# SoftStep Reference Manual

SoftStep V1.2
July 2011

Keith McMillen, Conner Lacy, Chuck Carlson, Nick Bonardi, Justin Catalana, Dennis Cao, Diane Douglas, Tom Ferguson, Matthew Hettich, David Hishinuma, Sarah Howe, Keith Johnson, Daniel McAnulty, Michael McHam, Danny Piccione, Dennis Saputelli, and Barry Threw

# Table of Contents

# Welcome

Thank you from Keith McMillen Instruments! We are excited to welcome you to the world of SoftStep, the world's most expressive foot controller.

## Questions or Feedback? Contact Us!

If at any time you have any questions, please contact us:

Web: www.keithmcmillen.com
Forum: forum.keithmcmillen.com
Email: support@keithmcmillen.com

# Before Getting Started

There are a few things that you need to know before you start using your SoftStep.

- When you first receive your SoftStep, please check the SoftStep downloads for the latest firmware and applications: http://www.keithmcmillen.com/softstep/downloads/
- **Keith McMillen Instruments cannot be held liable for damage resulting from installation and operation errors or improper use.**

## System Requirements

We recommend the following for using the SoftStep applications:

**MAC:**

- An Intel Core 2 Duo 2.3GHz or greater Mac OS 10.5 or later
- 90 MB free hard disk space

**WINDOWS:**

- Windows XP, or Windows 7
- Intel Core 2 processor or greater
- 1GB of RAM with 50 MB free hard disk space

## What's in the SoftStep Package

When you open up the box you should find:



- 1 SoftStep
- 1 USB A-to-B cable (15ft.)
- 1 SoftStep Protective Sleeve
- 1 1/8" to 1/4" expression pedal adapter
- SoftStep MIDI Expander (optional)
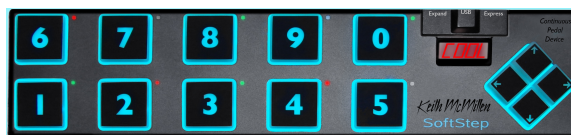
- ◦ 1 USB A-to-B Mini USB
  4-pin cable (15ft.)
- ◦ 1 USB power plug
- ◦ 1 USB A-to-B cable (6ft.)

# SoftStep Hardware

The SoftStep is the world's lightest, smallest, and most expressive foot controller.  It weighs about 566 grams and is 105mm x 450mm x 24mm.  The key pads are about 40mm X 40mm.  The Nav Pad diamond is about 50mm X 50mm.

SoftStep is powered by USB and has a 1/8" port for an expression pedal (volume pedals are not supported).  Make sure your expression pedal has a 3 wire (stereo) connection.  SoftStep ships with a 1/4" to 1/8" adapter so you can connect your 1/4" expression pedal to the expression port on the SoftStep.
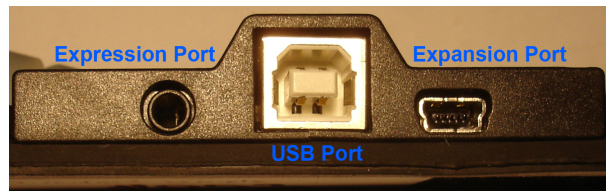


There is also an Expansion port for the SoftStep MIDI Expander (sold separately) to enable use without a computer to control your MIDI synth and/or rack.  Power can also be supplied through the expansion port.

SoftStep has blue electroluminescent backlighting for easy visibility on stage.  There is a 4 character, user programmable, alphanumeric display and 10 bi color, user programmable LEDs for visual feedback.

The SoftStep is rubberized with a carbon fiber back for maximum strength and stability.



Each key is responsive to 5 degrees of control: X-axis, Y-axis, clockwise rotation, counter-clockwise rotation, and pressure.  These control sources are mappable to any MIDI or OSC destination.

## Practical Applications
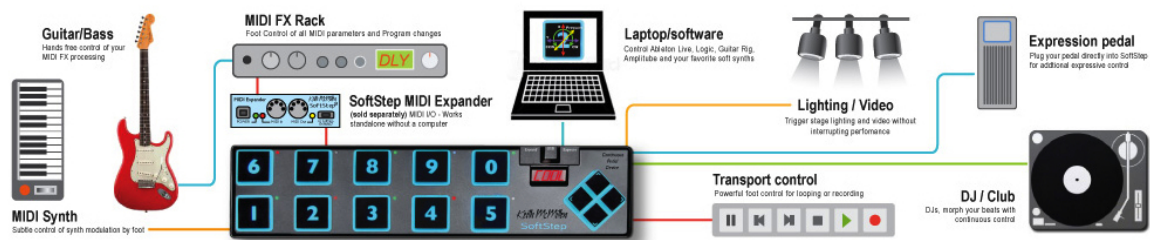


SoftStep is an extremely flexible controller with many possible applications.  You can use it with computer software to control effects, looping, sample triggering, etc.. Or use it with a DAW to set panning and mix levels, or trigger punch-ins and transport

functions.  You can use SoftStep to control your MIDI synth and/or external effects rack with the SoftStep MIDI Expander (sold separately).

In addition to controlling sound, the SoftStep can be used with anything that will accept MIDI or OSC data: lighting effects, video, robotics, pyrotechnics, and more.

# Connecting SoftStep



1. SoftStep foot controller
2. Computer - connected to the SoftStep via USB
3. Expression Pedal - connected to the SoftStep via Expression port
4. SoftStep MIDI Expander (Optional) - connected to the SoftStep via USB Expansion port
5. Effects Processor - connected to the MIDI Expander via MIDI cable (for use with MIDI Expander).  You can also connect to an interface that is connected to the computer (for use with computer).
6. Musical Instrument - Plugged into an effects processor (for use with MIDI Expander) or plugged into audio interface (for use with the computer).

Connecting SoftStep to an iPad



Or connecting a SoftStep and MIDI Expander to an iPad:
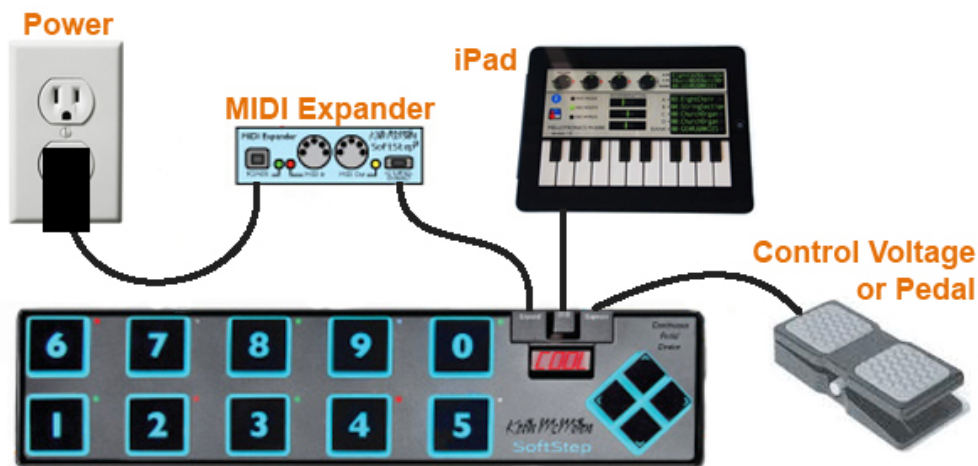
# SoftStep MIDI Expander



The SoftStep MIDI Expander enables you to use SoftStep with your hardware MIDI devices. Plug your MIDI devices into the SoftStep MIDI Expander and you're ready to send and receive MIDI data (with or without a computer).

## Setup A:

Connect the "Expand" port on SoftStep to the "to SoftStep Expand" port on the SoftStep MIDI Expander using the USB A-to-B mini cable. Connect the MIDI Expander to the USB power supply using the USB A-to-B cable.
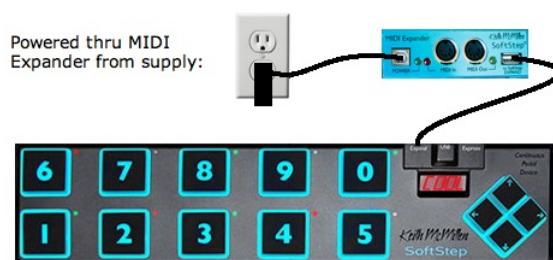


## Setup B:

Connect the "Expand" port on SoftStep to the "to SoftStep Expand" port on the SoftStep MIDI Expander using the USB A-to-B cable. Connect SoftStep to the USB power supply using the USB A-to-B cable.
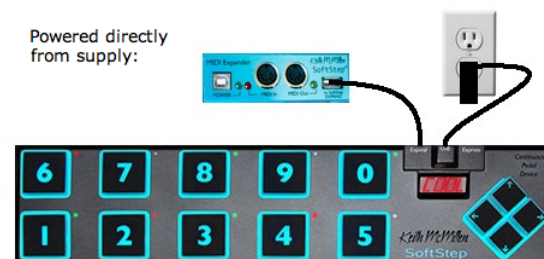


## Setup C:

Connect the "Expand" port on SoftStep to the "to SoftStep Expand" port on the SoftStep MIDI Expander using the USB A-to-B mini cable. Connect SoftStep to a computer using the USB A-to-B cable. (There is no need to use the USB power supply.)
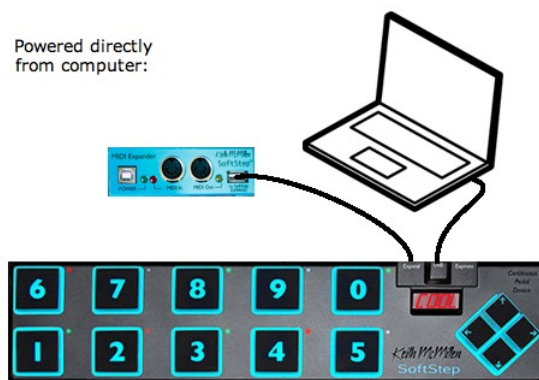
# Getting Started

Thanks again for purchasing SoftStep, now lets get started. Before you begin working with your SoftStep, please make sure to do all of the following **in this order:**

1. Download the SoftStep Music Applications from: http://www.keithmcmillen.com/softstep/downloads/
2. Install onto your computer:
    1. **for mac:** Install using the .dmg file. Once installed keep everything in the SoftStep folder as is so that the applications can access everything they need to run.
    2. **for windows:** Unzip the file and move the entire SoftStep directory into your Program Files directory. Make sure you keep all the folders and files in their original locations so that the applications can access everything they need to run.
3. Check to see if you need a firmware update and update your firmware if needed.
4. Plug the SoftStep into your computer via USB
5. Try out the factory-installed SoftStep scenes (see the Standalone chapter below to view guides for these scenes).
6. If you want to create your own scenes, open up the SoftStep Editor or the SoftStep Easy Editor. Use this manual as a reference for the SoftStep Editor. The SoftStep Easy Editor's documentation is included in the SoftStep Music Applications version 1.2 download.

If you experience any problems or have questions regarding the SoftStep install process, please reference the chapters devoted to them. If you continue to experience difficulties, consult the troubleshooting chapter. If these problems still persist, e-mail us at support@keithmcmillen.com outlining the problems you're experiencing. The more detailed you are in describing your problem (information about your computer, the software you're running, the circumstances around the issue), the more easily we will be able to help you.

