more complex arrangement of up to five Programs, configured as layers and/or splits across the keyboard. Because Multis are designed as performance setups rather than single instruments, they are not categorized by type. Consequently, the KEYPAD button remains permanently ON while in Multi Mode, allowing for direct numeric entry of Multi IDs at any time.

### Selecting Programs

In Program Mode, use any of the methods below to select a Program.

#### **Browse All Programs**

To browse the full collection of Factory Programs:

- Ensure the USER button is OFF (LED unlit).
- Use the Alpha Wheel or the PREVIOUS and NEXT buttons to scroll through the available Programs.
- When the KEYPAD button is ON, you can browse all Programs linearly by their ID number. This is particularly useful for jumping directly to a specific sound or scrolling through the entire internal Program list in numerical order.

#### **Select a Program by ID Number**

If the KEYPAD button is on, the numbers labeled on the Category buttons can be used to select Programs by ID number. Type an ID number followed by pressing the ENTER button to select the associated Program.

#### **Select a Program by Category**

When the KEYPAD button is OFF, the Category buttons allow you to quickly filter sounds by instrument type.

Press one of the Category buttons to jump to that instrument group. The SP8 will select the current Category Default Program (by default the first Program in a category), and the selected button's LED will illuminate.

Use the Alpha Wheel or the PREVIOUS and NEXT buttons to scroll through the Programs within that specific category.

## Getting Started

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### SP8 Sounds

The categories are linked linearly. Once you reach the last Program in a category, continuing forward will move you into the first Program of the next category. Conversely, browsing backward from the first Program of a category will move you into the last Program of the previous category.

#### Select a Previously Saved User Program

User Programs are integrated into both the Linear (ID-based) and Category Program lists. This allows you to browse all available sounds, Factory and User.

However, if you wish to isolate your User Programs:

- Press the USER button to turn it on (LED lit).
- Use the Alpha Wheel or the PREVIOUS and NEXT buttons to browse through only your saved User Programs.
- To return to browsing the combined Factory and User lists, press the USER button again to turn it off (LED unlit).

#### Select a Category Default Program

Each category has a Category Default Program, which is the specific sound loaded immediately when a CATEGORY button is pressed. By factory default, this is set to the first Program in each category.

To customize the Category Default for your favorite sounds:

- Select the Program you wish to set as the new default.
- Ensure the KEYPAD button is OFF (LED unlit).
- Press and hold the currently illuminated CATEGORY button for approximately two seconds.
- The display will provide a brief confirmation message, indicating that the selected Program is now the default for that category.

## Selecting Multis

In Multi Mode, use any of the methods below to select a Multi. Because Multis are not organized by instrument category, the KEYPAD button remains ON by default to allow for direct ID entry and linear browsing.

#### Browse All Multis

To browse the full collection of Factory Multis:

- Ensure the USER button is OFF (LED unlit).
- Use the Alpha Wheel or the PREVIOUS and NEXT buttons to scroll through the available Multis in numerical order.

### **Select a Multi by ID Number**

Since the KEYPAD is active in Multi Mode, you can use the numeric labels on the Category buttons to jump directly to a specific Multi:

- Type the desired ID number using the Category buttons.
- Press the ENTER button to confirm and load the associated Multi.

### **Select a Previously Saved User Multi**

User Multis are integrated into the main Multi list, but you can isolate them for quicker access:

- Press the USER button to turn it on (LED lit).
- Use the Alpha Wheel or the PREVIOUS and NEXT buttons to browse only your custom User Multis.
- To return to the combined Factory and User list, press the USER button again to turn it off (LED unlit).

## **Favorites**

The SP8 provides a high-speed access system for your most-used sounds. Favorites allow you to group up to four sounds (Programs, Multis, or a combination of both) into a single Bank for instant recall. The system supports up to 99 Banks, providing a total of 396 Favorite slots.

In both Program Mode and Multi Mode, the lower portion of the display acts as a dedicated status bar for your Favorites. This area always shows the names of the four sounds assigned to the currently selected Favorite Bank. This allows you to see exactly which sound will be loaded before you press one of the hardware buttons.

### **Selecting Favorites**

- Use the four dedicated Favorite buttons on the front panel to instantly select any of the four sounds displayed in the current Bank.
- Use the Favorite Bank Buttons (+/-) to quickly cycle through the 99 available Banks. The names on the bottom of the display will update immediately as you switch banks.

### **Key Features**

- A single Favorite Bank can contain a mix of both Programs and Multis.
- Favorites are designed for live performance, ensuring your most critical sounds are always one touch away, regardless of your current mode.

## Controllers

The SP8 is equipped with a comprehensive array of physical controllers—including Knobs, Buttons, Wheels, Pedals, the ARPEGGIATOR section, and TAP TEMPO. These tools allow you to modify instrument sounds in real time, adding musical expression and variety to your performance.

As you explore the Factory Programs and Multis, be sure to test these controllers to discover the unique sonic variations programmed into each sound.

- Generally, each controller performs the function labeled on the front panel (such as Filter 1, Attack, or Reverb).
- While many assignments follow the front-panel labels, some controls may be custom-mapped to different parameters depending on the specific Program or Multi selected.
- When a controller is moved or pressed, the Main Display temporarily shows the name of the parameter being adjusted and its current value. This provides immediate visual confirmation of your changes during a performance.
- All controller assignments can be fully customized and saved within Program Edit Mode and Multi Edit Mode.

## Splits and Layers

The Split and Layer functions provide a streamlined way to combine sounds into a Multi. Use these to create a Split, where different keyboard regions play different Programs, or a Layer, where multiple Programs are triggered simultaneously from the same region.

- From Program Mode: Start with any single Program and add up to four additional Programs.
- From Multi Mode: You can Split or Layer an existing Multi, provided it contains at least one unused (Off) Zone.

The Split/Layer interface allows you to configure a setup containing up to five Programs in total.

### Creating a Split or Layer

- In Program or Multi Mode, press the SPLIT or LAYER button to enter the respective configuration page.
- Select additional Programs for your Multi using the Alpha Wheel or Category buttons, or—if the SHIFT button is ON—by entering a specific ID number and pressing ENTER.
- For Splits, define the Key Range for each Program. For Layers, adjust the relative Volume and Pan to balance the sounds.

**Saving Your Setup**

Because a Split or Layer is a combination of sounds, it must be saved as a Multi.

- Press the SAVE button once to open the Save Dialog.
- Use the interface to select a destination ID number and assign a Name for your new Multi.
- On the Multi Save Page, press the SAVE button a second time to confirm.

Once saved, your setup becomes a standard User Multi. You can then enter Multi Edit Mode at any time to further refine controller assignments, Effects (FX) settings, and advanced performance tools like Arpeggiators or Riffs.

# Modes

## Program Mode

By default, the SP8 powers up in Program Mode. In this mode, you can play single instrument sounds directly from the keyboard or utilize them multitimbrally via MIDI across 16 independent MIDI channels.

### Quick Program Edit

Adjust your sound on the fly by simply moving the front panel controllers. Use the Knobs, Wheels, and Buttons to modify Program parameters instantly. Whenever a modification is made, the SAVE button LED will turn ON to indicate that the Program has been edited. To keep your changes, press the SAVE button to begin the save process.

### Saving Programs

To Save a Program:

- Press the SAVE button once to enter the Save Dialog.
- Use the interface to select a desired ID number (4096–8191) and rename the Program.
- Press SAVE again to store the Program to the User ID space.

## Program Edit Mode

Program Edit Mode provides a deeper access to the internal architecture of SP8 Programs.

Within this mode, you can customize the functionality of all physical controllers (Knobs, Pedals, Wheels, and Buttons), modify the Insert and Aux Effects, and fine-tune the Arpeggiator and CC Sequencer settings. Additionally, Program Edit Mode allows you to adjust essential common parameters to tailor the sound to your specific needs.

Just as with Quick Program Edit, any modifications made within Program Edit Mode will cause the SAVE button LED to illuminate. To store your deeper edits, press the SAVE button once to open the Save Page, where you can rename the Program and select a User ID slot.

## Multi Mode

Multi Mode allows you to play Multis, which are sophisticated arrangements of up to 5 Programs. These Programs are organized into Zones that can be split and/or layered across specific ranges of the keyboard.

In all Factory Multis, you can adjust the volume of each Zone in real time using Knobs 1–5, while the buttons located directly below act as Zone Mutes. The remaining controllers are typically pre-assigned to essential Effects and Synthesis parameters to provide immediate performance control.

However, the SP8 is a fully customizable 5-zone MIDI controller. In Multi Edit Mode, you can override these factory assignments and program all controllers—including the Knobs, Pedals, Wheels, and Buttons—to perform any MIDI functionality you require.

This allows you to tailor the SP8 to control internal sounds, external hardware, or software instruments exactly the way you want.

Unlike Program Mode, Multi Mode does not feature a “Quick Edit” function. While using the keyboard controllers will modify the sounds in real time according to their assignments, these adjustments are performance-based and do not permanently edit the Multi’s stored parameters. To make lasting changes to a Multi’s controller assignments or internal settings, you must enter Multi Edit Mode.

## Multi Edit Mode

In Multi Edit Mode, you can customize the many parameters that make up a Multi, including Program selection, Key Range, Volume, Pan, and specific Controller assignments, among many others. You can assign a wide array of MIDI functionality to every physical controller—including the Knobs, Pedals, Wheels, and Buttons—allowing you to control external hardware or software instruments with precision.

Beyond controller mapping, Multi Edit Mode provides deep access to advanced performance tools. You can independently adjust the Multi Effects, Arpeggiators, CC Sequencers, and Riffs for each Zone, allowing for the creation of complex, evolving textures and automated musical patterns.

### Saving Multis

To save a copy of the Multi with the changes you’ve made:

- Press the SAVE button once to enter the Save Dialog.
- Use the interface to select a desired ID number (4096–8191) and rename the Multi.
- Press SAVE again to store the Program to the User ID space.

## Global Mode

Use Global Mode to adjust settings that are shared across all modes of the SP8. These parameters affect the instrument's overall behavior and include Global Transposition, Tuning, Velocity Sensitivity, and Power Saving options.

### Storage Pages

Global Mode is also the primary interface for data management and system maintenance. Use this mode to store or load files containing User objects (Programs and Multis), or to restore Factory default settings.

### MIDI Utilities and Monitoring

Global Mode also features a suite of MIDI Utilities designed for system diagnostics and connectivity troubleshooting. You can monitor the MIDI State of all 16 channels in real time and view a detailed log of both incoming and outgoing MIDI messages. These monitoring tools are invaluable for verifying that your SP8 is communicating correctly with external hardware, DAW software, or virtual instruments.

### System Information

Additionally, the Global Mode Utilities page allows you to view the current version of the OS, Objects, and Scanner components installed in your keyboard. This information is vital for determining if a firmware update is required or for providing necessary details when seeking technical support. Regularly checking these versions ensures your SP8 remains compatible with the latest features, system optimizations, and sound libraries.

## Double Button Presses

### Reset Transposition

To reset the current Program or Multi transposition to 0, simultaneously press both of the TRANSPOSE +/- buttons.

### Program Demo

In Program Mode, to hear a Program Demo song for the current Program, press the KEYPAD and ENTER buttons simultaneously.

### Song Demo

To hear the capabilities of the SP8, you can play the multi-channel demo songs. Press the KEYPAD and 0/DRUMS/PERC buttons simultaneously to listen to a multi-channel demo song.

### Panic

Pressing the ENTER and 0/DRUMS/PERC buttons simultaneously silences all sounding notes by sending “all notes off” and “all controllers off” messages on all 16 MIDI channels.

### Select Channel

In Program Mode, pressing both of the CHANNEL/PAGE buttons simultaneously will select MIDI channel 1.

### Select Next Unused ID

When choosing an ID to save a User Object, press the PREVIOUS and NEXT buttons simultaneously to toggle between the original ID number and the first available empty ID number.

# Search

The Search page allows you to locate any term or string of characters within the currently selected list. It is very useful to find Programs or Multis, as there are hundreds of them.

To access the Search page, press and hold the ENTER button and press any numeric button (0-9).

To perform a search:

- Use the Category buttons to type your search term
- Press ENTER to execute the search. For example, to find all programs containing “Horn,” type h-o-r-n and press ENTER.
- The system will select the first instance of the term. To find the next or previous instance, press and hold ENTER and press the NEXT or PREVIOUS buttons to navigate through higher or lower-numbered objects.

The system provides ten search memory slots (0–9). Each numeric button, when used with the ENTER button, can store a unique search term.

To store and recall terms:

- Press and hold ENTER and press a numeric button (e.g., 1), then perform a search for a term such as “piano”.
- To store a different term, press and hold ENTER and press another button (e.g., 2), then search for another term such as “organ”.
- Each button (0–9) now acts as a shortcut to its assigned term.



**Note:** Search terms are not case-sensitive and are saved temporarily. They will be cleared when the instrument is powered off.

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# Chapter 2

## Program Mode

Use Program Mode to play a single instrument sound from the keyboard or to trigger up to 16 Programs multitimbrally via MIDI. While a Program typically consists of a single instrument, some may contain multiple sounds layered across the keyboard; however, a Program always occupies only one MIDI channel.

The SP8 defaults to Program Mode upon power-up but it can also boot up in Multi Mode. See [“Boot Mode” on page 6-5](#).

To enter Program Mode from another Mode:

- Press the PROGRAM Mode button.
- Press the EXIT button repeatedly until the Program Mode main screen appears.

By default, the SP8 starts up with Program 1 selected on MIDI Channel 1. However, if the unit was previously used, it will load the specific Program and MIDI channel that were active the last time you exited Global Mode. [“Global Mode” on page 6-1](#).

## Program Mode

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### Program Mode Page

# Program Mode Page

Program Mode consists of a single primary page, the Program Mode Page. The top line of the page displays the current operating Mode, MIDI Transposition (Xpose) in semitones, and MIDI Channel.

The center of the display shows the currently selected Program ID number and Name. Above the Program ID, a tab displays the specific instrument category.

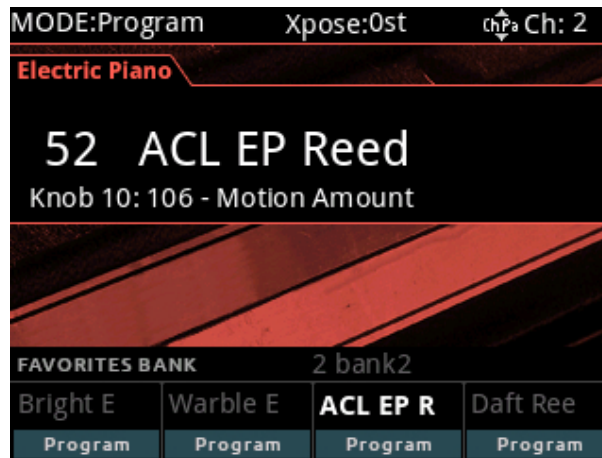
Directly below the Program Information, the display will show real-time Controller data whenever a physical controller is moved (See [“Controllers” on page 2-5](#) for further details).

Specific icons may appear next to the Program name to indicate the Program’s source or engine:

- USER: indicates a user-created Program.
- KB3: indicates an organ program using the KB3 engine.
- FM / FMOP: indicates the Program contains an FM (Frequency Modulation) layer or a single FM operator.

The bottom of the page displays the currently selected Favorite Bank, showing its four assigned Favorite items (which can be either Programs or Multis).

The background of the page features different graphics depending on the Program’s category and subcategory.



## Selecting Programs

In Program Mode, use any of the methods below to select a Program.

### Browse All Programs

Ensure the USER button is OFF, then use the Alpha Wheel or the PREVIOUS and NEXT buttons to scroll through the available Programs. In this mode, both Factory and User Programs are included in the list. The full Program list is located in [“Appendix C” on page C-1](#).

The scrolling behavior depends on the state of the KEYPAD button:

- If the KEYPAD button is OFF: Programs will scroll by category order. After reaching the last Program of a category, the list continues to the first Program of the next category in a large circular list.
- If the KEYPAD button is ON: Programs will scroll strictly by ID number order.

### Select a Program by Category

Ensure the KEYPAD button is OFF.

Press one of the Category buttons. The button will light up, and the keyboard will select the current Category Default Program (which is the first Program in that category by default).

Use the Alpha Wheel or the PREVIOUS and NEXT buttons to browse Programs.

While a Category button is lit, you can still scroll through the entire Program list sequentially. Using the Alpha Wheel or PREVIOUS/NEXT buttons to scroll past the last Program in a category will automatically advance to the first Program of the next category.



**Note:** Both Factory and User Programs are included in these lists. Every User Program is assigned to one of the 10 categories and will appear within its respective category during browsing.

### Select a Category Default Program

Each category has a Category Default Program—the specific program that is loaded immediately when a Category button is pressed. By default, this is set to the first Program of each category, but you can customize this for each of the 10 categories.

To change the Category Default Program:

- Select the Program you wish to set as the new default for its category.
- Ensure the KEYPAD button is OFF.
- Press and hold the currently lit CATEGORY button until the display confirms the change.

## Program Mode

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### Selecting Programs

#### Select a Previously Saved User Program

Use the USER button to access a dedicated list of your custom-saved Programs.

Press the USER button to turn it on.

Use the Alpha Wheel or the PREVIOUS and NEXT buttons to browse through your User Programs.

To return to the full list (Factory and User), press the USER button again to turn it OFF.

When the USER button is ON, the Category buttons are disabled for selection. In this mode, User Programs are displayed as a single, numeric linear ID list.



**Note:** Although the USER button provides a filtered view, your User Programs are not restricted to this mode. They will also appear in their respective Category lists and the Linear ID lists when the KEYPAD button is ON.

#### Select a Program by ID Number

Ensure the KEYPAD button is ON.

Use the numbers labeled on the Category buttons to type a specific ID number.

Press the ENTER button to select the associated Program.

If there isn't a Program at that ID, a "Not Found" label will be shown and the current Program on that channel will not change.

When the KEYPAD button is ON, you can also use the Alpha Wheel, PREVIOUS and NEXT buttons to scroll numerically through the entire list of Programs.

#### Favorites

In both Program and Multi modes, the bottom of the display shows the names of four Favorite items. These can be instantly recalled by pressing the corresponding Favorite Buttons located directly below the display.

To access more than four sounds, use the Favorite Bank buttons to navigate through different banks. There are up to 10 banks available (numbered 0–9), providing quick access to 40 of your most-used Programs and Multis.

##### To Save a Favorite:

Press and hold one of the four Favorite Buttons (below the display) to store the currently selected Program or Multi into that specific slot within the active bank.

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## SPLIT and LAYER Buttons

Use the SPLIT and LAYER buttons to split and layer multiple Programs across the keyboard. See [“The LAYER and SPLIT Buttons” on page 6-10](#) for more details.

## Controllers

In Program Mode, you can use the SP8’s physical controllers—including the Knobs, Buttons, Wheels, Pedals and ARP/SEQ section buttons—to modify a sound in real time. These tools allow you to add dynamic variation and expression to your performance.

- Whenever you move or toggle a controller, the display immediately shows the assigned parameter name and its current value directly beneath the Program name.
- If you modify the current Program using any controller, the SAVE button will light up. This serves as a visual reminder that the sound has been altered from its original state. Save the Program to keep these changes before selecting a different Program or switching modes.



**Note:** By default, the pedals do not appear on the display when pressed. If you prefer these values to appear on-screen, see [“Show Controllers” on page 6-5](#).

## Program Controller Assignments

For each Factory Program, the knobs in the CONTROL section are typically mapped to the parameter labels printed on the front panel. While the buttons in this section do not have printed labels, they are also assigned to specific parameters or functions for each program. When any knob or button is moved or pressed, the name of its current assignment and its current value are shown on the display. These controller assignments can be customized to suit your performance needs within Program Edit Mode.

### KB3 Program Controller Assignments

For the Factory KB3 Organ Programs, the knobs in the CONTROL section perform the specific drawbar functions printed on the front panel.

While the buttons in this section do not have printed labels, they are also assigned to specific organ-related parameters or functions.

The display shows the “KB3” icon whenever a KB3 Program is selected to indicate that the tone-wheel emulation engine is active. When any controller is moved or pressed, the name of its current assignment and its corresponding value are shown on the display. These controller assignments can be further adjusted or reassigned to suit your performance needs within Program Edit Mode.

## TRANSCOPE Buttons

The TRANSCOPE buttons allow you to shift the pitch of notes played on the SP8 keyboard in semitones (half steps) or octaves. This provides a convenient way to change the key of a song without needing to relearn the performance in a different key. The current transposition amount is always visible in the top line of the display for quick reference.

To reset the transposition to zero, press both TRANSCOPE buttons simultaneously. In addition to affecting the internal sounds, these buttons also transpose MIDI notes sent to the USB and MIDI Out ports, ensuring your external gear stays in sync with your performance.

You can switch the behavior of these buttons to use either semitone or octave increments by adjusting the ["Transpose Buttons \(Xpose Buttons\)"](#) on page 6-11.

## PITCH WHEEL

The Pitch Wheel allows you to perform smooth pitch bends during a performance for added expression. The wheel is center-sprung, meaning it will return to the standard pitch when released. You can customize the specific Bend Up and Bend Down intervals for each individual Program within Program Edit Mode, allowing for everything from subtle vibrato to wide, multi-octave sweeps.

## MODULATION WHEEL

In Factory Programs, the Modulation Wheel typically controls vibrato or an effect amount, such as distortion for KB3 Programs. Unlike the Pitch Wheel, the Modulation Wheel is not spring-loaded and will stay in the position where it is placed. Whenever the wheel is moved, the display immediately identifies the current parameter assignment and its corresponding value. These assignments can be customized for each Program within Program Edit Mode.

## VARIATION Button

In Factory Programs, the VARIATION button typically modifies the sound by adding an orchestral string section, a synth pad layer, or by enabling a specific effect. This button provides an easy way to add depth or a new texture to your performance without switching to a different Program. Whenever the button is pressed, the display immediately identifies the current assignment. These assignments can be further customized or reassigned within Program Edit Mode.

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## ARP/SEQ Section

### TAP TEMPO Button

You can use the TAP TEMPO button to set the tempo for the Arpeggiator, the CC Sequencer, or the rate of any tempo-synced Effects, such as a delay. To set a new tempo, press the TAP TEMPO button a few times at your desired rate.

Pressing the TAP TEMPO button also automatically opens the TEMPO page in the display. Once this page is visible, you can refine the tempo value by using the Alpha Wheel or by entering a specific BPM (beats per minute) value using the numeric keypad.



### MET/RIFF button

Press this button to activate or deactivate the Metronome, providing a steady click for practice or a timing reference. The SP8 provides several metronome styles (with or without an accent on the first beat) which can be selected via the Metro Type parameter in GLOBAL MAIN 1. See ["Metronome Type" on page 6-4](#).

### CC SEQ Button

Press the CC SEQ button to turn the CC Sequencer on or off. When the CC Sequencer is active, the CC SEQ button lights up.

The CC Sequencer allows you to rhythmically modulate up to four Program parameters—such as filter frequency or effect depth—based on preset or user-defined patterns. This adds consistent, rhythmic motion to a Program without requiring manual controller manipulation.

#### ARP and LATCH Buttons

Press the ARP button to turn the Arpeggiator on or off. When the Arpeggiator is active, the ARP button lights up. This feature allows you to play arpeggios or complex note sequences simply by holding down a chord or a single note. Each Program can be saved with unique arpeggiator settings tailored to that specific sound.

Depending on the current arpeggiator settings, pressing the LATCH button allows the arpeggiator to continue playing even after you release the notes on the keyboard. This is particularly useful for maintaining a rhythmic sequence while using your hands to adjust other controllers or play a different part of the keyboard.

### SW1 Pedal

The SW1 (SUSTAIN) pedal provide essential hands-free control over your performance. By default, the SW1 (SUSTAIN) pedal is assigned to sustain, which holds any notes played while the pedal is pressed. However, for KB3 Organ Programs, the SW1 (SUSTAIN) pedal automatically switches to controlling the Rotary Speaker speed, allowing you to toggle between fast and slow speeds. The display will show the “KB3” icon whenever a KB3 Program is active to indicate this change in behavior.

Additionally, Global Mode allows you to set pedal overrides, which can apply a specific assignment across all Programs regardless of their individual settings.

#### Dual Switch Pedals

The SW1 (SUSTAIN) jack is designed to support a dual switch pedal, allowing for two independent pedal signals, identified as SW1a and SW1b. By default, SW1a is assigned to sustain, which holds any notes played while the pedal is pressed. In KB3 Organ Programs, SW1a automatically switches to controlling the Rotary Speaker speed, toggling between fast and slow.

The SW1b signal defaults to Sostenuato, which sustains only the specific notes held down at the moment the pedal is pressed. Both SW1a and SW1b can be independently enabled, disabled, or uniquely reassigned for each Program within Program Edit Mode.

Additionally, Global Mode can be used to set pedal overrides, applying a specific assignment across all Programs regardless of their individual settings. See [“Switch Pedal Overrides” on page 6-9.](#)

#### Continuous Switch Pedals (Half-Damper)

The SW1 (SUSTAIN) jack is also compatible with continuous switch pedals (Half-Damper) that use a 1/4 inch tip-ring-sleeve plug (such as the Kurzweil KP-1H). When connected to the SW1 (SUSTAIN) jack, a Half Damper pedal enables finer control of Sustain than a standard switch pedal.

Half Damper control is enabled for Programs in the Piano category. Programs outside of the Piano category will respond to a Half Damper pedal as if it were a standard switch pedal.

## CC (VOLUME) Pedal

The CC (VOLUME) pedal defaults to control Expression (MIDI CC 11).

**Note:** Expression (CC 11) is a secondary volume control that operates within the range set by the Main Volume (CC 7). This allows you to perform volume swells and fades while keeping the overall maximum volume of the Program consistent with the rest of your mix. Because Expression (CC 11) is processed pre-Effects, your Reverb and Delay “tails” will continue to sound even if you pull the expression pedal back to zero. This ensures a natural transition during live performance.



For KB3 Organ Programs, the CC (VOLUME) pedal controls organ swell.

**Note:** Swell is similar to Program Volume, except the signal cannot be turned all the way down to complete silence. This mimics the expression pedal of a classic tonewheel organ.

The CC (VOLUME) can be enabled, disabled, or reassigned for each Program in Program Edit Mode.

Global Mode can be used to set pedal overrides, which can change the pedal assignments for all Programs. See [“CC Pedal Override” on page 6-10.](#)

## GLOBAL EQ Button

The GLOBAL EQ button allows you to access and change the Global EQ and Compressor using the 5 knobs and two programmable buttons in the CONTROL section. The specific functionality of each knob is printed on the front panel. Note that enabling the Global EQ temporarily disables the SHIFT button. If the EQ or Compression is enabled, the GLOBAL EQ button will change color.

For more details, see [“GLOBAL EQ button: Global EQ and Compressor.” on page 6-2.](#)

## Program Mode

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### Save User Programs

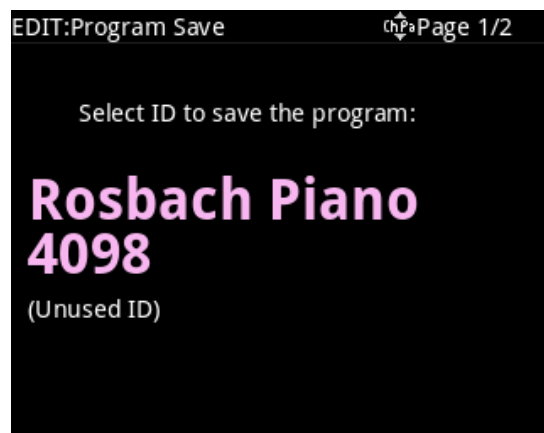
# Save User Programs

When you modify a Program using any of the physical controllers (Sliders, Wheels, or Pedals), the SAVE button LED illuminates. This serves as a visual reminder that the current Program has been edited and contains unsaved changes.

To save your changes as a User Program:

- Press the SAVE button once to enter the Save Dialog, where you can select a destination ID number for your new Program.
- Use the Alpha Wheel or Previous/Next buttons to choose an available ID number.
- Press the SAVE button a second time to quickly confirm and save the Program to the selected ID.

## Selecting an ID Number



When the Save Dialog is active (Page 1/2), the display shows the current Program name and the target ID Number. User Programs can be saved to any ID from 4096 to 8191 (MIDI banks 32 to 63).

By default, the SP8 suggests the first available (unused) ID.

If the Program was already a User Program, press the PREVIOUS and NEXT buttons simultaneously to toggle the display between the last saved ID and the next available (unused) ID.

### Manually Changing the ID

You can navigate to a specific ID number using any of the following methods:

- Alpha Wheel: Turn for quick scrolling through IDs.
- PREVIOUS/NEXT Buttons: Press for incremental changes.

- The KEYPAD button LED will be ON in this dialog. Type the specific ID number directly and press ENTER to confirm the selection.

### Overwriting Existing Programs

If you select an ID that is already occupied by another User Program:

- The display will show “(Replace <Program Name>)” notification just below the name.
- Press SAVE to confirm and replace the existing Program.
- To keep the existing Program, use the navigation methods above to select a different “Unused ID.”

## Naming a User Program

In the Save Dialog, press the PAGE UP/DOWN buttons to move to Page 2/2. The display will show the current Program name with the first character selected.



Use the Left and Right navigation buttons to select the character to change.

Use the Alpha Wheel, PREVIOUS/NEXT buttons, or the Category buttons (which function as an alphanumeric keypad) to cycle through letters, numbers, and symbols.

Editing Shortcuts:

- Delete Character: Press the FAVORITE BANK – button.
- Insert Character: Press the FAVORITE BANK + button.

Once you have finished naming, press the SAVE button to save the Program or press the PAGE UP/DOWN buttons to go to the first page of the dialog.

## **Program Mode**

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### Multichannel MIDI in Program Mode

## **Saving a User Program**

Press the SAVE button on either page of the Save Dialog to complete the saving process, or press the EXIT button to exit without saving. After successfully saving, the Program will be selected in Program Mode.

To find the Program again later, press the USER button and scroll to the Program ID. You can also find the program by pressing the appropriate Category button and scrolling past the factory programs. Lastly, you can press the KEYPAD button so that its LED is lit, type the Program ID number, and then press the ENTER button.

## Multichannel MIDI in Program Mode

Program Mode has 16 MIDI Channels that can be used for multichannel MIDI applications, such as playing multiple Programs at once from an external MIDI controller, or from a hardware/software sequencer for recording multitrack songs. A different Program can be selected for each MIDI Channel, and all Channels can be triggered simultaneously from an external MIDI device.

### Changing the MIDI Channel

The current MIDI Channel is shown on the right side of the top line of the Display. Press the CHANNEL/PAGE Up or Down buttons to change the MIDI Channel. Pressing both of the CHANNEL/PAGE buttons simultaneously will select MIDI Channel 1.

When playing only a single Program, any Channel can be used.

When playing multiple Programs at once, you can select the Program on each Channel manually or by receiving MIDI Program Change messages on each Channel from an external MIDI device.



**Note:** The Aux FX Chains of the Program on the currently selected MIDI Channel are used for Programs on all Channels.

### Multichannel Effects (FX)

In Program and Multi Mode, 32 Effects units are shared across the 16 channels to load all Insert and Aux FX chains. Two Aux FX chains can be used by the Programs on all 16 channels simultaneously.

In Program Mode, the Program on the currently selected MIDI channel has priority for Effects unit allocation, and its Aux chains are applied to Programs on all channels. This ensures that the currently selected Program will always load its full Effects settings.

Once Effects are loaded for the selected channel, the system attempts to load Insert FX chains for all other MIDI channels (from lowest to highest) until all 32 Effects units are occupied. Consequently, higher-numbered channels may be unable to load their Insert FX chains if the 32 units have already been exhausted by lower-numbered channels.

Because the current MIDI channel has priority for Effects unit allocation, selecting a different Program or switching the active MIDI channel may cause Programs on other channels to switch to different Aux FX chains. Additionally, other channels may be unable to load their Insert FX depending on the number of units consumed by the Program on the current channel.

## Program Mode

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### Program Demo

When using an external sequencer to record a multitrack song in Program Mode, this behavior can cause your song's Effects to shift as you switch channels on the SP8 to record different tracks. In this scenario, setting the FX Mode parameter in Global Mode to "Multitrack" can help ensure Program Effects remain loaded consistently across multiple channels. See ["FX Mode" on page 6-4](#).

For greater control over Aux chains and Effects resources, Multi Mode is recommended for use with external sequencers. In Multi Mode, you can designate a fixed Aux FX channel that does not change based on the currently selected channel. This mode also allows you to enable or disable Effects units for each channel individually, preventing your song's Effects from shifting when you navigate between tracks. Furthermore, Multi Mode provides easier access to adjust Aux send levels and save specific Program configurations. ["The FX 1 Page \[6/9\]" on page 5-27](#).

## Program Demo

To hear a short Program Demo song for the current Program, press the KEYPAD and ENTER buttons simultaneously.

## Panic

Pressing the ENTER and 0/DRUMS/PERC buttons simultaneously silences all sounding notes by sending an "All Notes Off" message (MIDI CC 123) and resets all controllers by sending a "Reset All Controllers" message (MIDI CC 121) on all 16 MIDI channels.

# Chapter 3

## Program Edit Mode

Program Edit Mode allows you to edit and customize Programs. Any Program can be edited and saved to a User ID. Note that you can only enter Program Edit Mode from Program Mode. Depending on your current location in the interface, you may need to exit your current mode first. For example, if you are in Multi Edit Mode or the Storage pages, press the EXIT button to return to Program Mode, then press the EDIT button to enter Program Edit Mode.

### Program Types

The SP8 contains VAST and KB3 Programs.

VAST Programs use layers of samples and synthesis to generate a wide variety of traditional instrument and synthesizer sounds, including FM synthesis.

KB3 Programs utilize a specialized set of oscillators designed to emulate the tonewheels of a classic tonewheel organ.

Regardless of the Program type, SP8 Program Edit Mode allows you to modify a variety of parameters to shape the sound in an easy and intuitive way.



**Note:** Kurzweil offers PC/Mac editors that allow you to explore all the editing possibilities of these Programs in greater depth. For more details, visit [kurzweil.com/sp8](http://kurzweil.com/sp8).

### Editing Pages

There are five main editing pages in SP8 Program Edit Mode:

- [1/5] Parameters
- [2/5] FX
- [3/5] Common
- [4/5] Arpeggiator
- [5/5] MIDI CC Sequencer

## Page Navigation

Press the CHANNEL/PAGE buttons to navigate through the available pages.

Use the Navigation buttons to select individual parameters, then use the PREVIOUS/NEXT buttons, Alpha Wheel, or Category buttons to modify each value.

## Assign

Assign is the secondary function of the ENTER button. In certain pages, you can use the Assign function to quickly select parameters or set values by holding the ENTER button while moving an SP8 controller (Knobs, Buttons, Keys, Wheels, or Pedals).

Parameters that support the Assign function are indicated by an Assign symbol in the top-right corner of the display when selected.

## The Parameters Page [1/5]

The Parameters page displays all Program and Effects parameters for the current Program that have been assigned to be controlled by the SP8's physical controllers or by MIDI CCs from an external device.

Use the Parameters page to change controller and MIDI CC assignments and set an initial value for each. Changing an FX Chain will remove the parameters of the current Chain and automatically add the parameters of the new Chain.

EDIT:Program Parameters		1/5
Parameter	Control	Value
Pad Layer	Variation	127
Sustain	Sw.Pedal 1a	None
Expression	CC Pedal 1	None
Sostenuto	Sw.Pedal 1b	None
<b>Attack</b>	Knob 8	0
Release	Knob 9	5
Impact	Switch 8	0
Reverb Enable	Switch 14	127
Pan	MIDI 10	64

### Parameter Column

The Parameter column displays all Program and Effects parameters for the current Program that have been assigned to be controlled by the SP8's physical controllers or by MIDI CCs from an external MIDI device.

Effect Chain parameters are identified by prefixes based on their effect type:

- “INS” for Insert effect parameters
- “LFX” for Layer effect parameters
- “AUX1” or “AUX2” for Aux effect parameters

To quickly locate a parameter that is already assigned to a controller, select the Parameter column, hold the ENTER button, and move the desired controller to jump to that assigned parameter.

## Program Edit Mode

The Parameters Page [1/5]

### Control Column

The Control column determines which physical controller (or external MIDI CC number) will control the parameter in the selected row.

#### SP8 Physical Controller MIDI CC Numbers in Program Mode

CC	Controller	CC	Controller	CC	Controller	CC	Controller
0		21		72	Knob 3	90	Button 14
1	Mod Wheel	22	Knob 8	73	Knob 2	91	
2		23	Knob 9	74		92	Button 5
3		24	Knob 10	75		93	
4		25	Knob 11	76		94	Button 4
5-8		26	Knob 12	77		95-127	
9		27	Knob 13	78	Knob 5		
10		28	Knob 14	79	Knob 4		
11	CC Pedal 1	29	Variation Button	80	Button 6		
12	Knob 6	30	Button 1	81	Button 7		
13	Knob 7	31	Button 4	82	Button 8		
14		32-63		83	Button 9		
15		64	Sw Pedal 1a	84			
16	Knob 15	65		85	Button 10		
17		66	Sw Pedal 1b	86	Button 11		
18		67		87	Button 12		
19	Button 2	68-70		88			
20	Button 3	71	Knob 1	89	Button 13		

To quickly assign one of the SP8's physical controllers, select the Control column for the desired parameter, hold the ENTER button, and move the controller you wish to use. Alternatively, you can use the Alpha Wheel or the PREVIOUS/NEXT buttons to select a controller from the list, or type the controller's MIDI number followed by the ENTER button.

To disable the controller for a parameter, select a value of "None" by scrolling to the bottom of the list.

To use an external MIDI CC number as a control source, enter the CC number followed by the ENTER button, or use the Alpha Wheel or PREVIOUS/NEXT buttons. Because the SP8's physical controllers are already mapped to specific MIDI CC numbers, you must choose an unassigned CC number for external sources to avoid "double-controlling" the parameter with both an external device and a local SP8 controller.

## Value Column

To change the initial value of a parameter, use the Navigation buttons to highlight the right-hand column. In the Value column, a MIDI value from 0–127 or a value of None can be entered. Use the Alpha Wheel or the PREVIOUS/NEXT buttons to scroll through these values. A value can also be entered manually by using the KEYPAD function (via the Category buttons) followed by the ENTER button.