## Downloading the Software

Make sure to download the latest version of the software at: http://www.keithmcmillen.com/softstep/downloads/

Once the software has finished downloading, install using the .dmg file (**mac**) or unzip it and drag-and-drop the entire "SoftStep" folder into your Program Files folder (**windows**).

The SoftStep folder contains the SoftStep Editor, a folder containing your presets, several other useful applications with their documentation, and a version notes file containing information about the current version's updates.
**IMPORTANT: Do not remove or change the locations of any files or folders inside the SoftStep directory.**

## Updating the Software

After downloading an upgrade from the SoftStep downloads site, install it using the .dmg file (**mac**) or unzip it and drag and drop the entire "SoftStep" folder into your "Program Files" folder (**windows**).  You can keep the old version if you'd like, it will cause no problems or conflicts with the newer version.  If you do keep your old versions, make sure to update any shortcuts you have created so that they link to the correct version.  If you decide to delete your old version, remember to save your presets.  See the Managing Presets chapter of the manual for more information on how to transfer your presets to a new version.

## Updating the Firmware

**Make sure the software and the firmware versions are compatible with each other.**

Note: If you used the Mac version 1.099 or RC1 please archive or delete them before updating to version 1.1 or 1.2 so you don't accidentally launch either of these older versions (particularly important if your firmware is not VK1 or higher).

The SoftStep Editor version 1.2 automatically updates your SoftStep's firmware if it is not compatible.  When the application prompts you to perform this update click the "update" button and wait until it is finished before continuing.



# Quick Start Guide

The SoftStep can operate in two different modes.  It can be used in HOSTED mode with the SoftStep Editor open in Hosted mode or it can be used in STANDALONE wich requires no application (or even without a computer if used with the SoftStep MIDI Expander).  If using Standalone mode you can use the SoftStep Editor to alter or create your own scenes if necessary.

## Standalone

With your SoftStep equipped with firmware version VK2, there will be some initial factory settings already downloaded to your SoftStep.  These settings come in the form of several different banks (programs/settings/presets/etc...) that we call scenes.  A scene encompasses 1 set of instructions (MIDI mappings) for all the keys.

You can use the east and west corners of the diamond-shaped Nav Pad to scroll through these scenes.  When scrolling through the scenes you will see the scene

abbreviation appear on the alpha numeric display to the left of the Nav Pad.  These are the factory-installed default scenes that are available when using the SoftStep standalone:

**PRGM = Program Change** - This scene allows you to select programs 0 - 127 over MIDI Channel 1.  The top and bottom keys of the Nav Pad let you scroll through decades (10's).  Then step on one of the 10 keys to determine the last digit (0-9).  This sends out the program change message.

| | | | | | |
|---|---|---|---|---|---|
| Foot On PGRM _6 | Foot On PRGM _7 | Foot On PRGM _8 | Foot On PRGM _9 | Foot On PRGM _0 | **PRGM** <br> + decade <br> LIVE <-scenes-> TOGL <br> decade - |
| Foot On PGRM _1 | Foot On PGRM _2 | Foot On PRGM _3 | Foot On PRGM _4 | Foot On PRGM _5 | |
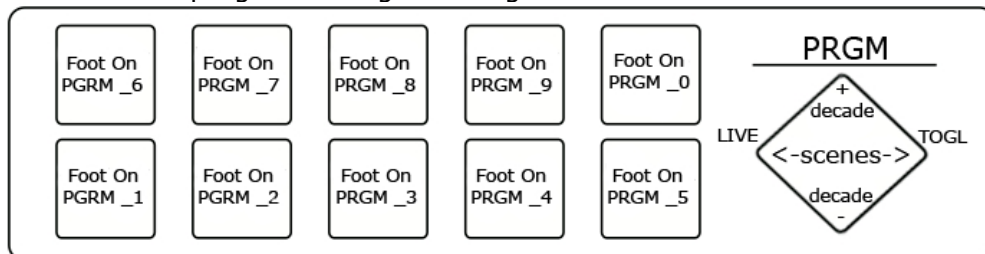
**TOGL = Toggles** - This scene makes each key a toggle switch triggered by Foot On.  It sends these toggles out CC #s 20-29.  The LED indicates whether the toggle is off or on.

| | | | | | |
|---|---|---|---|---|---|
| Foot On CC 26 | Foot On CC 27 | Foot On CC 28 | Foot On CC 29 | Foot On CC 20 | **TOGL** <br> PRGM <-scenes-> NOTE |
| Foot On CC 21 | Foot On CC 22 | Foot On CC 23 | Foot On CC 24 | Foot On CC 25 | |
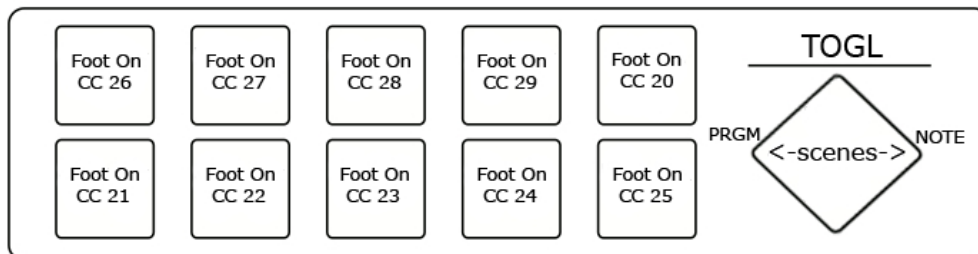
**NOTE = Notes** - This scene triggers MIDI notes 60 - 69 (C4 - A4).  The note on message is triggered by a foot on and the note off message is triggered when you take your foot off.  Velocity is 127.

| | | | | | |
|---|---|---|---|---|---|
| Foot On Note 65 | Foot On Note 66 | Foot On Note 67 | Foot On Note 68 | Foot On Note 69 | **NOTE** <br> TOGL <-scenes-> PRES |
| Foot On Note 60 | Foot On Note 61 | Foot On Note 62 | Foot On Note 63 | Foot On Note 64 | |

**PRES = Pressure Live** - This scene uses the pressure of your foot on each key to send out values on CC #s 110 - 119.

| | | | | | |
|---|---|---|---|---|---|
| Pressure CC 116 | Pressure CC 117 | Pressure CC 118 | Pressure CC 119 | Pressure CC 110 | **PRES** <br> NOTE <-scenes-> 11RK |
| Pressure CC 111 | Pressure CC 112 | Pressure CC 113 | Pressure CC 114 | Pressure CC 115 | |

**11RK = ElevenRack Control** - This scene works with an Avid Eleven Rack Processor.  You will need the MIDI Expander in order to connect.  The top row toggles effects and the bottom row modulates the effects' parameters.  Keys 1 and 3

use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value. For instant gratification, try this scene with the Eleven Rack's factory preset program #3 - "A4 Subway God".



**POD = Line6 Pod Control** - This scene works with most Line6 processors. You will need the MIDI Expander in order to connect. The top row toggles effects and the bottom row modulates the effects' parameters. Keys 1 and 3 use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value. For instant gratification, try this scene with the Line6 Pod's factory preset program #30 - "8C Vibro Blues".
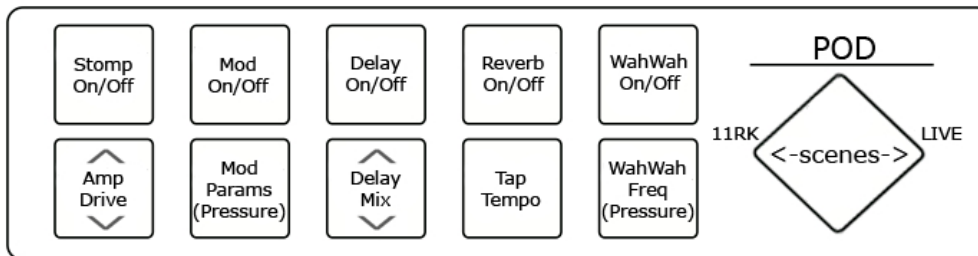


Each scene above also includes a MIDI mapping for an expression pedal if you have one plugged into your SoftStep. On all scenes the expression pedal is mapped to CC #7 (volume).

**LIVE = Ableton Live Control** - This scene works with our custom Ableton Live script. You can find this script and instructions for installing in the SoftStep Music Applications version 1.2 software package. It will be in a folder called "Extras". If used with this script this scene will automatically perform transport functions and control volume faders for tracks. If you have an expression pedal plugged in this will automatically control send volumes for tracks.
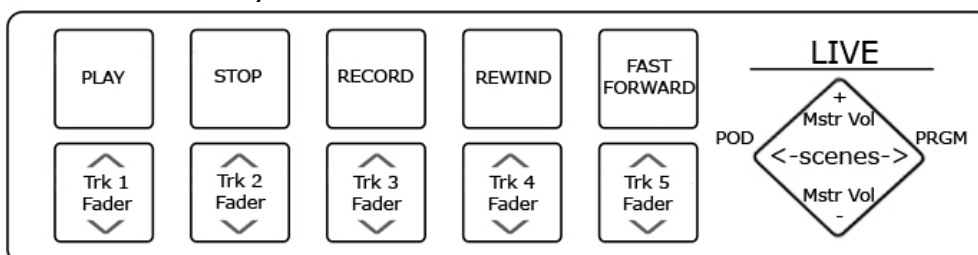


## Using the SoftStep Editor to Program the SoftStep

There may come a time that the factory scenes available on the SoftStep do not meet your needs or you want to change a few things to suite you better. At this point you'll want to use the SoftStep Editor in Standalone mode so that you can edit the scenes or program new ones. You might also at some point wish to take advantage of all the features that are available to you in Hosted mode.

You can also use the SoftStep Easy Editor if you just want 1 simple scene that sends out CC messages. See the SoftStep Easy Editor Reference Manual for guidance when using that application.

Below is a quick explanation of the main things you'll want to edit with the SoftStep Editor. The pictures in this chapter are taken in Standalone mode to show the things that are unavailable when using the application as an editor for Standalone. All things grayed out in the pictures are available when in Hosted mode.

When you open the SoftStep Editor make sure the SoftStep connected light comes on in the bottom right corner of the main window.
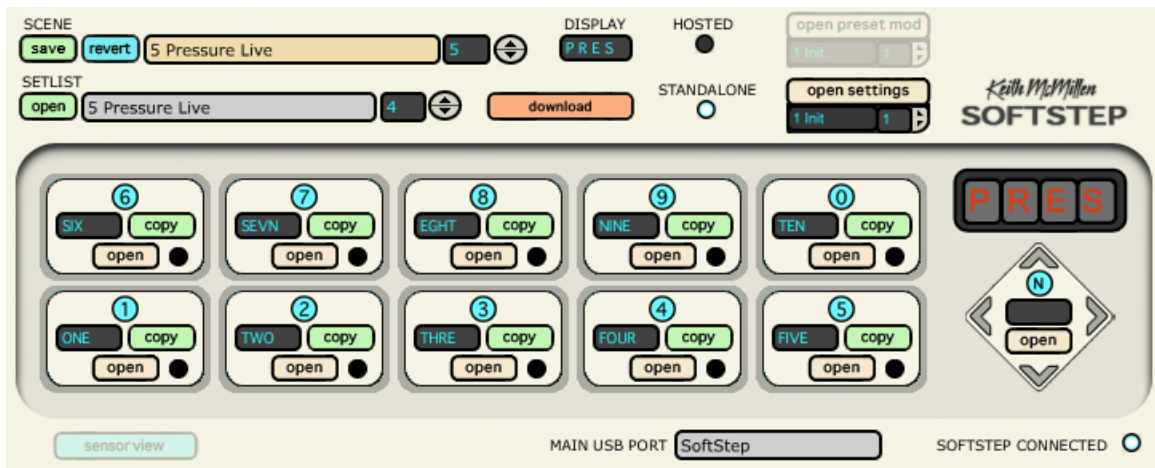


If you are prompted to perform a firmware update click the "update" button and wait until it is finished before continuing.