**Note:** Manually setting a numeric value in this column will immediately transmit that MIDI CC value to the current channel, allowing you to hear the change in real time.

For faster navigation, use the FAVORITE BANK buttons as shortcuts:

- Press FAVORITE BANK – to set a value of “None” directly.
- Press FAVORITE BANK + to set a value of 127 directly.

In factory Programs, standard parameters such as Expression, Sustain, and Sostenuto are set to “None” by default. If you modify one of these parameters—either on the Parameters page or by moving a physical controller in Program Mode—the new value will persist as you switch between other Programs that are also set to “None” for that same parameter. These changes remain active even if you do not save the Program.

For example, because all factory Programs default to “None” for Expression, an expression pedal plugged into the CC 1 Pedal jack can control the volume across all of them. When you select a new factory Program, it will maintain the volume level set by the pedal in the previous Program. If you prefer a specific Program to load with a fixed default volume, you must change its Expression parameter to a numeric value other than “None”.



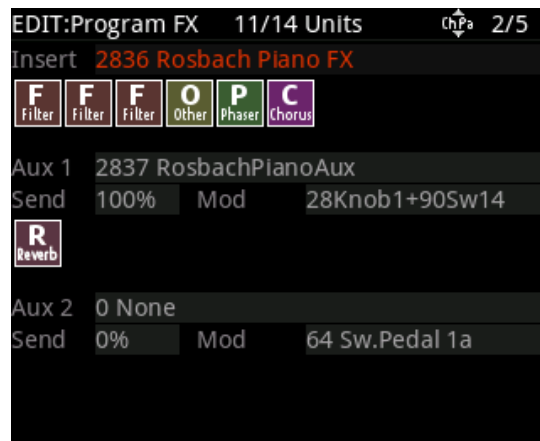
**Note:** For any parameter set to “None”, values adjusted via physical controllers are not stored when the Program is saved. To “lock in” and save a specific initial value, you must change the Value column for that parameter to a numeric setting (0–127). These values will remain active until manually changed with a controller or until a Program is loaded that contains a numeric (non-None) value for those parameters.

## Program Edit Mode

The FX Page [2/5]

# The FX Page [2/5]

Use the FX page to apply audio Effects to a Program. You can select one Insert FX Chain and two Aux FX Chains, which are applied to all layers in the Program. In Program Mode, Programs on all MIDI channels share the Aux chains of the Program assigned to the currently selected MIDI channel.



The SP8's Chains contain a wide variety of processing. Each Chain displays icons representing the types of Effects included and their routing order (signal flows from left to right). Available effect types include various reverbs, choruses, delays, flangers, phasers, tremolos, panners, rotary speakers, distortions, EQs, compressors, filters, envelope-following filters, frequency stimulators, ring modulators, frequency offsets, pitch LFOs, and stereoizers.



**Note:** Internally, some Programs may utilize per-Layer Insert FX. These FX Chains are only editable using the PC/Mac Editors.

## Effects Resources and DSP Effects Units

A Program can utilize up to eight Insert Chains (consisting of both common and layer-specific inserts) and two Aux Chains. Please note that layer-specific inserts are only selectable via the PC/Mac Editor.

The SP8 provides 32 “Units” of DSP (Digital Signal Processing) resources to load Effects. Each FX Chain requires a specific number of Units depending on its complexity.

The top line of the display shows a fraction representing the number of units used by the currently selected Chain (Insert, Aux 1, or Aux 2) over the total number of units used by the entire Program. If you attempt to use more than 32 Units across the Program, some FX Chains will not load.

## Effects Stealing during Program Changes

When sustaining notes while switching between two Programs, Effects resources from the first Program may be “assigned” or “stolen” to accommodate the Effects of the second Program. This can cause a noticeable change in the sound of the first Program.

To ensure a smooth transition without “stealing” Effects, try to keep the Effects usage of both Programs at 14 Units or fewer. In most cases, this allows the SP8 to maintain the Effects of the first Program while the second Program loads.

## Insert FX

Select an FX Chain to be applied directly to the current Program.

## Aux 1 and Aux 2 FX

Select an FX Chain for each of the two auxiliary parallel audio buses. An Aux Bus is a shared audio channel that can be utilized by Programs on any of the 16 MIDI channels simultaneously. This is ideal for using a single send/return style effect, such as Reverb or Delay, across multiple sounds.

## Aux FX Send

You apply an Aux effect to a Program by sending its audio signal to the Aux Bus.

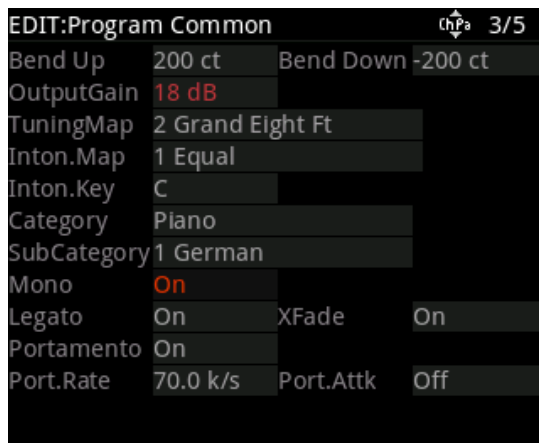
The Aux 1 and Aux 2 Send parameters on the FX page control how much of the “wet” effect is applied to the Program. Additionally, many Chains include a dedicated Aux Send, Wet/Dry, or Amount parameter that will automatically appear on the Parameters page for real-time control.

## Aux FX Mod

Use each Mod parameter to select a physical controller or other control source to adjust each Aux Send value. The selected Mod control source will adjust the Send level using the range set by the Send parameter.

# The COMMON Page [3/5]

The Common Page contains parameters that affect the current Program as a whole. These settings define the overall behavior, playback mode, and performance characteristics of the sound.



## Bend Range Up & Bend Range Down

Use these parameters to define how much the pitch will change when you move the Pitch Wheel. Pitch values are set in cents, where 100 cents = 1 semitone or half-step.

- **Bend Up:** Determines the pitch interval when the wheel is pushed forward (up).
- **Bend Down:** Determines the pitch interval when the wheel is pulled backward (down).

For both parameters, positive values will cause the pitch to bend up, while negative values will cause the pitch to bend down.



**Note:** Large positive values can cause samples to reach their maximum upward pitch before the Pitch Wheel reaches its physical limit. This “ceiling” effect does not occur when bending the pitch downward.

## Output Gain

Use the Output Gain parameter to cut or boost the final gain stage of the post-FX program signal. This is useful for adjusting the overall volume of a program.

When the Output Gain is set above 0 dB, the value will be displayed in red on the screen (unless the parameter is currently selected). This serves as a warning that, depending on the Program’s internal settings, Effects levels and how the Program is performed, there is a risk of digital clipping or audio distortion.

## Tuning Map

Tuning Maps allow you to set specific pitch offsets (in cents) for each individual key on the keyboard. These offsets are cumulative, meaning they are added to any other tuning adjustments already applied to the Program.

The primary use for Tuning Maps is to emulate stretched tuning, a technique essential for acoustic pianos and other keyboard instruments. In a stretched tuning:

- Lower Octaves: Notes are tuned increasingly flat.
- Upper Octaves: Notes are tuned increasingly sharp.

This compensates for “inharmonic”—a physical property of stiff strings where overtones sound slightly sharper than their mathematical frequencies. Stretching ensures that the harmonics of the lowest and highest notes align more naturally with the middle octaves.

The SP8 includes three specialized stretched maps:

- **Railsback:** A classic, mathematically derived stretched tuning widely used in piano technology.
- **Grand Eight Ft:** Based on the specific tuning characteristics of a large grand piano.
- **Tines EPiano:** Modeled after the tuning specifications found in vintage electric piano service manuals.

Many factory piano Programs use “Equal Temperament” (non-stretched) samples as a base and then apply a Tuning Map to achieve the final stretched sound.

When layering a piano with Equal Temperament instruments (like synthesizers, organs, or woodwinds), it is recommended to set the Tuning Map to 0. This ensures the piano stays perfectly in tune with the other layers across the entire range of the keyboard.

## Intonation Map

The Intonation Map parameter allows you to assign a specific tuning system to the current Program. While the Tuning Map handles key-by-key offsets (like stretching a piano), the Intonation Map defines the mathematical relationship between the notes of the scale (such as Equal Temperament vs. Just Intonation).

This parameter functions identically to the Intonation Map found in Global Mode, but with one key difference: the setting on the Common Page only applies to the current Program.

This is useful when you want a specific instrument—like a pipe organ or a baroque harpsichord—to use a historical temperament (e.g., Werckmeister) without affecting the tuning of your other Programs.

For a detailed description of the available temperament types, refer to the Global Mode [“Intonation Map” on page 6-8.](#)

### Intonation Key

The Intonation Key parameter allows you to set a specific root note for the Intonation Map of each Program. This ensures that non-equal temperaments (such as Just Intonation) are centered around the correct tonic of the piece you are playing.

While the Global Mode Intonation Key affects every sound on the instrument, the setting on the Common Page applies only to the current Program.

This is particularly useful for ensemble sounds or historical instruments. For example, if you are playing a piece in E Major using a Just Intonation map, setting the Intonation Key to E will ensure all intervals are mathematically pure relative to that specific key.

For more details, refer to the Global Mode ["Intonation Key \(Int Key\)"](#) on page 6-9.

### Category

This parameter sets the category that the Program will be grouped into when you press one of the Category buttons from the Program Mode main page.

### SubCategory

The SubCategory is a subdivision of some of the categories used for changing the graphic background of a Program in Program Mode.

### List of SP8 Categories and SubCategories

- Piano
  - German
  - Japanese
  - Triple Strike
- Electric Piano
  - Tine EP 77
  - Tine EP 73
  - Reed EP
- Clavier
  - Clavier
  - Harpsichord
  - Celeste
- Organ
  - Tone Wheel (KB3)

- Italian Combo
- British Combo
- Pipe
- Strings/Pads
  - Strings
  - Pads
- Brass/Winds
  - Brass
  - Winds
- Vox/Misc
  - Tape Voices
- Lead/Synths
  - Poly
  - Lead
  - Synth Bass
- Guitar/Bass
  - Guitar
  - Bass
- Drums/Percussion
  - Drums
  - Percussion

## Monophonic

When Monophonic is set to On, the Program will only play one note at a time. Enabling this mode also reveals the Legato and Portamento parameters on the Program Common page for further customization.

When the Monophonic parameter is set to Off, the Program is polyphonic, allowing you to play multiple notes simultaneously.



**Note:** The Monophonic, Legato, and Portamento parameters are not available for KB3 Programs.

### Legato

The Legato parameter is available when Monophonic is set to On. This setting is essential for accurately emulating the playing techniques of various acoustic instruments, such as woodwinds, brass, or solo strings; it is also widely used in Synth Lead sounds to create smooth, flowing melodic lines.

**Legato Off:** Every new note played will trigger a fresh amplitude envelope from the beginning (the “attack” phase).

**Legato On:** A new note will only trigger a new amplitude envelope if no other notes in the Program are currently being held. If you play a new note while holding a previous one, the new note will continue using the existing amplitude envelope.

This allows for smooth, continuous phrasing where the volume and character of the sound do not “restart” with every keystroke, perfectly mimicking a single breath on a flute or a single bow stroke on a violin.

### Portamento

The Portamento parameter is available when Monophonic is set to On. When Portamento is set to On, notes played in a monophonic Program will glide from the pitch of the previously played note to the pitch of the currently played note.

Portamento is a staple of Synth Lead sounds and is also used to mimic acoustic instruments like the violin or fretless bass, where a pitch glide is achieved by sliding a finger along a vibrating string.

See Portamento Rate to set the Portamento glide speed, and Attack Portamento to set the way that Portamento responds to played notes. See the Mono Sample XFade parameter to improve the sound of Portamento in programs that use multiple samples. All those parameters are described below.

### Portamento Rate (Port.Rate)

The Portamento Rate parameter is available when Portamento is set to On. This setting determines the speed at which the pitch glides from one note to the next.

The value represents the glide speed in keys per second. Specifically, it defines how many semitones (half-steps) the pitch travels every second toward the target note.

For example, at a setting of 12 keys/second, the pitch will glide exactly one octave (12 semitones) per second.

Select a higher value for a faster, more immediate pitch glide, or a lower value for a slower, more dramatic “sweep” between notes.

## **Portamento Attack (Port.Atk)**

The Portamento Attack parameter toggles between two distinct behaviors for how the pitch glide is triggered. This setting is crucial for defining how much control you have over the “sweep” during a performance.

When set to On, the pitch always glides to each new note from the pitch of the previously played note, regardless of whether you are playing smoothly or detached.

When set to Off, the pitch glides to each new note only if the previous note is still being held. If you release the previous note before playing the next, the new note will trigger at its own pitch without a glide.

This is particularly useful for “selective” portamento, allowing you to play staccato passages with fixed pitches and switch to gliding Effects simply by overlapping your notes.

## **Mono Sample Crossfade (XFade)**

The Mono Sample XFade parameter is designed to smooth out pitch glides in Programs that utilize multiple samples (such as an Acoustic Guitar). Because these instruments use different sample “roots” across the keyboard, a pitch glide may cross the boundary from one recording to another.

As the pitch glides from a starting note to a target note, the SP8 may need to switch between different internal sample roots to maintain a natural tone.

Without crossfading, these transitions can sometimes cause a small, audible “click” or “pop” at each sample root boundary.

When this parameter is set to On, the SP8 performs a rapid crossfade at each transition point, effectively eliminating clicks and ensuring a seamless, continuous glide.

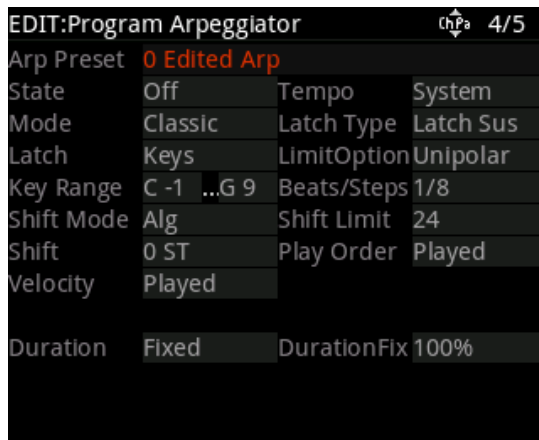
# The Arpeggiator Page [4/5]

Use the Arpeggiator page to adjust settings for the Program's Arpeggiator. The Arpeggiator takes note input from the keyboard (or via MIDI) and outputs a rhythmic and/or melodic pattern of MIDI notes. The Arpeggiator can affect both the internal Programs and external MIDI instruments.

The Arpeggiator processes notes by playing them repeatedly and/or transposing them up and down the keyboard. You have control over note output velocity, order, duration, transposition, and more.

You can select and edit patterns for note shifting, velocity shifting, and duration, either as independent patterns or as a combination of all three in Step Sequencer mode.

Several different Latch settings are available, allowing the Arpeggiator to respond to played notes in different ways, such as continuing to play after you have released the keys.



## ARP Buttons

The SP8 front panel features two dedicated buttons for controlling the Arpeggiator in real time: the ARP and LATCH buttons.

- **ARP Button:** This button toggles the Arpeggiator State ON or OFF for the current Program or Multi.
- **LATCH Button:** If the Arpeggiator is active, the LATCH button allows you to “lock” the current notes based on the specific Latch parameter settings.

## Arpeggiator Common Parameters

The following common parameters are used by the Arpeggiator in both Classic and Step Sequencer mode.

### Arp Preset

The Arp Preset parameter allows you to recall factory-programmed or user-created Arpeggiator configurations. Since the Arpeggiator features many deep parameters, utilizing presets is the most efficient way to manage and swap complex patterns.

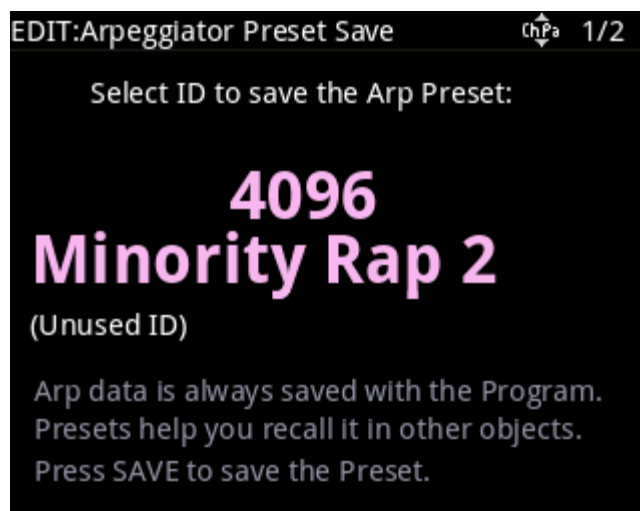
An Arp Preset contains settings for all parameters on the ARP page, with the notable exception of the State and Key Range parameters. These two specific settings are the only ones on the page that are not overwritten when you scroll through different Arp Presets.

For example, if you have the Arpeggiator set to On and have limited its trigger area to the bottom two octaves of the keyboard, those settings will remain exactly where you put them even as you audition different musical patterns. This allows you to maintain your performance layout—such as a left-hand bass arpeggio—while freely changing the rhythmic style of that arpeggio on the fly.

Scrolling through the Arp Presets is an easy way to discover the different rhythmic possibilities of the SP8. It is also a highly effective workflow to find a preset similar to the result you want and then continue to edit the individual parameters from there to suit your needs.

### Saving ARP Presets

If you have adjusted any Arpeggiator settings, you have the option of saving a new Arp Preset to a User location. This makes your custom pattern or behavior available to use with other Programs and Multis. All settings on the ARP page are saved as part of the Arp Preset, except for the State and Key Range parameters. If you choose not to save a separate Arp Preset, your specific arpeggiator settings will still be saved directly with the current Program or Multi.



## Program Edit Mode

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### The Arpeggiator Page [4/5]

When the Arp Preset parameter is selected on the screen, the SAVE button LED changes color to indicate that pressing it will open the Arp Preset Save Dialog. This dialog is very similar to the Program Save Dialog, providing you with the option to select a unique ID number and name for your Arp Preset. See [“Save User Programs” on page 2-10](#) for more details on how to change the name and ID, as the process is the same.



### State

Use the State parameter to turn the Arpeggiator On or Off.

In Program Mode, the State parameter can also be controlled by pressing the ARP button in the front panel ARPEGGIATOR section, or by a switch pedal by setting one of the Global Mode SW Override parameters to Arp On/Off.

### Arp Mode

The two Arpeggiator modes, Classic and Step Sequencer, offer different means of shaping and editing Arpeggiator patterns. Depending upon this mode, the ARP page will provide access to different options and editable patterns.

In **Classic** mode, the ARP page will offer algorithmic options, as well as independent note-Shift, Velocity and Duration patterns. These patterns are editable.

In **Step Sequencer** mode, you can edit sequences step-by-step, specifying Note, Velocity, Duration and Beat for each step in a sequence.

### Tempo

Use the Tempo parameter to set the Arpeggiator speed in Beats-Per-Minute (BPM). This parameter is a central clock for the Program; in addition to the Arpeggiator, it also defines the rate for tempo-synced Effects (such as delays) and internal LFOs. You can use the Category buttons, Alpha Wheel, or Previous/Next buttons to set a specific tempo that will be saved directly with the Program.

You can also set the tempo to System by scrolling the value below 20 BPM. When set to System, the Program ignores its own saved tempo and instead follows the global System Tempo. This is particularly useful when you want many different Programs to stay in sync with a single master clock. Programs set to System do not store a unique BPM value and will always update to match the current global setting.

To set the System Tempo manually, use the TAP TEMPO button on the front panel. Press the TAP button several times at your desired rhythmic rate to “tap in” the tempo, or use the on-screen controls to modify the value after pressing the TAP TEMPO button once.

## Latch

The Latch parameter allows you to control how and when notes played on the keyboard (or via external MIDI) will be arpeggiated. For example, specific latch settings allow notes to continue arpeggiating after keys have been released—these are known as latched notes—while other settings restrict arpeggiation to certain notes. It is important to remember that notes played outside of the Arp Key Range are never latched or arpeggiated.

Some Latch settings require the use of the Latch switch. In Program Mode, the Latch switch is controlled by the front panel LATCH button or by a switch pedal configured via the Global Mode SW Override parameters. See [“Switch Pedal Overrides” on page 6-9](#)

**Note:** In Multi Mode, the Latch switch can be controlled independently in each Zone by the front panel LATCH button, another controller, or a Global Mode SW Override. Within a Multi, the LATCH button or chosen controller must be assigned on the Multi Edit Controls page of each Zone using Destination 157 (Latch Sustain) or 158 (Latch2 Sost) with an On Value of 127 and Off Value of 0.

The following descriptions outline the available Latch settings:

**Keys:** If the Latch switch is turned off, notes are arpeggiated only while keys are held. As you hold different notes, they are added to the arpeggiation; as you release them, they are removed. When Latch is set to Keys, the front panel LATCH button can be used to “lock” played notes so they continue to arpeggiate after release.

In Program Edit Mode, selecting the Keys setting causes the Latch Type parameter to appear. This parameter determines the specific behavior of the front panel LATCH button:

- Latch Sustain: If the Latch switch is turned on, any played notes will become latched.
- Latch2 Sost: Notes only become latched if the Latch switch is turned on while the keys are currently being held.

**Overplay:** Overplay latches any keys that are being held at the moment the Latch switch is turned on. These latched keys continue arpeggiating after they are released until the Latch switch is turned off.

Notes are arpeggiated only when the Latch switch is turned on while notes are held. A key distinction of this mode is that any notes you play after the Latch switch is turned on do not get arpeggiated, allowing you to play a non-arpeggiated melody over a latched rhythmic pattern.

## Program Edit Mode

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### The Arpeggiator Page [4/5]

**Arpeg:** Arpeg latches any keys that are being held at the moment the Latch switch is turned on. These latched keys continue arpeggiating after they are released until the Latch switch is turned off.

Notes are arpeggiated only when the Latch switch is turned on while notes are held. A key distinction of this mode is that any notes you play after the Latch switch has been turned on also become part of the arpeggiation, but they drop out of the pattern as soon as you release them. This allows you to maintain a constant rhythmic base while momentarily adding melodic flourishes or chord extensions to the sequence.

**Add:** Notes are arpeggiated only when the Latch switch is turned on while notes are held. The Add setting latches any keys that are being held when the Latch switch is turned on, and also latches any notes played after this point. All latched keys continue arpeggiating after they are released until the Latch switch is turned off.

This mode is very similar to Arpeg, with the only difference being that the notes added after the latch is engaged continue to be arpeggiated even after they are released. This allows you to build a complex, multi-note texture over time, as every new note is added to the persistent rhythmic pattern rather than dropping out.

**Auto:** When using the Auto setting, every note you play is automatically latched, and the Arpeggiator continues to run as long as you hold at least one note. As long as you maintain contact with at least one key—even if you move between different notes—every note you play within the arpeggiation range becomes latched.

This mode is designed for fluid, hands-on performances where you want the arpeggio to persist as you play, but stop immediately once you release all keys. Because it does not require the Latch switch or a pedal to engage, it is an intuitive way to “carry” a sequence across the keyboard by simply overlapping your playing.

**Autohold:** It is similar to the Auto setting, where holding at least one arpeggiated note while playing other notes latches them into the pattern. However, unlike in Auto mode, if you stop holding all arpeggiated notes, the arpeggiation continues playing (though you cannot latch any additional notes at that point).

If you strike another key within the arpeggiation range after releasing the previous notes, the current sequence is cleared and a new arpeggiation sequence begins. Autohold is particularly useful for arpeggiating chords: when you play a chord, it becomes latched and continues arpeggiating after you release your hands. When you play a subsequent chord, the previous one is automatically unlatched and replaced by the new notes. You can use the front panel ARP button to stop the arpeggiation at any time.

**1NoteAuto:** It is similar to Autohold, except only the last note played is latched, even if previously played notes are still being held. This setting is specifically designed for use with Shift Patterns, as these patterns are intended to be played one note at a time.

Using 1NoteAuto ensures that Shift Patterns sound correct by only allowing one note at a time to trigger the pattern, preventing overlapping notes from cluttering the sequence. While optimized for these patterns, you can also use 1NoteAuto without a Shift Pattern for any monophonic arpeggiation needs. You can use the ARP button in the front panel to stop arpeggiation at any time.

**1NoteAutoLow** and **1NoteAutoHi**: They are specialized latch modes designed for use with Shift Patterns, though they can also be used without them. These modes work similarly to 1NoteAuto, but they introduce a note priority when multiple notes are held simultaneously.

In 1NoteAutoLow mode, the Arpeggiator always latches the lowest note being held. Conversely, in 1NoteAutoHi mode, the Arpeggiator always latches the highest note being held. This prioritization ensures that the Shift Pattern remains clear and predictable even during complex performances where your fingers may overlap on the keys.

By restricting the trigger to a single “anchor” note—either the lowest or the highest—these modes prevent the arpeggiation from becoming cluttered or out of sync. As with other latch types, you can use the ARP button in the front panel to stop arpeggiation at any time.

### Limit Option

The Limit Option parameter determines how the Arpeggiator behaves once it has shifted notes up or down to the value defined by the Shift Limit parameter.

**Stop** causes the Arpeggiator to stop when it reaches the shift limit.

**Reset** causes the Arpeggiator to return to its original pitch and repeat the cycle of notes from the beginning once the limit is reached.

**Unipolar**: After a note reaches the shift limit, the shift direction reverses until the note returns to its original pitch, where it reverses again. If Shift Amount is positive, the note will never shift below its original pitch; if Shift Amount is negative, it will never shift above its original pitch.

**Bipolar**: Once a note reaches the Shift Limit, the transposition direction reverses. The notes will then shift in the opposite direction until they reach the opposite limit, at which point the direction reverses again.

**Float Reset**: When the Arpeggiator reaches the shift limit, it identifies the first note that would exceed that limit and calculates the interval between that note and the limit. It then restarts the cycle of latched notes, transposing the entire cycle by that calculated interval. It continues shifting each subsequent cycle by the Shift Amount until the limit is reached again.

*Example*: Suppose the Arpeggiator cycle is a single C<sub>4</sub>, Shift Amount is 4 (a major third), and Shift Limit is 7 (notes cannot exceed G<sub>4</sub>). The Arpeggiator plays C<sub>4</sub>, then E<sub>4</sub>. The next note should be G<sub>4</sub>, but since that exceeds the limit, the Arpeggiator calculates the difference between G<sub>4</sub> and the limit (G<sub>4</sub>), which is one semitone. It adds that difference to the original starting note (C<sub>4</sub>) and plays C<sub>4</sub> next. The following note (F<sub>4</sub>) is within the limit, but the next (A<sub>4</sub>) is not, so it is translated into D<sub>4</sub>, and so on. The next note (F<sub>4</sub>) is within the shift limit, but the next note (A<sub>4</sub>) isn't, so it gets translated into D<sub>4</sub>—and so on.

## Program Edit Mode

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### The Arpeggiator Page [4/5]

**Float Unipolar (FloatUnip)** uses the same concept as FloatRst and applies it to Unipolar mode: when the Arpeggiator reaches the shift limit, it calculates the difference between the next note and the limit, and transposes the next cycle of notes down by that interval, then shifts each subsequent cycle down until it reaches the original pitch.

**Float Bipolar (FloatBip)** is similar to FloatUnip, but the downward shift limit isn't the original pitch, it's the negative of the Shift Limit value.

### **Key Range (Low Key and High Key)**

The Key Range parameters define the specific span of notes on the keyboard that the Arpeggiator will process. Any notes played within this range will trigger arpeggiation, while notes played outside the range will play normally as standard non-arpeggiated sounds.

When either the Low Key or High Key parameter is selected on the display, you can quickly set the value by holding the ENTER button and striking the desired key on the keyboard.

Unlike many other arpeggiator settings, the Key Range is not saved as part of an Arp Preset.

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## Arpeggiator Classic Mode Parameters

### Beats/Steps

The Beats parameter sets the number of notes played per beat. Because the system tempo is based on quarter notes, setting Beats to 1/4 will result in one note per beat of the clock. Setting the value to 1/16 will result in four notes per beat, and so forth. The maximum value is 96 notes per beat (1/384), though at most tempos, rhythmic divisions smaller than 1/64 will sound nearly identical.

To determine a Beats value, multiply the number of notes you want per beat by four. For example:

- 4 notes per beat (16th notes):  $4 \times 4 = 16$ , resulting in a Beats value of 1/16.
- 3 notes per beat (8th note triplets):  $3 \times 4 = 12$ , resulting in a Beats value of 1/12.
- 6 notes per beat (16th note triplets):  $6 \times 4 = 24$ , resulting in a Beats value of 1/24.

### Shift Mode

Use the Shift Mode parameter to define how the Arpeggiator shifts the pitch of played notes. This determines whether the pitch shifting follows a consistent mathematical interval or a pre-defined rhythmic sequence.

**Alg (Algorithm):** The Alg setting creates note sequences based on a fixed Shift Amount. In this mode, each subsequent note in the arpeggio is shifted by a specific interval (set in semitones), creating a linear upward or downward progression.

**Pattern:** When you select Patt, the Shift Pattern parameter appears. This allows you to select a preset or user-defined shift pattern. Unlike the linear nature of the Alg setting, patterns can contain complex, non-linear jumps in pitch.

### Shift Limit

When the Shift Amount parameter is set to a value other than 0, the Shift Limit determines the maximum range—up or down—that the Arpeggiator can shift the arpeggiated notes. This parameter acts as a boundary for the pitch-shifting logic defined in your Shift Mode.

For classic octave-shifting Effects, try setting the Shift Limit to 12 or 24. This creates an arpeggio that repeats the same melodic pattern across different octaves. This configuration is particularly effective when the Shift Amount is also set to 12 (one octave) or when a Shift Pattern is active, ensuring the sequence remains harmonically consistent as it climbs or descends.

### Shift Amount

The Shift Amount parameter appears when the Shift Mode is set to Alg. Shift Amount determines how much transposition will occur for each cycle of notes.

Try setting Shift Amount to 12 and Shift Limit to 12 or 24 to create an arpeggio that repeats the same pattern of notes in different octaves.

## Program Edit Mode

### The Arpeggiator Page [4/5]

#### Shift Pattern

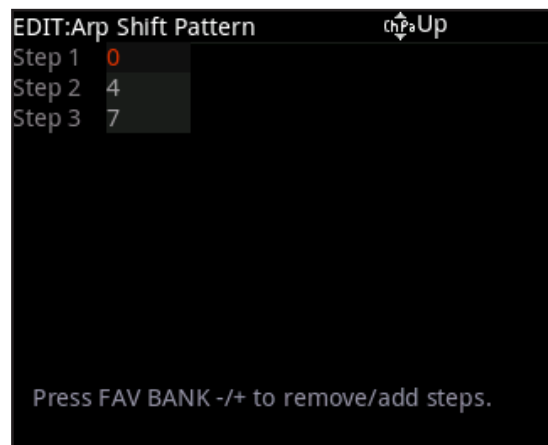
When Shift Mode is set to Pattern, the Shift Pattern parameter appears. This allows you to select a step sequence for arpeggiator note patterns. The pitch of each played key is shifted according to a sequenced pattern, hence the name “Shift Pattern.” There are many pre-programmed shift patterns available, including various chords, intervals, and rhythms. You can also create custom user patterns using the Pattern Editor.

Shift Pattern steps are played back at the rate set by the Beats parameter. Keep in mind that Shift Patterns are affected by every parameter on the ARP page; while this can sometimes cause unexpected results, it is also a powerful way to add interesting variation to a pattern.

Shift Patterns are most easily used and understood when triggered by only one key at a time. To prevent accidental triggering from multiple keys, use one of the note priority latch types—1NoteAuto, 1NoteAutoLow, or 1NoteAutoHi—when using a Shift Pattern. Triggering patterns from a single key ensures the pre-programmed sequences sound as intended based on their names. If no other keys are playing, the pattern will restart each time a key is pressed. (Note: There are some exceptions when using Latch settings other than Keys, though a newly triggered pattern will always start at Step 1).

#### Editing Shift Patterns

You can edit the highlighted pattern by pressing the EDIT button. To create a new user pattern, edit an existing one and save it to a new User ID.



In the Shift Pattern editor, pressing FAVORITE BANK – removes the last step in the list, while pressing FAVORITE BANK + inserts a new note step at the end. Use the Navigation buttons to move between pattern steps, and use the alpha wheel, alphanumeric pad, or plus/minus buttons to enter the note shift amount for each step. You can set a step to a value of “none” by scrolling all the way down. A step with the value “none” causes the arpeggiator to play nothing for that step, allowing you to create rhythmic patterns by using “none” to leave spaces.

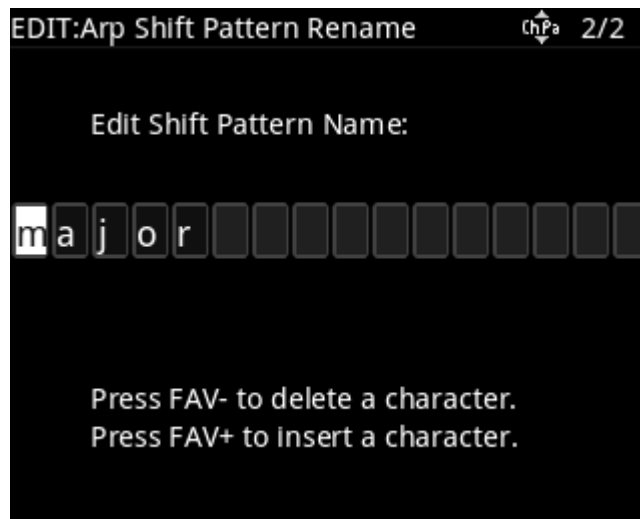
Use the CHANNEL/PAGE buttons to change the direction in which pattern steps are played (indicated by **Up**, **Down**, or **Flat** on the right of the top line).

- **Up:** The pattern starts at step one and moves sequentially through each step toward step 24. The pattern will repeat and transpose into the next higher octave, limited by the Shift Limit parameter.
- **Down:** The pattern starts at step one, jumps to the last step, and moves backward through the steps toward step one in the octave below the first note played. The pattern will repeat and transpose into the next lower octave, limited by the Shift Limit parameter.
- **Flat:** The pattern plays without transposition. In this mode, the Shift Limit parameter is used specifically to restrict the note range.

To save an edited pattern, press the front panel **SAVE** button to view the save dialog and select a user ID.



To rename the Shift Pattern, use the CHANNEL / PAGE buttons to find the Rename page. To save your pattern, press SAVE or press EXIT to ignore the changes and return to the ARP menu. See [“Save User Programs” on page 2-10](#) for more details on how to change the name and ID, as the process is the same.



## Program Edit Mode

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### The Arpeggiator Page [4/5]

#### Play Order

When the Shift Mode is set to Alg, the Play Order parameter appears. Play Order determines the sequence in which the arpeggiator plays the notes you hold.

**Played:** Plays notes back in the chronological order in which they were played.

**Upwards:** Plays notes in ascending pitch order.

**Downwards:** Plays notes in descending pitch order.

**UpDown:** Plays notes from the lowest pitch to the highest, then from the highest to the lowest. The notes at the very top and very bottom play only once before the direction reverses.

**UpDownRep:** Similar to UpDown, except the notes at the top and bottom play twice when the arpeggiator reverses direction.

**Random:** Plays the notes in a completely random order.

**Shuffle:** Plays notes in a random order but ensures no note repeats until all others in the set have played.

**Walk:** A “random walk” order where each successive note is either the next or previous note in chronological order. For example, if you play G4, B4, D5, and F5 in that order, the arpeggiator starts with G4. The next note will be either B4 (the next chronological note) or F5 (the previous chronological note, wrapping around the list).

**Simultaneous:** Plays all held notes at the same time and at the same tempo. This works well with the Shift and Limit parameters, allowing you to transpose or restrict multiple notes simultaneously.

#### Velocity

Velocity sets the attack velocity of the played notes.

**First:** All notes play at the velocity of the first played note.

**Played:** Each note repeats with the same velocity you played it at.

**Last:** All notes play at the velocity of the most recently played note.

**MIDI 109:** All notes play with the same velocity. The default MIDI109 velocity is 100. In Multi Mode, you can control the velocity in real-time by assigning a controller to destination 109.

**Fixed:** All notes play with the same velocity. The Velocity Fixed field appears, which allows you to set a specific velocity. In Multi Mode, you can control the velocity in real-time by assigning a controller to destination 175 VelFixed.

**Pattern:** The Velocity Pattern parameter appears, allowing you to select a preset or user defined velocity pattern. See Velocity Pattern below for details.

**Human1 through Human4:** These modes randomly change played note velocity within a range in order to make arpeggiation sound more natural, with each note varying slightly. These settings use the velocity received from the first note played as the center of the randomization range.

**Chimp1 through Chimp4:** These function in a similar fashion to the Human settings but use larger randomization ranges. Like the Human settings, the Chimp settings use the velocity received from the first note played as the center of the randomization range.



**Note:** For Human and Chimp modes, if the velocity of the first played note is low enough that the selected randomization range could result in a velocity of zero, some notes may have a velocity of zero and therefore produce no sound.

Velocity Setting	Velocity Randomization Range
Human1	± 3
Human2	± 6
Human3	± 10
Human4	± 15
Chimp1	± 25
Chimp2	± 35
Chimp3	± 50
Chimp4	± 64

**MissNotes1 through MissNotes9:** These modes make the SP8 randomly miss playing a percentage of notes. Each of these settings also randomly changes some of the velocities in a range of ± 5 to simulate a more human-played sound. (See the table below for percentages and their equivalent settings.)



**Note:** Missed Notes are actually output as notes with a velocity of zero.

Velocity Setting	Approximate % of Notes Missed
MissNotes1	% 10
MissNotes2	% 20
MissNotes3	% 30
MissNotes4	% 40
MissNotes5	% 50
MissNotes6	% 60
MissNotes7	% 70
MissNotes8	% 80
MissNotes9	% 90

### Velocity Pattern (Velocity Patt)

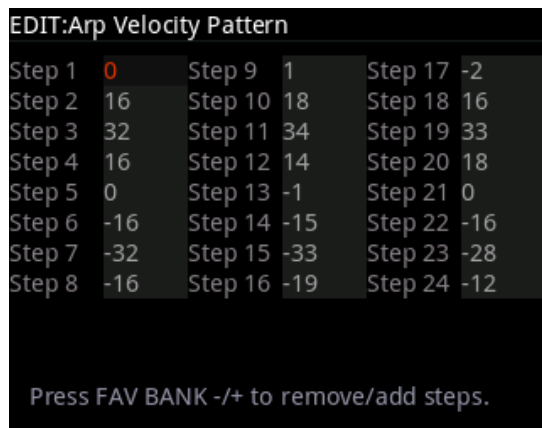
Velocity Pattern appears when Velocity is set to Pattern, allowing you to select a step sequence for arpeggiator velocity patterns. A Velocity Pattern shifts the velocity of each arpeggiated note according to a sequenced pattern. You can select a factory pattern or create a custom user pattern using the pattern editor.