To alter the settings for a key select which scene you want to edit from the scene drop-down menu and open up a modulation window for one of the keys. Or if you want to make a brand new scene just open up one of the modulation windows for one of the keys.
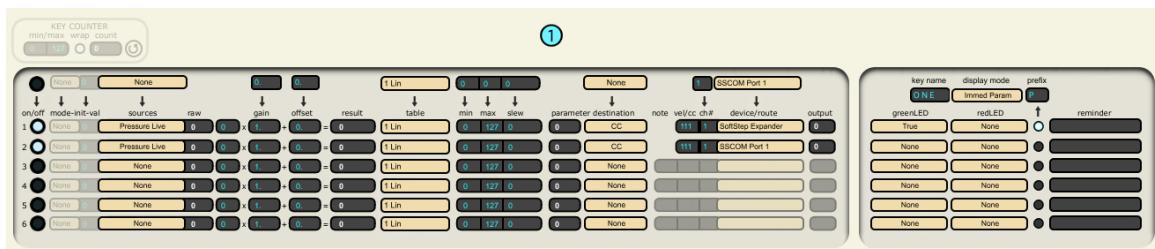


Each key has 6 rows called modlines. Each row can use a different data source from the key so that you can have up to six simultaneous data streams for each key. Let's just start with 1 for now.

**Modlines**
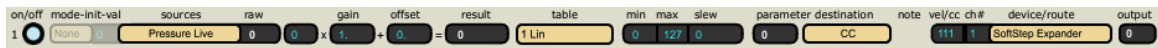
**on/off** - click on the circle to enable the modulation line and it will show a light blue-green color. When disabled, the modline on/off appears dark.

**mode** (not available in Standalone) - this refers to the mode for the **initial value** (the value you want your source to start at) which is how often you want an initial value to be sent (if at all):

- **None** - the initial value is never sent out
- **Once** - initial value is sent out only the first time that scene is recalled in a given session (session meaning from the time you open the application until the time you close the application).  Every other time the scene is recalled it will recall whatever that modline's state was the last time you were in the scene.
- **Always** - the initial value is sent out every time the scene is recalled

**init-val** (not available in Standalone) - the initial value.  This is the starting value of the **source** in the absence of any raw data.  The mode (defined above) dictates when the initial value is sent.

**sources** - Choose what data source will control the modline. The source determines the behavior of the SoftStep key pad when you step on it.  Click on the box and a list of sources will pop up in a scroll menu.  For a complete list of sources and how they work, see the SoftStep Sources in the **Appendix**.

**raw** (not shown in Standalone) - The value coming directly from the source is displayed here (in Hosted mode).

**gain** - this is the first place where you can use math to modify the signal. Whatever number is put in the gain box is used to multiply the value coming from the source.

**offset** - set a number to add to the value after it has been multiplied by the gain value.

**result** (not shown in Standalone) - the resulting value of the source modified by gain and offset (in Hosted mode).

**table** - after going through the gain and offset the data is entered into the selected lookup table, and used to plot the index on a chart.  There are a number of table options, each which will affect the modulation differently as it changes value over time. The "Lin" table (Linear) does not modify the result.  There are also two toggle options: **Toggle** and **Toggle 127**.  These either toggle between 0 and 1 or 0 and 127 when a value above 0 is received by the table.  We have also added 3 counter options: **Counter Inc**, **Counter Dec**, and **Counter Set** (only available in Hosted mode).  These allow you to count through a specified range of values using the Key Counter in the top left corner of the modulation window.

**min / max** - these allow you to constrain the data values between a minimum and a maximum number.  A higher minimum number than maximum will not invert the output.  If you wish to invert the output try using a gain of -1 and an offset of 127.

**slew** - The slew value represents the number of milliseconds that it will take to get to the target value.  Use slew to smooth out data when it jumps from one number to another.  The larger the slew, the slower the result will respond to the source.

**parameter destination** - Click on the drop-down menu to  see the many options available: Note Set, Note Live, CC, Bank, Program, OSC (Open Sound Control), Pitch Bend, MMC, Aftertouch, Poly Aftertouch, GarageBand, and HUI.  These options are further customizable by selecting the the note, velocity or control change, or the channel # on which to send the data out.  For a complete explanation of parameter destinations see the SoftStep Parameter Destinations list in the **Appendix**.  OSC, Aftertouch, Poly Aftertouch, GarageBand, HUI, Y Inc Set, and X Inc Set are currently only available in Hosted mode.

**device/route** - this is where you select the port that you want all of your MIDI messages to go out through.  If you'd like to send your data out through the SoftStep MIDI Expander then you would want to choose "SoftStep Expander" as your device.

For **Standalone mode**, if you want to send your data out to other applications on your computer (Ableton Live, Logic, Digital Performer, etc...) then you'll select "SSCOM Port 1".

For **Hosted mode** you'll want to use the "SoftStep Share" device (for **Mac** users) as your output device to send data to other applications on your computer.  For **Windows** users in Hosted mode you will have to set up an inter-application MIDI bus.  We recommend using MIDI Yoke which is available to download for free at http://www.midiox.com/

For more detailed information about the SoftStep's ports please read the Ports chapter of this Manual.

**output** (not shown in Standalone) - this displays what data is being sent out through the device you've selected.
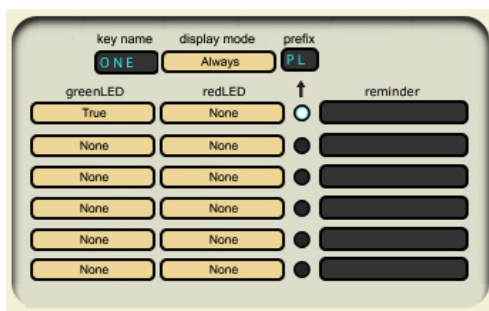


You can also program your LEDs and alphanumeric display to react to data from the modlines.  There is a green LED and a red LED for each key.  There are drop down menus for each color and on each modline so that you can select what you want the LED to do.

**LEDs and Display**

**None** - the light will not come on when you select none.

**True** - the light will come on when the output of the key is above 0.

**False** - the light will come on when the output of the key is 0.

**Flash True** - the light will flash repeatedly when the output of the key is above 0.

**Flash False** - the light will flash repeatedly when the output of the key is 0.

**Flash Fast True** - the light will flash quickly when the output of the key is above 0.

**Flash Fast False** - the light will flash quickly when the output of the key is 0.

**Blink True** - the light will blink once when the output of the key goes above 0.

**Blink False** - the light will blink once when the output of the key goes to 0.

**Off** - turns the LED off.

Above the LED menus you can select what information you want to see on the alphanumeric display.  First decide which display mode you want to use:

**None** - selecting this mode will cause the 4 letter display box to show the scene's 4 letter display when using that key, instead of the key name or prefix.

**Always** - selecting this mode will display the key name whenever that key is the most recently activated key.  In this mode the prefix is not used.

**Once** (not available in Standalone) - selecting this mode will display the key name once at the moment it is activated and will then show the prefix and parameter value.

**Initial/Return** (not available in Standalone) - selecting this mode will display the key name when the key is selected but not active, and will display the prefix and parameter value when in use.  This mode only works well for continuously changing sources, not for toggles.  When the display is showing a source value and the slew causes the output to persist after the foot is off the key, the display will no longer be updated, even though the parameter is still being altered.  Initial/Return is only available as a mode for the keys, not the Nav Pad.

**Immed Param** - stands for immediate parameter.  This will show the prefix and parameter value when that key is the currently activated key.  The key name doesn't ever show up in this mode.

The dots to the right of the LED menus allows you to select which modline will be used with the prefix when in Initial/Return or Immed Param mode.

The **reminder** field next to that is just so you can make a little note to yourself about the modline you just created.  This note serves no purpose except to just remind you about what that modline is for.

**Saving**

After setting up all of your key's modulation windows save everything into a scene.

The upper left corner of the main window is where you will find the save button for your scenes.
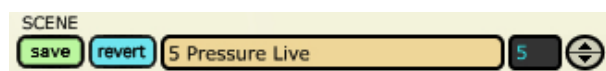


Click the Save button and type what you want its name to be in the **Scene Name** box.
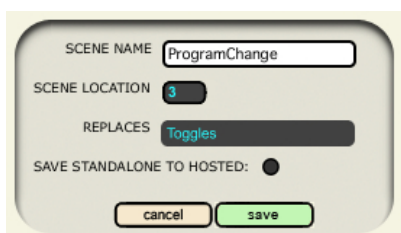


In the picture to the left, if I were to click "save", my old scene saved under scene 3 "Toggles" would be replaced with the latest adjustments, and scene 3 would be renamed "ProgramChange."
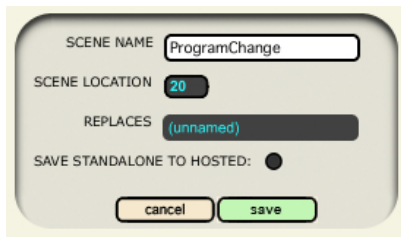
Instead, change the scene number to a blank "unnamed" slot (in this case "20") and type in a new name in the "Scene Name" field. This enables you to save multiple custom scenes.

Now that you are done making a scene, you easily recall it by selecting it from the drop down menu, scrolling to the correct number in the number box to the right, or hitting the increment/decrement box to the right of that.

If you edit a preset after saving or recalling it the number of the key modulation window that you edited will begin to blink red.



You can also revert to your last saved setting by clicking the "revert" button next to the "save" button.



When saving a scene be sure to give your scene a 4 letter name for the alphanumeric display so that you have a way of knowing which scene you are on just by looking at the SoftStep.

Also note that there is the option to save your scene to a slot for use in the other mode (Standalone or Hosted). When saving from Hosted mode to Standalone mode be sure to check your scene settings to make sure everything transferred. If you have used features that don't exist in Standalone mode they will revert to their default state and you will need to select an alternative.



If you are in Standalone mode and you want to download your scenes to your SoftStep for use without the application, put them in your setlist and click the "download" button. Make sure to save all of your changes before clicking download.

For more information see the Saving Scenes chapter of this manual.

The information presented in this chapter has been somewhat limited in order to get you started as quickly as possible. The discovery of more features and greater possibilities awaits in the following pages of this manual. Also check out the troubleshooting chapter if you are experiencing any problems.

# SoftStep Editor

SoftStep is not your typical foot controller. Using the SoftStep with the SoftStep Editor allows you the ability to create powerful control parameters in a simple, user friendly way.