Velocity Patterns use the velocity received from the first note played as the center position to shift velocities up or down. Velocity Pattern steps are played back at the rate set for Beats. Rhythms can be created by using velocity values of -127 or “none” to leave rests in the arpeggiation.

Triggering occurs from step 1 each time a key is pressed if no other keys are playing (there are some exceptions when using ARP Latch parameters other than “Keys”). When triggering velocity patterns from more than one key at a time, each consecutive step of the pattern shifts the velocity from a different inputted key. The order of these shifts is determined by the Play Order parameter on the ARP page.

### Editing Velocity Patterns

Editing Velocity Patterns is accessed by highlighting a pattern and pressing the EDIT button. You can create a new user pattern by editing an existing pattern and saving it to a User ID.



The screenshot shows a dark interface with the title 'EDIT:Arp Velocity Pattern'. Below the title is a grid of 24 steps, arranged in three columns and eight rows. Each step is labeled with its step number and a corresponding velocity value. The values range from -33 to 33. At the bottom of the screen, there is a text prompt: 'Press FAV BANK +/- to remove/add steps.'

Step	Velocity	Step	Velocity	Step	Velocity
Step 1	0	Step 9	1	Step 17	-2
Step 2	16	Step 10	18	Step 18	16
Step 3	32	Step 11	34	Step 19	33
Step 4	16	Step 12	14	Step 20	18
Step 5	0	Step 13	-1	Step 21	0
Step 6	-16	Step 14	-15	Step 22	-16
Step 7	-32	Step 15	-33	Step 23	-28
Step 8	-16	Step 16	-19	Step 24	-12

Each pattern can have up to 24 steps, and each step can shift velocities by a value of  $\pm 127$ . You can insert a step with a value of “none” by entering -127 and then shifting down one more increment. A step with the value “none” causes the arpeggiator to play nothing for that step, allowing you to create rhythmic patterns by using “none” to leave spaces.

FAVORITE BANK – removes the last step in the list, while pressing FAVORITE BANK + inserts a new velocity step at the end. The pattern editor remembers the values of removed steps until you SAVE or EXIT. Use the Navigation buttons to move between pattern steps, and use the Alpha Wheel, alphanumeric pad, or PREVIOUS–/NEXT+ buttons to enter the velocity shift value for each step.

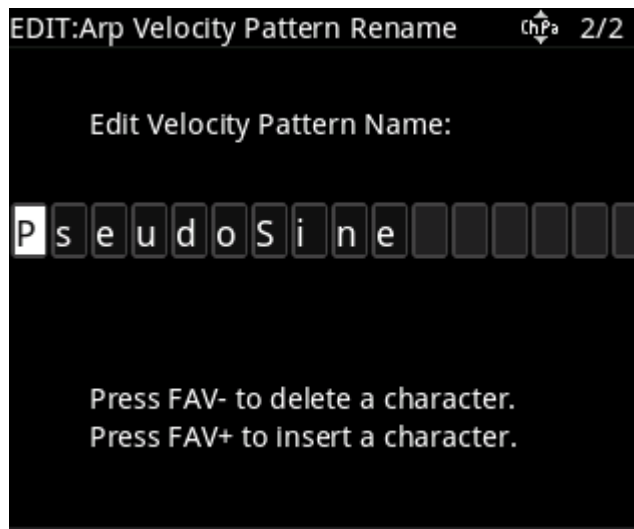


**Note:** For patterns with negative velocity values, if the velocity of the first played note is low enough that a pattern step could result in a velocity of zero, some notes may have a velocity of zero and therefore produce no sound.

To save an edited pattern, press the front panel **SAVE** button to view the save dialog and select a user ID.



To rename the Velocity Pattern, use the CHANNEL / PAGE buttons to find the Rename page. To save your pattern, press SAVE or press EXIT to ignore the changes and return to the ARP menu. See [“Save User Programs” on page 2-10](#) for more details on how to change the name and ID, as the process is the same.



## Program Edit Mode

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### The Arpeggiator Page [4/5]

#### Duration

Use the Duration parameter to set how the arpeggiator will control the duration of played notes. When Duration Mode is set to Fixed, the Duration parameter appears, which allows you to set a fixed duration that will be applied to all arpeggiated notes. See the Duration section below for details. When Pattern is selected, the Duration Pattern parameter will appear, allowing you to select a preset or user-defined duration pattern. See the Duration Pattern section below for details.

#### Duration Fix

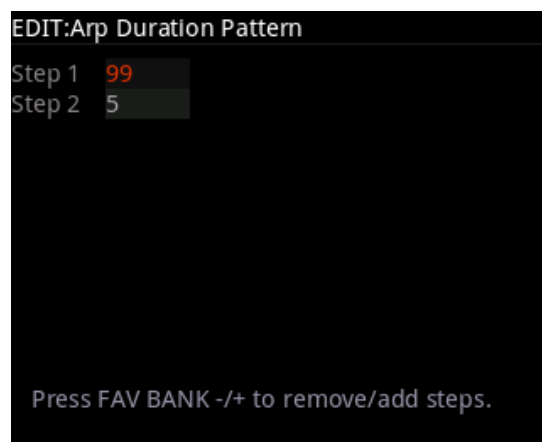
The Duration Fix parameter determines how long each arpeggiated note plays based on the current arpeggiator Beats value. A value of 100% means that a note sustains until the next one sounds (legato). A value of 50% means the note fills half the time between itself and the next note. The lowest value is 0% (staccatissimo). This parameter has no effect on percussion or other sounds with a fixed duration.

#### Duration Pattern (Duration Patt)

When Duration Mode is set to Pattern, the Duration Pattern parameter appears, which allows you to select a step sequence for arpeggiator duration patterns. A Duration Pattern sets the duration of each arpeggiated note according to a sequenced pattern. Duration Pattern steps are played back at the rate set for Beats. The duration of each note is a percentage of the current arpeggiator Beats value. Select a factory pattern, or create a custom user pattern using the pattern editor (see below for details).

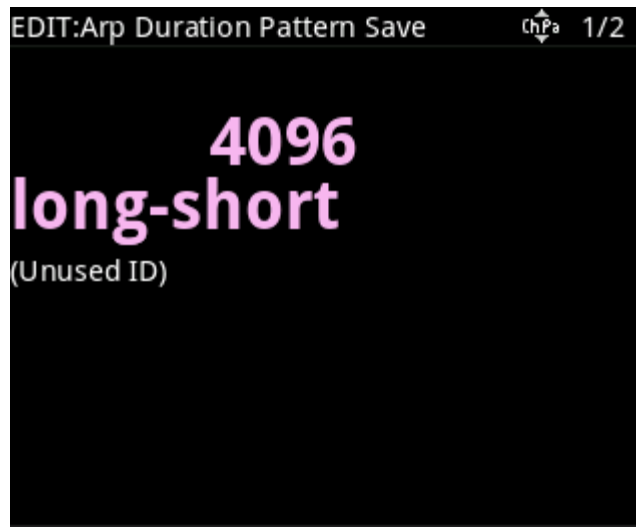
#### *Editing Duration Patterns*

You can edit the highlighted pattern by pressing the EDIT button. You can create a new user pattern by editing an existing pattern and saving it to a user ID.

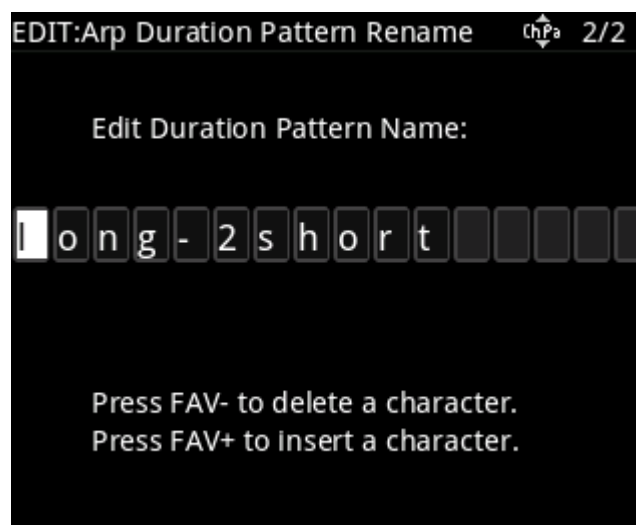


Each step can have a duration from 0-100% of the current arpeggiator Beats setting. Each pattern can have up to 24 steps. Pressing FAVORITE BANK - removes the last step in the list, pressing FAVORITE BANK + inserts a new note step at the end of the list (the pattern editor remembers the values of removed steps until you save or exit). Use the navigation buttons to move between pattern steps, use the Alpha Wheel, alphanumeric pad, or Previous-/Next+ buttons to enter the duration amount for each step.

To save an edited pattern, press the front panel **SAVE** button to view the save dialog and select a user ID.



To rename the Duration Pattern, use the CHANNEL / PAGE buttons to find the Rename page. To save your pattern, press SAVE or press EXIT to ignore the changes and return to the ARP menu. See [“Save User Programs” on page 2-10](#) for more details on how to change the name and ID, as the process is the same.

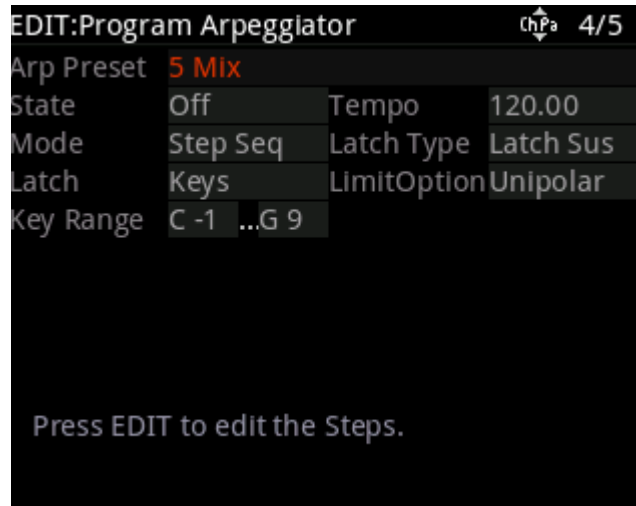


## Program Edit Mode

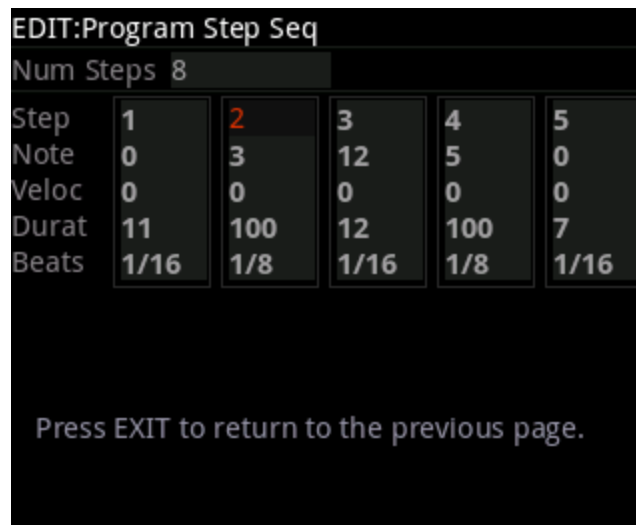
The Arpeggiator Page [4/5]

### Arpeggiator Step Sequencer Mode Parameters

In Step Sequencer mode, the ARP page will give you the ability to create a unique Arpeggiator pattern step-by-step.



Press EDIT to modify the sequence.



**Number Steps**

Sets the total number of steps in the current sequence.

**Step**

The Step parameter shows the number of each step in the sequence, and can be used to navigate between the steps. Select any step and use the Spin-wheel to move through all the steps.

**Note**

Defines the pitch shift for each step. Notes are specified in semitones relative to the last latched note (represented as 0).

For example, a sequence of 0, 4, 7 plays a major triad. Values range from -128 to +127, with negative numbers shifting the pitch below the original note.

**Velocity (Veloc)**

Adjusts the velocity of each step relative to the last latched note. Values can be shifted -127 to +127 from the original velocity.

Set a velocity of None (scroll all the way to the left) if you want to skip the step.

**Duration (Durat)**

Determines how long a step is sustained, calculated as a percentage of the Beats value. The range is 0–100, where 100 sustains the note for the entire length of the step.

**Beats**

Sets the rhythmic duration of each step as a fraction of a 4-beat measure. The actual speed is governed by the Tempo parameter. For instance, a value of 1/4 plays a quarter note.

To find a Beats value, multiply the notes you want per beat by 4. For example, 4 notes per beat (16th notes) would be  $4*4=16$ , a Beats value of 1/16. Three notes per beat (8th note triplets) would be  $3*4=12$ , a Beats value of 1/12. Six notes per beat (16th note triplets) would be  $6*4=24$ , a Beats value of 1/24.

# The MIDI CC Sequencer Page [5/5]

The MIDI CC Sequencer allows you to rhythmically modulate up to 4 program parameters (such as filter frequency) based on preset or user patterns. CC is short for continuous controller, which is a type of MIDI message that can be used to control assigned parameters. The CC Sequencer can affect both internal programs and external MIDI instruments.



## CC Seq Preset

Use the CC Seq Preset parameter to recall factory or user created CC Sequencer settings. A CC Seq Preset contains settings for all of the parameters on the CC SEQ page (except for the State parameter, which is stored with the Program/Multi). Scrolling through the CC Seq Presets is an easy way to discover the different possibilities of the CC Sequencer, or to find a preset similar to what you want and continue to edit it from there.

You can save your current settings as a CC Seq Preset by pressing the SAVE button when the CC Seq Preset parameter is selected. If you select a different CC Seq Preset before saving your current CC Sequencer settings, the current CC Sequencer settings will be replaced by the settings from the preset without showing a warning. Be sure to save your settings as a CC Seq Preset if you want to be able to recall them after making additional changes. Even if you don't save the current CC Sequencer settings as a CC Seq Preset, the most recent settings will always be saved with the Program or Multi when the Program or Multi is saved. Changing any of the CC Sequencer parameters will change the Preset to "0 Edited CC Seq", to indicate that the previous preset settings are no longer being used.

## State

Use the State parameter to turn the CC Sequencer On or Off.

In Program Mode, the State parameter can also be controlled by pressing the CC SEQ button in the front panel ARPEGGIATOR section.



**Note:** In Multi Mode, State can be controlled in each Zone by the front panel CC SEQ button. See [“The Arp, CC Seq, Riff Page \[8/9\]”](#) on page 5-31.

## Number Steps

Use the Number Steps parameter to set the number of steps in the sequence.

## Sync

When the State parameter is set to On, the Sync parameter determines when the CC sequence will restart.

- **Free Run**, the sequence begins playing as soon as the program is selected.
- **Every Note**, the sequence begins playing as soon as the program is selected, and it restarts whenever a new note is played.
- **All Keys Up**, the sequence begins playing as soon as the program is selected, and it restarts whenever all keys have been released.
- **Arp**, the sequence begins playing only when the program's arpeggiator is playing.
- **Arp Reset**, the sequence begins playing only when the program's arpeggiator is playing, and it restarts whenever the program's arpeggiator restarts its sequence.
- **[Multi Mode only] AnyOther CCSeq**, the sequence begins playing as soon as the Multi is selected, and it restarts whenever a CC Sequence for a program in another Zone begins or restarts.

## Note Value

The Note Value parameter sets the number of steps that will be played per beat. The tempo is based on quarter notes. Therefore, if you set Note Value to 1/4, you will get one step per beat of the clock. At 1/16, you will get 4 steps per beat, and so forth.

### MIDI Dest

The MIDI Dest parameter sets the MIDI destination for the CC messages generated by the CC Sequencer. You can send CC messages to a SP8 Program, to the MIDI Out ports, to the USB port, or to any combination of these destinations.

By default, CC messages are sent to all possible destinations. When using the SP8 to control or layer with external MIDI instruments, you may wish to send CC messages only to certain destinations.

In Program Mode, when the MIDI Dest parameter is set to Zone, the CC messages will be sent to the SP8 Program as well as to the MIDI and USB ports.



**Note:** In Multi Mode, when the MIDI Dest parameter is set to Zone, the CC messages will be sent to the destination set by the Zone's Main page Destination parameter.

### Seq State

The CC Sequencer can play 4 simultaneous sequences which can each control a different parameter or CC number. Use the Seq State parameter to turn the selected sequence On or Off.

### Sequence

The CC Sequencer can play four simultaneous sequences which can each control a different parameter or CC number. Use the Sequence parameter to select one of four sequences to edit.

Each of the four sequences uses the same settings for the State, Number Steps, Sync, Note Value, and MIDI Dest parameters. All other CC Sequencer parameters can be adjusted independently for each of the four sequences.

### Scale

Use the Scale parameter to change the range of CC values sent by the sequence (in combination with the Add parameter). The Scale parameter multiplies the CC values sent from the sequence. CC messages are limited to sending values from 0-127, even if the Scale and Add parameters are set to produce values outside of this range.

Each step in a CC Sequence can send CC values 0-127. These values can be multiplied by the percent value of the Scale parameter in order to change the range of CC values. For example:

When Scale is set to 100% the sequence can send CC values 0-127.

Scale values 1-99% make the sequence send a smaller range of CC values. When Scale is set to 50% the sequence is limited to sending CC values 0-63.

Scale values 101-200% multiply each sequencer step CC value to send higher CC values. For example, when Scale is set to 200% a CC sequencer value of 62 will be sent as 124.

## Add

Use the Add parameter to change the range of CC values sent by the sequence (in combination with the Scale parameter). The Add parameter adds a value to the CC values sent from the sequence. CC messages are limited to sending values from 0-127, even if the Scale and Add parameters are set to produce values outside of this range.

## MIDI CC

Use the MIDI CC field to select a MIDI CC number and/or assigned program parameter to control with a CC Sequence. If a MIDI CC number is assigned to a program parameter, the program parameter name will be shown next to the CC number (for example “12 Filter Freq”).

## Mode

Use the Mode parameter to select a preset or user pattern of CC Sequence steps.

When the Mode parameter is set to User, the user sequence is displayed. Use the navigation buttons to select each step and adjust each CC value. In this mode, the MIDI CC Sequencer will use the values specified in each step and will repeat the sequence once it reaches the end, or according to the Sync Mode described above.

The other Mode parameter settings each display a preset 16-step sequence as a reference; however, note that the actual number of steps is determined by the Number Steps parameter. Each step of the sequence has a red dot representing a CC value from 0 to 127.

Patterns with “Random” or “Rand” in the name will produce random values for each step. The possible range of random values for each step is shown by white arrows.

The available patterns are:

- **Random:** The step values are randomly generated across the full range of 0–127.
- **Random 32-96:** The step values are randomly generated within the range of 32–96
- **Random 48-80:** The step values are randomly generated within the range of 48–80.
- **Random Low-High:** The step values are randomly generated within a range that expands as the number of steps increases, always starting at 0.
- **Random High-Low:** The step values are randomly generated within a range that decreases as the number of steps increases, always starting at 0.

## Program Edit Mode

### The MIDI CC Sequencer Page [5/5]

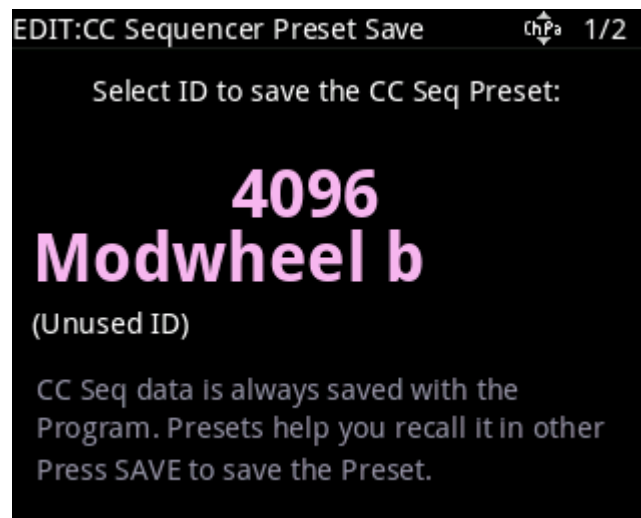
- **Ramp 1:** The step values increase gradually from 0 to 127.
- **Ramp 2:** The step values increase gradually from 0 to 127 but with a small random offset in each step.
- **Ramp 3:** The step values increase gradually from 0 to 127 but with a large random offset in each step.
- **Ramp 4:** The step values decrease gradually from 127 to 0.
- **Ramp 5:** The step values decrease gradually from 127 to 0 but with a small random offset in each step.
- **Ramp 6:** The step values decrease gradually from 127 to 0 but with a large random offset in each step.
- **Triangle 1:** The step values move gradually from 0 to 127 and back to 0.
- **Triangle 2:** The step values move gradually from 0 to 127 and back to 0 with a small random offset.
- **Triangle 3:** The step values move gradually from 0 to 127 and back to 0 with a large random offset.
- **Triangle 4:** The step values move gradually from 127 to 0 and back to 127.
- **Triangle 5:** The step values move gradually from 127 to 0 and back to 127 with a small random offset in each step.
- **Triangle 6:** The step values move gradually from 127 to 0 and back to 127 with a large random offset in each step.



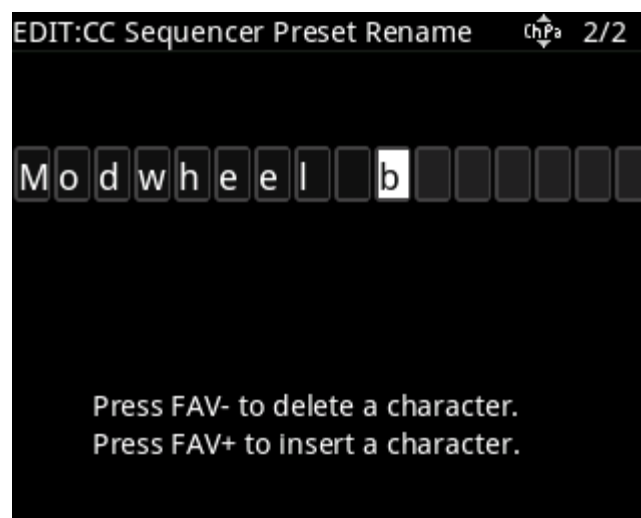
## SAVE MIDI CC Step Sequencer Presets

If you have adjusted any CC Sequencer settings, you have the option of saving a new CC Seq Preset to a User location, where it will be available to use with other Programs and Multis. All settings on the CC SEQ page are saved as part of the CC Seq preset, (except for the State parameter, which is stored with the Program/Multi). If you don't save a CC Seq preset, the CC Sequencer settings will still be saved with the current Program or Multi.

With the CCS Preset parameter selected on the screen, press the SAVE button to initiate a save. You will have the option to select the ID number and name for your Preset.



To rename the Preset, use the CHANNEL / PAGE buttons to find the Rename page.



To save your Preset, press SAVE or press EXIT to ignore the changes and return to the MIDI CC Step Sequencer page.

See [“Save User Programs” on page 2-10](#) for more details on how to change the name and ID, as the process is the same.

## **Program Edit Mode**

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The MIDI CC Sequencer Page [5/5]



## **Program Edit Mode**

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The MIDI CC Sequencer Page [5/5]

# Chapter 4

## Multi Mode

Use Multi Mode to play up to 5 split or layered Programs directly from the keyboard. Each of the 5 Zones in a Multi can have a different Program, controller settings, and MIDI transmit channel. Zones can also control external sound modules or computer software through a MIDI or USB cable. Your SP8 is a powerful MIDI Controller in Multi Mode.

Each Zone has one Arpeggiator, one MIDI CC Sequencer, and one Riff. Therefore, the SP8 offers up to 5 Arpeggiators, 5 MIDI CC Sequencers, and 5 Riffs per Multi, all of which can play simultaneously with various types of synchronization.

Many Factory Multis are programmed to play a Riff as soon as you begin playing any key.

To enter Multi Mode from another Mode, press the MULTI button. In some cases, such as when in Program Edit Mode or Storage pages, you must first press EXIT to leave those modes before entering Multi Mode. By default, the SP8 selects Multi 1 or the Multi that was active the last time Global Mode was exited.

If Multi Mode is the mode you use more frequently, the SP8 can boot up directly into Multi Mode by setting the Global Boot Mode parameter to Multi. See [Boot Mode on page 6-5](#).

## Multi Mode

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### Multi Mode Page

## Multi Mode Page

In Multi Mode, the top line of the display shows the current Mode and MIDI transposition.

The currently selected Multi ID number and name are shown in the center of the display. If the selected Multi is a User Multi, the USER icon is displayed next to the Multi name.



Directly below the Multi information, the display shows real-time controller data whenever a physical controller is moved (see the Controllers section for further details). Because controllers can be assigned to different MIDI CCs across different Zones, some messages may appear only briefly or not at all. Only the most recently moved controller remains on the display for a few seconds.

The bottom of the page displays the currently selected Favorite Bank and its four assigned items (which can be either Programs or Multis). If the current Multi is assigned to the selected Bank, it will be highlighted.

## Selecting Multis

In Multi Mode, use any of the methods below to select a Multi.

### Browse All Multis

Make sure the USER button is OFF, then use the Alpha Wheel or PREVIOUS and NEXT buttons to select a Multi from all available Factory and User Multis. See [Appendix D on page D-1](#) for the full list of Factory Multis.

### Select a Multi by ID Number

Multis are not organized by category, so the KEYPAD button is always ON in Multi Mode when you are selecting Multis. You can use the numbers labeled on the CATEGORY buttons to select Multis by ID number. Use the CATEGORY buttons to type an ID number, then press the ENTER button.

### Select a Previously Saved User Multi

Press the USER button to turn it ON, then use the Alpha Wheel or PREVIOUS and NEXT buttons to browse only User Multis. To return to browsing both Factory and User Multis, press the USER button to turn it OFF.

## Favorites

In both Program and Multi modes, the bottom of the display shows the names of four Favorite items. These can be instantly recalled by pressing the corresponding Favorite Buttons located directly below the display.

To access more than four sounds, use the Favorite Bank buttons to navigate through different banks. There are up to 99 banks available (15 pre-filled with Factory IDs, 35 with empty Items and 49 available slots for user loadable banks), providing a total access to 396 of your most-used Programs and Multis.

#### **To Save a Favorite:**

Press and hold one of the four Favorite Buttons (below the display) to store the currently selected Program or Multi into that specific slot within the active bank.

# Controllers

In Multi Mode, you can use the SP8's physical controllers—including the Knobs, Buttons, Wheels, Pedals, and ARP/SEQ section buttons—to modify a sound in real time. These tools allow you to add dynamic variation and expression to your performance.

Whenever you move or toggle a controller, the display immediately shows the assigned parameter name and its current value directly beneath the Multi name. Within Multi Edit Mode, controllers can be disabled or reassigned for each Zone; as a result, controllers may function differently for each Zone in every Multi.

Most of the SP8 controllers are fully programmable, with the exception of the Transpose and ARP/SEQ section buttons, which are only partially programmable.

## Wheels Section

### Pitch Wheel

In Factory Multis, the Pitch Wheel controls pitch by default, but it is fully programmable to control other parameters. The Bend Up and Bend Down amounts can be adjusted for each Zone in Multi Edit Mode.

### Modulation Wheel

In Factory Multis, the Modulation Wheel will typically control a layer volume or an effect amount. The name and value of the current assignment for each Zone is shown in the display when the wheel is moved. The assignment can be adjusted for each Zone in Multi Edit Mode.

## Transpose Buttons

The TRANSPOSE buttons allow you to shift the pitch of notes played on the SP8 keyboard in semitones (half steps) or octaves. This provides a convenient way to change the key of a song without needing to relearn the performance in a different key. The current transposition amount is always visible in the top line of the display for quick reference.

The limits are +/- 36 semitones.

To reset the transposition to zero, press both TRANSPOSE buttons simultaneously. In addition to affecting the internal sounds, these buttons also transpose MIDI notes sent to the USB and MIDI Out ports, ensuring your external gear stays in sync with your performance.

You can switch the behavior of these buttons to use either semitone or octave increments by adjusting the Xpose Buttons parameter in Global Mode. See [Transpose Buttons \(Xpose Buttons\) on page 6-11](#).

## **Real-Time Control Section**

### **VARIATION Button**

In Factory Multis, the VARIATION button will typically enable an additional layer or effect for the Program in some Zones. The name of the current assignment for each Zone is shown in the display when the button is pressed. The VARIATION button can be enabled or disabled for each Zone in Multi Edit Mode.

### **Knobs**

In Factory Multis, the 15 virtual Knobs are fully programmable. By default, in many Factory Multis, they are programmed as follows:

- Knob 1: Zone 1 Volume.
- Knob 2: Zone 2 Volume.
- Knob 3: Zone 3 Volume.
- Knob 4: Zone 4 Volume.
- Knob 5: Zone 5 Volume.
- Knob 6: Filter 1 Control.
- Knob 7: Filter 2 Control.
- Knob 8: Attack.
- Knob 9: Release.
- Knob 10: Motion.
- Knob 11: FX 1 Control.
- Knob 12: FX 2 Control.
- Knob 13: FX Delay.
- Knob 14: FX Reverb.
- Knob 15: FX Delay Feedback.

#### Programmable Buttons

In Factory Multis, the 15 virtual Programmable Buttons are fully programmable. By default, in many Factory Multis, they are programmed as follows:

- Button 1: Zone 1 Enable.
- Button 2: Zone 2 Enable.
- Button 3: Zone 3 Enable.
- Button 4: Zone 4 Enable.
- Button 5: Zone 5 Enable.
- Button 6: EQ Enable.
- Button 7: Presence.
- Button 8: Impact.
- Button 9: Freeze.
- Button 10: Motion Enable.
- Button 11: FX 1 Enable.
- Button 12: FX 2 Enable.
- Button 13: Delay Enable.
- Button 14: Reverb Enable.
- Button 15: MIDI CC 94.

The first five Buttons function to enable or disable a Zone. This is the fastest way to turn your Zones ON or OFF. The first five Knobs are assigned to control the Volume (MIDI CC 7) for those same five Zones, allowing you to easily adjust the balance of your Multi.

Several Buttons work in parallel with the Knobs. For example, Button 14 will turn the Reverb ON or OFF, while Knob 14 controls the Reverb amount. Note that in this example, when Button 14 is OFF, moving Knob 14 will have no effect.

## Pedals

### SW1 (SUSTAIN)

The SW1 (SUSTAIN) pedal defaults to controlling sustain, which sustains any note played while the pedal is pressed for as long as it is held. For KB3 Organ Programs, the SW1 (SUSTAIN) pedal instead controls the Rotary Speaker speed, toggling between fast and slow.

The SW1 (SUSTAIN) pedal can be enabled, disabled, or reassigned for each Zone in Multi Edit Mode. As a result, the pedal may function differently for each Zone in every Multi. Global Mode can also be used to set pedal overrides, which change the pedal assignments for all Multis simultaneously. See [Switch Pedal Overrides on page 6-9](#).

### Dual Switch Pedals

The SW1 (SUSTAIN) jack can be connected to dual switch pedals (2 pedals per jack), allowing up to two switch pedals to be used: SW1a and SW1b.

SW1a is the same as SW1 above.

The SW1b pedal defaults to controlling Sostenuto, which will sustain notes from any keys that are being held when the pedal is pressed, for as long as the pedal is held. This pedal is fully programmable like SW1a.

### Continuous Switch Pedals (Half-Damper)

The SW1 (SUSTAIN) jack is also compatible with continuous switch pedals (Half-Damper) that use a 1/4 inch tip-ring-sleeve plug (such as the Kurzweil KP-1H). When connected to the SW1 (SUSTAIN) jack, a Half-Damper pedal enables finer control of sustain than a standard switch pedal.

Half-Damper control is enabled for Programs in the Piano category. Programs outside of the Piano category will respond to a Half-Damper pedal as if it were a standard switch pedal.

### CC (VOLUME) Pedal

The CC (VOLUME) pedal defaults to controlling Expression (MIDI CC 11). For KB3 Organ Programs, the CC (VOLUME) pedal instead controls organ swell. Organ swell is similar to Program volume, except the volume cannot be turned all the way down to silence.

The CC (VOLUME) pedal can be enabled, disabled, or reassigned for each Zone in Multi Edit Mode. As a result, the pedal may function differently for each Zone in every Multi.

Global Mode can also be used to set pedal overrides, which change the pedal assignments for all Multis simultaneously. See [CC Pedal Override on page 6-10](#).

## Motion Section (ARP/SEQ)

### TAP TEMPO Button

You can use the TAP TEMPO button to set the tempo for the Arpeggiators, the CC Sequencers, the Riffs or the rate of any tempo-synced effects, such as a delay. To set a new tempo, press the TAP TEMPO button a few times at your desired rate.

Pressing the TAP TEMPO button also automatically opens the Tempo page in the display. Once this page is visible, you can refine the tempo value by using the Alpha Wheel or by entering a specific BPM (beats per minute) value using the numeric keypad.

### MET/RIFF button

Press this button to activate or deactivate the Riffs in your Multi. In Multi Edit Mode, you can select which Zones this button affects, but its core functionality—turning Riffs on or off—is fixed.

### CC SEQ Button

Press this button to activate or deactivate the MIDI CC Sequencers in your Multi. In Multi Edit Mode, you can select which Zones this button affects, but its core functionality—turning the MIDI CC Sequencers on or off—is fixed.

### LATCH button

Press this button to latch your Arpeggiators that are running in your Multi. In Multi Edit Mode, you can select which Zones this button affects, but its core functionality—turning the Arpeggiators latch on or off—is fixed. For more details on the Arpeggiator latch behavior, see Program Edit Mode.

### ARP button

Press this button to activate or deactivate the Arpeggiators in your Multi. In Multi Edit Mode, you can select which Zones this button affects, but its core functionality—turning the Arpeggiators on or off—is fixed. For more details on the Arpeggiator behavior, see Program Edit Mode.

## Automatic Riff Start

In many SP8 Factory Multis, a Riff starts as soon as you play a key. This is a powerful feature of Kurzweil keyboards, allowing you to instantly add a rhythm or trigger sequenced phrasing to your performance.

If you wish to disable or silence a Riff, there are several ways to do so:

- If a Riff is playing, press the MET/RIFF button to stop it.
- You can mute an active Zone by pressing the corresponding Programmable Button (1–5) while the SHIFT button is in the top position.
- You can lower the volume of a Zone by turning down the corresponding Knob (1–5) while the SHIFT button is in the top position.
- You can edit the Multi to disable the Riff and save your changes to a User ID.

## Multi Mode

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### The LAYER and SPLIT Buttons

## The LAYER and SPLIT Buttons

The Layer and Split functions have identical parameters but produce different results.

Use these functions to quickly create Multis from Program Mode or modify existing Multis from Multi Mode, bypassing the need for Multi Edit Mode to manually configure Zone key ranges and Programs.

The Layer function allows you to layer Programs and Multis such that more than one instrument sound can be produced by playing one key.

The Split function allows you to quickly create a Multi such that keys in one range of the keyboard produce different sounds than another range.

After creating and saving a Split or Layer Multi, you can further refine your settings by editing additional Multi parameters in Multi Edit Mode.

## The Layer Function

When you create a Layer in Multi Mode, you are activating a new Zone in the current Multi. You can choose a Program that will be used as the new layered Zone.

MODE:Split/Layer				
Zone	Status	Program	LoKey	HiKey
1	Active	1 Rosbach Piano	C -1	G 9
2	Active	238 Studio A Strings	C -1	G 9
3	Muted	0 None	C -1	G 9
4	Muted	0 None	C -1	G 9
5	Muted	0 None	C -1	G 9

Follow these steps to create a Layer:

- In Multi Mode, select a Multi.
- Press the LAYER button.
- On the Split/Layer page, the new Zone is selected with a default layer Program selected. Use the Alpha Wheel or Category buttons to select a different Program for the new layered Zone.
- Press the SAVE button to save your Layer as a Multi (see below for details on saving). After saving your Layer Multi, you can edit additional Multi parameters in Multi Edit mode.



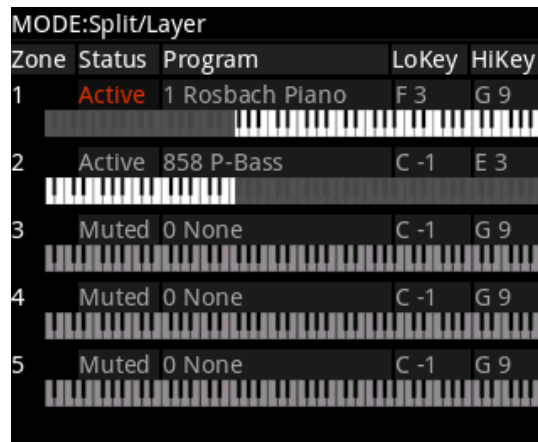
**Note:** If you create a Layer while in Program Mode, the SP8 automatically loads Multi 2045 Layer Default, assigns your current Program to Zone 1, and creates the layer in Zone 2 as described above.

## Multi Mode

### The LAYER and SPLIT Buttons

## The Split Function

When creating a Split in Multi Mode, you activate a new Zone within the current Multi. Any previously active Zones retain their assigned key ranges. You can then select a Program to function as the Split Program for the newly activated Zone in the left-hand range.



Zone	Status	Program	LoKey	HiKey
1	Active	1 Rosbach Piano	F 3	G 9
2	Active	858 P-Bass	C -1	E 3
3	Muted	0 None	C -1	G 9
4	Muted	0 None	C -1	G 9
5	Muted	0 None	C -1	G 9

Follow these steps to create a Split:

- In Multi Mode, select a Multi.
- Press the SPLIT button.
- On the Split/Layer page, a new Zone is selected with a default bass Program selected for the left hand of the Split. Use the Alpha Wheel or Category buttons to select a different Program for the left hand of the Split.
- You may wish to adjust the key range for that Zone.
- Press the SAVE button to save your Split as a Multi (see below for details on saving). After saving your Split Multi, you can edit additional Multi parameters in Multi Edit mode.



**Note:** If you create a Split while in Program Mode, the SP8 automatically loads Multi 2044 Split Default, assigns your current Program to Zone 1, and creates the split in Zone 2 as described above.

## Layer and Split Parameters

### Zone Status

Selecting Split or Layer makes a new Zone active. You can continue to activate additional Zones with the Status parameter. Zones can be active or muted.

### Program

The Program parameter for the first available Zone determines the Program for the left-hand side of the Split, also known as the “Split Program.” This parameter is selected by default when performing the Split function, and the default Split Program will be selected automatically.

Choose a Split Program using the Category buttons, the Alpha Wheel, or the PREVIOUS/NEXT buttons. Alternatively, enable the KEYPAD button to type an ID number followed by the ENTER button.

### Key Range

You can adjust the boundary between the left- and right-hand Programs by setting the Key Range Low and Key Range High parameters for each Zone. The keyboard display provides a visual indication of the range by dimming keys that are outside the active area.

To change the Key Range of a Zone, use the Navigation buttons to select the Key Range Low (left) or Key Range High (right) parameter. Adjust the value using the Alpha Wheel, the PREVIOUS/NEXT buttons, or, if the KEYPAD button is on, by typing a number and pressing the ENTER button.

For faster entry, while the parameter is selected, you can hold the ENTER button (Assign) and press a key on the keyboard to set the value instantly.

## Saving a Layer or Split

After setting the Layer or Split parameters, press the SAVE button to save your Multi into the first available User ID. In this mode, there is no Save dialog, as the primary focus is to create a Layer or Split quickly.

You can continue to add Zones to the Multi using the SPLIT and LAYER buttons until you reach the maximum number of five active Zones. Once you have saved your Multi, you can use Multi Edit mode to edit additional parameters, such as controller assignments (like effects controls and sustain pedal per Zone), transposition per Zone, and other Multi settings. You can also save the Multi to a different User ID or change its name.

## Multi Mode

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### Save User Multis

## Save User Multis

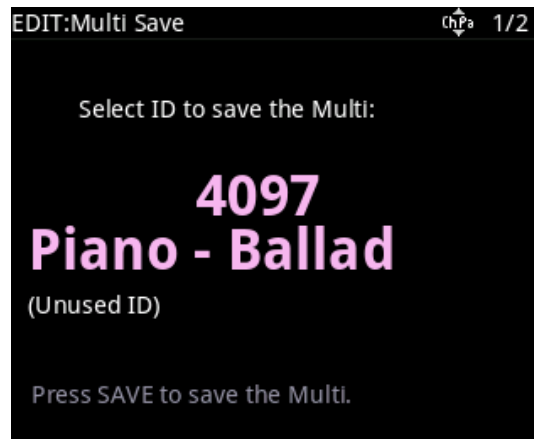
In Multi Mode, press the SAVE button to view the Save dialog, which allows you to save the current Multi as a User Multi.

Only the Zone Status buttons will retain their current state when saving a Multi; the rest of the controllers will follow their own assignments, which can be changed in Multi Edit mode.

The Save dialog allows you to choose an ID number and a name for the Multi you are saving. When viewing the Save dialog, you can quickly save the Multi to the displayed ID number by pressing the SAVE button again.

## Selecting an ID Number

The display shows the first available ID number and the current Multi name.



When the Save dialog is active (Page 1/2), the display shows the current Multi name and the target ID number. User Multis can be saved to any ID from 4,096 to 8,191 (MIDI banks 32 to 63).

By default, the SP8 suggests the first available (unused) ID.

If the Multi was already a User Multi, press the PREVIOUS and NEXT buttons simultaneously to toggle the display between the last saved ID and the next available (unused) ID.

## Manually Changing the ID

You can navigate to a specific ID number using any of the following methods:

- Alpha Wheel: Turn for quick scrolling through IDs.
- PREVIOUS/NEXT buttons: Press for incremental changes.
- The KEYPAD button LED will be on in this dialog. Type the specific ID number directly and press ENTER to confirm the selection.

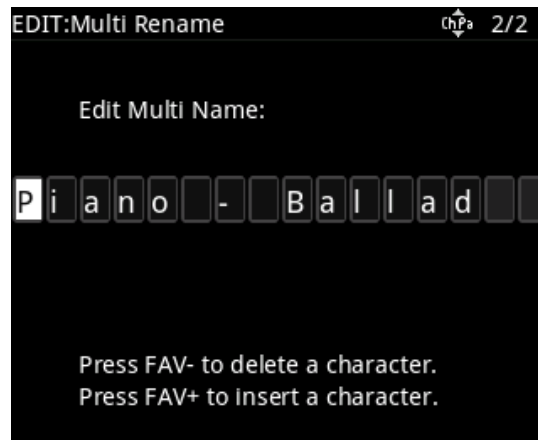
## Overwriting Existing Multi

If you select an ID that is already occupied by another User Multi:

- The display will show the “(Replace <Multi Name>)” notification just below the name.
- Press SAVE to confirm and replace the existing Multi.
- To keep the existing Multi, use the navigation methods above to select a different unused ID.

## Naming a User Multi

In the Save dialog, press the PAGE UP/DOWN buttons to move to Page 2/2. The display will show the current Multi name with the first character selected.



Use the Left/Right Navigation buttons to select the character you wish to change. Use the Alpha Wheel, PREVIOUS/NEXT buttons, or the CATEGORY buttons (which function as an alphanumeric keypad) to cycle through letters, numbers, and symbols.

Editing Shortcuts:

- Delete Character: Press the FAVORITE BANK – button.
- Insert Character: Press the FAVORITE BANK + button.

## **Multi Mode**

---

### **Save User Multis**

Once you have finished naming, press the SAVE button to save the Multi, or press the Page Up/Down buttons to return to the first page of the dialog.

### **Saving a User Multi**

Press the SAVE button on either page of the Save dialog to complete the saving process, or press the EXIT button to exit without saving. After successfully saving, the Multi will be selected in Multi Mode.

To find the Multi again later, press the USER button and scroll to the Multi ID. You can also find your Multi by scrolling past the factory Multis or by typing the Multi ID number and pressing the ENTER button.

# Chapter 5

## Multi Edit Mode

Multi Edit Mode allows you to edit and customize Multis. Any Multi can be edited in Multi Edit Mode and saved to a User ID.

To enter Multi Edit Mode, first press the MULTI mode button to enter Multi Mode, then press the EDIT button to edit the currently selected Multi.

### Editing Pages

There are nine primary editing pages in Multi Edit Mode. You can navigate through these using the CHANNEL / PAGE buttons:

- [1/9] Main 1
- [2/9] Main 2
- [3/9] Main 3
- [4/9] Velocity
- [5/9] Controls
- [6/9] FX 1
- [7/9] FX 2
- [8/9] Arp, CC Seq and Riff
- [9/9] Common

Additionally, there are seven sub-pages and utility pages accessible from within the main editor:

- 2 Arpeggiator Pages
- 2 Riff Pages
- MIDI CC Sequencer
- Save
- Rename

## Page Navigation

Press the CHANNEL / PAGE buttons to navigate through the available pages.

Use the Navigation buttons to select individual parameters, then use the PREVIOUS/NEXT buttons, Alpha Wheel, or Category buttons to modify each value.

## Assign

Assign is the secondary function of the ENTER button. In certain pages, you can use the Assign function to quickly select parameters or set values by holding the ENTER button while moving an SP8 controller (Knobs, Buttons, Keys, Wheels, or Pedals).

Parameters that support the Assign function are indicated by an Assign symbol in the top-right corner of the display when selected.

## Zones

The SP8 Multis each contain five Zones.

Parameters that affect individual Zones are organized into pages with five rows—one for each Zone. This layout allows you to quickly compare or change the same parameter across all five Zones simultaneously.

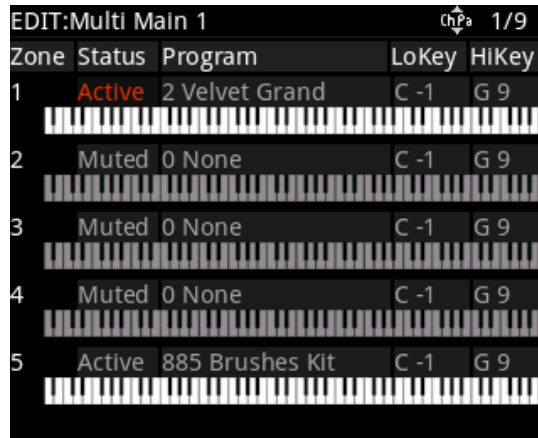
While most parameters are Zone-specific, certain settings apply to all Zones globally. These exceptions—primarily found on the Controls, FX and Common pages—will be noted throughout this chapter.

## The EDIT Button in the Multi Editor

When certain parameters are selected, additional editor pages can be accessed by pressing the EDIT button. The EDIT button LED will change color when the EDIT button can be used.

## The Main 1 Page [1/9]

The Main 1 page displays basic parameters for the five Zones of the SP8 Multis.



Zone	Status	Program	LoKey	HiKey
1	Active	2 Velvet Grand	C -1	G 9
2	Muted	0 None	C -1	G 9
3	Muted	0 None	C -1	G 9
4	Muted	0 None	C -1	G 9
5	Active	885 Brushes Kit	C -1	G 9

### Status

The Zone Status parameter determines whether the currently selected Zone is Active or Muted.

If a programmable button destination, in the Controls Page, is set to 149 Mute Zone, the button and the Status parameter will sync with each other.

### Program

The Program parameter determines the Program assigned to the currently selected Zone.

When the Program field is selected, the Alpha Wheel or the PREVIOUS and NEXT buttons can be used to scroll through the Program list. Additionally, the KEYPAD button can be used for direct selection. When the KEYPAD button is on, an ID number can be entered followed by the ENTER button to select a Program. If the KEYPAD button is off, the Category buttons will instead select Programs by category.

Pressing the PREVIOUS and NEXT buttons simultaneously provides a shortcut that changes behavior based on the state of the KEYPAD button. If the KEYPAD button is on, the simultaneous button press advances the Program list by 100. If the KEYPAD button is off, the shortcut jumps to the Category Default Program of the next category.



**Note:** Only one KB3 Organ Program can be loaded at a time using the designated KB3 Channel (see Common page). If a second KB3 Program is selected on a Zone that is not using the KB3 Channel, it will not load and a default piano Program will be loaded instead. See [“KB3 Channel” on page 5-44.](#)

### Key Range

The left Key Range field sets the lowest key of the Zone, and the right Key Range field sets the highest key of the Zone.

You can also set the lowest key higher than the highest key and vice versa. This configuration splits the Zone into two separate areas, where the lowest and highest keys define the region where the Zone is no longer active.



**Note:** With either of these two parameters selected, press and hold the ENTER button and a key on the keyboard to quickly assign the key value.

## The Main 2 Page [2/9]

The Main 2 page allows you to adjust the Entry and Exit Pan and Volume parameters for your Zones, as well as the Note Map.

EDIT:Multi Main 2 <span style="float:right">ChPa 2/9</span>					
Zone	Entry		Exit		Note Map
	Pan	Vol	Pan	Vol	
1	64	110	None	None	Linear
2	64	110	None	None	Linear
3	0	0	None	None	Linear
4	None	None	None	None	Linear
5	64	112	None	None	Linear

### Pan

The Pan parameter determines the left/right panning of each Zone. You can set this parameter to any value from None, 0 (full left), 64 (center), to 127 (full right).

To select None, you must scroll the Alpha Wheel or the PREVIOUS button all the way to the left until the value reaches None. This setting maintains the last pan value used by the Zone's MIDI channel.

The Entry value is applied when the Multi is selected, and the Exit value is applied when changing from the current Multi to another Multi.



**Note:** If you set an Entry Pan value other than None or 64 for a Zone, it is recommended that you set an Exit value of 64. This prevents that specific panning from persisting into subsequent Multis where the Entry Pan is set to None. However, if your Entry Pan is already 64, it is recommended that you leave the Exit Pan as None.

### Volume

The Volume parameter determines the Volume of each Zone. You can set this parameter to any volume setting from None, 0 to 127.

To select None, you must scroll the Alpha Wheel or the PREVIOUS button all the way to the left until the value reaches None. This setting maintains the last volume value used by the Zone's MIDI channel.

The Entry value is applied when the Multi is selected, and the Exit value is applied when changing from the current Multi to another Multi.



**Note:** If you set an Entry Volume value other than None or 127 for a Zone, it is recommended that you set an Exit value of 127. This prevents that specific volume from persisting into subsequent Multis where the Entry Volume might be set to None. However, if your Entry Volume is already 127, it is recommended that you leave the Exit Volume as None.

### Note Map

The Note Map parameter allows you to arrange the notes of a Zone across the keyboard in various configurations. See below for details on each of the Note Map settings:

- **Off:** With Note Map set to off, keys in the Zone will not produce notes. This is useful when controlling external MIDI equipment, as you may wish to send controller values without triggering notes.
- **Linear:** With Note Map set to Linear, all keys produce notes as played. This is the default setting.
- **Inverse:** With Note Map set to Inverse, the keyboard orientation is reversed. The highest note is played by key A0, and the lowest note is played by key C8.
- **Constant:** With Note Map set to Constant, every key on the keyboard plays the same note (C4). Use the Transpose parameter to change the specific pitch played. This is useful for layering a percussive sound, such as a ride cymbal, to trigger with every note of another Zone's bass line.
- **Alternating (1 of 2 through 4 of 4):** The Note Map parameter includes various alternating maps. If you are using two or more MIDI devices (including the SP8), you can expand polyphony by assigning each Zone to a different alternating note map.

For example: Zone 1 uses the 1 of 2 Note Map, and Zone 2 uses the 2 of 2 Note Map. Pressing the keys C, D, E, F#, G#, and A# will only generate notes in Zone 2, while pressing the keys C#, D#, F, G, A, and B will only generate notes in Zone 1.

## The Main 3 Page [3/9]

The Main 3 page shows various useful MIDI settings for the currently selected Zone.

Zone	Chan	Destination	Xpose	Up	Down
1	1	All	0 ST	2 ST	2 ST
2	2	All	0 ST	2 ST	2 ST
3	3	All	0 ST	2 ST	2 ST
4	4	All	0 ST	2 ST	2 ST
5	5	All	0 ST	2 ST	2 ST

### MIDI Channel (Chan)

The MIDI Channel parameter determines the MIDI transmit channel for each Zone. You can set this parameter to any of the sixteen MIDI channels (1–16).



**Note:** While you can assign multiple Zones to the same channel, only one Program can be loaded on a single channel at any given time. Consequently, assigning multiple Zones to one channel is not recommended unless you are using one Zone for local control and another for external control or you want to send multiple MIDI CCs on the same channel with one controller.

### MIDI Destination

The Zone MIDI Destination parameter determines where MIDI data—generated by the keyboard and physical controllers of each Zone—is sent. You can direct this data to the local SP8 sounds, to external devices via the MIDI Out and USB ports, or to all three simultaneously. You can choose from any of the eight available combinations for these three destinations.



**Note:** The Zone MIDI data is also affected by the Global Mode Destination parameter. For example, if the Global Mode Destination is set to MIDI and the Zone Destination is set to Local + MIDI, transmission will be limited to MIDI only. See [“MIDI Destination” on page 6-12.](#)

### Transpose (Xpose)

The Transpose parameter determines the transposition for each Zone. You can set this to any value from -88 to 88 semitones.



**Note:** The value set here is cumulative, meaning it is added to the Global transposition setting. For example, if the Global transposition is set to +12 and the Zone Transpose is set to +7, the resulting transposition for that Zone will be +19 semitones. See ["Transpose" on page 6-3.](#)

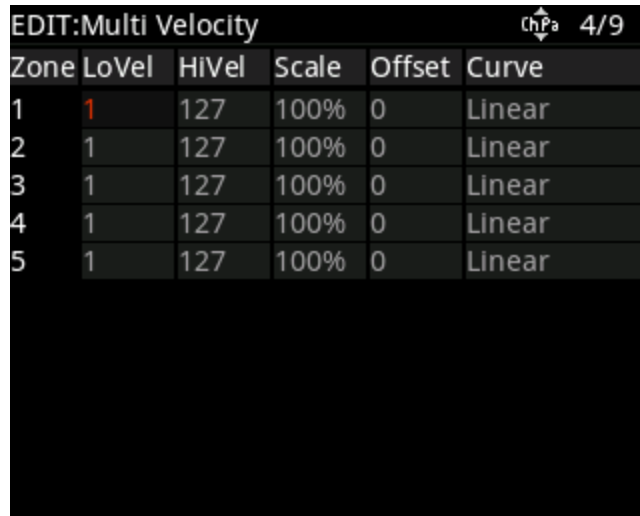
### Bend Up / Down

Bend Up and Bend Down send a pitch bend range message to the internal Program or an external MIDI device, defining the range for subsequent pitch bend messages. You can set this parameter to any value between 0 and 88 semitones.

You can also set this parameter to Prog, which uses the Bend Range Up or Down defined within the currently selected Program for each Zone. To select the Prog value, you must scroll the Alpha Wheel or the PREVIOUS button all the way to the left.

## The Velocity Page [4/9]

The Velocity Page lets you control how your Zones respond to MIDI Velocity.



Zone	LoVel	HiVel	Scale	Offset	Curve
1	1	127	100%	0	Linear
2	1	127	100%	0	Linear
3	1	127	100%	0	Linear
4	1	127	100%	0	Linear
5	1	127	100%	0	Linear

### Low Velocity, High Velocity (LoVel/HiVel)

Low Velocity and High Velocity set the minimum and maximum velocity limits that the current Zone transmits.

A key strike in the current Zone whose velocity — after it has been scaled and offset — is below the minimum or above the maximum does not generate a Note On. These parameters are useful for “velocity switching”—having a key play different sounds depending on how hard you strike it.

The values can be anywhere from 1 to 127. As with other parameters, Zones can overlap, be totally discrete or be identical. Usually, Low Velocity will have a smaller value than High Velocity, but you may also create a gap in velocity response, by setting High Velocity to a lower value than Low Velocity.

### Velocity Scale

The Velocity Scale parameter lets you amplify or diminish velocity response from –300% to 300%. Normal response is 100%. Higher values make the keyboard more sensitive (you don't need to play as hard to get higher MIDI velocities) while lower values make it less sensitive (playing harder doesn't change MIDI velocity as much). You can also set the scale to a negative number, in which case the velocity response is turned upside-down: playing harder produces a softer sound and vice versa. This is useful for creating velocity-based crossfades between Zones.

### Velocity Offset

The Velocity Offset parameter also changes the velocity response, but in a more direct way, by adding or subtracting a constant to the key velocity.

For example, if this is set to 25 (assuming a scale of 100%), then 25 is added to the velocity of every key strike, usually making the sound that much louder. The softest possible key strike will have a value of 25, while a key strike with velocity of 102 will produce the same sound as a note with velocity 127 ( $102+25=127$ ). Negative values diminish the response: a setting of -25 means the loudest velocity available will be 102, while any key strike 25 or below will produce a velocity of 1 (a velocity value of zero has a special meaning in MIDI and cannot be used for Note Ons).

You can think of Scale as being a proportional change to the velocity, while Offset is a linear change. The maximum values for Offset are  $\pm 127$ .

Offset and Scale work together:

- **Compensating for High Scale:** High Scale values (e.g., 300%) can drive most notes to the maximum velocity of 127. Applying a negative Offset (e.g., -60) restores dynamic range, though the resulting velocity curve will be significantly steeper than a standard linear response.
- **Negative Scaling Requirements:** When Scale is set to a negative value, a positive Offset is mandatory. Without an Offset, all notes will result in a velocity of 1 (mathematically zero, but interpreted by most MIDI modules as 1 to avoid accidental Note Off messages).
- **True Inverse Scaling:** To flip the keyboard response so that soft hits produce high velocities and hard hits produce low velocities, set Scale to -100% and Offset to 127. This configuration is functionally identical to a Reverse Linear Curve.

### Velocity Curve

The Velocity Curve parameter lets you further taper the velocity response.

- **Linear:** The output velocity changes proportionally to the played velocity. This is the default setting.
- **Expand:** It produces a curve that is less steep than the linear curve at key strike velocities below 64, and steeper than the linear curve at key strike velocities above 64. In other words, when you're playing softly, you'll notice velocity differences less than with a linear curve, while when you're playing hard, you'll notice velocity differences more.
- **Compress:** It produces a velocity curve that is the opposite of the expanded curve—that is, you'll notice velocity differences more when you're playing softly than when you're playing hard.

- **Crossfade:** It is designed to be used in tandem with the Reverse Crossfade curve, enabling you to perform smooth crossfades between different programs.
- **Bump:** It tapers velocity response to resemble a bell curve, so that notes are loudest when your key strike velocity is 64. Notes get softer as the key strike velocity approaches 0 or 127.
- **Reverse Curves:** The next four velocity curves are Reverse Linear (Rvrs Linear), Reverse Expand (Rvrs Expand), Reverse Compress (Rvrs Compress), and Reverse Crossfade (Rvrs Crossfade). These taper velocity in reverse of the five curves we just covered. For example, Reverse Linear's response is such that striking a key harder will produce a lower volume, striking it softer will produce a higher volume, and so on. This provides a convenient way to achieve negative scaling, by letting you set one parameter instead of two.

# The Controls Page [5/9]

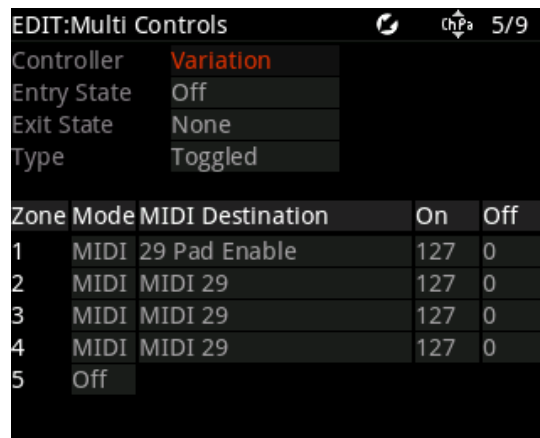
Use the Controls page to adjust controller settings for each Zone.

The SP8 has two types of controllers: switch controllers and continuous controllers. Each type of controller has different parameters. For both types of controllers, there are two categories of parameters:

- **Common Controller Parameters:** They are the same for all Zones. These parameters are in the top section of the Controls page.
- **Per-Zone Controller Parameters:** They can be assigned independently per Zone. These parameters are in the bottom section of the Controls page.

## Switch Controllers

This section describes parameters for the following switch controllers:



Zone	Mode	MIDI Destination	On	Off
1	MIDI	29 Pad Enable	127	0
2	MIDI	MIDI 29	127	0
3	MIDI	MIDI 29	127	0
4	MIDI	MIDI 29	127	0
5	Off			

- SW 1 pedal jack (Sw.Pedal 1a and 1b if using dual pedal)
- VARIATION button
- Programmable buttons (Switch 1-15)

---

## Common Switch Parameters

### Controller

Use the Controller field to select a controller.

When the Controller field is selected, you can select a controller by using the Alpha Wheel, PREVIOUS/NEXT buttons, or by holding the ENTER button and moving a controller.

If a pedal is selected which has a pedal override enabled in Global mode, a message “Global Pedal Override is enabled” will display when that pedal is viewed to remind you that the Global mode pedal override settings are being used instead of the Multi mode pedal settings. See [“Switch Pedal Overrides” on page 6-9](#).

### Entry State

The Entry State parameter determines the state of a switch controller when the current Multi is loaded. You can set this parameter to None, On, or Off. This parameter affects the selected switch controller for all Zones.

If Entry State is set to None, then when you load the current Multi, the switch controller state will not change.

### Exit State

The Exit State parameter determines the state of a switch controller when the current Multi is exited by selecting another Multi or Program. You can set this parameter to None, On, or Off. This parameter affects the selected switch controller for all Zones.

Exit State should typically be set to a value of None, which sends no message. Setting Exit State to On or Off can be useful for advanced MIDI configurations and when controlling external MIDI instruments or software.

### Type

Use the Type parameter to set a switch controller to Momentary or Toggled. This parameter affects the selected switch controller for all Zones.

When Type is set to Momentary, the switch controller sends its On Value when pressed, and its Off Value when released.

When Type is set to Toggled, the switch controller alternates between sending its On Value or Off Value each time it is pressed. No value is sent when the controller is released.

### Per-Zone Switch Parameters

#### Mode

Switch Controllers can be set to the following modes: Off, MIDI CC.

- When Mode is set to Off, the controller is disabled for this zone.
- When Mode is set to MIDI CC, the controller can send MIDI control messages.

#### Destination

Use the Destination field to select a parameter to control.

Destinations 0-127 are MIDI continuous controller messages (CC numbers), which can be used to control SP8 Program parameters, or external MIDI gear.

CC numbers that are assigned to Program parameters will show the parameter name next to the CC number. These CC numbers will control the Program in each Zone.

Destinations 128 and greater can be used to control SP8 Program and Multi functions.

See ["The Controller Destination List" on page 5-19.](#)

#### On Value

The On Value is the MIDI value sent when a switch controller is set to On. You can set this parameter to any number between 0 and 127, or to None.

When set to None, no message will be sent when the switch is in the On state.

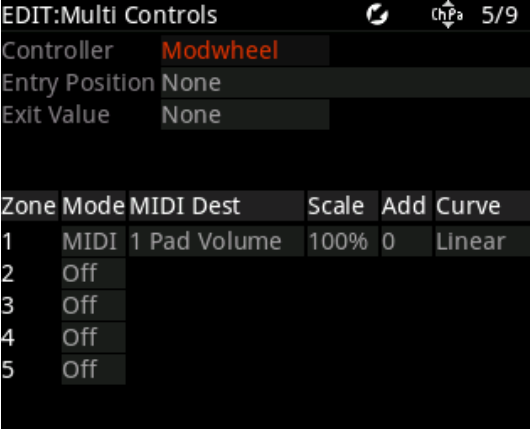
#### Off Value

The Off Value is the MIDI value sent when a switch controller is set to Off. You can set this parameter to any number between 0 and 127, or to None.

When set to None, no message will be sent when the switch is in the Off state.

## Continuous Controllers

This section describes parameters for the following continuous controllers:



The screenshot shows a software interface titled "EDIT:Multi Controls" with a refresh icon and "chPa 5/9" in the top right. Below the title, there are three settings: "Controller" set to "Modwheel", "Entry Position" set to "None", and "Exit Value" set to "None". Below these settings is a table with five columns: "Zone", "Mode", "MIDI Dest", "Scale", "Add", and "Curve". The table contains five rows of data.

Zone	Mode	MIDI Dest	Scale	Add	Curve
1	MIDI	1 Pad Volume	100%	0	Linear
2	Off				
3	Off				
4	Off				
5	Off				

- Modulation Wheel
- Pitch Wheel Up and Down
- Knobs 1-15
- CC pedal

# Common Continuous Controllers Parameters

## Controller

Use the Controller field to select a controller for the currently selected Zone.

When the Controller field is selected, you can select a controller by using the Alpha Wheel, PREVIOUS/NEXT buttons, or by holding the ENTER button and moving a controller.

If a pedal is selected which has a pedal override enabled in Global mode, a message “Global Pedal Override is enabled” will display when that pedal is viewed to remind you that the Global mode pedal override settings are being used instead of the Multi mode pedal settings. See [“CC Pedal Override” on page 6-10](#).

## Entry Position

The Entry Position parameter determines the position of a continuous controller when the current Multi is loaded. You can set this parameter to None, or 0-127.

This parameter affects the selected continuous controller for all Zones. The Scale, Add and curve parameters are applied to the Entry Position individually on each Zone, allowing one controller to send different values to different Zones, if desired.

If Entry Position is set to None, then when you load the current Multi, the continuous controller value will not change.

If the Global Mode Multi Controllers parameter is set to Pass Entry, and the physical controller is above or below the entry value when the Multi is selected, moving the controller will have no effect until it is moved past the entry position.

## Exit Value

The Exit Value parameter determines the value of a continuous controller when the current Multi is exited by selecting another Multi or Program. You can set this parameter to None, or 0-127. This parameter affects the selected continuous controller for all Zones.

Exit Value should typically be set to a value of None, which sends no message. To select a value of None, scroll below 0. Setting an Exit Value to 0-127 can be useful for advanced MIDI configurations and when controlling external MIDI instruments or software.

---

## Per-Zone Continuous Controller Parameters

### Mode

Continuous controllers can be set to the following modes: Off, or MIDI CC.

When Mode is set to Off, the controller is disabled for this Zone.

When Mode is set to MIDI CC, the controller can send MIDI control messages.

### MIDI Destination

Use the Destination field to select a parameter to control.

Destinations 0-127 are MIDI continuous controller messages (CC numbers), which can be used to control SP8 Program parameters, or external MIDI gear.

CC numbers that are assigned to Program parameters will show the parameter name next to the CC number. These CC numbers will control the Program in the current Zone.

Destinations 128 and greater can be used to control SP8 Program and Multi functions. For a full list of Destinations see [“The Controller Destination List” on page 5-19.](#)

### Scale

Use the Scale parameter to change the range of CC values sent by the controller (in combination with the Add and Curve parameters). The Scale parameter multiplies the CC values sent, changing the lowest and highest values sent by the controller. MIDI controllers are limited to sending values from 0-127, even if the Scale and Add parameters are set to produce values outside of this range.

By default, each continuous controller sends CC values 0-127, 0 at its lowest position, and 127 at its highest position. These values can be multiplied by the percent value of the Scale parameter in order to change the range of CC values. For example:

- When Scale is set to 100% (with Add set to 0 and Curve set to Linear), the controller sends CC values 0-127, 0 at its lowest position, and 127 at its highest position.
- Scale values 1-99% make the controller send a smaller range of CC values, allowing for finer control of CC values. When Scale is set to 50% (with Add set to 0 and Curve set to Linear), the controller sends CC values 0-63, 0 at its lowest position, and 63 at its highest position.
- Scale values 101-300% make the controller send values 0-127 over a smaller range of controller positions, allowing for coarser control of CC values. When Scale is set to 200% (with Add set to 0 and Curve set to Linear), the controller sends CC values 0-127, 0 at its lowest position, and 127 at its middle position through its highest position.

## Multi Edit Mode

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### The Controls Page [5/9]

- When Scale is set to a negative number, the controller range is reversed. For example, when Scale is set to -100% (with Add set to 0 and Curve set to Linear), the controller sends CC values 127-0, 127 at its lowest position, and 0 at its highest position.

#### Add

Use the Add parameter to change the range of CC values sent by the controller (in combination with the Scale and Curve parameters). The Add parameter adds or subtracts from the CC values sent, changing the lowest and highest values sent by the controller. MIDI controllers are limited to sending values from 0-127, even if the Scale and Add parameters are set to produce values outside of this range.

By default, each continuous controller sends CC values 0-127, 0 at its lowest position, and 127 at its highest position. These values can be added to the value of the Add parameter in order to change the range of CC values. For example:

- When Add is set to 0 (with Scale set to 100% and Curve set to Linear), the controller sends CC values 0-127, 0 at its lowest position, and 127 at its highest position.
- When Add is set to 64 (with Scale set to 100% and Curve set to Linear), the controller sends CC values 64-127, 64 at its lowest position, and 127 at its middle position through its highest position.

#### Curve

The Curve parameter lets you apply different curves to the controller values, in order to make the controller more or less responsive in certain ranges of controller positions, or to distribute high and low values over different ranges of controller positions.

- The **Linear** setting distributes CC values 0-127 evenly over the range of the controller, with 0 at its lowest position, and 127 at its highest position. This is the default setting.
- The **Compress** settings distributes more of CC values 0-127 over the bottom half of the controller range, and fewer CC values over the top half of the controller range.
- The **Expand** setting distributes more CC values 0-127 over the top half of the controller range, and fewer CC values over the bottom half of the controller range.
- The **Crossfade** setting is designed to be used in combination with the Rvrs Crossfade setting, in order to smoothly crossfade between two Programs on different Zones. Assign the same controller to Destination 7 on two Zones, and select one of these curves for the controller on each Zone.
- The **Bump** setting distributes CC values 0-127 to resemble a bell curve, with 0 at its lowest and highest positions, and 127 at its middle position.
- The Reverse settings (**Rvrs Linear**, **Rvrs Expand**, **Rvrs Compress**, and **Rvrs Crossfade**) distribute values in the reverse compared to the regular version of these settings. For example, the Rvrs Linear setting distributes CC values 0-127 evenly over the range of the controller, with 0 at its highest position, and 127 at its lowest position.

## The Controller Destination List

The table below contains the available values for the MIDI CC (continuous controller) destinations. The SP8's physical controllers can send MIDI values to these destinations in order to control the parameters of SP8 Programs, Multis, SP8 system parameters, or external MIDI equipment.

Controller Number	Destination Name	Description
0	Bank	MIDI Bank change message
1	MWheel	Default destination for the Modulation Wheel
2	Breath	Default assignment for breath controller in compatible synths
3	MIDI 03	MIDI Controller 3
4	Foot	Default assignment for continuous foot controller in compatible synths
5	PortTim	Monophonic SP8 Programs respond to this Controller if portamento is turned on.
6	Data	MIDI Controller 6
7	Volume	MIDI Volume
8	Balance	MIDI Balance
9	MIDI 09	MIDI Controller 9
10	Pan	MIDI Pan
11	Express	Default assignment for CC Pedal. In most Programs it acts as a volume control. It scales between 0 and the current value of Volume.
12	MIDI 12	Default assignment for Knob 6
13	MIDI 13	Default assignment for Knob 7
14-15	MIDI 14-15	MIDI Controllers 14-15
16	MIDI 16	Default assignment for Knob 15
17-18	MIDI 17-18	MIDI Controllers 17-18
19	MIDI 19	Default assignment for Button 2
20	MIDI 20	Default assignment for Button 3
21	Aux Pitch	Pitch using MIDI CCs instead of the special Pitch MIDI message
22	MIDI 22	Default assignment for Knob 8
23	MIDI 23	Default assignment for Knob 9
24	MIDI 24	Default assignment for Knob 10
25	MIDI 25	Default assignment for Knob 11
26	MIDI 26	Default assignment for Knob 12
27	MIDI 27	Default assignment for Knob 13
28	MIDI 28	Default assignment for Knob 14
29	MIDI 29	Default assignment for Variation button
30	MIDI 30	Default assignment for Button 1
31	MIDI 31	Default assignment for Button 4
32	MIDI Bank	MIDI Bank change message

## Multi Edit Mode

### The Controls Page [5/9]

Controller Number	Destination Name	Description
33-63	MIDI 33-63	MIDI Controllers 33-63
64	Sustain	Default destination for Sustain Pedal
65	MIDI 65	MIDI Controller 65
66	Sostenuto	Default destination for Sostenuto Pedal (Sustains notes that are currently down, but not notes played subsequently.)
67	Soft	Lowers the volume by a preset amount and may soften the timbre as well.
68	Legato	Forces mono playback.
69	Freeze	Envelopes freeze the current state.
71	MIDI 71	Default assignment for Knob 1
72	MIDI 72	Default assignment for Knob 3
73	MIDI 713	Default assignment for Knob 2
74-77	MIDI 74-77	MIDI Controllers 74-77
78	MIDI 78	Default assignment for Knob 5
79	MIDI 79	Default assignment for Knob 4
80	MIDI 80	Default assignment for Button 6
81	MIDI 81	Default assignment for Button 7
82	MIDI 82	Default assignment for Button 8
83	MIDI 83	Default assignment for Button 9
84	Portamento	Standard MIDI controller for setting the Portamento starting note
85	MIDI 85	Default assignment for Button 10
86	MIDI 86	Default assignment for Button 11
87	MIDI 87	Default assignment for Button 12
88	MIDI 88	MIDI Controller 88
89	MIDI 89	Default assignment for Button 13
90	MIDI 90	Default assignment for Button 14
91	MIDI 91	MIDI Controller 91
92	MIDI 92	Default assignment for Button 5
93	MIDI 93	MIDI Controller 93
94	MIDI 94	Default assignment for Button 4
95	MIDI 95	MIDI Controller 95
96	Data Inc	Equivalent to pressing the Next Value button
97	Data Dec	Equivalent to pressing the Previous Value button
98	NRegParL	Non-Registered Parameter Least Significant Byte
99	NRegParM	Non-Registered Parameter Most Significant Byte
100	RegParL	Registered Parameter Least Significant Byte
101	RegParM	Registered Parameter Most Significant Byte
102-109	MIDI 102-109	MIDI Controllers 102-109
110-119	MIDI 110-119	Reserved - Not available for use in the SP8.

Controller Number	Destination Name	Description
120	Sound Off	Stops all sound in the corresponding channel.
121	RstCtrls	Resets Controllers to defaults in the corresponding channel.
122	Local	Reserved for use by MIDI specification.
123	Notes Off	Sends Note Off Message to all playing notes in the corresponding channel.
124	Poly	Reserved for use by MIDI specification.
125	Omni	Reserved for use by MIDI specification.
126	Mono On	Reserved for use by MIDI specification.
127	Mono Off	Reserved for use by MIDI specification.
128	Pitch	Values above 64 and below 64 bend the pitch up and down, respectively.
129	PitchRev	Values above 64 and below 64 bend the pitch down and up, respectively
130	PitchUp	Values above 0 bend the pitch up
131	PitchDwn	Values above 0 bend the pitch down
132	Pressure	Default Destination for sending Pressure Messages from a Controller
133	Tempo	Tempo
134	KeyNum	Triggers playback of notes by Key Number—e.g., C4 is 60. Send a velocity first with Destination 135, KeyVel.
135	KeyVel	Key Velocity
136	ProgInc	Program Increment—increments current Program number.
137	ProgDec	Program Decrement—decrements current Program number.
138	ProgGoto	Go to Program—selects Program.
139	MultiInc	Multi Increment—increments current Multi number.
140	MultiDec	Multi Decrement—decrements current Multi number.
141	SetpGoto	Go to Multi—selects Multi.
145	TransUp	Transpose Up (ST)
146	TransDown	Transpose Down (ST)
147	Arp On/Off	Values 0-63 turn the arpeggiator Off, Values 64-127 turn the arpeggiator On
148	CC Seq On/Off	Values 0-63 turn the CC Sequencer Off, Values 64-127 turn the CC Sequencer On.
149	Mute Zone	Mute Zone – Values above 64 will mute the zone that sends values to this destination, values below or equal to 64 will unmute the zone.
150	ArpOrder	Arpeggiator PlayOrder, each range of values selects one of nine settings in order of the parameter list: 0-14, 15-28, 29-42, 43-56, 57-70,71-84, 85-98, 99-112, 113-127.
151	ArpBeats	Values from 0-127 change the Arpeggiator Beats value.
152	ArpShift	The 88 Arpeggiator Shift steps are scaled over the 128 MIDI controller values, so that 0 = 0 steps and 127 = 88 steps.
153	ArpLimit	The 60 Arpeggiator Shift Limit steps are scaled over the 128 MIDI controller values, so that 0 = 0 steps and 127 = 60 steps.
154	ArpLmtOp	Arpeggiator Shift Limit Option, each range of values selects one of seven options in order of parameters list: 0-18, 19-36, 37-54, 55-72, 73-90, 91-108, 109-127.