The SoftStep Editor works with the SoftStep hardware controller to manipulate sensor data that gives the player a nearly infinite degree of control and possibility. The SoftStep multitouch controller has 10 key pads, each with Sensor Key Technology enabling 5 degrees of freedom that are unique to each key. These parameters include X, Y, Clockwise Rotation, Counter Clockwise Rotation and

Pressure.  These sources can be mapped to destinations up to six times for each key providing the possibility of a dense data source from a single motion of the foot.

To begin using the SoftStep Editor, plug in the controller via USB and open it up.

Be sure to wait until the application fully loads and the SoftStep connected light comes on in the bottom right corner of the main window before you begin to use the application.

The SoftStep Editor version 1.2 automatically updates your SoftStep's firmware if it is not compatible.  When the application prompts you to perform this update click the "update" button and wait until it is finished before continuing.



## The Basics

The SoftStep Editor is set up so that when you first open it you see an arrangement similar to the arrangement of the SoftStep itself.  The main controls for each key pad are all laid out with the controls for the diamond-shaped Nav Pad on the right.  The keys and the Nav Pad all have their own modulation window where the sources, visible from the sensor view application, can be mapped to various MIDI destinations of your choosing using the modlines.  Each modulation window contains 6 modlines.  This means that you can control 6 different messages per key.  After setting up your modlines you can save all of this information into scenes from the main window.

Additionally, you can move from scene to scene in whatever order you choose by using the setlist.  The x-axis of the diamond-shaped Nav Pad is set to scroll through the scenes in the setlist.  In Hosted Mode, each time you come back to any scene it will remember where you were in that scene last time you were there so you can pick right back up where you left off.  For example, let's say that for one scene you have all of your program change messages set up.  After editing your program changes with the foot controller you go to a different scene, one that is set up to control a looper, after turning on some loops you can go back to the program change scene it will remember what the last program change message you sent out was.  Also when you go back to the looper it will remember which loops you turned on last time you were in that scene.  By tapping either up/down on the Nav Pad the last data sent from that scene will be displayed in the alpha numeric display until you press another key.

The SoftStep Editor also provides you with the ability to alter the sensitivity settings for the keys and the Nav Pad.  Accessible from the main window, the settings window also lets you set up a MIDI input device for use with the SoftStep MIDI Expander and calibrate an expression for use with the SoftStep's expression port.  MIDI input can then be used as sources in the key's modulation windows and the Preset Modulation window, also accessible from the Main window. You can use Preset Modulation to allow other MIDI controllers to change scenes.

The SoftStep Editor also has the ability to turn into an editor for Standalone mode, which allows you to download all of your presets to the SoftStep hardware for use without the application or even without the computer if you have a SoftStep MIDI Expander.  The features available in Standalone mode are a bit different than the features available in Hosted mode.  For an explanation about the differences between Hosted and Standalone, see the Standalone Vs. Hosted chapter of this manual.

# Ports

The SoftStep communicates with the computer via USB on 2 MIDI ports.  The function of these ports will change when you select Standalone or Hosted mode:

**SSCOM Port 1 and SSCOM Port 2**

In the application's main window, in the bottom on the right side of the screen is a drop-down menu for selecting the Main USB Port that the application will look to for raw data from the SoftStep.  The application should automatically select the SoftStep device after the application fully loads but if not you can select it yourself here:

MAIN USB PORT  SoftStep
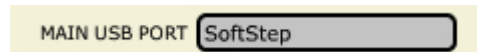
If you can't find "SoftStep" in the list even though your SoftStep is plugged in via USB, consult the Troubleshooting chapter on Connectivity Trouble.

**HOSTED MODE**

In **Hosted** mode, **SSCOM Port 1** is the port on which data from the SoftStep travels to and from the application.  The SoftStep Editor uses this data and molds it into something you can use for your own purposes.  You will need to use a virtual MIDI Port to communicate from the SoftStep application to other applications on your computer.

**Mac**

The **SoftStep Share** Port is available as a virtual MIDI port after opening the SoftStep application.  This is our own inter-application MIDI Bus.  Use SoftStep Share as your device to route data to other applications on your computer.  You may also use the **IAC Driver Bus**, which is Apple's inter-application MIDI Bus.  To use these set the **device/route** to "SoftStep Share" or "IAC Driver Bus" in each key's modline. You will need to set other applications to receive data only from SoftStep Share or IAC Driver Bus and not SSCOM Port 1 so that the raw sensor data does not get mixed up with the data you are trying to send from the SoftStep Music Application.

**Windows**

Windows does not come with a built-in MIDI bus but you can download one for free online. We recommend using MIDI Yoke. You can download that from here:

http://www.midiox.com/

Run the installer file. If you are running Windows 7 you will most likely need to disable or turn off the UAC (User Account Control) in Control Panel on your computer in order for the installation to work. Here is a link where you can find instructions for doing this:

http://www.mydigitallife.info/2008/12/30/how-to-disable-and-turn-off-uac-in-windows-7/

After MIDI Yoke successfully installs on your computer the "Out to MIDI Yoke: [1-8]" device will automatically appear in your **device/route** list in your key's modlines.

You will need to set other applications to receive data only from the MIDI Yoke devices and not SSCOM Port 1 so that the raw sensor data does not get mixed up with the data you are trying to send from the SoftStep application.

**STANDALONE MODE**

The SoftStep Editor in **Standalone** mode becomes the Standalone Editor.  When you use Standalone mode, "SSCOM Port 1" now becomes the input for user MIDI data to and from SoftStep.  In this mode you need to set the **device/route** to SSCOM Port 1 in each key's modline and make sure that other applications use SSCOM Port 1 for MIDI Input.

Note to **Windows** users: variations on how SSCOM Port 1 is displayed in other applications sometimes occurs.  It might appear as just "SSCOM" or on XP computers, "USB Audio Device (1)".)

To talk to external hardware with the **SoftStep MIDI Expander** in both **Hosted** and **Standalone** modes, set the **device/route** to "SoftStep Expander" in each key's modline.  This may also appear as "SSCOM Port 2" in other applications.

Note to **Windows** users:  Variations such as "MIDIOUT2 (SSCOM)" or "USB Audio Device (2)" often show up in other applications.

# Standalone vs. Hosted

There are a few important differences to be aware of when choosing whether to use the SoftStep Editor in Hosted mode or in Standalone mode.  The major difference is that Hosted mode requires that the SoftStep be connected to your computer with the SoftStep Editor running, while Standalone mode allows you to use the SoftStep without running the application (or even without a computer if you have a SoftStep MIDI Expander).

Another important difference is that when using the application as an editor in Standalone mode the visual feedback available to you in the sensor view and modlines is unavailable.  You'll notice that the sensor view button is grayed out and you cannot view the raw data coming in through the modline like you can in Hosted mode.

Selecting which output device to use to send MIDI data is a bit different in Standalone mode.  Since the data will be coming directly from the SoftStep, which has only two ports, inter-application ports become unavailable and unnecessary in Standalone mode.  Select "SSCOM Port 1" (SoftStep's Port 1) as the device/route to send data through to applications on your computer.  This can appear as "USB Audio Device (1)" on some Windows computers.  Select "SoftStep Expander" (SSCOM Port 2) as your device to send data out through the SoftStep MIDI Expander.  SSCOM 2 can appear as "MIDIOUT2 (SSCOM)" or "USB Audio Device (2)" on some Windows computers.  For more information on ports and devices in Hosted mode and Standalone mode see the Ports chapter and the device/route definition in the Modulation chapter of this manual.

The state recall feature that allows you to change scenes and return to them and find everything how you left it is not available in Standalone mode.  So in Standalone mode, the LED data and Toggle states will not be remembered as you move between scenes.  Anytime you go back to a scene that you have previously sent data from,

that scene will load as though it were the first time you've selected it after plugging the SoftStep in.

You will also find that Standalone mode does not support the full list of sources and parameter destinations.  In Standalone mode, the sources list does not include MIDI Input, rotation, rot relative, top, bottom, the trigger latch sources, or Nav Y.
 Parameter destinations do not include OSC,GarageBand, HUI, Aftertouch, Poly Aftertouch, Y Inc Set, or X Inc Set.

# Main Window Overview

When you open the SoftStep application the following window will pop up.  This image shows the use of one of the main factory presets:
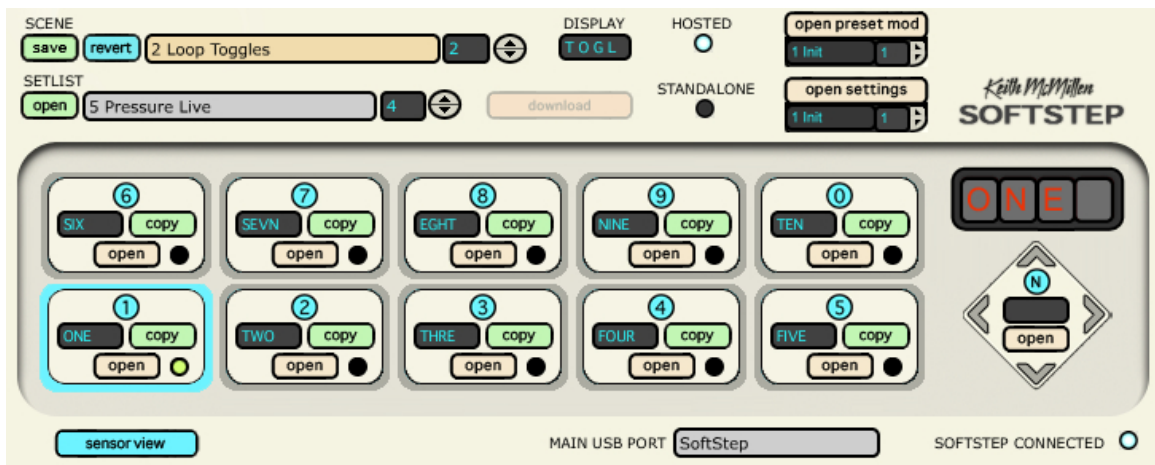


A brief overview of the main window is as follows:

The shadowed box seen above holds 10 blocks that correspond to the 10 button keys on the SoftStep hardware.  Each numbered box holds the mappings that pertain to that key.  These mappings can be edited by clicking the "open" box within each key. In Hosted mode, when you step on each key a blue background will appear around the corresponding block (as shown above on key 1).



To the right of the numbered pads are 4 dark grey boxes that mirror what is displayed on the LED display on the SoftStep controller.  Under that is the control for the **Nav Pad**.  This allows you to control the settings for the diamond-shaped pad on the right side of the SoftStep.
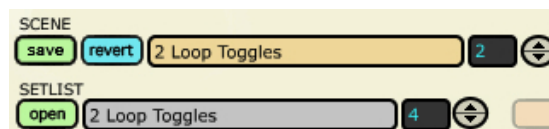


The top left corner of the main window is where you save and select scenes.  Under the scenes control is the **setlist** control which allows you to put the scenes in an order that is useful for performances.  The order that you save your scenes while you are programming your SoftStep might not be the order you want to use during

performance. This way you can navigate through the scenes in whatever order you choose and you can choose only the ones you need.

The **display** text field lets you set a scene abbreviation. This is what the alpha numeric display on the SoftStep will show when you navigate through the scenes.

The open preset mod button allows you to open a window where you can use the MIDI input sources to control scene changes instead of using the side buttons of the Nav Pad.