## Multi Edit Mode

### The Controls Page [5/9]

Controller Number	Destination Name	Description
155	ArpVel	Arpeggiator Velocity Mode, each range of values selects one of twenty-three options in order of parameters list: 0-5, 6-10, 11-15...101-105, 106-110, 111-127.
156	Arp Dur	The Arpeggiator Duration % values are scaled over the 128 MIDI controller values, so that 0 = 1% and 127 = 100%.
157	Latch Sustain	To control the Arpeggiator Latch switch, 0-63 = off, 64-127 = on.
158	Latch2:Sost	To control the Arpeggiator Latch2 switch, 0-63 = off, 64-127 = on.
160	SusLatch	For Arpeggiator Latch Pedals mode, 0-63 = off, 64-127 = on.
161	Panic	Sends an "all notes off" message and an "reset all controllers" message on all 16 MIDI channels.
162	SoloZn	Solo Zone - Values above 64 will solo the zone that sends values to this destination, values below or equal to 64 will unsolo the zone. When soloing a Zone, all other Zones will become muted, and unmuted a muted Zone will make that Zone the soloed zone. If the currently soloed Zone has a controller assigned to Destination 149 (Mute Zone), solo mode can be canceled by sending a value to this destination.
163	Riff OnOff	If Riff is set to On on the RIFF page, values 64-127 will trigger the riff, values 0-63 will release the riff.
165	Riff Duration	Controls the Riff Duration parameter. The Duration value is calculated by multiplying the received controller value by 1000, and dividing the answer by 128 (any decimal points are taken off the final value.) Here are some example values: 7 = 54%, 13 = 101%, 19 = 148%, 32 = 250%, 64 = 500%, 127 = 992%
166	Riff Velocity	Controls the Riff Velocity parameter. The Velocity value is calculated by multiplying the received controller value by 2. For Example, 25 = 50%, 50 = 100%, 100 = 200%, 127 = 254%.
167	Riff Delay	Controls the Riff Offset parameter. Controller value 64 = 0 offset ticks. Each value away from 64 = 512 offset ticks. For example, 63 = -512 offset ticks, 65 = +512 offset ticks, 0 = -32768 offset ticks, 127 = +32256 offset ticks.
168	TapTempo	Assign this to a switch (set to Type: Toggled) to control the tap tempo function, then tap the switch in time to set the Multi tempo.
170	-Arp Shift	Sets ARPEGGIATOR values for Shift to negative. 0-63 = off, 64-127 = on.
171	ShiftPatt	Selects one of the 128 patterns in the current ARPEGGIATOR Shift Pattern Bank.
172	ShiftPBank	A controller value selects the corresponding Shift Pattern Bank for the ARPEGGIATOR page of a controller's zone. For example, controller value 2 selects Shift Pattern bank 2, controller value 7 selects Shift Pattern bank 7.
173	VelPatt	Selects one of the 128 patterns in the current ARPEGGIATOR VelPatt Bank.
174	VelPBank	A controller value selects the corresponding Velocity Patt Bank for the ARPEGGIATOR page of a controller's zone. For example, controller value 2 selects Velocity Patt bank 2, controller value 7 selects Velocity Patt bank 7.
175	VelFixed	Set's arpeggiator velocity when ARPEGGIATOR Velocity Mode is set to Fixed.
176	ShKeyNum	Shift Key Number (see below)
177	ShiftKey	Shift Key (see below)
178	ShKeyNuV	Same as 176 ShKeyNum, but the Shift Pattern's velocity will be modified by the current velocity pattern of the zone.
180	Chan Intonation	Selects the Intonation Map (IDs 0-127) in a MIDI channel in real time. On the Multi Edit CONTROLS page, when setting a switch controller to this Destination the name of the selected Intonation Map will be displayed. For example: 18 (EastMed).

Controller Number	Destination Name	Description
181	Chan Int Key	Selects the Intonation Key (C through B) in a MIDI channel in real time. On the Multi Edit CONTROLS page, when setting a switch controller to this Destination the MIDI number and note name of the selected Intonation Key will be displayed. For example: 41 (D#).
182	Arp Step	Toggles a selected Arpeggiator pattern step on or off. Assign this destination to a Switch Controller with Type set to Momentary, On Value set to the desired step number, and Off Value set to None. The current Zone must have an Arpeggiator set to Classic Mode using a Shift Pattern, Velocity Pattern, or Duration Pattern, or must be set to Step Sequencer Mode.
183	CC Seq Step	Toggles a selected CC Sequencer pattern step on or off. Assign this destination to a Switch Controller with Type set to Momentary, On Value set to the desired step number, and Off Value set to None. The current Zone must have a CC Sequencer with at least one Sequence which has the Mode parameter set to User.

### Shift Key Number, Shift Key (ShKeyNum, ShiftKey)

These controller destinations allow you to play musical scales and single note patterns on any programmable continuous controller in a Multi, without the need of playing the physical keys of the keyboard. These features are especially useful for playing fast arpeggiations. These destinations only work when combined with other destinations and features, so be sure to read this whole section to gain a complete understanding.

Shift Key Number (**ShKeyNum**, controller destination **176**) works in a similar way to Key Number (KeyNum, controller destination 134). Both controllers basically generate a monophonic stream of notes. The difference is that Key Number plays through all notes chromatically, while **Shift Key Number** only plays notes relative to a Shift Pattern.

For example, when controlling Shift Key Number from a knob, notes are triggered from a Shift Pattern in forwards order as you move the slider up, and backwards order as you move the slider down. If a Zone contains the Shift Pattern 2: minor, the notes being played by the slider will be only the root, the minor third and fifth in the chosen key, triggering notes in any octave up and down the keyboard. (See Shift Key below for details on selecting the root note and octave.)

#### Selecting Notes

You must select a Shift Pattern for the desired zone in order for Shift Key Number to have an effect. To select a Shift Pattern for the current zone in a Multi, enter the Multi editor, go to the Arpeggiator page and set Arp Mode to Classic. Set Shift Mode to Patt and select a Shift Pattern from the Shift Pattern field. If using multiple zones, a different pattern can be selected for each.

The Shift Pattern field is usually used with the arpeggiator, but can also be used in combination with the controller destinations Shift Key Note, Shift Key, and Key Velocity. These destinations can use a zone's Shift Pattern whether the arpeggiator is on or off without conflict. (Note that the Shift Pattern Up or Down options, as well as any of the arpeggiator

## Multi Edit Mode

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### The Controls Page [5/9]

parameters other than Shift Pattern do not have an effect on Shift Key Number.) You can also set controllers to destination 171 (ShiftPatt) to select a pattern from the current bank of 128 shift patterns, and destination 172 (ShiftPBank) to select a bank from banks of 128 shift patterns each.

#### Selecting Velocity

In order to have a note sound when using Shift Key Number, you first need to send a Key Velocity message (**KeyVel**, controller destination **135**) with a non zero velocity. To do this, use the Multi Controls page to assign a controller to Destination 135. It's useful to assign a slider or other continuous controller in order to control velocity while playing. Make sure this assignment uses the same Zone as ShKeyNum.

Notes triggered by Shift Key Number will be played with the last received KeyVel velocity. One note triggered by these controllers sounds until another note is triggered or until a KeyVel message with velocity 0 is sent.

#### Selecting Key (Root Note)

Shift Key (**ShiftKey**, controller destination **177**) allows the user to select the key (root note) of the Shift Pattern triggered by Shift Key Number. A Shift Pattern is a relative pattern based on a root note. All notes triggered by a Shift Pattern are shifted from the root note by the value of each pattern step (in half-steps.)

Shift Key Settings	
Value	Key (Root note)
0-9	C
10-19	C#
20-29	D
30-39	D#
40-49	E
50-59	F
60-68	F#
69-78	G
79-88	G#
89-98	A
99-108	A#
109-118	B
119-127	Last Note Played

When using a Shift Pattern with Shift Key Number you can select the key with one or more controllers assigned to the Shift Key destination. (Make sure this assignment uses the same Zone as ShKeyNum.) You can use a continuous controller such as a slider to cycle through keys, or switches set to predetermined keys. For example, if you are playing a song that moves between 2 or 3 keys, a couple of switches could be programmed in order to send the appropriate Shift Key message for each key change. That way all the notes you are triggering with a Shift Key Number controller will be in the appropriate scale. You could also create a Multi for a song with multiple zones, each with its own pre-set key and appropriate shift pattern. That way, for each chord change you could move a different controller that would create the correct harmony.

Another way to choose a key is to set Shift Key to **Last Note Played** mode, in which the last note played in the zone will set the key. For example, you could set the zone being used for Shift Key Number to have a Key Range that covers only a few of the keyboard's lowest octaves. This would allow you to play root note bass lines that change the key that Shift Key Number plays in, leaving the upper octaves of the keyboard open for use by other zones.

### A Note About Octave Range

When using Shift Key Number, shift patterns with more than 12 steps begin triggering notes in higher octaves. This is done because longer shift patterns use up more of a controller's range, and limit the number of octaves that a single controller can trigger. Since the lowest octave of a program is often too low to be musically useful, the SP8 will automatically start triggering notes from longer shift patterns in higher octaves. This saves room in the controller's range of values for triggering more useful octaves. See the table below for Shift Pattern step ranges and their corresponding starting octave.

If Shift Key is set to Last Note Played and no note is played, the default key is C. Each zone can have a different Shift Key, so you can have zones preprogrammed with the keys you want to use, or have them all in the same key, or just change the key in real time while you are playing.

Default Octave Shifting	
Total # of Shift Pattern Steps	Starting Octave
1-12	C0-C1
13-24	C1-C2
25-36	C2-C3
37-48	C3-C4

### Selecting Octave Range

You can adjust the pattern's starting octave by using the **Add** parameter on the Multi Edit Controls page containing your ShKeyNum assignment. In the Add field, the addition or subtraction of the number of steps in your current shift pattern will raise or lower the starting octave in relation to the default starting octave. For example, in a shift pattern with 3 steps, an Add value of 9 would cause a controller value of 0 to make Shift Key Number trigger notes in octave C3-C-4, 3 octaves above the default C0-C1. Add values that are not multiples of the number of current shift pattern steps will change which step the pattern begins on at controller value 0, thus offsetting the relationship between all of the controller's values and current shift pattern's steps.

### Adjusting Controller Range

When using Shift Key Number, the number of steps in the Shift Pattern also affects the range of values that will cause a controller to trigger a Shift Pattern step, and in turn affect the useful range of the physical controller. With a Shift Pattern of twelve notes, the 128 different notes that the SP8 can trigger are evenly spaced over the range of the controller. Patterns with less than twelve steps will trigger notes in every octave over a shorter range of the controller.

## Multi Edit Mode

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### The Controls Page [5/9]

For example, in a Shift Pattern with three steps, by default the controller values 0 to 2 will trigger notes starting in the lowest possible octave, and controller values 27 to 30 will trigger notes in the highest possible full octave. Using this controller, only about one-fourth of the length of the slider would be triggering notes. This decreased useful range makes the controller harder to use accurately.

To remedy this, you can adjust a controller's behavior by using the Scale parameter on the Multi Edit Controls page containing your ShKeyNum assignment. Adjust the Scale value to stretch the useful values of the controller across its whole physical range. A Scale value of less than 100% will be helpful for patterns with fewer than twelve steps. Experiment by adjusting the Scale value until the highest desired note is triggered at the top of the controller's physical range. See Scale on page 5-16 for more details on the Scale parameter.

For Shift Patterns with more than twelve steps, you will run out of controller values before your Shift Pattern triggers in every octave. If you want to be able to access all of the available octaves, you can achieve this by setting multiple controllers to Shift Key Number. Next, use the Scale and Add parameters for each controller, adjusting each to trigger the desired range of octaves.

## The FX 1 Page [6/9]

The FX 1 Page allows you to set Aux send levels for each channel. You can also enable or disable Effects resources for each channel, which is useful for managing Insert FX usage.

Zone	Enable	Aux1 Send%	Aux2 Send%
1	Y	[p]	[p]
2	Y	[p]	[p]
3	N	[p]	[p]
4	Y	[p]	[p]
5	N	[p]	[p]

### Enable

Use the Enable parameter to enable or disable the Insert FX for the Program on each MIDI channel. This is useful for disabling unused Effects on specific channels to allocate Effects unit resources elsewhere.

Set each MIDI channel to Y to enable Effects or to N to disable Insert FX.

The SP8 has 32 units of Effects resources for loading Effects chains. Each Effects chain requires a specific number of units depending on its complexity.

The top line of the display shows a fraction representing the number of units used by the selected channel over the total units used. When attempting to use more than 32 units of Effects resources simultaneously, some Effects chains will not load and will be displayed as (Y). To use the Insert or Aux FX chain for a channel displayed as (Y), set other channels to N.

In the example above, the Programs are attempting to load a total of 51 units of Effects. Because this exceeds the 32-unit limit, Programs on Zones 3 and 5 are unable to load their Effects, while Programs on Zones 1, 2 and 4 remain active.



**Note:** If the Channel number of the current Aux FX Channel setting is set to N or (Y), the Aux Chains will be disabled for all channels. See [“Aux FX Channel” on page 5-29](#).

### Aux 1 and Aux 2 Send

Use the Aux1% and Aux2% parameters to set the Aux 1 and 2 FX send levels for the Program in each MIDI channel.

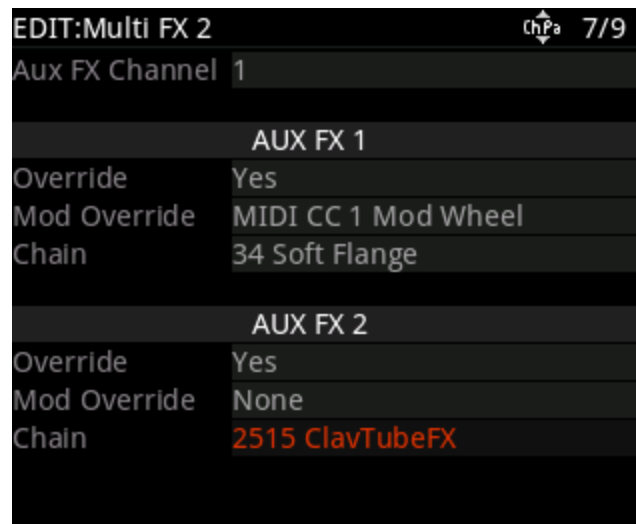
The default setting [p] will use the wet/dry percent send value specified in the Program of the selected MIDI channel. To override one of these send level values, select the Aux1% or Aux2% parameter for the desired MIDI channel, and enter a new wet/dry percent send value (0=fully dry, 100=fully wet). A value of [p] can be set by using the Alpha wheel or +/- buttons to scroll below 0.



**Note:** In most factory Programs, the send level for Aux 1 is controlled by an Aux mod set to MIDI 28 (Knob 14). If a send level override is set, it will usually be scaled by the entry value for Knob 14, with values of 0-127 scaling between 0% wet and the selected send level. To defeat this behavior, set the Mod Override parameter to On. This will cause the Program to use the selected send level value.

## The FX 2 Page [7/9]

The FX 2 Page allows you to set the Aux FX Channel and the AUX FX overrides.



### Aux FX Channel

The Aux FX Channel determines the MIDI channel that will be used for the Aux 1 and Aux 2 FX Chains. For example, if the Program in channel 2 uses the Chain 25 Basic Delay 1/8 as an Aux 1 Chain, then setting the Aux FX Channel to 2 allows the Programs in all channels to send their signal to the Aux FX Chain 25 Basic Delay 1/8.

Keep in mind that the MIDI channel number of each Zone does not have to match the Zone number. For example, if Zone 1 is assigned to use MIDI channel 5, then Aux FX Chan must be set to 5 in order to use the Aux FX Chains of Zone 1.

### AUX1 Override, AUX2 Override

Normally, the Aux FX Chains are specified by the program on the specified Aux FX channel. When AUX1/2 Override is set to Yes, the Chain parameter can be selected, allowing you to choose a different Aux effect Chain.

Set AUX1/2 Override to Yes to select an override Aux Chain on this page. Set AUX1/2 Override to No to use the Aux FX chain of the specified Aux FX Channel.

### Chain

When AUX1 Override or AUX2 Override is set to Yes, you can select an override Aux Chain for the corresponding Aux effect. The Chain parameter cannot be selected when Override is set to No.

### Mod Override

The Mod Override parameter allows you to select a controller or modulation source which will control the send level or dry/wet amount for the Aux 1 or Aux 2 Chain. Selecting a Mod Override will disable any Aux Mod controller or modulation source that was assigned in the Program of the Aux FX Channel.

If you select a MIDI controller for the Mod Override (entries 1 through 95 in the Mod Override list), you must select the same MIDI controller number in the “Destination” field for the desired controller on the Multi Controls page. This must be done for each Zone that you wish to apply the Mod override controller. The Multi Controls page allows you to set entry/exit values as well as scaling and offset values for the Mod Override controller.

When the Mod Override parameter is selected, you can quickly select one of the SP8’s physical controllers by holding the Enter button and moving the controller.

## The Arp, CC Seq, Riff Page [8/9]

The Arp, CC Seq and Riff page manages all triggered Arpeggiators, MIDI CC Sequencers and songs (Riffs) of the SP8 on a single page. SP8 Multis can have one Arp, one MIDI CC Sequencer and one Riff per Zone.

EDIT:Multi Arp, CC Seq and Riff				
Zone	Arp	Latch	CC Seq	Riff
1	Enabled	Enabled	Disabled	Off
2	Enabled	Enabled	Disabled	Off
3	Enabled	Enabled	Disabled	Off
4	Enabled	Enabled	Disabled	Off
5	Disabled	Disabled	Disabled	Off
State	On	Off	Off	

Press EDIT to edit the selected Arp, CC Seq or Riff when enabled.

In this page you can enable or disable the Arpeggiators and the Latch button, the MIDI CC Sequencers and the Riffs.

### Enabling the Arpeggiators

If the Arp in a Zone is Enabled, it means that it can be turned on or off in that Zone. If it is Disabled, it means that no matter the status of the button, that Arp cannot be turned On in that Multi. With this setting you can select which Zones you want to arpeggiate and which Zones you do not.

With an Arp Enabled selected on the display, press the EDIT button to edit all the parameters of that Arp.

The State indicates the initial status of the ARP button.

If the Latch in a Zone is Enabled, it means that the LATCH button will actually latch an active Arpeggiator in that Zone. If you do not want the button to do anything with that Zone, leave it as Disabled.

The State indicates the initial status of the LATCH button.

### Enabling the MIDI CC Sequencers

If the CC Seq in a Zone is Enabled, it means that it can be turned on or off in that Zone. If it is Disabled, it means that no matter the status of the CC SEQ button, that CC Sequencer cannot be turned On in that Multi. With this setting you can select in which Zones you want the MIDI CC Sequencer to work and which Zones it will not.

With a CC Seq Enabled selected on the display, press the EDIT button to edit all the parameters of that MIDI CC Sequencer.

The State indicates the initial status of the CC SEQ button.

### Enabling the Riffs

If the Riff in a Zone is On, it means that it can be turned on or off in that Zone. If it is Off, it means that no matter the status of the button, that Riff cannot be turned On in that Multi. With this setting you can select which Zones you want the Riff to play and which Zones you do not.

With a Riff On selected on the display, press the EDIT button to edit all the parameters of that Riff.

The Riff button is slightly different from the three previous buttons as it gets synced to the status of the Riff directly as long as there is one Riff playing. Many Riffs are activated by playing keys, in addition to using the button.

## The Riff 1 Page [1/2]

Riffs are full songs or individual tracks of a song that you can trigger in Multi Mode.



The SP8 factory objects include hundreds of Riffs for you to use in your Multis. For the full list of Factory Songs see [“Appendix E” on page E-1](#).

The SP8 can load Song objects from other Kurzweil products, or Standard MIDI files (.MID) may also be imported to then be used as Riffs in Multis. See [“Loading MIDI Song Files \(.MID\)” on page 6-37](#).



**Note:** The SP8 is a stage piano, not a workstation; therefore, it does not offer an internal sequencer to edit Song objects. Editing can be done on other Kurzweil keyboards such as the K2700, K2088, K2061, Forte, or PC4, or by using a DAW and exporting the Song as a Standard MIDI File (.MID). The SP8 will load object files generated by those Kurzweil products, including Songs, and will also load SMF files. These loaded Songs will appear in the User ID space (4096–8191).

Every Zone in a Multi can have its own Riff—a completely independent sequence. You can use a Multi with many Riffs to trigger and stop looped sequences of different instrument parts. Alternatively, a single Riff can play multiple instrument parts, and each Riff can be used as a different song section of a backing track.

You can edit all the Riff parameters by pressing the EDIT button while the Riff On parameter is selected and set to On in the Arp, CC Seq, Riff page. The EDIT button LED will be on at that moment.



**Note:** By default, setting a Zone to trigger a Riff will disable the ability to play notes of that Zone’s Program from the keyboard. To re-enable this ability, see the Local parameter below.

### Song

Use the Song parameter to select the Song that you wish to use for the Riff of the currently selected Zone.

### Source Track

The Source Track parameter determines the Song track or tracks that the Riff plays. A Riff can play either a single track or all tracks of the selected Song.

To create a Multi with multiple Riffs each playing a single instrument part, use the same Song for the Riff in each Zone and select a different Source Track for each Riff.

To create a Multi with a single Riff that plays multiple instrument parts, set Source Track to All. Each track of the Song will play through the Zones that have a corresponding MIDI channel.

When a Source Track other than All is selected, the display may show additional information next to the track number:

- **No Track:** The track does not exist in the selected Song
- **No Program:** The track does not have a Program assigned in its data.
- **Program ID and Name:** The track has an assigned Program that exists in the instrument's memory.
- **Not Found:** The track has an assigned Program, but that Program does not exist in the instrument's memory.
- **Track Number:** Displayed in all other cases.

### Start, Stop

Use the Start and Stop parameters to specify the Riff start and stop points. The time format is Bar : Beat : Tick. Bar can be set to any bar in the Song, and Beat can be set to any beat in that bar (the beat range is dependent on the time signature). Tick can be set from 0 to 959.



**Note:** The Stop point is automatically adjusted so that the current riff is at least one beat long.

## Root Note

Use the Root Note parameter to select the key that will play the Riff at its original pitch. Root Note is only applied when the Transpose parameter is set to On.

For example, if Transpose is set to On and you have a Riff based around D4, set the Root Note to D4 so that the Riff will play in tune with other Zones. It is also useful to set the Root Note to a different octave than the original pitch in order to play the Riff at the original pitch from a higher or lower region of the keyboard.

## Trigger Range

Use the Trigger Range parameters to set the keyboard range that will trigger the Riff. The left and right Trigger Range parameters set the lowest and highest keys that will trigger the Riff. For a key to trigger a Riff, the key must also be within the Zone 1 Key Range (set on the Overview page).

You can select a key using the Alpha Wheel, plus/minus buttons, or by pressing and holding the Enter button and pressing the desired key.



**Note:** Riffs can also be triggered and released by assigning a controller destination 163 Riff OnOff.

## Trigger Master

The Trigger Master parameter determines which Riff or Arpeggiator a Riff will sync to when triggered. This allows you to synchronize your Riff with Riffs or Arpeggiators active in other Zones.

The following options are available for the Trigger Master parameter:

- **First Riff/Arp:** Syncs the Riff to the first available Riff or Arpeggiator.
- **Riff Zone 1 to 5:** Syncs the current Riff to the Riff specifically assigned to the selected Zone (Zone 1, Zone 2, Zone 3, Zone 4, or Zone 5).
- **Arp Zone 1 to 5:** Syncs the current Riff to the Arpeggiator specifically assigned to the selected Zone (Zone 1, Zone 2, Zone 3, Zone 4, or Zone 5).
- **First Riff:** The Riff will specifically look for the first available Riff to sync to.
- **First Arp:** The Riff will specifically look for the first available Arpeggiator to sync to.

For example, if you have a drum Riff in Zone 1 and a bass Riff in Zone 2, you may always want the bass Riff in Zone 2 to sync to the drum Riff in Zone 1. In this case, you would set the bass Riff Trigger Master to Riff Zone 1.

You may want to have a little more freedom and not be tied to the drum Riff as the main timekeeper. Maybe you want to start with the bass Riff and have the drum Riff start later. In this case, you would set Trigger Master to First Riff. With this setting, the Riff will look for the first available Riff to sync to.

If both the drum Riff and the bass Riff have this parameter set to First Riff, the Riff that is started first will be the master. If the bass Riff starts first, the drum Riff will see that as the first available Riff to sync to and will do so. If the drum Riff is started first, the bass Riff will see that as the first available Riff to sync to and will do so. This can be very handy if you have multiple Riffs and want to do some live remixing; you could have the drums drop out, and—as long as there is a Riff playing—they will sync back up when triggered again.



**Note:** If you have multiple Riffs or Arpeggiators already playing when using First Riff Available, First Arpeggiator Available, or First Available for the current Riff, the current Riff will sync to the Riff or Arpeggiator of the lowest numbered Zone that has a Riff or Arpeggiator playing.

## Trigger Type

The Trigger Type parameter allows you to choose how your Riff will sync to other Riffs and Arpeggiators in combination with the Trigger Master parameter.

The following options are available for the Trigger Type parameter:

- **None:** The Riff starts playing immediately as soon as it is triggered without syncing to any other elements.
- **Down Beat:** The Riff waits for the down beat of the next measure before starting. This allows you to trigger the Riff ahead of time and have it snap into sync on the next bar.
- **Any Beat:** The Riff waits for the next available beat to start. Depending on your timing, it may sync to an up beat or a down beat.
- **Down Beat Wait:** Similar to Down Beat, but the Riff will not start at all if there is nothing currently playing to sync to.
- **Any Beat Wait:** Similar to Any Beat, but the Riff will not start if there is nothing currently playing to sync to.
- **Start:** The Riff waits for the master sync source to begin playing before it starts. If the master Riff or Arpeggiator is already playing, the current Riff will start immediately.
- **Loop:** The Riff waits for the master Riff to restart its loop before starting. This ensures both sequences begin their cycles at the same time.
- **Stop:** The Riff waits for the master Riff or Arpeggiator to stop before it begins playing. If nothing is playing, it starts immediately.
- **Start Wait:** The Riff waits for the master sync source to begin playing for the first time. Unlike Down Beat Wait, it will only trigger at the initial start of the master; it will not start if the master is already running.

- **Loop Wait:** Similar to Loop, but the Riff will not start if there is nothing currently playing to sync to.
- **Stop Wait:** Similar to Stop, but the Riff will not start if there is nothing currently playing to sync to.

For example, if you want to start multiple Riffs simultaneously, you could have a drum Riff on Zone 1, a bass Riff on Zone 2, and a guitar Riff on Zone 3. By setting the Trigger Type for Zone 2 and Zone 3 to Down Beat Wait and their Trigger Master to Riff Zone 1, you can “prime” the bass and guitar. As soon as you start the Zone 1 drum Riff, the other two Zones will instantly join in.

This logic also applies to Any Beat Wait. If you have a bass Riff set to this mode and trigger it while the transport is silent, nothing happens. However, as soon as you start another Riff that the bass is assigned to follow, the bass Riff will jump in on the very next beat.

## Release Range

Use the Release Range parameters to set the keyboard range that will stop the Riff when a key is released. The left and right Release Range parameters set the lowest and highest keys that will stop the Riff when a key is released. For a key to stop a Riff, the key must also be within the Zone’s Key Range (set on the Overview page).

You can select a key using the Alpha Wheel, plus/minus buttons, or by pressing and holding the Enter button and pressing the desired key.



**Note:** Riffs can also be triggered and released by assigning a controller destination 163 Riff OnOff.

## Release Master

Release Master has the same settings available as Trigger Master, but Release Master determines what the releasing (stopping) of the current Riff will be synced to when a parameter other than None is selected for Release Type.

## Release Type

The Release Type parameter determines how the releasing (stopping) of the current Riff will be synced to other Riffs and Arpeggiators in combination with the Release Master parameter.

The following options are available for the Release Type parameter:

- **None:** The Riff stops playing immediately as soon as it is released.
- **Down Beat:** The Riff waits for the down beat of the next measure before stopping. This allows you to release the Riff ahead of time and have it stop in sync with the down beat of the next bar.

## Multi Edit Mode

---

### The Riff 1 Page [1/2]

- Any Beat: The Riff waits for the next available beat before stopping. Depending on your timing, it will stop in sync with an up beat or a down beat.
- Down Beat Wait: Similar to Down Beat, but the Riff will not stop when released if there is nothing currently playing to sync to.
- Any Beat Wait: Similar to Any Beat, but the Riff will not stop when released if there is nothing currently playing to sync to.
- Start: The Riff waits for the master sync source to begin playing before it stops. If the master Riff or Arpeggiator is already playing, the current Riff will stop immediately upon release.
- Loop: The Riff waits for the master Riff to restart its loop before stopping. This ensures the Riff stops exactly when the master sequence begins a new cycle.
- Stop: The Riff waits for the master Riff or Arpeggiator to stop before it releases. If nothing is playing to sync to, the Riff stops immediately.
- Start Wait: The Riff waits for the master sync source to begin playing for the first time before it stops. It will only release the Riff at the initial start of the master; it will not stop the Riff if the master is already running.
- Loop Wait: Similar to Loop, but the Riff will not stop when released if there is nothing currently playing to sync to.
- Stop Wait: Similar to Stop, but the Riff will not stop when released if there is nothing currently playing to sync to.



**Note:** For all Release Type settings except Stop, Start Wait, and Stop Wait, a Riff can sync its release with itself. For example, you could use Riff 1 and sync it to itself by setting Riff Zone 1 for the Release Master parameter. Then, if you set Down Beat for the Release Type parameter, the Riff will always wait until its own next down beat to stop when released.

## The Riff 2 Page [2/2]



### Loop

When Loop is set to Off, the Riff will play once until it is retriggered. When Loop is set to On, the Riff will play in a loop until a key in the Release Range is released.

### Transpose

When the Transpose parameter is set to On, the Riff can be transposed chromatically by playing the keyboard within the selected trigger range. See Root Note above.

### Riff Tempo

Use the Riff Tempo parameter to set the tempo of your Riff. With Riff Tempo set to Multi, the tempo set on the Multi Edit Common page will be used. The Multi setting is useful for tempo syncing different Riffs or Arpeggiators. With Riff Tempo set to External, the Riff will sync to an external MIDI clock. You can also manually choose a tempo by selecting a value from 20 to 400.

### Local

When Local is set to Off, notes will only be played by the Riff. When Local is set to On, notes in the current Zone can be played normally by the keyboard and by the Riff.

### Offset

You can fine-tune the start time of your Riff in ticks by using the Offset parameter. A positive value will delay the start time, while a negative value will advance the start time.

### Velocity

Velocity changes the velocity of each MIDI note. The original velocities of the notes in the Riff are multiplied by the selected percentage. 100% will cause no change, values smaller than 100% will result in lower velocities, and values larger than 100% will result in higher velocities.

### Duration

Duration changes the duration of each MIDI note. The original durations of the notes in the Riff are multiplied by the selected percentage. 100% will cause no change, values smaller than 100% will result in shorter durations, and values larger than 100% will result in longer durations.

### Conditional Release

When the Conditional Release parameter is set to On, the Riff will play when a key is pressed and held, and other keys will not stop or restart the Riff until the original key is released. To use conditional release, set the same range for the Trigger Range and Release Range. To stop the Riff, release the original key.

## Real-time Control of Riff Parameters

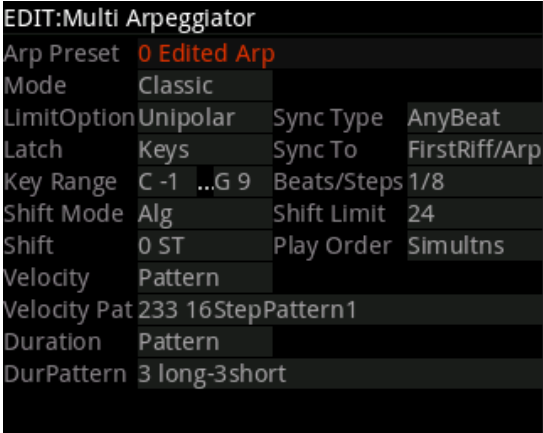
You can have real-time control over several Riff parameters by assigning physical controllers to special Riff Controller Destinations. Any input (or entry value) from a physical controller assigned to a Riff Controller Destination overrides the programmed values for the parameters of the Riff on that controller's Zone. The override remains in effect until you select a different Multi. Remember, each of the following Controller Destinations affects only the Riff for the Zone to which your controller is assigned.

Controller Number	Controller Destination	Description
163	Riff OnOff	If Riff is set to On, values 64-127 will trigger the Riff, values 0-63 will release the Riff.
165	Riff Duration	Controls the Riff Duration parameter. The Duration value is calculated by multiplying the received controller value by 1000, and dividing the answer by 128 (any decimal points are taken off the final value.) Here are some example values: 7 = 54%, 13 = 101%, 19 = 148%, 32 = 250%, 64 = 500%, 127 = 992%
166	Riff Velocity	Controls the Riff Velocity parameter. The Velocity value is calculated by multiplying the received controller value by 2. For Example, 25 = 50%, 50 = 100%, 100 = 200%, 127 = 254%.
167	Riff Delay	Controls the Riff Offset parameter. Controller value 64 = 0 offset ticks. Each value away from 64 = 512 offset ticks. For example, 63 = -512 offset ticks, 65 = +512 offset ticks, 0 = -32768 offset ticks, 127 = +32256 offset ticks.

# ARP Page

The Arpeggiator in Multi Mode is very similar to the Program Mode arpeggiator. See [“The Arpeggiator Page \[4/5\]”](#) on page 3-14.

You can edit all the Arpeggiator parameters by pressing the EDIT button while the Arpeggiator parameter is selected and set to Enabled in the Arp, CC Seq, Riff page. The EDIT button LED will be on at that moment.



EDIT:Multi Arpeggiator			
Arp Preset	0 Edited Arp		
Mode	Classic		
LimitOption	Unipolar	Sync Type	AnyBeat
Latch	Keys	Sync To	FirstRiff/Arp
Key Range	C -1 ...G 9	Beats/Steps	1/8
Shift Mode	Alg	Shift Limit	24
Shift	0 ST	Play Order	Simultns
Velocity	Pattern		
Velocity Pat	233 16StepPattern 1		
Duration	Pattern		
DurPattern	3 long-3short		

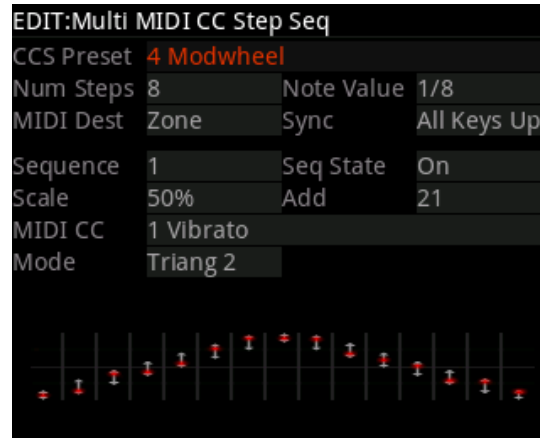
In Multi Mode, the Arpeggiator works the same as in Program Mode, except there is one Arpeggiator per Zone. Each Arpeggiator can have different settings and all can be played at the same time. Additionally, in Multi Mode, the Arpeggiator page does not include the Tempo parameter; instead, the Tempo parameter on the Multi Common page is used for all Zones.

Unlike the Arpeggiator in Program Mode, the Multi Mode Arpeggiator includes Sync Type and Sync To parameters. Use these parameters to keep Arpeggiators in sync with the same beat pulse across multiple Zones. For example, when Sync Type is set to Any Beat and Sync To is set to First Riff/Arp, triggering an Arpeggiator in the current Zone will wait for the next beat of Riffs or Arpeggiators currently playing in other Zones before starting. Set the Sync Type parameter to Off if you do not want to synchronize the Arpeggiators. Additional Sync Type and Sync To settings are available, which behave the same as the Riff Sync parameters.

## MIDI CC Sequencer (CC SEQ) Page

The CC Sequencer in Multi Mode is very similar to the Program Mode CC Sequencer. See [“The MIDI CC Sequencer Page \[5/5\]”](#) on page 3-32.

You can edit all the MIDI CC Sequencer parameters by pressing the EDIT button while the CC Seq parameter is selected and set to Enabled in the Arp, CC Seq, Riff page. The EDIT button LED will be on at that moment.



In Multi Mode, the CC Sequencer works the same as in Program Mode, except there is one CC Sequencer per Zone. Each CC Sequencer can have different settings, and all can be played at the same time.

## Multi Edit Mode

The Common Page [9/9]

# The Common Page [9/9]

The COMMON page contains parameters that affect all zones in the current Multi.



## Tempo

When Clock Source is set to Internal, use the Tempo parameter to set the Multi tempo in BPM (beats per minute). The Multi Tempo sets the tempo of any tempo-based Effects and is also used to sync the tempo of Arpeggiators and Riffs across different Zones.

You can also set the tempo using the TAP TEMPO button. Press the button at least three times at the desired rate, or change the value on the Tempo page that appears when the button is pressed once.

When Clock Source is set to External, the Tempo parameter disappears from the display.

## Clock Source

When Clock Source is set to Internal, the Multi determines its tempo using the Tempo field. When Clock Source is set to External, the Multi can be synced to the tempo of an external MIDI device, which must send MIDI clock data to the SP8 via MIDI or USB. See ["Clock Source" on page 6-14.](#)

## KB3 Channel

If KB3 Programs are selected for more than one Zone, this parameter specifies which MIDI channel has priority to load a KB3 Program. Only one KB3 Program can be loaded at a time. If you want a KB3 Program to play in a Zone, set the KB3 Channel to the channel assigned to that Zone. If no KB3 Programs are selected in the current Multi, the KB3 Channel is set automatically when a KB3 Program is selected for the first time.

## Output Gain

The Multi Common Output Gain adds or reduces gain across all channels of a Multi. This is helpful for balancing the volume of several Multis for a performance without adjusting MIDI Volume or Expression, which are better reserved for use with MIDI controllers. The available values range from -96 dB to +24 dB.

High values may lead to audio distortion.

# Chapter 6

## Global Mode

Global Mode allows you to adjust performance settings that affect all Programs and Multis. Use these pages to delete User objects, restore factory defaults via a Reset, view software information, and run various utilities.

Additionally, Global Mode provides access to the Storage pages, where you can save and load files to and from external media.

To enter Global Mode from another mode, press the GLOBAL Mode button.



**Note:** All Global Mode parameters are saved to the Master Table upon exiting the mode. If you power cycle the instrument while still in Global Mode, changes to the Master Table will not be saved. You must exit Global Mode for your settings to be stored. Upon startup, the instrument will restore all settings saved in the Master Table. This table is a unique object that can be included in your SP8 files, allowing you to easily back up and restore your global settings when needed.

## Global Mode Pages

These are the main six Global Mode pages:

- [1/6] Main 1
- [2/6] Main 2
- [3/6] Main 3
- [4/6] Audio Input
- [5/6] Utilities and Info
- [6/6] Enter Storage

## Global Mode

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Additionally, there are other Global pages accessed directly via dedicated buttons, rather than the CHANNEL/PAGE buttons:

- GLOBAL EQ button: Global EQ and Compressor.
- TAP TEMPO button: Global Tempo.

## The MAIN 1 Page [1/6]

The MAIN 1 page in Global Mode allows you to adjust global tuning, metronome settings, Effects settings, and other basic global parameters.



MODE:Global Main 1		1/6
Tune	0 ct	
Transpose	0 ST	
Metronome Type	Metro 1/4nt	
Metronome Vol	96	
FX Mode	Perform	
Pedal Noise	On	
Blink Tempo	Met/Riff	
Boot Mode	Program	
Show Controllers	Yes	
Multi Controllers	Instant	
Auto Power-Off	On	Time 8 hours

### Tune

The Tune parameter allows you to fine-tune the instrument in cents (ct.). One cent is one-hundredth of a semitone (100 cents comprise a semitone). You can select a tuning range from -100 to 100 cents. By default, this parameter is set to 0.

### Transpose

The Transpose parameter allows you to tune the pitch of the keyboard in semitones.



**Note:** This setting is separate from the MIDI transposition (Xpose) controlled by the front-panel TRANSPOSE +/- buttons. These two values are cumulative, meaning both amounts are added together to determine the final pitch. Typically, the front-panel buttons are used for quick adjustments during a performance, while the Transpose setting on the Global Main 1 page is intended for a permanent configuration. Both settings also affect the notes sent via MIDI. See [“Transpose Buttons \(Xpose Buttons\)”](#) on page 6-11.

### Metronome Type

The Metronome Type parameter allows you to select from several metronome styles. These styles include options with or without an accent on the first beat of each measure. The metronome can be activated in Program Mode by pressing the MET/RIFF button.

- **Metro 1/4nt:** A steady, unaccented click playing quarter notes.
- **Metro 16/nt:** A steady, unaccented click playing 1/16th notes.
- **Acc 1/4nt:** Quarter notes with a distinct accent on the first beat of each measure.
- **Acc 1/8nt:** 1/8th notes with a distinct accent on the first beat of each measure.
- **Acc 16 nt:** 1/16th notes with a distinct accent on the first beat of each measure.
- **Acc 3/4:** A 3/4 time click with an accent on the first beat of each measure.
- **Acc 6/8:** A 6/8 time click with an accent on the first beat of each measure.



**Note:** The metronome runs in Program Mode on MIDI Channel 16. When activated, the Program assigned to Channel 16 will automatically switch to 2044 Click Track.

### Metronome Volume

The Metronome Volume parameter sets the output level of the metronome. It functions by sending MIDI CC 7 (Volume) at the specified value to Channel 16, where the metronome program is assigned. The default value is 96.

### FX Mode

FX Mode determines how the instrument manages its Effects resources when switching between sounds or working with multiple MIDI channels.

- **Performance Mode:** When playing a single Program in Program Mode, set FX Mode to Performance. In this setting, the SP8 minimizes disruption to currently loaded Effects when changing Programs. Additionally, entry values are managed to ensure that sustained notes are not cut off or disrupted by Effects changes when switching sounds.
- **Multitrack Mode:** When using an external sequencer to play Programs on multiple MIDI Channels simultaneously, setting FX Mode to Multitrack is recommended. This setting helps ensure that Effects remain loaded consistently across multiple channels, providing more stable performance for complex multitimbral arrangements.

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## Pedal Noise

The Pedal Noise parameter allows you to enable or disable the realistic mechanical noise produced by a piano's damper pedal.

When set to On, this feature only activates for Piano Programs specifically designed to include pedal noise. If you prefer a cleaner sound without these mechanical artifacts, you can set this parameter to Off to globally disable the effect across all Programs.

## Blink Tempo

The Blink Tempo parameter determines the behavior of the TAP TEMPO button's LED indicator.

- **Never:** The button remains unlit and does not blink.
- **Met/Riff:** The button blinks in synchronization with quarter notes only when the Metronome is active in Program Mode or when a Riff is playing in Multi Mode.
- **Always:** The button blinks continuously in synchronization with the current system tempo, regardless of whether a Metronome or Riff is active.

## Boot Mode

The Boot Mode parameter allows you to select which mode the SP8 enters immediately after power-up.

- **Program Mode:** The instrument starts with a single Program loaded (default setting).
- **Multi Mode:** The instrument starts in Multi Mode, ready to play complex performance setups.

## Show Controllers

The Show Controllers parameter determines how controller movements are displayed on the screen.

- **No:** No controller assignments or values are shown when a controller is moved.
- **Yes:** Briefly displays the assignment and value for Knobs, Switch buttons and Wheels, but excludes Pedals.
- **All Controllers:** Briefly displays the assignment and value for all controllers, including Pedals and Pressure.
- **Yes+Chords / All+Chords:** These settings function the same as Yes and All, with the added benefit of chord recognition. When a basic chord is formed, the name of that chord is displayed on screen.

### Multi Controllers

The Multi Controllers parameter determines how continuous controllers (Knobs, Wheels, and CC Pedal) behave when you begin moving them after selecting a Multi.

- **Instant:** Moving a controller causes the assigned parameter to jump immediately to the current physical position of the controller. While this provides immediate response, it may cause abrupt or “zippered” changes to the sound.
- **Pass Entry Value:** The controller remains inactive until its physical position passes through the specific Entry Value saved within the Multi. This ensures a smooth transition by preventing sudden parameter jumps, making it ideal for expressive performance settings where subtle control is required.

### Auto Power Off

The Auto Power Off parameter enables the power-saving feature. When set to On, the SP8 automatically powers off after the Power Off Time has elapsed since the last key press (physical or MIDI), button press, controller movement, or USB MIDI activity.

The Auto Power Off is set to On by default.

### Auto Power Off Time

If the Auto Power Off parameter is set to On, the SP8 powers off after the duration selected in this parameter has elapsed. The instrument displays a warning message one minute before the shutdown occurs. To cancel the shutdown and reset the timer, press a key or move any physical control. Once the warning is cleared, the SP8 waits for the full selected time period before showing the warning again.

The Auto Power Off Time is set to 8 hours by default.

## The MAIN 2 Page [2/6]

The MAIN 2 page in Global Mode allows you to adjust global Maps, Overrides and other basic global parameters.



### Velocity Map

The Velocity Map parameter determines how the SP8 generates MIDI velocity information. Different maps generate different MIDI velocity values for the same physical key strike velocity.

The default map (Linear) provides the widest range of expression, but you may choose a different map if the default does not suit your playing style. Select from the following settings:

<b>Light3</b> <b>Light2</b> <b>Light1</b>	Makes it increasingly easier to produce high MIDI velocity values for the same key strike velocity (with Light3 being the easiest). These maps work best for those with a light touch.
<b>Linear</b>	The SP8 default map. Linear, allows MIDI velocities to pass unchanged. It follows a linear response.
<b>Hard1</b> <b>Hard2</b> <b>Hard3</b>	Makes it increasingly harder to produce high MIDI velocity values for the same key strike velocity (with Hard3 being the hardest). These maps work best for those with a heavy touch.
<b>PianoTouch</b>	Simulates the general velocity response of an acoustic piano, and is best suited for playing acoustic piano programs.
<b>Easy Touch</b>	Similar to the Light1/Light2/Light3 settings. Makes higher velocities easier to play, but allows more sensitive control over playing high velocities by not boosting the MIDI velocity for fast strike velocities as much as it does for medium strike velocities.

<b>GM Receive</b>	Mimics the velocity response commonly used by keyboards that use the General MIDI (GM) sound set. The GM Receive map makes medium strike velocities produce higher MIDI velocities compared to the Linear map.
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## Intonation Map

Most modern Western music uses equal temperament tuning system. This means that the interval between each semitone of the 12-tone octave is precisely the same as every other semitone.

However, many different intonation intervals have evolved over the centuries across various cultures and instruments; therefore, equal temperament may not be appropriate for certain musical styles. The SP8 provides 18 factory intonation maps suitable for a wide range of styles. Each map defines specific intervals between the semitones of a single octave—applied across all octaves—by setting pitch offsets in cents for each note.

Like many instruments designed before the adoption of equal temperament, most of these intonation maps were intended to sound best in a specific key. Although some were historically set to different keys, all SP8 factory intonation maps are set to root C by default. You can change the root key of the current intonation map using the Int Key parameter (see Intonation Key (Int Key) below).

<b>0 None</b>	No intonation map is used, intonation is equal.
<b>1 Equal</b>	No detuning of any intervals. The standard for modern western music.
<b>2 Just</b>	Tunings are defined based on the ratios of the frequencies between intervals. The original tuning of Classical European music.
<b>3 Just/b7th</b>	Similar to Just, but with the Dominant 7th flattened an additional 15 cents.
<b>4 Harmonic</b>	The perfect 4th, Tritone, and Dominant 7th are heavily flatted.
<b>5 JustHarm</b>	Approximation of a historical intonation.
<b>6 Werkmeister</b>	Named for its inventor, Andreas Werkmeister, it was developed to enable transposition with less dissonance than classic equal temperament.
<b>7 1/5thComma</b>	Approximation of a historical intonation based on the comma system.
<b>8 1/4thComma</b>	Approximation of a historical intonation based on the comma system.
<b>9 IndianRaga</b>	Based on the tunings for traditional Indian music.
<b>10 Arabic</b>	Oriented toward the tunings of Mid-Eastern music.
<b>11 BaliJava1</b>	Based on the pentatonic scale of Balinese and Javanese music.
<b>12 BaliJava2</b>	A variation on BaliJava1, slightly more subtle overall.
<b>13 BaliJava3</b>	A more extreme variation.

<b>14 Tibetan</b>	Based on the Chinese pentatonic scale.
<b>15 Carlos A</b>	Developed by Wendy Carlos, an innovator in microtonal tunings, this intonation map flats each interval increasingly, resulting in an octave with quarter-tone intervals.
<b>16 Pyth/aug4</b>	This is a Pythagorean tuning, based on the Greek pentatonic scale. The tritone is 12 cents sharp.
<b>17 Pyth/dim5</b>	This is a Pythagorean tuning, based on the Greek pentatonic scale. The tritone is 12 cents flat.
<b>18 EastMed</b>	Eastern Mediterranean. The Major 3rd and Major 7th are flat by 50 cents.

## Intonation Key (Int Key)

The Intonation Key sets the tonic, or root note, from which the currently selected intonation map calculates its intervals. For example, if you select G as the intonation key and the chosen intonation map tunes the minor 2nd down by 50 cents, then G# will be a quarter tone flat relative to equal temperament. If you change the intonation key to D, then D# will be a quarter tone flat. When using non-standard intonations, set the Int Key to the key in which you are playing.

If the Intonation parameter is set to Equal, changing the Int Key has no effect.

## Switch Pedal Overrides

The Switch Pedal Override parameters (SW1a–SW1b Override) allow the controller assignments for the switch pedals to be changed for all Programs and Multis.



**Note:** KB3 organ programs have a separate override for the SW1a pedal; see the Rotary Override section below for details.

Alternative assignments available for the Switch Pedal Overrides include standard pedal controls (Sustain, Sostenuuto, and Soft) as well as Data Inc, Data Dec, Favorite Inc, and Favorite Dec. These can be used to change Programs, Multis, or Favorites using a pedal.

Use the Data Inc and Data Dec (data increment/decrement) assignments to select the next or previous ID when you depress the pedal. In Program mode, these assignments select the next or previous Program; in Multi mode, they select the next or previous Multi.

Use the Favorite Inc and Favorite Dec assignments to select the next or previous Favorite. If no Favorite is currently selected, these assignments will select the first Favorite or the last one selected since the SP8 was powered on.

## Global Mode

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The MAIN 2 Page [2/6]

Use the Arp On/Off and Arp Latch assignments to control arpeggiator functions. Arp On/Off allows you to toggle the arpeggiator by pressing a switch pedal. Arp Latch allows you to latch held notes for the arpeggiator by holding down a switch pedal. When using Arp Latch, ensure the arpeggiator is turned on. Play the notes you wish to latch, press and hold the assigned pedal, and then release the notes. The notes will continue to arpeggiate until the pedal is released.

In Multi Edit Mode, if a pedal is viewed that has a Global mode override enabled, the message “Global Pedal Override is enabled” will display to remind you that Global settings are being used instead of Multi mode pedal settings.

In Multi Edit Mode, setting a Pedal Mode to “Off” will disable the override for that pedal in the selected Zone. This is useful for disabling overrides in specific Zones; for example, you may want a pedal to control Sustain in all Zones of a Multi except one.

When a Switch Pedal Override is used in Multi Mode, the pedal behaves as if the OnValue and OffValue are set to 127 and 0, respectively (this is not shown in Multi Edit Mode). When an override is set to Sustain, Sostenuto, or Soft, the pedal behaves as if the Pedal Type is set to Momentary. When set to Data Inc, Data Dec, Favorite Inc, or Favorite Dec, the pedal behaves as if the Pedal Type is set to Toggle.

## CC Pedal Override

In a similar manner to Switch Pedal Overrides, the CC Pedal Override parameter allows the Continuous Control Pedal assignments to be changed for all Programs and Multis. The alternative assignments available for the CC Pedal Overrides include Mod Wheel (MIDI CC 1), Foot/Wah (MIDI CC 4), Volume (MIDI CC 7), and Expression (MIDI CC 11).

In Multi Edit Mode, if a pedal is viewed that has a Global mode override enabled, the message “Global Pedal Override is enabled” will display to remind you that Global settings are being used instead of Multi mode pedal settings.

## Rotary Override

The Rotary Override parameter determines how the rotary speaker speed is controlled. By default, the Variation button always toggles between Slow and Fast; this setting defines the role of the sustain pedal:

- **Button + Pedal:** The sustain pedal (SW1a) and the Variation button both control the rotary speed.
- **Button:** The sustain pedal functions as a standard sustain pedal for all KB3 programs, leaving rotary speed control exclusively to the Variation button.

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## CC Hardness

Over time, sliders and knobs may loosen, and significant keyboard movement could trigger slight physical shifts in a controller. If this occurs, the controller will send its current position value while in Program Mode, or in Multi Mode if GLOBAL: Multi Controllers is set to Instant. Additionally, some keyboard stands may not be sufficiently stable, allowing the keyboard to move enough to slightly displace the controllers.

The CC Hardness parameter (0 to 16) adjusts the response to small changes in the continuous controllers. The higher the value, the more physical movement is required to trigger a response. By default, this is set to 0. If the situations described above occur, set this to a non-zero value, starting low and increasing it until the issue is resolved.

Note that this parameter also affects the response when you move a controller on purpose; therefore, it should only be used if necessary.

## Transpose Buttons (Xpose Buttons)

The TRANSPOSE +/- buttons allow you to quickly shift the pitch of the instrument, with a maximum range of +/- 36 ST. With the Transpose Buttons parameter, you can select whether the shift is performed by semitones (Default) or octaves.

The LED color of the TRANSPOSE + button changes if there is a positive transposition, and the LED color of the TRANSPOSE – button changes if there is a negative transposition. These buttons change the MIDI Transposition, which is distinct from the Global Transposition parameter; both function simultaneously. To reset the transposition to zero, press both the TRANSPOSE – and TRANSPOSE + buttons at the same time.

## Drum Remap

When Drum Remap is set to None, no remapping takes place. When Drum Remap is set to GM, all Drum programs are remapped to the General MIDI (GM) drum map, a standard drum map used in many keyboards and synthesizers.

## LED Mode

LED Mode lets you change the LED colors following pre-established themes that might work better in your studio or stage lighting conditions. Standard is the default mode.

## LED Brightness

You can adjust the brightness of the LEDs with this parameter. Valid values are between 32 (minimum brightness) and 255 (maximum brightness).

## Global Mode

The MAIN 3 Page [3/6]

# The MAIN 3 Page [3/6]

The MAIN 3 page in Global Mode allows you to adjust MIDI configuration parameters and other basic global parameters.



MODE:Global Main 3		chPa 3/6
MIDI Destination	All	
Change Multis	Immediate	
Prog Change State	On	
Prog Change Mode	Extended	
Bank Select	Ctl 0/32	
Local Kbd Channel	None	
Clock Source	Internal	
Output Clock	Off	
SysEx ID	0	
Xmit Velocity Map	Linear	

## MIDI Destination

The Destination parameter determines the destination of MIDI data generated by striking keys or activating controllers. This data can be sent to the SP8 sound engine, through the MIDI out ports, or both. You can set this parameter to NONE, or any combination of the three available destinations.

Note that this parameter is always active and, in Multi Mode, works in conjunction with the Multi Mode Zone MIDI Destination parameter. These parameters act like filters; for example, if the Multi Mode Destination parameter is set to USB+MIDI+LOCAL and the Global Mode parameter is set to LOCAL, the MIDI data will only be transmitted locally. See [“MIDI Destination” on page 5-7](#).

If you want to play the SP8 but not send any MIDI information to other MIDI instruments, select LOCAL.

If you want to use the SP8 strictly as a MIDI controller for other modules in your MIDI chain using the MIDI port, select MIDI.

If you want to make use of the SP8’s sounds as well as use it as a MIDI controller (MIDI port), select MIDI+LOCAL.

If you want to use the SP8 strictly as a MIDI controller for other modules in your MIDI chain using the USB (Computer) port, select USB.

If you want to use the SP8 strictly as a MIDI controller for other modules in your MIDI chain using both the MIDI port and the USB (Computer) port, select USB+MIDI.

If you want to make use of the SP8's sounds and use it as a MIDI controller for other modules in your MIDI chain using both the MIDI port and the USB (Computer) port, select USB+MIDI+LOCAL.

## Change Multis

The Change Multis parameter determines the exact timing of Multi changes when you select a different Multi, either by a normal data entry method or via MIDI program change commands.

- **AllKeysUp:** Multi changes take place only when you've released all currently held notes.
- **Immediate:** Multi changes happen immediately when you select the Multi.

## Program Change State

Use the Program Change State parameter to enable or disable sending program change messages to external MIDI devices when selecting Programs in Program Mode, Multi Edit Mode, or when selecting a Multi in Multi Mode.

## Program Change Mode

The Program Change Mode parameter determines the format of program change messages received by the SP8.

- **Extended:** Bank changes and Program changes. A bank has 128 IDs. This is for controlling the SP8 from a generic MIDI device or software.
- **K2600:** Select this mode when controlling the SP8 from a Kurzweil K2600. In this mode, the SP8 responds to bank and program changes following the K2600 architecture, where each bank contains 100 IDs. The SP8 recognizes 21 banks (numbered 0 to 20). When the MIDI Out of a K2600 is connected to the MIDI In of the SP8, selecting a program number on the K2600 will automatically select the same program number on the SP8.
- **Favorites:** For use with other SP8's.

### Bank Select

The Bank Select parameter determines the controller number used to receive MIDI Bank change messages.

While various manufacturers use different MIDI controller numbers for Bank changes, most utilize Ctl 0, Ctl 32, or both. You can set this parameter to any of the following three settings:

- Ctl 0: MIDI Bank change messages are received with controller number 0.
- Ctl 32: MIDI Bank change messages are received with controller number 32.
- Ctl 0/32: MIDI Bank change messages are received with controller numbers 0 and 32.

### Local Keyboard Channel

The Local Keyboard Channel enables an external MIDI keyboard to function as if it were the SP8's own keyboard and physical controllers. This allows all Channels/Zones of a Multi to be played simultaneously from an external MIDI keyboard transmitting on a single MIDI channel (or a single MIDI channel of a sequencer), with split and layered Zones laid out across the external keyboard. To use this feature, set Local Keyboard Channel to the same MIDI channel that your external MIDI keyboard or sequencer is transmitting.

If you are not using an external MIDI device to play Multis, you can ignore this parameter and leave it set to None. When Local Keyboard Channel is set to None, an external MIDI device transmitting on one channel will only play the specific Channel/Zone of a Multi assigned to that channel.

In Multi Mode, Program Changes received on the Local Keyboard Channel will trigger Multi Changes. This is the primary method for changing Multis from external MIDI devices. If the Local Keyboard Channel is set to None, external Program Changes will change the Program on the specific MIDI channel of the message.

In Program Mode, an external MIDI keyboard or sequencer transmitting on the Local Keyboard Channel will always play the Program currently displayed on the screen.

### Clock Source

With the Clock Source parameter set to Internal, the SP8 plays using its own internal tempo. If you wish to synchronize the SP8 to the tempo of an external device, use the External setting.

## Output Clock

To send a MIDI clock pulse to the USB and MIDI Out ports, set this parameter to On. Otherwise, set it to Off.

## Sysex ID

The SysEx ID parameter determines the ID number for the unit if you are using more than one device with the same MIDI manufacturer ID number. You can set this parameter to any number from 0 to 127.

Unless you have multiple SP8 keyboards receiving SysEx messages from a single source, you will not need to change the SysEx ID from the default setting of 0.

If you do have multiple SP8s receiving SysEx messages from a single source, make sure each SP8 has a different SysEx ID. This will allow you to direct SysEx messages to the appropriate SP8 by specifying the unit with the SysEx ID byte that is included with every SysEx message.

To have the unit respond to SysEx messages regardless of the SysEx ID, set SysEx ID to 127.

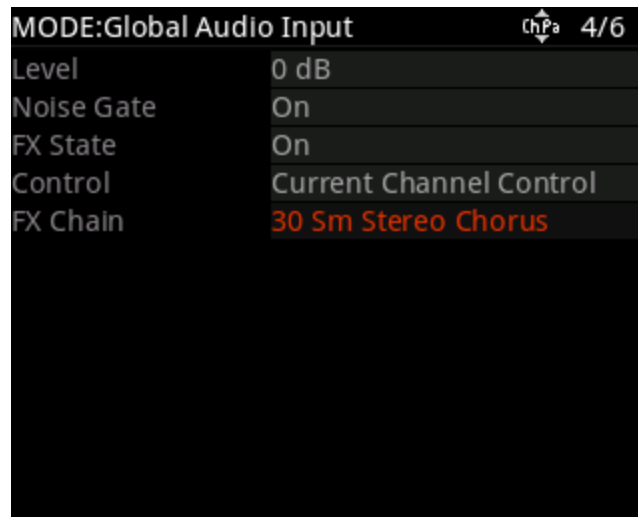
## Transmit Velocity Map (Xmit Velocity Map)

The Transmit Velocity Map parameter allows you to select a velocity map for MIDI notes transmitted from the USB or MIDI Out ports. This is useful for adjusting the overall velocity sensitivity for MIDI notes sent to external MIDI instruments. Different maps generate different MIDI velocity values for the same physical key strike velocity.

The default map (Linear) provides the widest range of velocity expression. The Light and Hard maps make it increasingly easier or harder to produce high MIDI velocity values for the same key strike velocity (with Light 3 being the easiest and Hard 3 being the hardest). These maps have the same properties as the local Velocity Maps.

# The Audio Input Page [4/6]

The Audio Input page provides essential controls for managing the external audio entering the SP8's rear analog jack. From this page, you can calibrate the input level, toggle a noise gate to eliminate unwanted hum, and configure how internal Effects are applied to the audio input in both Program and Multi modes.



## Level

The Level parameter controls the volume of the external audio entering the SP8's rear analog jack. The default setting of 0 dB should work well for most line-level sources (such as MP3 players). Adjust this parameter if the audio input signal is too quiet or too loud in comparison to the internal sounds of the SP8.

Scrolling all the way to the left provides an Off value. If the audio input is not being used, it is recommended to set this parameter to Off.

## Noise Gate

The rear panel AUDIO IN jack has a noise gate that prevents low-level system noise from being heard in some cases (such as when nothing is plugged into the jack, or when something is plugged in but not being used).

The Noise Gate parameter can be used to turn this feature On or Off. Setting the noise gate to Off is useful for monitoring signals with a wide dynamic range, such as a guitar. For example, when Noise Gate is set to On, guitar notes may be muted before the note has fully decayed to silence. To prevent the unwanted muting of low-level signals, set Noise Gate to Off. If the AUDIO IN jack is not being used for low-level signals, set

Noise Gate to On to prevent extra system noise.

## FX State

Set the FX State parameter to On or Off to enable or disable audio input Effects. The Effects settings on this page apply in Program and Multi Mode.

## Control

The Control parameter determines if the audio input Effects have any modulation control.

- **No Real-Time Control:** The FX chain remains static with no real-time modulation.
- **Current Channel Control:** Enables the FX Chain Mods of the selected chain.



**Note:** To see which physical controllers are modulating your FX Chain, go to Program Mode, edit a program, and select this chain in the Program FX Insert parameter. Navigate to the Program Parameters page and check the parameters starting with INS. These parameters have a default control assigned to them. Take note of these, as they are the controllers that will affect your audio input chain. Exit Program Edit without saving.

## FX Chain

When the FX State parameter is set to On, you can use the FX Chain parameter to select an FX chain to apply to the external audio entering the rear panel audio input jack.

When selecting an audio input chain, the system may “steal” Effects unit resources from other channels if more power is needed to load the chain. When stealing occurs, resources in higher-numbered channels are taken first. In Program Mode, resources in the currently selected channel are taken last.

# The Utilities and Info Page [5/6]

The Utilities and Info page provides helpful system information and a suite of tools designed to assist with MIDI troubleshooting, object management, and monitoring polyphony usage.

Use the navigation buttons to select an option and then press ENTER.

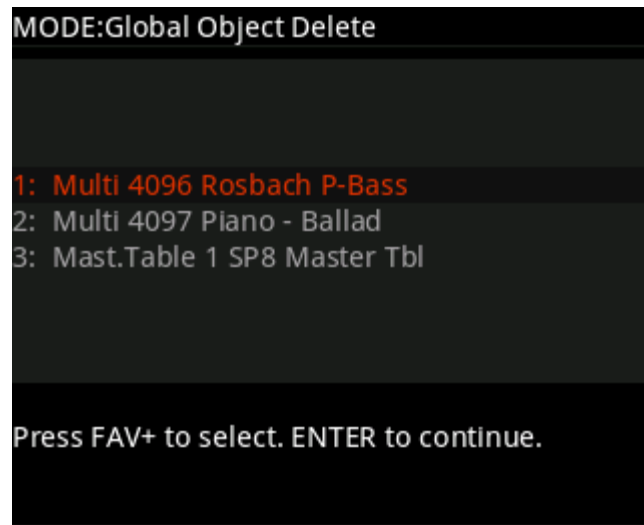


The INFO section displays the version numbers for three components: the O/S version, the object version and the scanner version. This information is useful for determining if your keyboard is up to date.

Visit [www.kurzweil.com/sp8](http://www.kurzweil.com/sp8) frequently to check for updates.

## Delete Objects

On this page, you can delete user objects that you no longer wish to store in the SP8's internal memory.



The page displays all user objects currently stored in the keyboard. Use the navigation buttons to scroll through the list.

To select objects for deletion, use the FAVORITE BANK + button. Once you have made your selection, press the ENTER button to delete the objects.



**Note:** Delete the Master Table object if you want to keep your user objects but reset your Global parameters to their factory defaults.



**Caution:** Deleted user objects cannot be restored. Ensure all user objects you wish to keep are saved to an external USB device before performing a deletion.

## MIDI Scope

With the MIDI Scope In and Out pages you can monitor MIDI messages in real time.


```
MODE:Global MIDI OUT Scope
9: CC 12 Filter 1: Bo ch 01 ctl 012 val 074
8: Note On ch 01 key 072 vel 057
7: Note Off ch 01 key 072 vel 001
6: Note On ch 01 key 076 vel 067
5: Note Off ch 01 key 076 vel 027
4: Note On ch 01 key 079 vel 064
3: Note Off ch 01 key 079 vel 014
2: Note On ch 01 key 084 vel 049
1: Note Off ch 01 key 084 vel 087
```

The MIDI OUT Scope page allows you to view MIDI messages sent from the SP8, while the MIDI IN Scope page allows you to view MIDI messages received by the SP8.

The MIDI OUT Scope page is useful for making sure controls are assigned as you want them, checking note velocities, and checking controller values or other MIDI messages. The MIDI IN Scope page is useful for checking MIDI messages sent to the SP8 from external MIDI devices. Each MIDI Scope page can store a history of 512 messages. Use the Up and Down Navigation buttons to scroll up through the list of messages. The most recently sent or received message will be labeled number 1 at the bottom of the list.

## MIDI State

The MIDI State page displays the current status of MIDI CC (Continuous Controller) values for each of the SP8's MIDI channels.



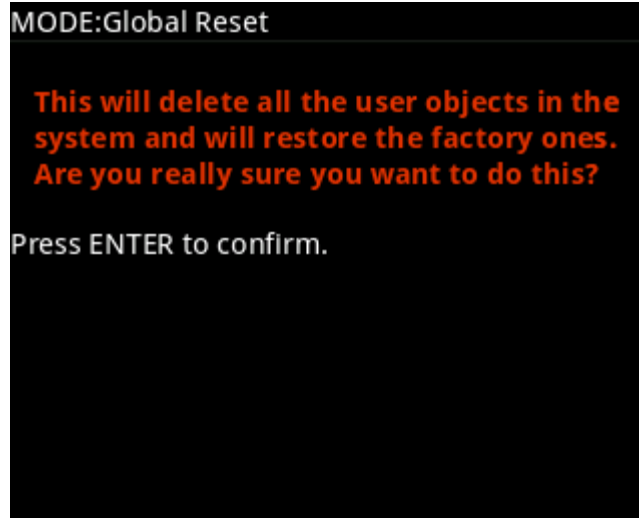
A screenshot of the MIDI State page. The title is 'MODE:Global MIDI State'. Below the title, there are four rows of data: 'Channel' with value '1', 'MIDI CC' with value '1', 'MSB' with value '40', and 'LSB' with value '0'. The values are displayed in a dark grey box with white text.

MODE:Global MIDI State	
Channel	1
MIDI CC	1
MSB	40
LSB	0

This page is particularly helpful for troubleshooting. For example, if a channel is not producing sound, you can check the values for MIDI CC 7 (Volume) and MIDI CC 11 (Expression). Use the navigation buttons to select the Channel or MIDI CC fields, then use the Alpha Wheel or PREVIOUS/NEXT buttons to select the desired channel and controller to view.

### Reset

Reset restores all Global mode settings to their factory defaults and deletes all user objects stored in the internal memory.



When the reset is completed, the SP8 will enter System Mode. Once in System Mode, select RUN SP8 and press ENTER to return to Program Mode.



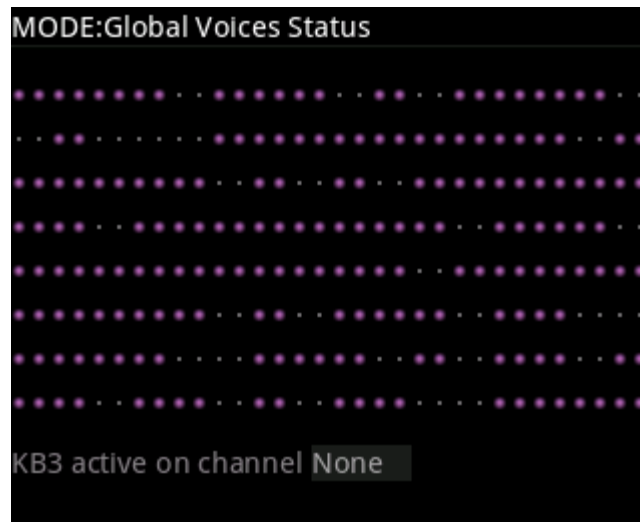
**Caution:** Performing a Reset will permanently delete all user objects. Ensure all user objects you wish to keep are saved to an external USB device before proceeding via Storage Pages.

## About

The About page lists the individuals and teams involved in the design, development, and creation of the SP8.

## Voices

The Voices page provides a real-time, visual representation of the SP8's polyphony engine. This page allows you to monitor how the system efficiently manages its resources, giving you a clear look at how the 256 voices of polyphony are utilized across your performance. Even with the SP8's sophisticated and smooth voice-stealing algorithms, understanding this visual feedback helps you optimize dense layers and complex arrangements.



Each active voice is represented by a color-coded circle on the display:

- Pink: Stereo notes.
- Blue: Mono notes.
- Green: Monophonic notes.
- Orange: KB3 notes.

The circles' size is dynamic and reflects if the voice is active or if it's in the release phase.

- **Active play:** While a note is held, the circle remains at its full size.
- **Release phase:** When a key is released, the corresponding circle becomes smaller, indicating the release segment of the voice's envelope.
- **Termination:** When the voice decays to silence and is no longer active, the circle disappears, leaving just a small dot signaling the empty voice slot.

## Global Mode

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### The Utilities and Info Page [5/6]

The Voice Status page serves as an excellent guide for managing your arrangement. If the screen is heavily populated with small circles, it shows that many voices are in their release phase. While the SP8 manages voice stealing so smoothly that it is often imperceptible, this page lets you see exactly how the engine prioritizes new notes while gracefully fading out older ones.

Because the KB3 tone wheel organ engine uses specialized processing, only one KB3 program can be active across the SP8's 16 MIDI channels at any time. The KB3 engine uses polyphony differently than other sound engines, as it reserves a fixed block of voices regardless of how many keys are pressed.

The bottom of the Voices page indicates which of the 16 MIDI channels, if any, currently has the active KB3 program.

## Storage Pages [6/6]

The Storage page requires a USB thumb drive, referred to in this manual as a USB device. Before inserting a USB device into the SP8, ensure it is formatted as FAT or FAT32 on a computer and is free of errors. While using certain storage pages, note playback is disabled.

### The Enter Storage Page

To enter the Storage page, plug a USB device into the rear-panel STORAGE port. If the device is working properly, the icon color changes from dark gray to light gray after a few seconds.

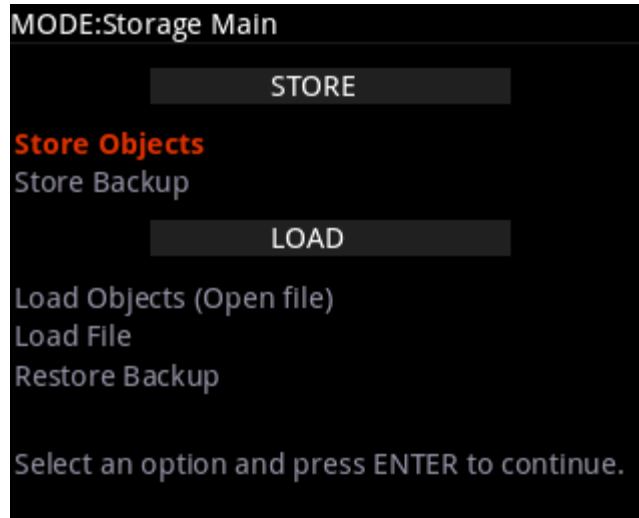


Press the FAVORITE BANK - button to properly eject the USB device before removal. This prevents the computer from displaying error warnings or requiring a disk check when the device is subsequently reconnected.

Press the ENTER button to access the main Storage page.

## The Storage Main Page

The Storage main page provides several options for storing or loading objects. Use the navigation buttons to select an option and press ENTER to continue.



**STORE:** Copies user objects from the SP8 to a file on the USB device.

- **Store Objects:** Allows for the selection of specific objects to store.
- **Store Backup:** Saves all user objects into a file.

**LOAD:** Copies objects from a file on the USB device into the SP8 internal memory.

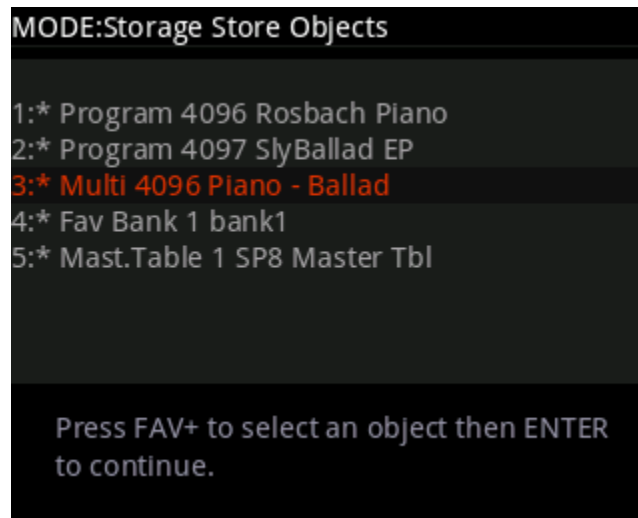
- **Load Objects (Open File):** Opens a file to display its contents, allowing for the selection of specific objects to load.
- **Load File:** Loads all objects contained within a file.
- **Restore Backup:** Deletes all current user objects and replaces them with the objects from a selected file.

## Store Objects

Store Objects lets you select which specific objects you want to store in a file.

This page displays a list of all user objects grouped by type. Use the Up and Down Navigation buttons to navigate the list.