Under the preset mod control is where you can open the settings window and select presets for it. The settings window is where you set how the application will scale and accept data from the controller. The settings window is also where you set up an OSC port and declare MIDI Input channels.
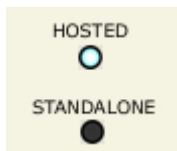
You can also select whether you want to use the application as the host or as an editor for using the SoftStep standalone. Selecting **Hosted** will allow you to work with the application and all of the functionality that comes along with it, including visual feedback so you can see how the raw data from the SoftStep is being put to use. Hosted requires that you keep the application running in the background while using the SoftStep.

Selecting **Standalone** makes the application work as an editor that you use to program the SoftStep. The download button becomes available when in Standalone so that when you are finished setting everything up the way you want you can click "download" and then exit the application and use the SoftStep without it. Make sure to save all of your scenes and add them to your setlist before clicking download. For more information on the differences between Hosted and Standalone see the Standalone vs. Hosted chapter of this manual.

In Hosted mode, you will find the sensor view button active in the bottom left corner. When clicked, another app called Sensor View will open up. This will show you exactly how the controller is sensing data when you step on the keys.

## Saving Scenes

After setting up all of your key's modulation windows save everything into a scene.

The upper left corner of the main window is where you will find the save button for your scenes.

Click the Save button and type what you want its name to be in the **Scene Name** box.

In the picture to the left, if I were to click "save", my old scene saved under scene 3 "Toggles" would be replaced with the latest adjustments, and scene 3 would be renamed "ProgramChange."



Instead, change the scene number to a blank "unnamed" slot (in this case "4") and type in a new name in the "Scene Name" field. This enables you to save multiple custom scenes.

Tip:  After clicking in the preset number box, you can then use the up/down arrows on your computer keyboard to scroll up or down to unnamed slots.  You can also type in the number you wish to scroll to.  Then hit enter and your scene or preset will save.

Now that you are done making a scene, you easily recall it by selecting it from the drop down menu, scrolling to the correct number in the number box to the right, or hitting the increment/decrement box to the right of that.

If you edit a preset after saving or recalling it the number of the key modulation window that you edited will begin to blink red.



You can also revert to your last saved setting by clicking the "revert" button next to the "save" button.



When saving a scene be sure to give your scene a 4 letter name for the alphanumeric display so that you have a way of knowing which scene you are on just by looking at the SoftStep.

Also note that there is the option to save your scene to a slot for use in the other mode (Standalone or Hosted).  When saving from Hosted mode to Standalone mode be sure to check your scene settings to make sure everything transferred.  If you have used features that don't exist in Standalone mode they will revert to their default state and you will need to select an alternative.



If you are in Standalone mode and you want to download your scenes to your SoftStep for use without the application, put them in your setlist and click the "download" button.  Make sure to save all of your changes before clicking download.

## Managing Scenes and Presets

When you save scenes this information is stored in a folder within the SoftStep directory.  You're going to want to be aware of how to retrieve your presets so that you can save them and transfer them if you upgrade to newer versions of the

software.  Be sure you don't rename or tamper with the files that are inside the Presets folder.

Transferring presets between versions 1.1 and 1.2 of the software requires a specific process because Presets are formatted differently before version 1.2.  To simplify this process we have included the SoftStep Scene Converter and Scene Librarian.  Follow the steps below to convert your presets from version 1.1 to version 1.2:

1. open the SoftStep Converter app

2. click "choose source" and navigate to your presets folder from version 1.1 (this should not be moved into the SoftStep 1.2 directory)

3. click the "convert" button and wait until the converting process is finished.

4. exit the Converter

5. open the SoftStep Librarian app (this might take a bit of time to load)

6. click "open" and navigate to your 1.1_Converted_Presets folder which is in the SoftStep 1.2 directory (on Windows it is inside the SoftStep Converter folder).

7. choose the scene you want to transfer to the new Scene list, pick a slot number, and click "insert".  This will not write over existing scenes in the destination list, it will just move the slots down.

8. repeat step 7 as needed for additional scenes.  You can switch between Hosted mode and Standalone mode as well.

9. exit the SoftStep Librarian

10. open the SoftStep application to view and check your transferred scenes

For more information about the Converter and the Librarian, see the SoftStep Scene Librarian Reference Manual.

## Factory Scene Library

The SoftStep application comes with a number of scene presets already saved. These are the scenes available from the Scene Library list in the top left corner of the main window:

### Hosted Mode

**Init** - This scene loads the Init presets for all of the keys and the Nav Pad.  This provides you with a "clean slate" where you would want to start from if you were going to make your own presets from scratch.

**Program Change** - This scene allows you to select programs 0 - 127 over MIDI Channel 1.  The top and bottom keys of the Nav Pad let you scroll through decades (10's).  Then step on one of the 10 keys to determine the last digit (0-9).  This sends out the program change message.  Program Change messages will be routed out through a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.

**Toggles** - This scene makes each key a toggle switch triggered by Foot On.  It sends these toggles out CC #s 20-29 on MIDI Channel 1 through both a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.  The LED indicates whether the toggle is off or on.

**Notes** - This scene triggers MIDI notes 60 - 69 (C4 - A4) on MIDI Channel 1 through both a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.  The note on message is triggered by a foot on and the note off message is triggered when you take your foot off.  Velocity is 127.
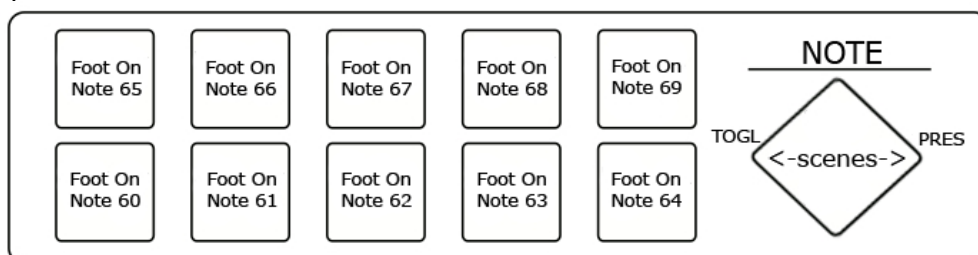
**Pressure Live** - This scene uses the pressure of your foot on each key to send out values on CC #s 110 - 119 on MIDI Channel 1 through both a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.

**ElevenRack Control** - This scene works with an Avid Eleven Rack Processor.  You will need the MIDI Expander in order to connect.  The top row toggles effects and the bottom row modulates the effects' parameters.  Keys 1 and 3 use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value.  For instant gratification, try this scene with the Eleven Rack's factory preset program #3 - "A4 Subway God".  The MIDI data is routed through both a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.

**Line6 Pod Control** - This scene works with most Line6 processors.  You will need the MIDI Expander in order to connect.  The top row toggles effects and the bottom row modulates the effects' parameters.  Keys 1 and 3 use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value.  For instant gratification, try this scene with the Line6 Pod's factory preset program #30 - "8C Vibro Blues".  The MIDI data is routed through both a virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows) and the MIDI Expander.

**Ableton Live Control** - This scene works with our custom Ableton Live script.  You can find this script and instructions for installing in the SoftStep Music Applications version 1.2 software package.  It will be in a folder called "Extras".  If using this scene from Hosted mode make sure to adjust the control surface input port to receive from your virtual MIDI bus (SoftStep Share for Mac/MIDI Yoke for Windows).  If used with this script this scene will automatically perform transport functions and control volume faders for tracks.  If you have an expression pedal plugged in this will automatically control send volumes for tracks.  This scene can also be mapped to other things since it is just sending CC messages.

**MMC - DAW Transport** - This scene uses foot on triggers to send MMC messages out.  You would have to put in your own device ID for it to work whatever you wish to send it to.  The alpha numeric display shows you the intended function for each key, not all keys are assigned to a function.  The LEDs act as radio buttons for stop, play, record, and pause.  The LED's for rewind and fast forward turn on when you step on the key and off when you lift your foot up.

**Ableton Live Demo** - This scene is for use with the Ableton Live Tutorial set (Live_Example1_DrumLoops.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control different parameters in the Live set.  Also check out the Using SoftStep with Ableton Live chapter of the **Appendix** for more information on how this scene is used with the Live set.

**Ableton Live Guitar FX Demo Looper** - This scene is for use with the Ableton Live Tutorial set (Live_Example2_GuitarFXLooper.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control different parameters in the Live set.

**Logic Transport Demo** (mac only) - This scene is for use with the Logic Transport Tutorial file (logic_transport_tutorial.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control transport functions in the Logic project.

**Mainstage Tutorial Video** (mac only) - This scene was used to create the Mainstage Tutorial Video for Hosted mode.  Follow along with the video to map this scene to functions in Mainstage.

**Garageband Transport** (mac only) - This scene works with the Garageband parameter destinations for transport control in GarageBand.  In order to use this preset you will need to download Garage Remote.  It's a free program that is added to your system preferences that will receive MIDI data and translate for GarageBand.  You can download it here:  http://www.muratnkonar.com/otherstuff/garageremote/downloads.shtml

**Pro Tools HUI** - This scene is set up to use the HUI parameter destinations to control transport functions in ProTools.  See the HUI explanation in the SoftStep Parameter Destinations chapter in the **Appendix** for more information.

**Live Looper Template** - This scene is set up for use with the Live Looper Template set (Live_Looper_Template.zip).  Keys 6-9 are mapped to control 4 loopers on 4 different tracks.  Step on keys 6-9 to toggle loopers on 4 tracks back and forth between record and play (then overdub and play).  Hold down on the key pad for 1 second to stop the looper.  Key 0 will clear all loopers.  The volumes for each track are controlled by keys 1-4.  Key 5 is for tap tempo.  Use the Nav Pad's top and bottom pads to tap up and down through Ableton scenes.

**Standalone Mode**

**Init** - This scene loads the Init presets for all of the keys and the Nav Pad.  This provides you with a "clean slate" where you would want to start from if you were going to make your own presets from scratch.

**Program Change** - This scene allows you to select programs 0 - 127 over MIDI Channel 1.  The top and bottom keys of the Nav Pad let you scroll through decades (10's).  Then step on one of the 10 keys to determine the last digit (0-9).  This sends out the program change message.  Program Change messages will be routed out through SSCOM Port 1 (USB) and the MIDI Expander.



**Toggles** - This scene makes each key a toggle switch triggered by Foot On.  It sends these toggles out CC #s 20-29 on MIDI Channel 1 through both SSCOM Port 1 (USB) and the MIDI Expander.  The LED indicates whether the toggle is off or on.

| Foot On CC 26 | Foot On CC 27 | Foot On CC 28 | Foot On CC 29 | Foot On CC 20 | TOGL |
|---|---|---|---|---|---|
| Foot On CC 21 | Foot On CC 22 | Foot On CC 23 | Foot On CC 24 | Foot On CC 25 | PRGM ◇ <-scenes-> NOTE |

**Notes** - This scene triggers MIDI notes 60 - 69 (C4 - A4) on MIDI Channel 1 through both SSCOM Port 1 (USB) and the MIDI Expander.  The note on message is triggered by a foot on and the note off message is triggered when you take your foot off. Velocity is 127.

| Foot On Note 65 | Foot On Note 66 | Foot On Note 67 | Foot On Note 68 | Foot On Note 69 | NOTE |
|---|---|---|---|---|---|
| Foot On Note 60 | Foot On Note 61 | Foot On Note 62 | Foot On Note 63 | Foot On Note 64 | TOGL ◇ <-scenes-> PRES |

**Pressure Live** - This scene uses the pressure of your foot on each key to send out values on CC #s 110 - 119 on MIDI Channel 1 through both SSCOM Port 1 (USB) and the MIDI Expander.

| Pressure CC 116 | Pressure CC 117 | Pressure CC 118 | Pressure CC 119 | Pressure CC 110 | PRES |
|---|---|---|---|---|---|
| Pressure CC 111 | Pressure CC 112 | Pressure CC 113 | Pressure CC 114 | Pressure CC 115 | NOTE ◇ <-scenes-> 11RK |

**ElevenRack Control** - This scene works with an Avid Eleven Rack Processor.  You will need the MIDI Expander in order to connect.  The top row toggles effects and the bottom row modulates the effects' parameters.  Keys 1 and 3 use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value.  For instant gratification, try this scene with the Eleven Rack's factory preset program #3 - "A4 Subway God".  The MIDI data is routed through both SSCOM Port 1 (USB) and the MIDI Expander.

| Distortion On/Off | Mod On/Off | Delay On/Off | Reverb On/Off | WahWah On/Off | 11RK |
|---|---|---|---|---|---|
| Distortion Tone | Mod Params (Pressure) | Delay Mix | Tap Tempo | WahWah Freq (Pressure) | PRES ◇ <-scenes-> POD |

**Line6 Pod Control** - This scene works with most Line6 processors.  You will need the MIDI Expander in order to connect.  The top row toggles effects and the bottom row modulates the effects' parameters.  Keys 1 and 3 use pressure on the top of the key to increase the value and pressure on the bottom of the key to decrease the value.  For instant gratification, try this scene with the Line6 Pod's factory preset program #30 -

"8C Vibro Blues".  The MIDI data is routed through both SSCOM Port 1 (USB) and the MIDI Expander.



**Ableton Live Control** - This scene works with our custom Ableton Live script.  You can find this script and instructions for installing in the SoftStep Music Applications version 1.2 software package.  It will be in a folder called "Extras".  If used with this script this scene will automatically perform transport functions and control volume faders for tracks.  If you have an expression pedal plugged in this will automatically control send volumes for tracks.  This scene can also be mapped to other things since it is just sending CC messages.



**MMC - DAW Transport** - This scene uses foot on triggers to send MMC messages out. You would have to put in your own device ID for it to work whatever you wish to send it to.  The alpha numeric display shows you the intended function for each key, not all keys are assigned to a function.  The LEDs act as radio buttons for stop, play, record, and pause.  The LED's for rewind and fast forward turn on when you step on the key and off when you lift your foot up.

**Key Commands** - This is the scene that the SoftStep KeyWorx application uses.

**Ableton Live Demo** - This scene is for use with the Ableton Live Tutorial set (Live_Example1_DrumLoops.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control different parameters in the Live set.  Also check out the Using SoftStep with Ableton Live chapter of the Appendix for more information on how this scene is used with the Live set.

**Ableton Live Guitar FX Demo Looper** - This scene is for use with the Ableton Live Tutorial set (Live_Example2_GuitarFXLooper.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control different parameters in the Live set.

**Logic Transport Demo** (mac only) - This scene is for use with the Logic Transport Tutorial file (logic_transport_tutorial.zip) that comes with the SoftStep application package in the "application_examples" folder.  All of the keys control transport functions in the Logic project.

**Mainstage Tutorial Video** (mac only) - This scene was used to create the Mainstage Tutorial Video for Hosted mode.  Follow along with the video to map this scene to functions in Mainstage.

**Keyboard Demo** - This scene is the scene used in the Keyboard video demo which can be viewed here:  http://www.keithmcmillen.com/softstep/videos/  Keys 6, 7, and 8 are program changes and keys 9 and 0 hold notes which can be used for starting patterns on keyboards.  Key 1 is used for pitch bend.  The rest of the keys send out CC#s which can be used to alter parameters on keyboards that can be programmed to receive them.

**iPad Demo - Korg iMS-20** - This scene is used in the iPad video demo which can be viewed here:  http://www.keithmcmillen.com/softstep/videos/  It works with the Korg iMS-20 iPad app.  This should automatically work and sounds best when used with the iMS-20 preset called "Bass 4".

**Eventide - TimeFactor** - If you own an Eventide TimeFactor you can use this scene along with the Program Change scene to control it.  Check out the "Extras" folder in the SoftStep directory and find the "Eventide_TimeFactor.zip".  Unzip this and you will find a folder with a couple of documents and 2 sysex files.  Read the instructions for loading up one of the sysex files to your TimeFactor and be sure to back up your previous settings.  After this you can control the TimeFactor with the SoftStep!
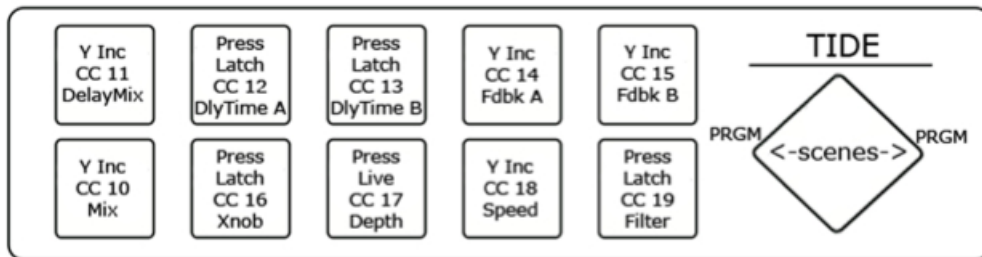


**AxeFX Ultra Control** - Use this scene along with the Program Change scene to control the AxeFX Ultra.  You may need to restore your system settings on your AxeFX in order for this scene to function.  We have also included a folder with a sysex file for the AxeFX Ultra and some instructions in the "Extras" folder in the SoftStep directory which will get you off to an even better start with this scene as well.  It is always best to back up your previous AxeFX settings before dumping our sysex file onto it.
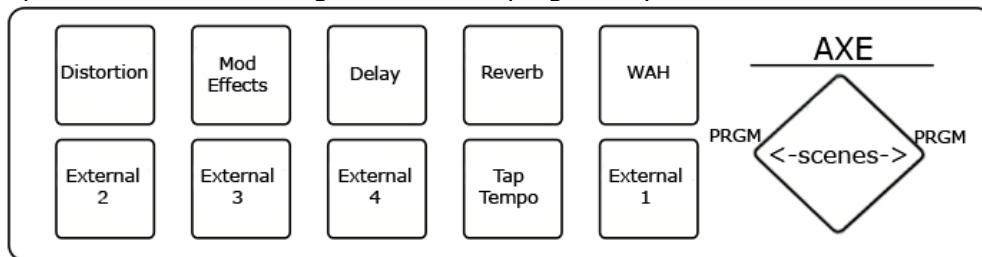


# Scenes

The SoftStep Editor lets you set up how you want each key to function and save and recall them all in a chosen scene.  After you name and save your scene you can add it to the setlist.

One of the great things about scenes in Hosted mode is that the state of the scene is remembered even if you change to a new scene.  When you go back to that scene again you can pick back up where you left off.  This state recall feature has not been implemented in Standalone mode.

You can use the setlist to pick which scenes you want to use and in what order you want them to occur.  Additionally, the Nav Pad is automatically set up to scroll through the scenes that are listed in the setlist.

In Hosted mode you can program the keys to recall initial states.  These initial states will be how they start out in any given session the first time the scene is recalled (when you start the application or first turn on the SoftStep).  You can also select whether or not you want the initial states to be used every time you select that scene, only the first time, or never.  (see the key's modulation chapter for more information on init values and init modes).

## Setlist
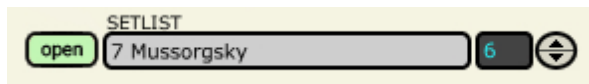


From the main window of the SoftStep software find the setlist menu right under where you save your scenes and click the "open" button.

The Setlist window will open up.  You'll see an array of text fields and number boxes with little circles in front of them.  Using the circle buttons in front of each line you can turn on or off a scene that you choose to put in the text field.  Choose which scene to use by selecting it from the drop-down menu when you click inside the text field, scrolling through the numbers, or pressing the inc/dec buttons on the right hand side.

The order of scenes listed in the set list will be the order of scenes when you scroll through them with the left and right arrows of the Nav Pad.

In Standalone mode the setlist will be limited to 16 scenes.  The scenes that are not in the setlist will not be downloaded to the SoftStep.
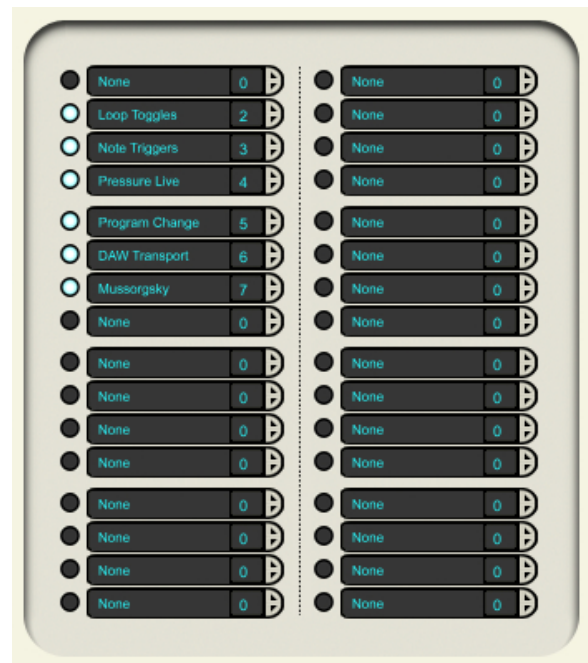


## Settings

The settings window allows you to edit sensitivity parameters for each key, set up a MIDI Input device, an OSC (Open Sound Control) port, and calibrate an expression pedal.

On the left side of the window are the Keys settings:
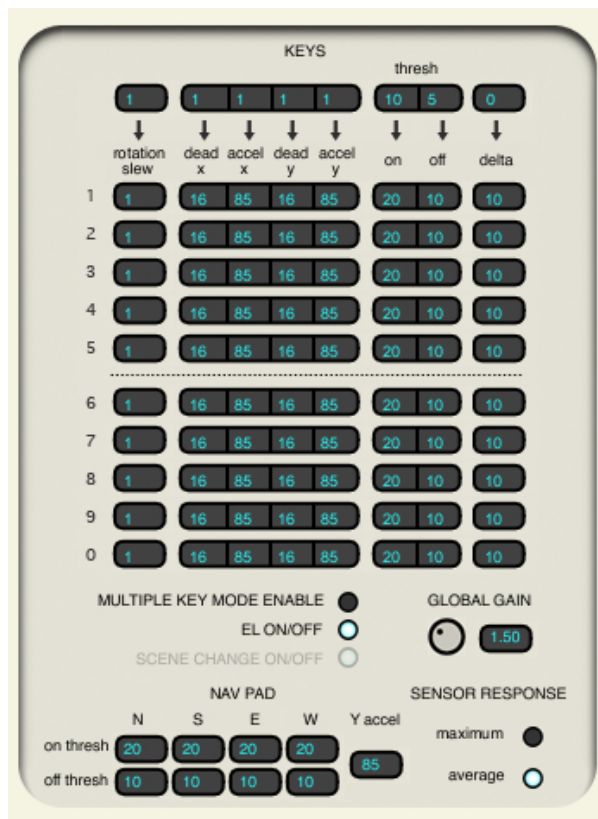
**rotation slew** (not available in Standalone) - rotation plots the location of your foot on the key around a dial that goes from 0-127 which is then available as a source for data mapping. The rotation slew setting allows you to add slew while scrolling through the dial values, allowing you to slow down the rotation.