Press the FAVORITE BANK + button to select or deselect the currently highlighted object. An asterisk (\*) appears between the ID and object type of each selected object.



Press the ENTER button once all desired objects are selected to go to the Select Directory page where you want to store your file.

If no objects are selected, pressing ENTER automatically selects the currently highlighted object for storage.

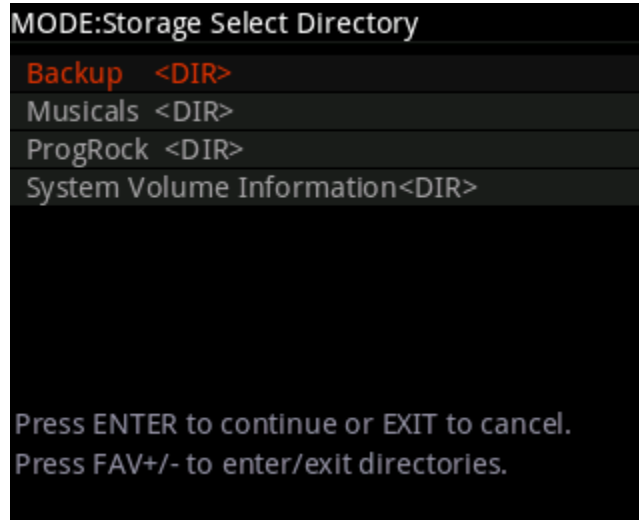
## Global Mode

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### Storage Pages [6/6]

#### Select Directory

The Select Directory page is used to navigate the directories and subdirectories on a USB device to choose a storage location for the file.



Use the FAVORITE BANK + button to enter a directory and the FAVORITE BANK - button to return to the parent directory. Once the desired directory is reached, press ENTER to continue.

#### File Name

The File Name Page lets you select a name for your file.



On the File Name page, the CATEGORY buttons function as an alphanumeric keypad. Each button is assigned a set of letters and a number, similar to a telephone keypad.

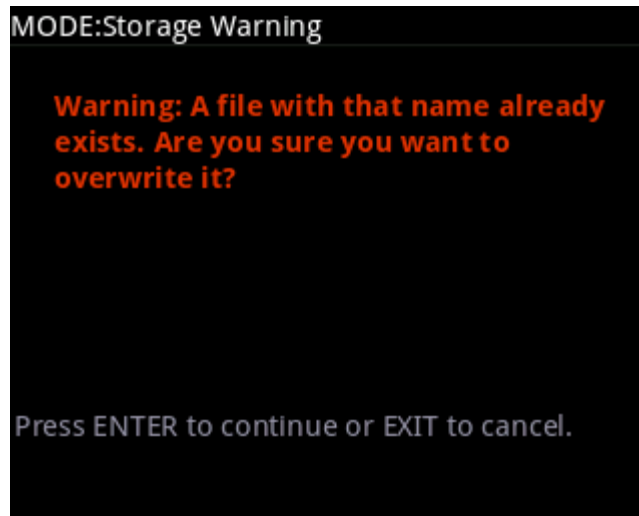
Press a CATEGORY button multiple times to cycle through the letters and numbers assigned to that button.

Use the Left and Right Navigation buttons to move to the next or previous character position.

Use the FAVORITE BANK + button to insert a character and the FAVORITE BANK - button to delete the current character.

Press ENTER to Store the objects into the file.

If there is a file with the same name in the chosen directory, a warning page will appear. Press ENTER to overwrite the file in the directory with the new objects or press EXIT to go back to the File Name page and choose a different name for the file.



**Note:** All the files written by the SP8 will have the file extension .SP8.

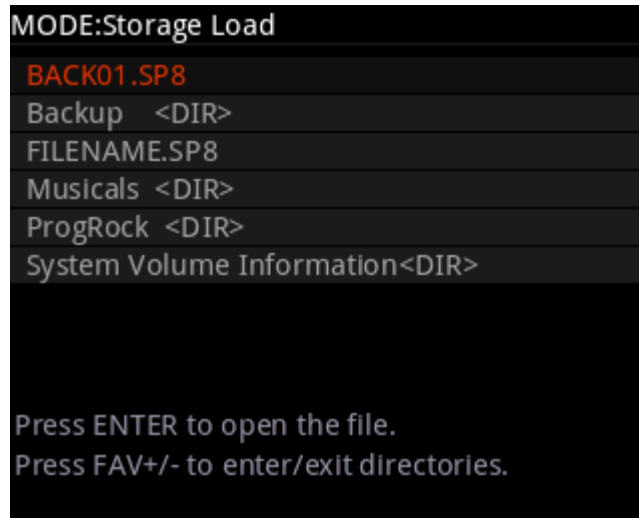
## **Store Backup**

The Store Backup process follows a similar workflow to Store Objects. The primary difference is that the system automatically selects all user objects for storage. Consequently, the process bypasses the object selection screen and proceeds directly to the Select Directory page, followed by the File Name page.

Regularly backing up user objects is recommended to prevent data loss. Performing a full backup ensures that custom Programs, Multis and other user-created data are safely archived on a USB device.

## Load Objects (Open File)

Use this option to load specific objects from a Kurzweil file into the internal memory of the SP8.



Use the Up and Down Navigation buttons to select a file in the current directory. Use the FAVORITE BANK + button to enter a directory or the FAVORITE BANK - button to return to the parent directory.

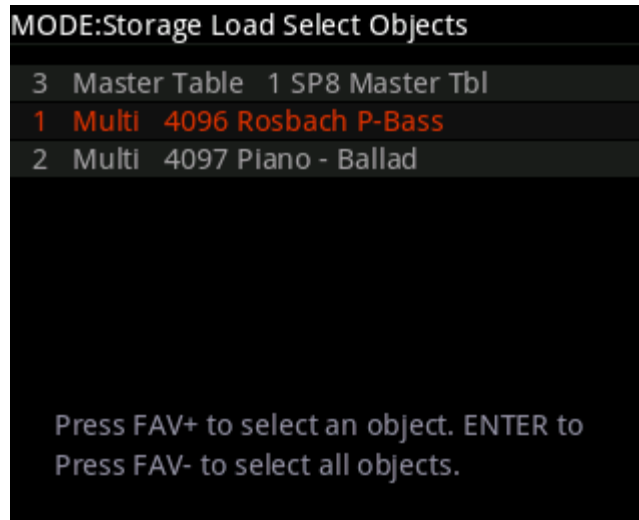


**Note:** The SP8 supports loading files with the following extensions: .SP8, .K20, .K27, .PC4, .P4S, .FOR, .SP6, .ART, .ASE, .P3X, .PC3, .P3K, .PLE, .SPX, .K26, .K25 and .KRZ. Certain objects from non-native files may not load. See below for more details.

Once the file is selected, press ENTER to open it.

#### Load Select Objects

The Load Select Objects page displays all objects contained within the selected file. Use the Up and Down Navigation buttons to navigate the list.



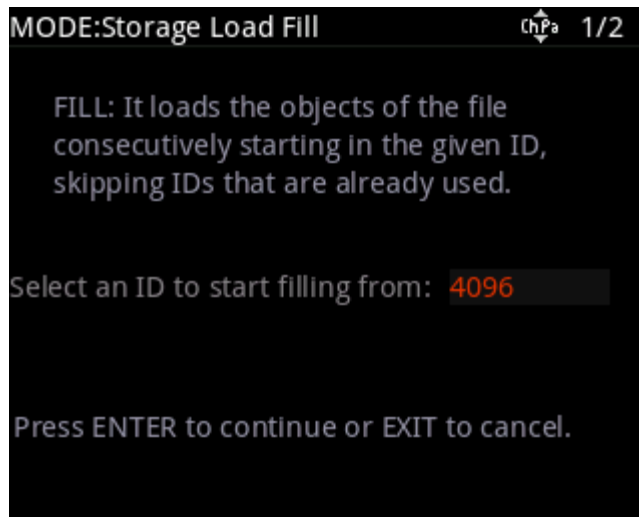
Press the FAVORITE BANK + button to select or deselect an individual object. Press the FAVORITE BANK - button to select or deselect all objects in the list. Press ENTER to continue.

If no objects are selected, pressing ENTER automatically selects the currently highlighted object for loading.

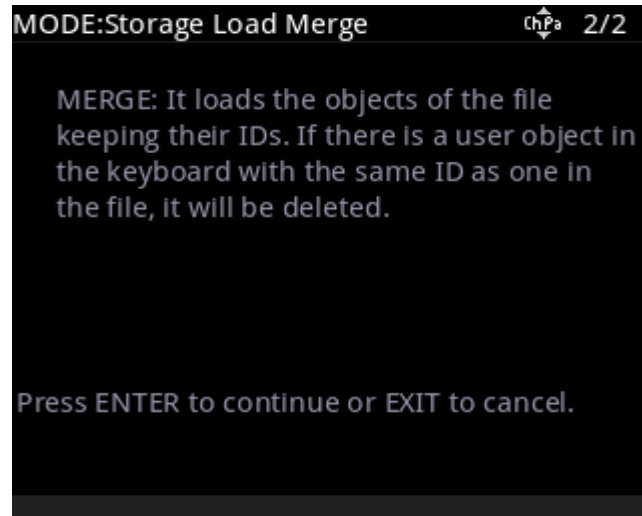
#### Load Fill / Load Merge

There are two methods for loading selected objects into the SP8 internal memory:

- **Fill:** This method assigns consecutive available IDs to the selected objects. The initial starting ID can be specified before loading begins. Fill is the preferred method as it prevents existing user data from being replaced.



- **Merge:** This method retains the original IDs assigned to the objects within the file. This may overwrite existing user objects if they occupy the same ID numbers as the objects being loaded.



Use the CHANNEL/PAGE buttons to toggle between the two load methods. Press ENTER to continue and finalize the load process.

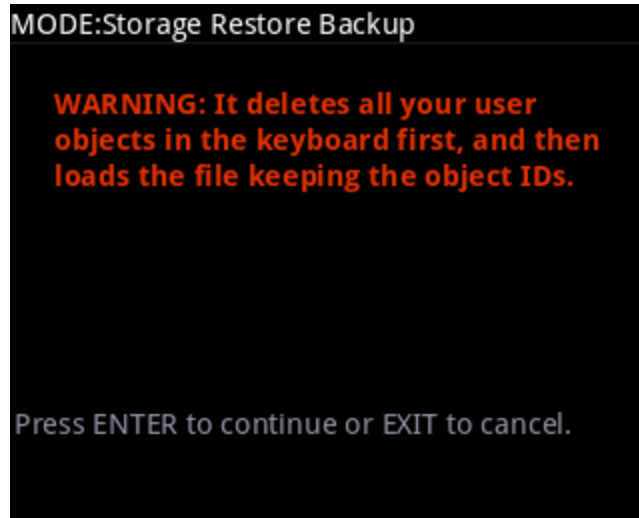
## **Load File**

Use this option to load all objects from a Kurzweil file into the internal memory of the SP8. This process functions identically to Load Objects, with the exception that all objects within the file are automatically selected for loading.

Following this selection, the remaining steps—including choosing the directory and selecting the load method (Fill or Merge)—remain the same.

## Restore Backup

Use this option to restore the state of the instrument, including all user objects, from an SP8 backup file.



The file selection process functions identically to the Load File procedure described above.



**Caution:** This process deletes all user objects currently stored in the internal memory of the SP8 before loading the objects from the selected file.

## **Loading Compatible Object File Types**

Aside from loading objects from its own .SP8 files, the SP8 can load objects from other Kurzweil instruments with the following file types: .SP8, .K20, .K27, .PC4, .P4S, .FOR, .SP6, .ART, .ASE, .P3X, .PC3, .P3K, .PLE, .SPX, .K26, .K25 and .KRZ.

In some cases Programs and Multi parameters may need to be edited by the user after loading.

Objects from most of the recent Kurzweil models should sound and function exactly the same as on the original instruments. Objects from older legacy Kurzweil instruments can often sound and function very closely or exactly the same as on the original instruments.

The SP8 cannot load sample data; therefore, any Programs that rely on user samples will not sound correctly.

### **Loading K2088/K2061 Object Files (.K20)**

The K2088 and K2061 share the same internal sample set as the SP8. Consequently, objects loaded from these instruments into the SP8 will function almost seamlessly, provided they do not rely on custom user samples.

### **Loading K2700, PC4, PC4SE and Forte Object Files**

When loading objects from the K2700, PC4, PC4SE and Forte, some Programs might use Keymaps and Samples that are not available on the SP8 and, therefore, may not sound correctly.

### **Loading PC3-family Object Files**

When loading objects from .P3A, .P3K, .PC3, .PLE, .SPX files, some Program and Multi parameters may need to be edited after loading, specially Effects Program Parameters.

### **Loading Legacy K2 Series Object Files (K26, .K25, .KRZ)**

When loading objects from K26, .K25, or .KRZ files, objects are converted to SP8 object types. Some object parameters cannot be converted and must be edited after loading.

Most K2 series Program objects can be loaded. Effects cannot be converted and must be edited after loading.

KB3 programs created with a K2500 or K2600 cannot be loaded, however the SP8 contains a variety of KB3 programs which can easily be modified and edited.

Triple Mode programs created with the K2600 cannot be loaded.

All K series Setup objects can be loaded and converted to Multis.

**Loading FM Preset Files (.SYX)**

The SP8 can load .SYX files containing FM presets from classic 6 operator FM synthesizers. Loaded FM presets can be edited in Program Mode.

**Loading MIDI Song Files (.MID)**

MIDI song files (.MID) can be loaded so that they can be used as Riffs in your multis. These objects cannot be edited on the SP8.

# The Tempo Page

Press the TAP TEMPO button to edit the global tempo. The Global Tempo page will appear.

When the Clock Source parameter is set to Internal, the Tempo parameter sets the SP8 System Tempo. Values are displayed in BPM (beats per minute).



Set the Tempo parameter using the PREVIOUS/NEXT buttons, the Alpha Wheel or alphanumeric entry. The system tempo can also be set by pressing the TAP TEMPO button multiple times at the desired rate.

In Program Mode, System Tempo controls the rate of the Arpeggiator, CC Sequencer, tempo-synced LFOs and any tempo-synced Insert or Aux FX. Some Programs may be configured to override the system tempo and use a local tempo setting.

In Multi Mode, System Tempo is ignored in favor of the Multi Common Tempo. Adjusting the tempo on this page while in Multi Mode changes the Multi Common Tempo for the current Multi.

## The Global EQ Page

Press the GLOBAL EQ button to view the Global EQ page. The Global EQ page contains master EQ and Compressor settings. When the master EQ or Compressor is enabled, all audio signals from the SP8 are processed by these Effects.



When the Global EQ page is selected, the button LED changes color. If you exit the page and the EQ or Compressor are enabled, the LED will remain lit with a distinct color. This serves as a visual reminder that these global Effects are active during your performance.

### Global EQ

The Global EQ allows you to shape the overall sound of the SP8 to better match your speakers or the room you are playing in. This 3-band equalizer provides broad control over the frequency spectrum, featuring fixed Low and High bands and a sweepable Middle band for more precise adjustments.

You can modify the following parameters:

- **Low Gain:** -24 dB to 15 dB. Adjusts the volume of the fixed low-frequency band.
- **Mid Gain:** -24 dB to 15 dB. Adjusts the volume of the midrange band.
- **Mid Frequency:** 698 Hz to 11175 Hz. Sets the specific frequency affected by the Mid Gain.
- **High Gain:** -24 dB to 15 dB. Adjusts the volume of the fixed high-frequency band.

### Global Compressor

When the Compressor is set to On, use the Comp Amount parameter to set the compression amount between 1 (least compressed) and 11 (most compressed).

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# Chapter 7

## Troubleshooting

### Maintenance

Aside from normal care in handling and use, your SP8 requires no regular maintenance. Clean with a soft, dry cloth. Never use abrasives or solvents, as they may damage the unit's paint, markings, and display screen. There are no batteries inside to replace. Your SP8 uses nonvolatile Flash Memory for storage, which retains information without power.

### Common Problems

Below is a list of the most commonly encountered problems and the diagnosis for each:

#### Power Problems

This is the normal power-up sequence:

- The display backlight turns on.
- The Kurzweil logo appears for several seconds.
- The SP8 logo appears on the display for a few seconds with the text "Loading..." at the bottom.
- The SP8 enters either Program Mode or Multi Mode and is ready for use.

If nothing happens when you turn on the power switch, check if one of the following might be the issue:

<b>ISSUE</b>	<b>The power cable is not plugged securely into the wall outlet.</b>
<b>REMEDY</b>	Plug the power cable securely into the wall outlet.

## Troubleshooting

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### Common Problems

<b>ISSUE</b>	<b>The power cable is not plugged securely into the SP8 power jack.</b>
<b>REMEDY</b>	Plug the power cable securely into the SP8 power jack.

<b>ISSUE</b>	<b>The wall outlet, power strip, or extension cord is defective or damaged.</b>
<b>REMEDY</b>	Use a different wall outlet, power strip, or extension cord.

If there's evidence of the unit receiving power, but operation is abnormal, check if one of the following might be the issue:

<b>ISSUE</b>	<b>The wall outlet voltage is below 90 volts due to overload.</b>
<b>REMEDY</b>	Try a different outlet on a different circuit.

### LCD Contrast

<b>ISSUE</b>	<b>The Display is blank or difficult to read.</b>
<b>REMEDY</b>	Slowly turn the LCD Contrast knob (located on the rear panel) to adjust the Display.

## Audio Problems



**Caution:** Do not troubleshoot audio problems using headphones. Always be aware of the volume levels on the SP8 and on the connected audio system or mixer.



**Note:** When diagnosing audio problems, set the SP8 to play a Song Demo rather than intermittently pressing keys. This will prevent any unexpectedly loud volume changes.

If there is no sound from your SP8, check if one of the following might be the issue:

<b>ISSUE</b>	<b>The volume Knob is turned down.</b>
<b>REMEDY</b>	Slowly turn the volume knob to the right.

<b>ISSUE</b>	<b>The volume control on the audio system or mixer is turned down.</b>
<b>REMEDY</b>	Slowly turn the volume control up.

<b>ISSUE</b>	<b>The signal source selection on the audio system or mixer is incorrect.</b>
<b>REMEDY</b>	Set the volume of the audio or mixer to the lowest level, select the correct signal source, and then slowly turn up the volume.

<b>ISSUE</b>	<b>The audio cables are not securely plugged into the SP8, audio system, or mixer.</b>
<b>REMEDY</b>	Set the volume of the audio or mixer to the lowest level, securely plug in the audio cables on both ends, and then slowly turn up the volume.

<b>ISSUE</b>	<b>The Destination parameter stops MIDI Data.</b>
<b>REMEDY</b>	Change the Global Mode (MIDI page) "Destination" parameter to USB+MIDI+LOCAL

## Troubleshooting

### Common Problems

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<b>ISSUE</b>	<b>The audio cable is of an incorrect type.</b>
<b>REMEDY</b>	Obtain and securely connect an audio cable of the correct type. The SP8 accepts both balanced (TRS) and unbalanced (TS) 1/4-inch audio cables. TRS are recommended.

If you can hear sound but it is low or distorted, check if one of the following might be the issue:

<b>ISSUE</b>	<b>A received MIDI volume message has specified a low volume.</b>
<b>REMEDY</b>	Set the volume of the audio system or mixer to the lowest level. Disconnect all MIDI cables, set the "Destination" parameter in Global Mode (MIDI page) to LOCAL or USB+MIDI+LOCAL and reset the volume level on the SP8, by pressing Panic. Finally, slowly turn up the volume level of the audio system or mixer.

<b>ISSUE</b>	<b>The current Multi has another controller assigned to volume, and it is turned down.</b>
<b>REMEDY</b>	Select a different Multi. Or change the problematic controller setting by editing the Multi in Multi Edit Mode.

<b>ISSUE</b>	<b>The audio system input is set for low impedance instead of high impedance.</b>
<b>REMEDY</b>	Set the volume of the audio system or mixer to the lowest level, change the impedance setting, and then slowly turn up the volume of the audio system or mixer.

<b>ISSUE</b>	<b>The input trim to the audio system or mixer is set too low.</b>
<b>REMEDY</b>	Slowly turn up the trim.

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## MIDI Problems

If you are experiencing problems sending MIDI to an external module, check if one of the following might be the issue:

<b>ISSUE</b>	<b>The MIDI cable is not securely plugged in at both ends.</b>
<b>REMEDY</b>	Securely plug in the MIDI cable at both ends.

<b>ISSUE</b>	<b>The MIDI connections are wrong.</b>
<b>REMEDY</b>	To send MIDI, plug the MIDI cable into the SP8's MIDI Out port and into the module's MIDI In port.

<b>ISSUE</b>	<b>The MIDI cable is defective.</b>
<b>REMEDY</b>	Obtain and securely connect a new MIDI cable.

<b>ISSUE</b>	<b>The MIDI transmit channel does not match that of the receiving device.</b>
<b>REMEDY</b>	Change the channel on either the SP8 or on the device such that the channels match.

If there are problems with the internal sound module receiving MIDI from an external device like a computer sequencer, check if one of the following might be the issue:

<b>ISSUE</b>	<b>The MIDI transmit channel of the transmitting device does not match that of the receiving Program or Zone on the SP8.</b>
<b>REMEDY</b>	Change the channel on either the SP8 or on the computer such that the channels match.

<b>ISSUE</b>	<b>The MIDI cable is not securely plugged in at both ends.</b>
<b>REMEDY</b>	Securely plug in the MIDI cable at both ends.

<b>ISSUE</b>	<b>The MIDI connections are wrong.</b>
<b>REMEDY</b>	To receive MIDI, plug the MIDI cable into the SP8's MIDI In port and into the module's MIDI Out port.

## Pedal Problems

### Switch Pedal Problems

If you are having problems with connecting or using a switch pedal, check if one of the following might be the issue:

<b>ISSUE</b>	<b>Sustain or Sostenuto is stuck “on”, or the pedal is acting backwards (“on” when up instead of down).</b>
<b>REMEDY</b>	Make sure the pedal is plugged in before turning on the power, and do not press the pedal during the power on sequence. Turn power off, make sure the pedal is plugged in, then turn the power on. Do not step on the switch pedals when powering on the SP8, as the state of the pedals is detected as part of the power on sequence.

<b>ISSUE</b>	<b>A Half Damper pedal is not working correctly.</b>
<b>REMEDY</b>	Only Kurzweil and Korg Half Damper pedals are supported. Roland and Yamaha Half Damper pedals are not supported.

### Continuous Pedal Problems

<b>ISSUE</b>	<b>The Pedal is not transmitting the full 0-127 range.</b>
<b>REMEDY</b>	If your Continuous pedal has a range adjustment knob, adjust the knob.

<b>ISSUE</b>	<b>A pedal plugged into the CC Jack can not set Program Volume to silence.</b>
<b>REMEDY</b>	For KB3 Organ Programs, the CC (VOLUME) pedal controls organ swell. Organ swell is similar to Program volume, except volume can not be turned all the way down to silence. The LCD display shows “KB3” when a KB3 Program is selected.

## USB Problems

<b>ISSUE</b>	<b>A warning is shown on your computer when unplugging the USB COMPUTER port.</b>
<b>REMEDY</b>	When the USB COMPUTER port is in use, a SP8 disk volume may appear on your computer. This disk volume is non-functional and can be ignored or ejected. Your computer may show a warning if USB is unplugged before ejecting the disk volume, this warning can be safely ignored. If you wish to prevent this warning, eject the disk volume before unplugging the USB COMPUTER port.

<b>ISSUE</b>	<b>A USB Device is not working with the USB STORAGE port.</b>
<b>REMEDY</b>	Some models of USB Flash Drives are not supported: SanDisk Cruzer Blade, SanDisk Cruzer Ultra Flair, Generic U305 (32GB), Techkey (64GB).

<b>ISSUE</b>	<b>After ejecting a USB device on the Global Mode Storage page, the device cannot be recognized again.</b>
<b>REMEDY</b>	While on the Global Mode Storage page, remove the USB device and plug it in again. Wait a few seconds. If the USB icon does not light up, repeat the operation until it does. If the icon does not light up after several attempts, reboot the SP8.

## Other Problems

If your problem is not covered in this chapter, or if none of the suggestions seem to work, be sure to check Kurzweil's website for additional SP8 information that may have been published since this manual was written: [www.kurzweil.com/sp8](http://www.kurzweil.com/sp8).

If you still have problems, contact Kurzweil support in your country or at [www.kurzweil.com/support/](http://www.kurzweil.com/support/). You may also find unofficial help at some of the internet communities listed at [www.kurzweil.com/community/](http://www.kurzweil.com/community/).

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# Appendix A

## MIDI Implementation

Function		Transmitted	Recognized	Remarks
<b>Basic Channel</b>	Default	1	1	Memorized
	Changed	1–16	1–16	
<b>Mode</b>	Default	Mode 3	Mode 3	Use Multi-track mode (see the FX Mode parameter in Global Mode for multi-timbral applications)
	Messages			
	Altered			
<b>Note Number</b>			0–127	
	True Voice	0–127	0–127	
<b>Velocity</b>	Note ON	0	0	
	Note OFF	0	0	
<b>Aftertouch</b>	Keys	X	0	
	Channels	0	0	
<b>Pitch Bender</b>		0	0	
<b>Control Change</b>		0 0–31 32–63 (LSB) 64–127	0 0–31 32–63 (LSB) 64–127	Controller assignments are programmable
<b>Program Change</b>		0 to 2,097,151	0–511	Standard and custom formats
	True #	0–127	0–127	
<b>System Exclusive</b>		0	0	
<b>System Common</b>	Song Pos.	X	X	
	Song Sel.	X	X	
	Tune	X	X	
<b>System Real Time</b>	Clock	0	0	
	Messages	0	0	
<b>Aux Messages</b>	Local Control	0	0	
	All Notes Off	0	0	
	Active Sense	X	X	
	Reset	X	X	
<b>Notes</b>	Manufacturer's ID = 07 Device ID: default = 0; programmable 0–127			
<b>Mode 1: Omni On, Poly</b> <b>Mode 3: Omni Off, Poly</b>	Mode 2: Omni On, Mono Mode 4: Omni Off, Mono		O = Yes X = No	

# Appendix B

## Specifications<sup>1</sup>

<b>Keyboard:</b>	88-key, fully-weighted, 4-zone graded hammer-action with velocity sensitive adjustable keys (H1 Ivory GT)
<b>Display:</b>	320 × 240 pixel high resolution color LCD with adjustable brightness
<b>Polyphony:</b>	256 voice polyphony, dynamically allocated
<b>Multitimbral:</b>	16 parts (one per MIDI channel)
<b>Quick Split / Layer:</b>	Easy access with adjustable volume
<b>Programs:</b>	Over 1000 Factory Programs plus 4000 User Program IDs.
<b>Multis:</b>	Over 240 Factory Multis, 4000 User Multi IDs, 5 programmable zones for splits and layers
<b>Effects:</b>	Hundreds of complex effect chains
<b>Controllers:</b>	<ul style="list-style-type: none"> <li>• Pitch wheel</li> <li>• Modulation wheel</li> <li>• Volume Knob</li> <li>• Global EQ button</li> <li>• 4 Favorite buttons + 2 Favorite bank buttons</li> <li>• 5 Knobs (with 3 position SHIFT button = 15 Virtual Knobs)</li> <li>• 5 Switch buttons (assignable / Zone mutes / KB3 control) (with 3 position SHIFT button = 15 Virtual Switch buttons)</li> <li>• Variation button</li> <li>• Tap Tempo button</li> <li>• Met/Riff button</li> <li>• Arpeggiator On/Off button, Arpeggiator Latch button, CC Sequencer On/Off button</li> <li>• 1 Switch pedal input, supporting single/dual switch pedal or single half damper pedal</li> <li>• 1 Continuous control pedal inputs</li> <li>• 2 Transpose buttons</li> </ul>
<b>Analog Outputs:</b>	1 1/4" TRS Balanced Outputs 32-bit D-to-A Converters , +21 dBu maximum output, 50 Ω balanced source impedance
<b>Headphones</b>	1 rear panel 1/4" Stereo Headphone Output 130 mW into 32 ohm headphones
<b>Analog Inputs:</b>	Two 1/4" jacks (one stereo pair) accepting Line/Instrument level signals
<b>MIDI:</b>	IN, OUT
<b>USB:</b>	Complete MIDI functionality over USB User Object file transfer to/from USB Flash Drive Operating System updates from USB Flash Drive
<b>Height:</b>	4.92" (12.5 cm)
<b>Depth:</b>	13.6" (34.5 cm)
<b>Length:</b>	51.9" (132 cm)
<b>Weight:</b>	31.97 lb (14.5 kg)
<b>Power:</b>	External power supply

<sup>1</sup> Specifications subject to change without notice

# Appendix C

## Programs

Object version: 1.00.05

1	Rosbach Piano	49	EP Reed	97	Dual Frequencies
2	Velvet Grand	50	WoodstockClunker	98	Acoustic Metal
3	Anodized Grand	51	SlyBallad EP	99	Crystal Horizon
4	SimpleSoloPiano	52	ACL EP Reed	100	Soft Chill FM
5	Recital Piano	53	Daft Reed EP	101	Square Rush
6	Concert Piano	54	These Eyes	102	For Keys & Pads
7	Zarautz Piano	55	MistyMountain EP	103	Flesh Point Keys
8	Sunrise Grand	56	She'sNotThere	104	Spark Wires
9	Sunset Grand	57	Black Friday	105	Amp & Line EP
10	Thin Body Piano	58	Walrus Keys	106	Clavi BC
11	Stadium Pop Pno	59	No Quarter Pnt	107	BC Clav Tube
12	SMiLE/RkyRaccoon	60	Flaming EM EP	108	TrampledUnder D6
13	EDM Piano	61	PowerChordKeys	109	SMS Clav
14	R&B Stack	62	E-cousticGrand	110	RealSupasticious
15	Glam Rock Pno9ft	63	CP80 Enhanced	111	Deep Fuzz
16	Stereo Pno K26	64	VidKilledRadio	112	Stevie Fuzz
17	Concert Pno K26	65	UK Pop CP70	113	Clavi Phaser
18	Horowitz Grand	66	PG's Melt	114	BPhaz Clav
19	Rubenstein Comp	67	Inside Out CP	115	Flange Clav
20	Clara's GhostPno	68	Royal EP	116	HybridWaveSynth
21	Pub Piano	69	Last Exit EP	117	HarpsiVibe
22	Mono Upright	70	Tobacco Road EP	118	SailinShoes Clav
23	Mono Grand	71	Bright EP/Harp	119	Psychedeliclav
24	Bright Pno Pad	72	OrganModePn/Hrp	120	Clav WAH
25	Dark Pno Pad	73	Spaced Out Bach	121	RM WAH Clav
26	Dark&Distant '24	74	FM EP	122	PCell WAH Clav
27	Indie Piano	75	FM Square Bell	123	Hiya Clav
28	Hip Hop Piano	76	FM Growler EP	124	Clavi Auto Wah
29	ArakisPno^DrkPno	77	Thick FM Digital	125	VAST Env SynClav
30	Film Piano	78	Hybrid DX & Pad	126	Simple Harpsi
31	Alt Piano Space	79	My Old PPG*2.3 5	127	StBaroque Harpsi
32	Piano Echo Pad	80	Hybrid Tines EP	128	Classic Harpsi
33	Dream Piano	81	FM Keyboard	129	HarpSeccoRd
34	Slo Piano	82	Hard Strike EP	130	Harpsi Lute
35	Alternate Piano	83	Slap FM Keys	131	Electro Harpsi
36	Old Attic Piano	84	Silk FM E-Piano	132	HarmonicHarpsi
37	Plucked Piano	85	Soft Tines EP	133	Harpsi Flute
38	Forgotten Piano	86	FM Comp Synth	134	Must Be Harpsick
39	Suitcase EP	87	FM Wirtualizer	135	HarpsiTar
40	EZ Tube EP	88	FM Hybrid Reed	136	Plectrum Machine
41	Tube Amp EP	89	'80s Hybrid Keys	137	Express D-Clav'
42	Tube & Trem EP	90	Digital Keys	138	Attack Digi Clav
43	Dyno EP	91	Spreaded Keys	139	Electro Clavinet
44	Broken EP	92	Comp Hybrid CP	140	Big Rotary B3
45	Bright EP	93	Tacky Fifty	141	Hot Tube Gospel
46	Phase EP	94	Delayed Wires	142	Glow Tube Gospel
47	Mtron EP	95	Sparkling Keys	143	Soul Perc Organ
48	Warble EP	96	Mephisto's Touch	144	OleTime Gospel

## Programs

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145	The Ninth Bar	195	PicturOfNectar	245	Touch Thick Mix
146	'70s Drawbars	196	Ezra's Burner	246	DarkNYCStudio
147	Late Nighter	197	Sacrificer	247	StringMachine
148	Model One	198	Gimme Some	248	VerySloVeryThick
149	All Out	199	Mean Bean	249	SloMuted Strings
150	Blues&Gospel	200	JL's DirtBomb	250	Solemn Strings
151	Sweet n Nice	201	SputtringingB3	251	SloStr Prs Swell
152	Classic Traffic	202	Room B	252	Keyboard Strings
153	EG Style Organ	203	MusselShoalsB3	253	TripleStrike Str
154	SlowPhaseOrgan	204	Brother Jack	254	Processed Strgs
155	B3 Midrange	205	My Sunday	255	Punchy Strings
156	CheckYoHead B3	206	Dew Dropper	256	Fast Strings
157	Prog B3 Perc3	207	J's Comper	257	London Spiccato
158	Prog B3 Perc4	208	OrganWaveComper	258	EspressivoViolas
159	Prog B3 Perc2	209	VAST1-3 Ch/Perc	259	Rigby's Strings
160	Tube B3 Perc	210	VAST-ly Organ	260	Weeping Strings
161	Clean Perc	211	VAST Bars	261	Buzzy Strings
162	Prog Drawbars	212	Firebreather C3	262	Slow Thick Mix
163	Funky Perc	213	XtremTubeB3Perc	263	Pan Strings
164	Mellow Mitch	214	Wah B3+Echo	264	LoFi Studio Str
165	First Three	215	Foiled Again Org	265	Marmalade Stgs
166	Progbars	216	Phase sw Organ	266	Bass & Violins
167	Lee M's B3	217	Combo Rotary	267	Proper Pizzicato
168	Mr. Smith	218	Far Draws	268	Full Pizzicato
169	Warmer B3	219	D-Vox Organ	269	Touch Full Pizz
170	Zombie B3	220	Animals Organ	270	Variable Pizz
171	In The Corner	221	Indagardenoveden	271	Arco Strings
172	The Real ABC	222	888800000	272	Largo Mix 2
173	Red Z Solo	223	888800008	273	Electric Bow
174	BostonScreamer	224	866800000	274	Yesesis Tron Str
175	Gregg's B	225	888000000 Oct +1	275	Octave Tron Str
176	Ezra II	226	848600046	276	ELO Strings
177	NightBaby	227	850005000 Oct +1	277	Adagio Magic
178	Good Starter	228	884400000	278	Virtual Cellos
179	J's All Out	229	888660000	279	Vienna Octaves 2
180	Two Out	230	808808008 Tri	280	Life S-Strings
181	Gospel Special	231	888800088 Tri	281	Evolving Pad
182	ChrsEchoOrgan	232	Light Pipes	282	Gleam Dream
183	Classic B3	233	Chapel Organ	283	Vox Bed
184	PerfectStrangers	234	Soft Stops	284	Synbrass Pillow
185	The Grinder	235	Pipe Stops	285	Innervate
186	Melvin C.	236	Pipes & Voices	286	Deep Sweep
187	Growler B	237	AllStps AllVox	287	Cosmic Sus Pedal
188	Testify	238	Studio A Strings	288	KnowWhatIMean
189	BrgtTubeScream	239	NashvilleStrings	289	Film Score Pad
190	Sly's Revenge	240	Tender Strings	290	Res Pad
191	Real Out	241	Vienna Octaves	291	Pan Motion Pad
192	Tube Dist B3	242	Espressivo Lead	292	BPM Echo Pad
193	Ready to Rock	243	Dulcet Strings	293	Arpeggi Pad
194	Thick Gospel	244	Big LA Strings	294	FX Sweep

## Programs

295	Pedal Pad	351	Triple Cross Pad	407	Slo OrchClarinet
296	Square Pad	352	Upside Texture	408	Clarinet/Flute
297	Water Buffalo	353	Windy Sleepwalk	409	Solo Bassoon
298	Blue Resonance	354	MoistedRandomPad	410	Solo Eng Horn
299	Sparkly Pad	355	Mechanic Pad	411	Fast Orch EngHrn
300	Heaven & Earth	356	Sand Pad	412	Bassoon&Oboe
301	Slo QuadraPad	357	Stepped F-Pad	413	Sax Section
302	So Lush Pad	358	1-Note PowerRiff	414	Full Blown
303	Add a Pad 2	359	MiamiBrassSects	415	Bari Hits
304	Lush Pad	360	Lucid Brass	416	Tenor Express
305	5th-Scape	361	Brass Fanfare	417	Solo Tenor Sax
306	Warm Encounter	362	Fast Orch Brass	418	Solo Bari Sax
307	Callisto Pad	363	Epic Low Brass	419	Choir Complete
308	Cyclotron Pad	364	Low Brass Chorale	420	Mixed Choir
309	FM Live Pad	365	Low Orch Brass	421	Cathedral Vox
310	Delayed Partial	366	High-End Horns	422	In A Good Place
311	Moving FM Engine	367	Almost Muted	423	Choir Redux
312	Dark & Slow	368	Lead Trumpet	424	AntiqueAhhChorus
313	Creaking Pad	369	Slow Soft Trp	425	Slo Orch Chorus
314	Cotton Strings	370	Dyn Orch Trumpets	426	Aaahlicious
315	Hybrid Solo Strg	371	Trombone Section	427	EnvelopingVoices
316	Hybrid Cello	372	Solo Trbn/Trpt	428	Swept Voices
317	FM Hard Bowed	373	Dyn French Horns	429	Haah Singers
318	FM Bowed Synth	374	Lead FrenchHorn	430	Sub Voice Pad
319	VA Rich String	375	Triumphant Horns	431	Voice Waves
320	Analog Strings	376	Solo Tuba	432	Swept Tron Voice
321	Artefacts Strgs	377	Soft Brass&Lead	433	Swell Choir
322	CS Bright String	378	Hybrid Troomp	434	Murmurs
323	'60s TV Strings	379	Hybrid Alto Sax	435	Bandpass Choir
324	Soft Pro Pad	380	Hybrid Bones	436	Lofi Voices
325	Highlands Pad	381	Solo Tenor Sax	437	Vox Orgel
326	Ambient pad&Arp	382	Full FM Brass	438	Scat Choir
327	Cloud Chaser Pad	383	Bright FM Brass	439	NYC Voices
328	Waiting For Her	384	Detuned Brass	440	OohDBopTouchEcho
329	Lingering Regret	385	Trumpets Section	441	DapPer Dudes
330	Released Tension	386	Muted Trumpet	442	Bummer Dudes
331	Juicy Sweep	387	Solo Brass	443	BaDaDah-Doop
332	Biosphere	388	Hybrid Synbrass	444	Ooh So G'ooHD
333	Polar Tales	389	FM Warm SynBrass	445	Vintage FM Vox
334	Mirrored Bands	390	Pre-RoHs Brass !	446	Ping Vox
335	Deep Whirlpools	391	PWM & Duo Brass	447	Dual Linear Vox
336	Hollow Phonic	392	Sub Brass	448	Lurking Voices
337	Dark Hollow Pad	393	Slow Stereo Bras	449	Vocal Texture
338	Beholder's Pad	394	Silicon Trumpet	450	Grudging Vocodex
339	Betrayal Pad	395	Model Brass	451	VivaldiOrchestra
340	Glass Pad Wave	396	Rhythm VCO Brass	452	HeroicFilmScore
341	Disciplus Pad	397	Virtual Saxo	453	Gothic Climax
342	VoiceOfMoon	398	Woodwind Section	454	Full Fellowship
343	Spectral Ring	399	Ensemble WWinds	455	Lullaby Ensemble
344	Reverse	400	Solo Flute	456	Tutti Orchestra
345	Allpass Tides	401	Fast Orch Flute	457	Final Victory
346	Relic Pad	402	Tremolo Flute	458	BattleSceneOrch
347	Sweeping Machine	403	Piccolo	459	William Tell A
348	Backlash	404	Solo Oboe	460	TripleStrikeOrch
349	Shattered Drone	405	Fast Orch Oboe	461	More Brass & Str
350	Shifted Planet	406	Clarinet	462	Winds, Horn & Str

## Programs

463	Denouncement	519	Sense Delay	575	Dirty Pluck Lead
464	Pastoral Clr Flt	520	Celeste Palette	576	Sync Sqr FM Lead
465	Pastoral Pizzi	521	Magic Mbira	577	6581 Sid Tech
466	LayeredStrgsWnds	522	Kinderklavier	578	Inverted Lead
467	Perc Atk Strings	523	Polyphon	579	Over Run Solo
468	Broadway Backup	524	Brassy Pizzi	580	Detuned Lead
469	Orch w/ Bells On	525	Onaip Bowl	581	XFade & Run Lead
470	Strings & Silver	526	Fairy Bell Pad	582	Steep Lead Rider
471	SugarPlumFairies	527	Six8 Perc	583	PW & Sync Lead
472	New Music Ens	528	Electro Sitar	584	Sync O'Saw Lead
473	RequiemMassEns	529	VCF FM Mod	585	Hi-Q Synco'Synth
474	Gypsy Reggae	530	Diamond Drops FX	586	Play It Legato
475	Dave & David	531	Lost Souls	587	Lead Spirit
476	AlphaCentauri	532	Modularizer II	588	Classic Sqr Duo
477	Panorama	533	Fridgid Pad	589	Sirius Soft Lead
478	Ambience	534	Grindin'Operator	590	Foam Lead
479	Ambience2	535	Mysterious Clang	591	Happy Whistling
480	Dream Dulce	536	FM Gone Wild FX	592	Sine Fireflies
481	MagicChinaFlower	537	Backdraft	593	Vicious FM Lead
482	Metal Vibe Pulse	538	Murmuring Waves	594	Northern Lead
483	Warbly Pong SQR	539	Metallic Motion	595	Wimpy High Lead
484	Oody Oody	540	Cmbo Accordion	596	Soaring Notches
485	Carpet Babies	541	Accordion Brazil	597	Toxic Lead
486	Yucatan Vibe	542	Harmonica	598	EDM Pulses
487	CelesteGlockHarp	543	Blues Harmonica	599	EDM Sync Lead
488	Old & Warbly	544	Ocarina	600	Noisy Twin Snap
489	Metallic Piano	545	Penny Whistle	601	Typhoon Lead
490	Heroes Pad	546	Hybrid Blow	602	Dawn & Dusk Lead
491	Warszawa	547	Noisy Bottle	603	Freeze Box
492	Mello Layers	548	VA1 Stage Lead	604	Loon's Memory
493	Post Rock	549	VA1 Saw Lead	605	Slow Mono Drift
494	Pressure Cooker	550	VA Square Lead	606	Tiny Bands Lead
495	Touch Vocoder	551	VA1Distlead CC	607	Classic Saws
496	Synthy 73	552	4PoleV Lead	608	Fat Syn Orch
497	Pizzynth	553	Wheel Growl	609	Poly Sweep
498	Wurzzicato	554	Minipulse 4Pole	610	Anabrass
499	BrimstonCalliop	555	4 Pole Lead	611	Poly Brassy
500	DigitalFairyDust	556	Saw+Mogue 4Pole	612	Big Old Jupy
501	Cirque du Synth	557	C*O SyncLead	613	MeanStereoSweep
502	VoxtronMachine	558	MwhlClubsweeper	614	Divider
503	ArpHollow Bells	559	5ths Lead MP	615	Touch Trance
504	Enigmatism	560	Treble FM Lead	616	Chillwave Chords
505	Throat Siren	561	Delicate FM Lead	617	Funkensteinz'AHP
506	Fred's Van	562	E-Bow Mono	618	Quadra Comp
507	Flesh&TheMachine	563	Brassy Lead	619	Ion Drive
508	Whale Call MW	564	Chirp Lead	620	Punch Synth
509	Fisher Cove	565	Square Lead	621	Super Saw Stabs
510	Upstream	566	AK Wild Lead	622	VASprSaw
511	After 3pm	567	'80s Lead Synth	623	VA1 Detuned Saws
512	Shokudo Enka	568	MW Lead	624	VA1 DetunedPulse
513	'80s Movie Music	569	MicroSynth Plus	625	VA1 Detuned Sqrs
514	Sci-Fi Movie	570	Liquid T Lead	626	Chirp Attacks
515	Insta - Spooky	571	HipHop Lead	627	Clone Bandit
516	Creepy Crawlies	572	Harmo Lead	628	Osti-Warble
517	Space Agogos	573	Edge Lead	629	Boinker
518	The Peddler	574	Hammer Lead 5th	630	Percolator Glow

## Programs

631	'80s #1	687	Strobe Low Synth	743	'80s Synthwave
632	Static Charge	688	OD Boiling 5th	744	Kraft Zones
633	Cloud Level	689	Sync Matic	745	Metal Run
634	Square Bell	690	Analog Harmonix	746	Midnight Voxymba
635	Poly VeKtor	691	Core Tech Synth	747	Picked Glass
636	Dearly Beloved	692	Super Waves	748	Metal Rings
637	Granny	693	Cruiser	749	Rusty Barrel
638	Poly Arpeggiator	694	Vast Shifter	750	The Way It Is
639	X-FM Rich Keys	695	Tone Switcher	751	Thomas Bass
640	Bright Digi-Perc	696	Sync & Peak	752	Poppit SynBass
641	Low Digital Vox	697	Cat Synth	753	BowhSaw Bass
642	Sharp & Shaped	698	Quint Pad	754	ANGRYBass
643	Da Pincher	699	Liquid V-Shifter	755	Lowdown Bass
644	Duck Tape Vox	700	Lush Faz Strings	756	MaroonSynBass
645	Woody Thing	701	Rising Steps	757	Dist Filter Bass
646	Strange Mallet	702	Sun Park FM	758	Mini-Obi Bass
647	Bell & Pad	703	Gravity Synth	759	The PhattestBass
648	Se7en Pad	704	Vapor Waves	760	MiniFunk Bass
649	Touch Keys	705	Liquid State VCF	761	Dread Bass
650	Opium Keys	706	Fantasy Zone	762	Skool Bass
651	Hard Detuned	707	Uzuma keys	763	Smooth Oooger
652	Dual Core Synth	708	Steam Buzz Noise	764	Squeeze Mini
653	Unison Stack	709	Electro Cycle	765	Iceman Bass
654	OD Caster Guitar	710	Thing On Spring	766	Rhythms
655	To India & Japan	711	Snappy Resonance	767	Dub Wob
656	Digital Illusion	712	Picked & Shaped	768	FB Mono Bass
657	STX46 Classic	713	Comp Picked Harp	769	FM Classic Bass
658	Talking Shaper	714	Hybrid Perco	770	RM+FM FingerBass
659	Low Throaty Vox	715	Mind Shuffle	771	SH Type Bass
660	FM Fazed Square	716	Parallel Snap	772	Octave Bass
661	Square Impacted	717	FM POP Split	773	Wooden Bass
662	Spreaded Voxcard	718	Blue Harp Ocean	774	FM Saw/Sqr Bass
663	Keys Of Softness	719	Arp O'Drome	775	Filtered FM Bass
664	Last Replicant	720	Nomads	776	Growl FM Bass
665	Warm V-PolyStack	721	Gum Bass Split	777	Diamond Bass
666	Poly Keys	722	Mellow Sin World	778	Noisy Snap Bass
667	EDM Vibra Square	723	The Bouncer	779	FM Pulse Bass
668	Tin Vox Blow	724	Snap & Co	780	Low Solid Bass
669	Spirolex	725	Dry & Wet Filter	781	Filtered Synbass
670	Breath Of Ice	726	Manitoba Liner	782	Round A-Bass
671	Instant Payback	727	Polycomper	783	Cruel 12dB Bass
672	Minor Impact	728	Split System	784	Funky Synbass
673	Cyclic Modulator	729	Looped Sqr/PWM	785	Infected Bass
674	Hollow FM Sqr	730	70's Sequencer	786	Shaped SynthBass
675	Ultra Waves	731	Noisy Arp Walker	787	Liquid Reso Bass
676	1Alg=3PartsJam	732	Vocal Scope	788	Mono Smooth Bass
677	3 Hybrid FM Osc	733	Fluid Neuronal	789	Snapped Pulses
678	CC FM Mayhem	734	Station Of Waves	790	Noiz Glider Bass
679	Xtrem Cycling	735	Modular 5th	791	Paper Bass
680	Keio's PWM & Sub	736	Mod Filter Bass	792	Sticker Bass
681	Tom's Classic	737	Steam Machine	793	Silicium Bass
682	Dirty CycloDrome	738	Rosin' & Bowin'	794	Slap Hybrid Bass
683	VA Bright Synth	739	Spike Mix	795	StringBass FM op
684	Bright & Hybrid	740	Ghatam Synth Arp	796	1 Operator Bass
685	Trance Stabs	741	Copper Drop	797	Pulled V-Bass
686	Band Masters	742	Chromosome Dance	798	FM Acoustic Bass

## Programs

799	Classic FM House	855	Dulciliere	911	L'tric Nat Kit
800	Explosive Bass	856	E-Bass	912	Vibra Lunch Kit
801	Bass Growler	857	Finger Bass	913	Tuna Slap Kit
802	bass@lowend.com	858	P-Bass	914	Shrugie Kit
803	Ultra Low Dub	859	'70s/'90s Bass	915	Wet Sponge Kit
804	Critical Bass	860	MT Dark Bass	916	Bug Zapper Kit
805	Ultra Vibes Bass	861	MT Bright Bass	917	Sandy Bott'm Kit
806	Daft 8 Bits Bass	862	Sly's Bass	918	Box o' Sand Kit
807	Single Bass Echo	863	Synth Slap Bass	919	L'trk Reflux Kit
808	Percolation Bass	864	JP's Fretless	920	Squash Clap Kit
809	Saw Impact Bass	865	Jordan Eb Fretls	921	Phase "E" Kit
810	Cracker Bass	866	Tony's Fretless	922	Why Not Kit
811	J-Ex Bass	867	Squire's Rick	923	Hello Brooklyn
812	Transistor Bass	868	Muted Fingerbass	924	BeatBoxDist
813	Round Sqr Bass	869	Beasties Bass	925	Rezo-King
814	3 Osc 1 Bass	870	Acoustic Bass	926	Rhythm Ring
815	TuBeBass	871	Upright Growler	927	Gaddy Gruv
816	Simple 2B Bass	872	Washtub Bass	928	5Kits&Cheez
817	Snap Point Bass	873	Los Angeles Kit	929	Ziga Funk
818	Pedal Bassline	874	East Space Kit	930	ElectroBeat Kit
819	Arp Matrix Bass	875	Ring-tone Kit	931	Are'M I ElecKit
820	Ping Pong Bass	876	Drum&Bass Kit	932	VABassDrmSliders
821	Snake Bass	877	Full Room Kit	933	VASnreDrmSliders
822	Diggy Bass	878	Copper Ring Kit	934	VAHi-HatSliders
823	Detroit Bass	879	Birch Wood Kit	935	Tite EDM Kit
824	Sharp Bass	880	25th Anniv Kit	936	Monkey Kit
825	Fluid E Gtr	881	ModernRok Kit	937	TitePhaseKit[C2]
826	WarmStradaGtr	882	Fin-Essence Kit1	938	Distort Kit [C2]
827	Comp'd Phaser	883	Procs'd Pop Kit	939	Heavy Kit
828	DoubleCleanChrs	884	'80s Power Kit	940	Stereo Wide Kit
829	Rob's Caster	885	Brushes Kit	941	Metallizer Kit
830	Twin Peaks	886	BrushStroke Kit	942	Infected Drums
831	New Beauty	887	Old Traps	943	Electro Can Kit
832	Simple Mutes	888	Pillow Fuz Kit	944	Glitch Kit
833	Kinda Krunchy	889	Wooly Pckt Kit	945	Broken DAC Kit
834	Chunky Vintage	890	Ornge Crush Kit	946	Dyna Kit
835	Stompbox Les	891	Abe Junior Kit	947	Timeless Drumkit
836	ShredfestLead1	892	Low Rock Kit	948	Hard Kit
837	Dist Comper	893	Static Kit	949	25th Anniv Kit2
838	SuperflyWahCast	894	Fin-Essence Kit2	950	Fin-Essence Kit3
839	FM Hybrid Guitar	895	Cold Cash Kit	951	Copper Ring Kit2
840	5 On Us Vox Bass	896	Trash Funk Kit	952	Quickbeat Kit
841	Hybrid Guitar	897	DoorKnocker Kit	953	PlainBeatBox Kit
842	Fat Steel String	898	Rhythmcon Kit	954	Essential Perc
843	Distorted Mutes	899	Marley Kit	955	Perc Accessory
844	Twang Caster	900	Superfly Kit	956	Just Jammin'
845	Steel String	901	ScratchMe Kit	957	Cage's Ensemble
846	Bling 6 String	902	DJ- Dub Kit	958	Modern Blockery
847	Boutique 12 Str	903	Touch Tone Kit	959	Perc & Blocks
848	Real Nylon	904	Radio Echo Kit	960	Bendir
849	Mandolin Plus	905	SoftCookie Kit	961	Bodhran
850	Mandolinese	906	Cannibal Kit	962	DumbekDjembe
851	ShortStrumma	907	Backsweep Kit	963	TalkingDrum
852	Banjo Plus	908	Elektro Sand Kit	964	BongoConga
853	Mandolin&BanjoSW	909	Big Woosh Kit	965	Tabla Arp
854	Dulcimer	910	HipgigJunior Kit	966	Basic Orch Perc

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967	Orchestral Perc
968	Orch Timpani
969	Timp & Aux Perc
970	Stereo Tam-tam
971	Chimes/Glock
972	Chimes
973	Chime Bell
974	Bells Across
975	Bell Orchestra
976	Carillon
977	Celeste
978	Crotales Hits
979	Bowed Crotales
980	Chimes Pad
981	KEY Asian Metal
982	Tabla Bars
983	Steel Drum
984	XHarmonicStlDrum
985	Real Vibes
986	Soft Vibes
987	Stereo Marimba
988	Xylophone
989	SteamPunkMallets
990	Soft Bell Keys
991	Bell Keys
992	Temple Blocks
993	Washboard
994	Blue PVC Tubes
995	Hit'n Chew
996	Perc Voice Split
997	Vocal Percussion
998	HarpArps & Gliss
999	Gliss/Arp Harp
1000	H'Arps & Harp
2040	FMBass Template
2041	FMBass Template
2042	FM EPiano Tmplt
2043	FM Template
2044	Click Track
2045	Silent Program
2046	Editor Template
2047	Clear Program





# Appendix D

## Multis

Object version: 1.00.05

1	Piano - Ballad	42	Arp Answers	83	Busy Pad
2	Piano - FastBrsh	43	Dreamy	84	Thick Pad Arp
3	Piano - Shuffle	44	Piano/Pad Motion	85	Urgent Lullaby
4	EP - Pop	45	Piano Finis	86	ClockWatchers
5	EP - R&B	46	Epic Power Chrds	87	Lunar Sun
6	EP - Ballad	47	Heavenly	88	Rapture
7	Clav - Funk	48	Digital Dreams	89	Sleep Machine
8	Clav - Old R&B	49	Buzzy FM Slap	90	Step Pad 2
9	Clav - Rock	50	Digi-Split	91	Mockingbird Pad
10	Organ - Ballad	51	WarmNoodle Comp	92	Passages
11	Organ - Rock	52	Digital D Pad	93	To The Light
12	Organ - Rhumba	53	Late Show Keys	94	Mysteries
13	Chill Mix in Cm	54	Dual Factor	95	Spectral Pad Arp
14	Chill Mix in Em	55	Spaced Out EP	96	Ambient Arp Pad
15	Chill Mix in Am	56	Dirty CP	97	Gravity Waves
16	Chill Mix in Gm	57	Space Whirly	98	Way Deep
17	Chill Mix in Dm	58	FM Murmurs	99	Sleepy Hollow
18	Chill Mix Dm-G7	59	AnyNoteJam	100	Reverse Sweep
19	Jam Mix in Amaj	60	Pulse Oximetry	101	Nebulae
20	Jam Mix in Amin	61	Rubberband Clav	102	Monosphere
21	BeachJam in Cmaj	62	Epilogue	103	Spacey FM Pad
22	Jam Mix in Bm	63	Cinema Climactic	104	Noisy Pad
23	Jam Mix in Dm	64	Somber	105	Deep Space
24	Jam Mix in Fm	65	Driving Orkestra	106	Glass Tremolo
25	SpywareJam in Am	66	CalmWinds&Strngs	107	Ice Pad
26	Boat Mix in Gm	67	Passive Ensemble	108	Base Camp
27	Axel Jam in Cmin	68	Ensemble Set	109	Astral Plane
28	TrashPop in Cmin	69	2nd World String	110	Glassy
29	Airy Jam In Cmin	70	Polyrhythmic Str	111	Circus Dust
30	SyncoPate InCmin	71	Film Arps	112	Filter Sequence
31	ShuffleJamInCmin	72	Apollo Pad	113	Fat Brass
32	ChezJamz In Cmin	73	Singing Grand'Ma	114	Mighty Synth
33	ChillDub In Cmin	74	Sweet Corruption	115	Quiver KeyZ
34	DuppyConqJamEmin	75	Step Pad 1	116	Plucky Pad 2
35	Dream Layer	76	Space Whales	117	Generation Keys
36	Ice&Mist Grand	77	Surfin'Satellite	118	SynBrass Punch
37	ElectroPop Piano	78	Ambient Drops	119	Punchy Octaves
38	Muted Piano	79	Sunrise	120	Synths & Vox
39	SpaceAtTackPiano	80	Big Pad	121	Linear Circle
40	Plucky Mood	81	Swells	122	Instant Karma
41	ReverseCartwheel	82	Industry Pad	123	Full FM Set

## Multis

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124	Behind The Door	176	Sweet Dreams	228	Midnight Stroll
125	Warp Split	177	Good Ole Days	229	Galactic Beads
126	Harmo Split	178	Layered Arps	230	Piano/AC Bass
127	Linear Stack	179	Soft Arp Piano	231	Piano/Elec Bass
128	Plucky FM Synth	180	Space Debris	232	Piano/Frtls Bass
129	Pluck & Stacked	181	Breakpoint	233	E. Piano/E. Bass
130	Tremolo Stack	182	I Dream Of 5ths	234	E. Piano/Fr.Bass
131	Southern Keys	183	Ricochets	235	E. Piano/SynBass
132	White Elephant	184	La Forge	236	Synbass/Synth 1
133	Split Circuits	185	In The Backyard	237	Synbass/Synth 2
134	Sleep Breath	186	Switchback	238	SynPad/Lead 1
135	'80s Power Synth	187	Chromo Zones	239	SynPad/Lead 2
136	Pluck Pad	188	Tower Of Babel	240	Upright Bs/Organ
137	Bright & Belly	189	Sailing Together	241	E.Bass/Organ
138	Mellow Pluck Pad	190	Electric Slime	242	Frtls.Bass/Organ
139	East Meets West	191	LostCommunicat..	243	Ac.Guitar/Pad
140	ElasticPlukSynth	192	Space Probe	2044	Split Default
141	Lemon Drops	193	X Class	2045	Layer Default
142	Movin'Split Solo	194	PumpBassGuitLyrs	2046	SP8 Control
143	'80s Lead Synth	195	Gift From Above	2047	Clear Multi
144	SynthComp & Lead	196	Strings & Guitar		
145	Sweeping Pad	197	Harps & Arps		
146	Omni Split	198	Bright Voice Pad		
147	Getting Sweepy	199	Accent Choir		
148	One Key Memory	200	Industry Machine		
149	Fat Bass	201	Wave Jammer		
150	Bass/Synth Split	202	Complex World		
151	Compin'	203	Mallet Arps		
152	Merry Go Nowhere	204	Mystical Pieces		
153	Chill Out Arps	205	Dreamy Jungle		
154	Swirling Rhythms	206	Camel Walker		
155	Mega Lead	207	Amazonia Tracks		
156	EleKtrolyte	208	Glimmer Score		
157	Sus4 Surprise ;)	209	In Jeopardy		
158	Moving Cities	210	Dawn's Light		
159	The Swirls	211	Digital Facets		
160	Glowing Embers	212	Glass O'Keys		
161	Drowned In Mono	213	Heaven Stack		
162	Multi Moves	214	Grinding Engine		
163	Tremolo Scape	215	5th O'Clock Pad		
164	Suspense 1	216	Living Bell Keys		
165	Giddy Up	217	Twinkle Arp Pad		
166	DeepPulseRezor	218	Fluid Split		
167	SkyNet	219	Whimsy Pad		
168	Arps A Lot	220	Perc Ensemble		
169	Lost Lands	221	Percs and Pads		
170	Stab Synth	222	Textural Goo sus		
171	3rd Shift	223	Low Chilling Seq		
172	Pearls Of Tropic	224	Desert Storm		
173	Click Box	225	Dawn To Dusk Run		
174	Deep Stack	226	Menagerie Vamp		
175	Sanctuary	227	New Horizons Pad		





# Appendix E

## Songs

Object version: 1.00.05

2	Rock & Funk	38	Denouement	72	AgressDivisiMix
3	Pop & Country	39	Bass & Violins	73	Trmp/Sax
4	Late Bloomer	40	PedalPad	74	BritishMT
5	AOR Landscape	41	SquarePad	75	Prophet Pad
10	Late Bloomer	42	Prophet Pad	76	ambience1
11	Gina Piano	43	Arpeggi Pad	77	Arpeggi Pad
12	PianoMellow1	44	OBX Pad	78	Harpsi Lute
13	Country Piano	45	JunoWhat	79	OmniStrings
14	Rock Piano	46	Detuned poly	80	GuitarPickerRiff
15	CP80 1	47	Pan Strings	81	MinorGuitar Riff
16	Deep Fuzz EP	48	80s Saws	82	ClassicalGtrRiff
17	Wah EP	49	Ooh So G'ooHD	83	CP80 1
18	Wdstk EP Reed	50	Square Chip	84	Harpsi Lute
19	PianoGospel	51	Hiphoplead	85	FunkSlapBassRiff
20	ClavRokWAHswitch	52	Seongdeok Lead	86	FleaBass
21	ClavFunk Comp	53	AlaskanWild Lead	87	JacoBass
22	ClavFunk Comp2	54	'80s Lead Synth	88	EBass1
23	ClavDisco	55	MMgBass	89	OctvBass
24	ClavWAHfunk	56	BeastBass	90	Big Fast Rock 1
25	Ezra's Burner	57	OctvBass	91	Electro 13
26	Boston Screamer	58	JacoBass	92	Slow Rock 12
27	Mellow Mitch	59	EBass1	93	Funk 1
28	HotTubeGospel	60	Big AM Horn Riff	94	Hip Hop 1
29	Blues&Gospel	61	Pophorns	95	Perc Chaser
30	ELOStrings	62	PowerHorns	96	VRT Tabla
31	SpaceOddity	63	3ChordResolvRiff	97	Vocal Percussion
32	BritishMT	64	BigBand	98	Vibes
33	Goodplace	65	Winds & Str	99	St Marimba
34	Pipes&Voices	66	Winds & Strings	100	Goodplace
35	Winds&ExpressStr	67	Fast Winds & Pizng 0	101	Aaah
36	AdagioPizz Slit	68	Winds&ExpressStr	102	EnvelopingVoices
37	DulcetStrings	69	Sax&Flute	103	HaahSingers
		70	Pastoral Orch	104	SweptVoices
		71	Strings & Silver	105	ArakisPno

## Songs

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106	Dream Piano	150	Copper Vox	194	Round Sqr Bass
107	Plectrum	151	Virtual Saxo	195	Looped Sqr/PWM
108	Ped Bourdon	152	FM Acoustic Bass	196	Shifted Planet
109	Ancient Calling	153	Delayed Wires	197	Soft Pro Pad
110	Throaty S&H	154	Unison Memories	198	Snap Point Bass
111	Electro Perc	155	Split System	199	'60s TV Strings
112	HiPassMWBlips	156	Lead Spirit	200	Stereo Water Pad
113	Bull Brass	157	Allpass Tides	201	Single Bass Echo
114	RequiemMassEns	158	Gum Bass Split	202	Ultra Vibes Bass
115	Dave & David	159	Digital Keys	203	Epic Stack Pad
116	Soft Bells	160	Poly Comper	204	Dirty Cyclodrome
117	Dream Dulce	161	Released Tension	205	Twisted Metal
118	A Bass	162	99 Red Pad	206	Faked Feedback
119	Washtub Bass	163	B-OX Brass	207	12dB Fanfare
120	Flute	164	Light Pipes	208	Shattered Drone
121	Oboe	165	Brassy Strings	209	EDM Glide Saw
122	Clarinet	166	Octave Synbrass	210	CS Bright String
123	Clarinet/Flute	167	The Bouncer	211	Polarizer
124	Bassoon	168	Spreaded Keys	212	Digital Illusion
125	BariHits	169	Back To Ashes	213	Cruel 12dB Bass
126	Ocarina	170	Sub Bass	214	Synth From Orion
127	PennyWhistle	171	Poly Keys	215	V-Switch Set
128	Blues Harmonica	172	Rubber Lead	216	Land Of Shadows
129	Creepy	173	Bright & Hybrid	217	FM Fazed Square
130	Marley	174	Metal Rings	218	Electro Swap
131	Mirrored Bands	175	Mind Shuffle	219	Station Of Waves
132	Tom's Classic	176	String Bass	220	Polar Tales
133	'80s Hybrid Keys	177	Electro Sitar	221	Notches & Bands
134	Sparkling Keys	178	Dark Hollow Pad	222	Ned's Gong
135	Cloud Chaser Pad	179	Blue Harp Ocean	223	Waiting For Her
136	Cruiser	180	Ambient Pad&Arp	224	Cracker Bass
137	Ring Tracker	181	Slow Stereo Bras	225	Highlands Pad
138	Hollow Phonic	182	Silicium Bass	226	Steam Machine
139	Super Waves	183	Sun Park FM	227	Steep Lead Rider
140	Loon's Memory	184	Square Rush	228	Dirty 5u Modules
141	Noisy Arp Walker	185	Tacky Fifty	229	Pre RoHs Brass !
142	Funky Tech Lead	186	For Keys & Pads	230	Explosive Bass
143	Scraped Bars	187	Comp Hybrid CP	231	Digital WaterFon
144	FM Wirtualizer	188	Band Masters	232	Saw Impact Bass
145	Snake Bass	189	Hybrid Perco	233	STX46 Classic
146	Lost Souls	190	Fantasy Zone	234	See You In 1986
147	Sweeping Machine	191	Liquid V-Shifter	235	Liquid State VCF
148	Pulled V-Bass	192	Copper Drop	236	MoistedRandomPad
149	1 Operator Bass	193	Grudging Vocoder	237	Uzuma Keys

238	Axial Symmetry	282	Mellow ILO Lead	326	Pedal Bassline
239	J-Ex Bass	283	Foam Lead	327	Fairy Bell Pad
240	Warm V-Polystack	284	Analog Strings	328	DownToTheAbyss
241	Artefacts Strgs	285	Manitoba Liner	329	Triple Cross Pad
242	PD:1Alg3PartsJam	286	3 Osc 1 Bass	330	Ultra Low Dub
243	PD:3HybridFM Osc	287	Silicon Trumpet	331	XFade & Run Lead
244	PD:CC FM Mayhem	288	Funky Synthbass	332	Electro Vocal
245	Hard Strike EP	289	Instant Payback	333	Mechanic Pad
246	Hybrid Tines EP	290	PW & Sync Lead	334	PD:Kraft Zones
247	FM Comp Synth	291	Tone Switcher	335	PD:Virtual Cello
248	Bright Digi Perc	292	Core Tech Synth	336	PD:JunglerunLead
249	Sharp & Shaped	293	5 On Us Vox Bass	337	PD:Rosin&Bowin
250	Da Pincher	294	Sync & Peak	338	PD:AlcatrazSouls
251	Woody Thing	295	Over Run Solo	339	PD:GlideAndRun
252	Wooden Bass	296	FM Hybrid Guitar	340	PD:ElectroCycle
253	Diamond Bass	297	Muted Brass	341	Cracker Bass 2
254	FM Saw/Sqr Bass	298	Rising Pulsar	342	Dirty5uModules 2
255	Filtered FM Bass	299	Soaring Notches	343	5th Of Dakota 2
256	Noisy Snap Bass	300	Spreaded Voxcard	344	PD:PumpingSectn
257	FM Pulse Bass	301	Bitmap Bass Vox	345	PD:80sSynthWave
258	Silk FM Piano	302	Breath Of Ice	346	PD:VCF FM Mod
259	Soft Tines EP	303	Bass@lowend.com	347	PD:DetroitBass
260	Hybrid Blow	304	Atom Smasher	348	PD:FluidNeuronalE-3
261	Edge Lead	305	Square Impacted	349	PD:VocalScope
262	Cotton Strings	306	Beholder's Pad	350	PD:DiggyBass
263	Express D'Clav	307	Lingering Regret	351	PD:SpikeMix
264	Attack Digi Clav	308	Biosphere	352	PD:SynthDebris
265	Bell & Pad	309	St-Bubble Bass	353	PD:CmptrRun
266	Delayed Partial	310	Classic FM House	354	PD:DiamondDrpsFX
267	Opium Keys	311	5th Of Dakota	355	PD:Heavy Kit
268	Sync SQR FM Lead	312	Xtrem Cycling	356	PD:Stereo Wide K
269	6581 Sid Tech	313	Pig Pad	357	PD:Metallizer Ki
270	Unison Stack	314	The Sentinel	358	PD:Infected Drum
271	FB Mono Bass	315	Classic Sqr Duo	359	PD:Electro Can K
272	FM Classic Bass	316	Filtered Synbass	360	PD:Glitch Kit
273	SH Type Bass	317	Snap & Co	361	PD:Broken DAC Ki
274	3 Hybrid FM Osc	318	Last Replican	362	PD:Dyna Kit
275	FM Live Pad	319	Lush Faz Strings	363	PD:Timeless Drum
276	Callisto Pad	320	Daft 8 Bits Bass	364	PD:Hard Kit
277	FM Warm Brass	321	Sticker Bass	400	Thin Body Piano
278	Legato Wow Lead	322	Sine Fireflies	401	Alternate Piano
279	Perco Bass	323	Infected Bass	402	Old Attic Piano
280	Glider Brass	324	Strobe Low Synth	403	Plucked Piano
281	Life S-Strings	325	Trance Stabs	404	Forgotten Piano

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500	Riff:Kick & Hat	544	Riff:Fly	588	Riff:SlowEminGtr
501	Riff:Dreams	545	Riff:StreamGtr	589	Riff:SlowEmhnDrs
502	Riff:4OnFloor02	546	Riff:StreamDrs	590	Riff:GoWestBanjo
503	Riff:Waltz01	547	Riff:ProwlerD&B	591	Riff:GoWestDrs
504	Riff:GuitarStrum	548	Riff:SparceDrs	592	Riff:Octava
505	Riff:HatKick01	549	Riff:GrabberDrs	593	Riff:PtOGreenGtr
506	Riff:HatKick02	550	Riff:OnTheBrnDrs	594	Riff:DownLowGtr
507	Riff:4OnFloor01	551	Riff:OldRichDrs	595	Riff:CLightsKick
508	Riff:Train Beat	552	Riff:KdsOnHrsDrs	596	Riff:CLightsHat
509	Riff:Brush Swing	553	Riff:KdsOnHrsBnj	597	Riff:CLightsBeat
510	Riff:SynthBass01	554	Riff:NewWorldDrs	598	Riff:PlayThtBass
511	Riff:MutedGtr01	555	Riff:DepartrDrs	599	Riff:CLightsKick
512	Riff:RimShots01	556	Riff:DepartrGtr	600	Riff:AnaSoftKick
513	Riff:SlowAmbGrv1	557	Riff:PlanetGtr	601	Riff:SlowDrs
514	Riff:60sBpop01	558	Riff:PlanetDrs	602	Riff:OngDrsGtrBs
515	Riff:March01	559	Riff:AbodeDrs	603	Riff:PopCntryGtr
516	Riff:Time	560	Riff:PapaDrs	604	Riff:PopCntryDrs
517	Riff:RootsPop01	561	Riff:LimeMickey	605	Riff:River2Gtr
518	Riff:MutedGtr01	562	Riff:5thSsnPizzi	606	Riff:River2ADrs
519	Riff-Funk 1	563	Riff:Strings01	607	Riff:SynWavHatSn
520	Riff-Loop 1	564	Riff:CrnvlWltz	608	Riff:Liner Drums
521	Riff-Loop 1 Bass	565	Riff:CrnvlWltzDr	609	Riff:Liner Bass
522	Riff-Funk 2	566	Riff:LstInSpnDrs	610	Riff:ShufflDrums
523	Riff-Funk 4	567	Riff:PowerPopGtr	611	Riff:ShuffleBass
524	Riff-Synth Jam3	568	Riff:PowerPopDrs	612	Riff:Cave Drums
525	Riff:Brooklyn	569	Riff:YouSaidDrs	613	Riff:Cave Bass
526	Riff:Bug Zap	570	Riff:YouSaidStg	614	Riff:ScratchDrms
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529	Riff:Loop 7	573	Riff:PstationDRM	617	Riff:Antic Bass
530	Riff:Abe Slow	574	Riff:ShflOStrmGt	618	Riff:DiamondDrum
531	Riff:16th Toms	575	Riff:SpecialGtr	619	Riff:DiamondBass
532	Riff:Alt Folk	576	Riff:SpecialDrs	620	Riff:Dome Drums
533	Riff:Found	577	Riff:ShadesBass	621	Riff:Dome Bass
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538	Riff:AcrossTime	582	Riff:BallRmDance	626	Riff:ElectroBass
539	Riff:GrungeGtr	583	Riff:MagicDrs	627	Riff:NiteTaxiDrs
540	Riff:GrngeGtrDrs	584	Riff:LstInItlDrs	628	Riff:FlipGtrDrs
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542	Riff:AmbGtrDrs	586	Riff:HandOutsDrs	630	Riff:JetLag Bass
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633	Riff:OldChapBass	680	Riff:TermnlgyD&B	727	Riff:B-Pop 2 DBG
634	Riff:BrushD/B	681	Riff:HotAnlgyD&B	728	Riff:ChezJamzD+B
635	Riff:RollerBDrms	682	Riff:RdgZMuleDBG	729	Riff:BTPerkL8D&B
636	Riff:SmplFngrGtr	683	Riff:Capillarity	730	Riff:ShuffleRose
637	Riff:GetOverLoPn	684	Riff:Desert Heat	731	Riff:DoomGruve
638	Riff:PMCrtnDrs	685	Riff:EveningSoul	732	Riff:JamMixBmDBG
639	Riff:Harp&Drs	686	Riff:Black Ring	733	Riff:Duppy Conq
640	Riff:Harp&DrsLow	687	Riff:Reflection	734	Riff:Trash Pop
641	Riff:GetOverVoic	688	Riff:Minimal Hit	735	Riff:RtroFunkDBK
642	Riff:InAHazeDrs	689	Riff:Manglers	736	Riff:RtrFunk2DBK
643	Riff:HazyGtr	690	Riff:ChillMix1EP	737	Riff:SyncoPate
644	Riff:OpenEmajGtr	691	Riff:ChillMix1Ds	738	Riff:AxelMinor
645	Riff:OpenEmajDrs	692	Riff:ChillMix1Bs	739	Riff:RtrFunk2DBK
646	Riff:MajorSyn	693	Riff:ChillMix3Al	740	Riff:OverBiteGrv
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651	Riff:WrittenGtr	698	Riff:ChillMix5Al	745	Riff:Talk Back
652	Riff:ParanoiaDrm	699	Riff:CmpsrToolDr	992	Metro 1/4nt
653	Riff:LookBackDrm	700	Riff:HiOfcrDBGt2	993	Metro 16nt
654	Riff:TubularPerc	701	Riff:C5Chord	994	Triangle groove
655	Riff:PillsFvrDrm	702	Riff:WrldSysPerc	995	Acc 1/4nt
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676	Riff:FldMchneDrm	723	Riff:EscpeUsDrs	1016	Funk 3
677	Riff:FiltSeqDrms	724	Riff:EscpeUs CP	1017	Funk 8
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