**dead X** - when using the X Increment source, this parameter designates the width of the horizontal dead zone, which indicates how much more weight to one side you need to be pushing down to begin incrementing or decrementing.

**accel X** - when using the X Increment source, this is how fast the inc/dec for the horizontal plane moves. The higher the value, the faster you'll move from one side to the other.

**dead Y** - when using the Y Increment source, this parameter designates the width of the vertical dead zone, which indicates how much more weight to the top or bottom you need to be pushing down to begin incrementing or decrementing.

KEYS

| | rotation slew | dead x | accel x | dead y | accel y | on | off | delta |
|---|---|---|---|---|---|---|---|---|
| thresh | 1 | 1 | 1 | 1 | 1 | 10 | 5 | 0 |
| 1 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 2 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 3 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 4 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 5 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 6 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 7 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 8 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 9 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |
| 0 | 1 | 16 | 85 | 16 | 85 | 20 | 10 | 10 |

MULTIPLE KEY MODE ENABLE ●  GLOBAL GAIN
EL ON/OFF ○  1.50
SCENE CHANGE ON/OFF ○

NAV PAD  SENSOR RESPONSE

| | N | S | E | W | Y accel | |
|---|---|---|---|---|---|---|
| on thresh | 20 | 20 | 20 | 20 | 85 | maximum ● |
| off thresh | 10 | 10 | 10 | 10 | | average ○ |

**accel Y** - when using the Y Increment source, this is how fast the inc/dec for the vertical plane moves. The higher the value, the faster you'll move from one side to the other

**on thresh** - here you can set the pressure value at which the "foot on" source will register. If set to 10 the pressure of your foot on the key has to reach a value of 10 before the "foot on" trigger is sent.

**off thresh** - here you can set the pressure value at which the "foot off" source will register. If set to to 5, the pressure of your foot on the key would have to be 5 or lower for the "foot off" trigger to register. Make sure this is lower than the "on" threshold.

**delta** (not available in Standalone) - If there is a positive change in pressure greater than the delta value it sends the delta trigger value that you can use as a modulation source.

**multiple key mode enable** - turn this on to be able to use two keys at a time - one per foot. The SoftStep automatically determines the key you mean to press and disallows adjacent keys from accidentally firing while your foot is applying pressure to one key. Normal setting (off) allows just one key at a time to be active.

**EL On/Off** - This turns the blue electro-luminescent backlighting on and off on the SoftStep.

**Scene Change On/Off** (standalone mode only) - Turning the Scene Change option off makes it so the Nav Pad no longer changes scenes when you step on the sides of it. Instead of changing scenes the Nav Pad will send out the pressure for each corner on separate CC#s.

**global gain** - amplifies all incoming data from each key. Adjust this first before adjusting the on/off thresholds. This scales all of the sensor data from the SoftStep keys and can make the SoftStep more or less responsive to pressure.

**Nav Pad:**

**on thresh N, S, E, W** - just like for the regular keys you can set the sensitivity for the "foot on" threshold for the four directions of the Nav Pad. If set to 7, you would have to put enough pressure on the key for it to register a value of 7 before the "foot on" trigger is sent.

**off thresh N, S, E, W** - just like for the regular keys you can set the sensitivity for the "foot off" threshold for the four directions of the Nav Pad. If set to 7, the pressure value would have to be 7 or lower for the "foot off" trigger to register. Make sure these are lower than the "on" thresholds.

**Y accel** - when using the Nav Y Inc-Dec source, this is how fast the inc/dec for the vertical plane moves. The higher the value, the faster you'll increment or decrement through the values.

**Sensor Response** - here you can select what type of key response you would like to use for your SoftStep. The SoftStep has 4 pressure sensors for each key. **Maximum** mode uses the largest of the 4 values. **Average** averages together all 4 values. The sensor response is useful for the Foot On and Pressure sources. The X and Y sources are determined differently and aren't affected by the sensor response setting.

The right side of the window is where you save and recall presets. Be sure to save your Settings preset here as it is not saved with scenes. You can also set up a MIDI Input device, OSC output, and calibrate an expression pedal. In Standalone mode, MIDI Input and OSC are disabled.

**MIDI Input:**

**enable** - turn on or off lines that receive MIDI Input data.

**device** - set which MIDI port the MIDI Input data is coming from.

**channel** - set which channel the MIDI Input data is coming from.

**parameter** - choose between note, controller, or program change for what type of data is coming in.

**#** - if you chose note or controller for your parameter then you can choose which control number or note value the data is for.
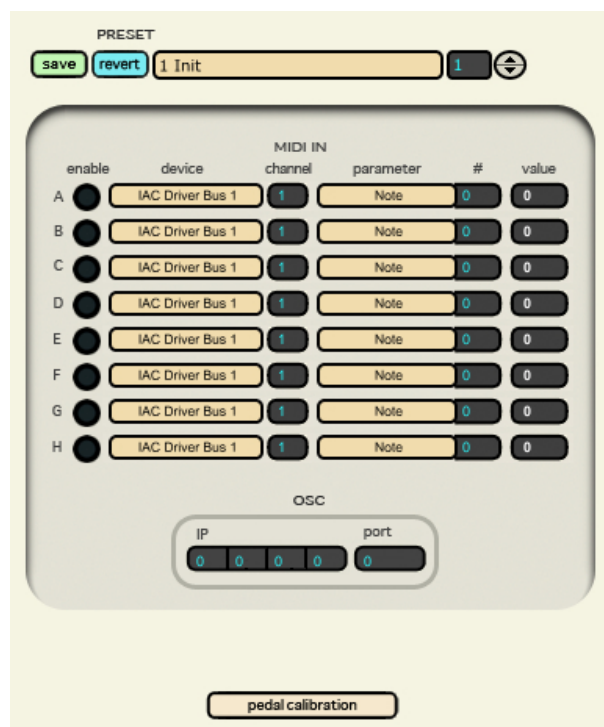
**value** - shows the data coming in from the MIDI Input device.

**OSC (Open Sound Control):**

**IP** - select the IP address for where the OSC will be sent to.

**port** - select which port the OSC output will be sent to.

**Pedal Calibration:**

If you have a pedal plugged into the expression port on the SoftStep, here is where you can calibrate it.  Clicking pedal calibration will open up this window:



Prior to calibrating you will see a plain linear table.  Press the start button to calibrate and follow the on-screen instructions to calibrate your pedal.  Move your foot from heal to toe at the rate of the progress bar.

You can always hit the blue reset button to go back to the linear table or press start again to re-calibrate.  The test value shows the calibrated data from your pedal as you use the expression pedal.

You can set a pedal smoothing value.  The trade off is smoothness vs. speed.  The higher the value the more smoothing, the lower the value the less smooth.  If the expression pedal value jumps around increase the smoothing.

The pedal calibration will be remembered between sessions.  So every time you open up the SoftStep application the last pedal calibration table will be recalled.

# Sensor View

Sensor View can be opened from the SoftStep Editor in the bottom left corner.  Sensor View will not respond unless the SoftStep Editor is open and in Hosted mode.  When using the application in Hosted mode, the sensor view window gives you visual representations of the sensor data coming from the SoftStep.
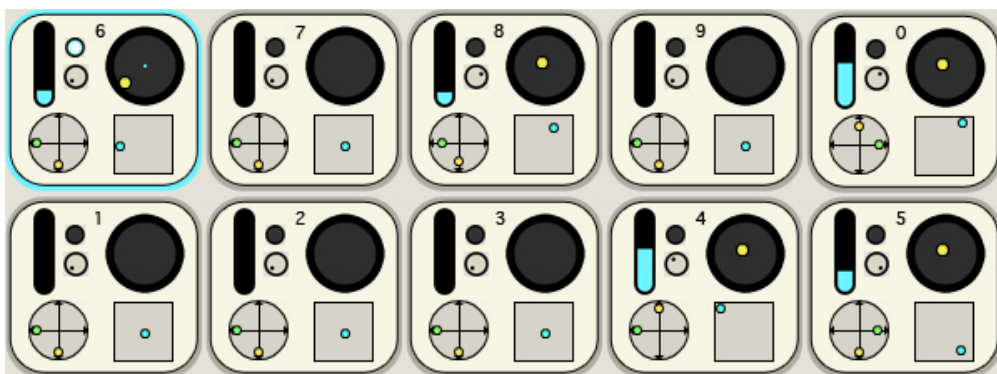
Each key displays live pressure, a rotation dial, xy latch, pressure latch, inc/dec, and foot on/foot off information.

Notice in the screenshot above that some of the keys have at one time been activated but are not currently activated.  The latch indications and the inc/dec and dial indicators are right where they were left.  The only thing that doesn't latch is the dark, circular ("live") indicator.  Key 6 is in use, which is why it is outlined in blue and displaying sensor data in the "live" display.

**1 = pressure latch** - this shows the pressure of your foot on the key.  This shows the latching feature which means that when you release the key, this value will stay where you left it.

**2 = foot on/foot off** - this shows you whether or not the key is active.  The foot on indicator will light up when a key is in use (as seen above on key 6 above).  You can set the on and off pressure thresholds in the settings window (see the settings chapter of this manual for more info).

**3 = rotation** - the rotation dial plots where your foot is on the SoftStep around a dial that you can rotate.  If your foot pressure is weighted towards the bottom left corner of the key the rotation dial will be turned all the way down.  You can then turn it all the way up by rolling the pressure of your foot around the key to the bottom right corner.

**4 = live** - the live display gives real-time readings of non-latching parameters: pressure, x, and y.

**5 = inc/dec** - this shows your foot incrementing and decrementing through the horizontal and vertical planes of the key.  Step a few times on one side of the key and see the value increment or decrement at a speed determined by the acceleration setting in the settings window ("accel x" & "accel y" - see the settings chapter of this manual for more information).  You can also hold pressure onto one side and it will inc or dec smoothly towards one side.  These values will show up in the modlines as "X Increment" and "Y Increment".  You can also set a dead zone in the settings window.

**6 = xy latch** - this shows your foot's x and y axis position on a key.  Latch indicates that when you release the key, this value will stay where you left it.

Tip: A good technique for getting the X (horizontal pressure) sources to respond is to put your foot down on the center of the key and just move your knee from side to side.  A good Y (vertical pressure) technique is similar, put your foot down on the key with your heel up, lock your ankle and move your knee outward and then back in towards you.

## SoftStep Keys

In the main window of the SoftStep Editor, there are 10 blocks that correspond to each pad on the SoftStep controller. Shown below is a labeled close up of Key 6.

**display** - the dark grey display box shows the 4 letter key name. These 4 letters will show up in the alpha-numeric display of the SoftStep if the display mode for that key is set to Always, Once (shows only once), or Initial Return. For more information on display modes see the Modulation chapter below.

**copy** - the copy function allows you to copy settings from one key to another. Clicking the copy button on one key will change the copy buttons on all other keys into paste buttons. You can then click to paste the settings into that key. When you are done copying settings, click on the copy button again to return the buttons to read "copy".

**LED Status** - the circle in the bottom right corner of the box mirrors the LED status on the SoftStep controller. These LEDs are user assignable.

**Open** - Clicking this box brings up the modulation window for that individual key, allowing you to edit the parameters in the preset (shown below).

## Modulation
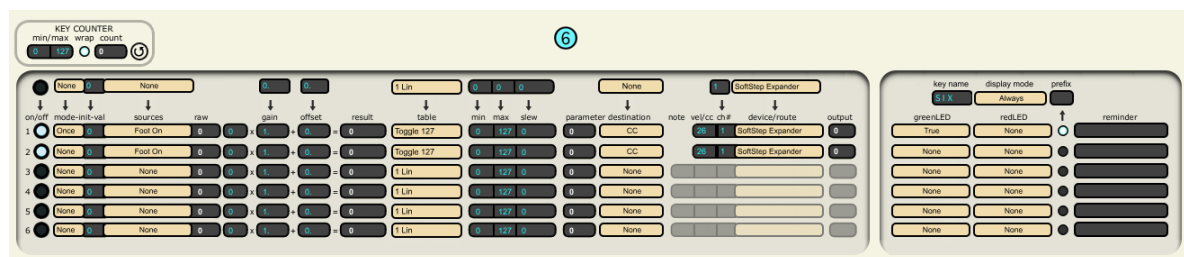


Upon opening the modulation window, you will be confronted with an array of six identical "modlines" (Zoomed in below) that can be arranged differently for each key.
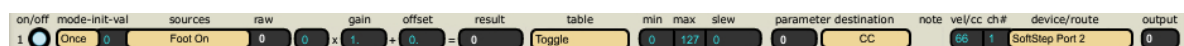


There are six modlines that can assign six data sources from an individual key to output different types of messages.

Let's take a closer look at the options available in every modline:

**on/off** - click on the circle to enable the modulation line and it will show a light blue-green color. When disabled, the modline on/off appears dark.

**mode** (not available in Standalone) - this refers to the mode for the **initial value** which is how often you want the initial value to be sent:

- **None** - the initial value is never sent out
- **Once** - initial value is sent out only the first time that scene is recalled in a given session (session meaning from the time you open the application until the time you close the application). Every other time the scene is recalled it will recall whatever that modline's state was the last time you were in the scene.
- **Always** - the initial value is sent out every time the scene is recalled

**init-val** (not available in Standalone) - the initial value. This is the starting value in the absence of any raw data from the **source**.  The mode (defined above) dictates when the initial value is used.  Something similar can be achieved in Standalone mode by using the Init source on a separate modline.  The Init source coupled with an offset allows you to send out any number you want every time you first enter a scene.  (see the Init source definition in the <u>SoftStep Sources</u> List).

**sources** - Choose what data source will control the modline. Click on the box and many sources will pop up in a scroll menu.  Each source uses data differently.  Some sources send values from 0-127 and some send only 0-1.  For a complete list of sources and an explanation of the behavior each one exhibits see the <u>SoftStep Sources</u> in the **Appendix**.

**raw** (not shown in Standalone) - The value coming directly from the source is displayed here.

**gain** - this is the first place where you can use math to modify the data signal from the source. Whatever number is in the gain box is used to multiply the raw value coming from the source. For example if the source is X live, clicking on the gain number box and typing "2" will double whatever value is received from the controller.

**offset** - set a number to add to the raw value after it has been multiplied by the gain value.

**result** (not shown in Standalone) - the resulting value of the source modified by gain and offset.

**table** - the result value is entered into the selected lookup table, and used to plot the index on a chart.  There are a number of table options, each which will affect the modulation differently as it changes value over time.  There are also two toggle options: **Toggle** and **Toggle 127**.  These either toggle between 0 and 1 or 0 and 127 when a value above 0 is received by the table.  We have also added 3 counter options: **Counter Inc**, **Counter Dec**, and **Counter Set** (only available in Hosted mode).

These allow you to count through a specified range of values using the Key Counter in the top left corner of the modulation window.  In the key counter you can set the min and max values and whether or not the number will wrap.  You can also reset it by clicking the little circular arrow button.



**min / max** - These allow you to constrain the data values between a minimum and a maximum number.  If the min is set to 10 and the max is set to 15, then the output cannot be less than 10 or more than 15.

**slew** - The slew value represents the number of milliseconds that it will take to get to the target value.  Use slew to smooth out data when it jumps from one number to another.  The larger the slew, the slower the result will respond to the source.

**parameter destination** - Finally the exciting part!  Click on the drop-down menu to see the many options available: Note Set, Note Live, CC, Bank, Program, OSC (Open Sound Control), Pitch Bend, MMC, Aftertouch, Poly Aftertouch, GarageBand, and HUI.  These options are further customizable by selecting the the note, velocity, control change, etc..., or the channel # you wish to send the data out.  For a complete explanation of parameter destinations see the <u>SoftStep Parameter Destinations</u> in the **Appendix**.  OSC, Aftertouch, Poly Aftertouch, GarageBand, HUI, Y Inc Set, and X Inc Set are only available in Hosted mode.

**device/route -** this is where you select the port that you want all of your MIDI messages to go out through. If you'd like to send your data out through the SoftStep MIDI Expander then you would want to choose "SoftStep Expander" as your device.

For **Standalone** mode, if you want to send your data out to other applications on your computer (Ableton Live, Logic, Digital Performer, etc...) then you'll select "SSCOM Port 1".

For **Hosted** mode you'll want to use the "SoftStep Share" device (for **Mac** users) as your output device to send data to other applications on your computer. For **Windows** users in Hosted mode you will have to set up an inter-application MIDI bus. We recommend using MIDI Yoke which is available to download for free at http://www.midiox.com/

For more detailed information about the SoftStep's ports please read the Ports chapter of this Manual.

**output** (not shown in Standalone) - this displays what data is being sent out to the device you've selected.
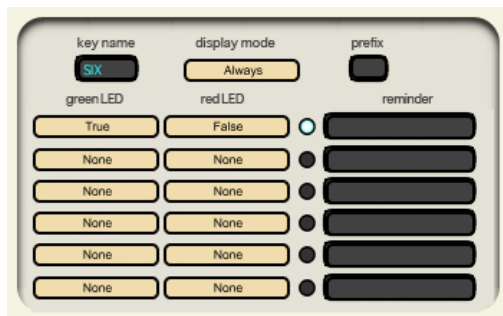


On the right side of the modulation window is where you can set display information for the LED lights and the 4 letter alphanumeric display screen on the SoftStep.

The top row contains the settings for the alphanumeric display screen. Setting the display mode is key for controlling this behavior. There are 5 modes: None, Always, Once, Initial/Return, Immed Param.

**Display Modes**:

**None** - selecting this mode will cause the 4 letter display box to show the scene's 4 letter display when using that key, instead of the key name or prefix.

**Always** - selecting this mode will display the key name whenever that key is the most recently activated key.

**Once** (not available in Standalone) - selecting this mode will display the key name once at the moment it is activated and will then show the prefix and parameter value.

**Initial/Return** (not available in Standalone) - selecting this mode will display the key name when the key is selected but not active, and will display the prefix and parameter value when in use. This mode only works well for continuously changing sources, not for toggles or triggers. When the display is showing a source value and the slew causes the output to persist after the foot is off the key, the display will no longer be updated, even though the parameter is still being altered. Initial/Return is only available as a mode for the keys, not the Nav Pad.

**Immed Param** - stands for Immediate parameter. This will show the prefix and parameter value when that key is the currently activated key. The key name doesn't ever show up in this mode.

The little button at the end of the modlines next to the reminder text fields are for selecting which modline's parameter will follow the prefix if you're in "Initial/Return" or "Immed Param" mode.

**LEDs**:

The green and red LED modes are also very useful.  You can set the key to show you a red light or a green light in certain circumstances.  There are several different modes for each light:

**None** - the light will not come on in this mode

**True** - the light will come on when the output of the key is above 0

**False** - the light will come on when the output of the key is 0

**Flash True** - the light will flash repeatedly when the output of the key is above 0

**Flash False** - the light will flash repeatedly when the output of the key is 0

**Flash Fast True** - the light will flash quickly when the output of the key is above 0

**Flash Fast False** - the light will flash quickly when the output of the key is 0

**Blink True** - the light will blink once when the output of the key goes above 0

**Blink False** - the light will blink once when the output of the key goes to 0

**Off** - turns the LED off

The **reminder** field next to that is just so you can make a little note to yourself about the modline you just created.  This note serves no purpose except to just remind you about what that modline is for.

# Nav Pad

The diamond-shaped pad on the right side of the SoftStep is called the Nav Pad.  The Nav Pad by default is hard coded for the x-axis (left and right sides of the pad) to scroll through scenes in the setlist.  This means that you only have access to editing the y-axis (top and bottom sides of the pad).

Tip:  In Standalone mode there is a way to turn off scene changing and instead just get pressure data from each corner.  In the settings window you can tun Scene Changing on or off.  Set this to off and you will get pressure coming in on CC #s: CC 80 (left side), CC 81 (right side), CC 82 (top), and CC 83 (bottom).  If you do decide to turn scene changing off but still wish to be able to change scenes on your SoftStep you can do this by sending program change messages to your SoftStep.  See the Sending Program Changes to the SoftStep chapter of this manual for more information.

In the application you can open up the Nav Pad modulation window by clicking the "open" button in the diamond-shaped box.

After clicking on it, the following window will pop up:
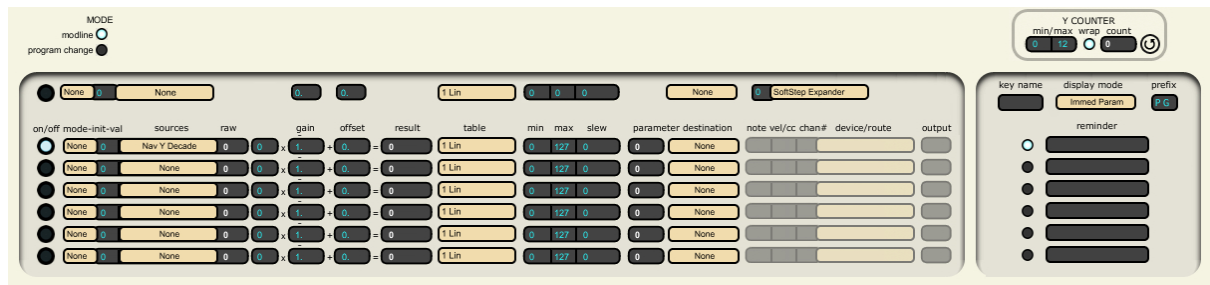
The first choice to make in the Nav Pad modulation window should be deciding which mode you want the Nav Pad to operate in; modline mode or program change mode.  **Modline** mode enables you to use the modulation window to choose your own sources and destinations like you would normally do.  **Program Change** mode disables editing and hard codes the y-axis (top and bottom) of the Nav Pad to count through numbers 0 through 12 which represent decades for values 0-120.  A value is not sent out until one of the numbered key's that uses the source "Nav Yx10 & Key" is pressed.  This means the count will be treated as the digit for the ten's place.  For example: if you use the Nav N (north/top) pad to increment up to count 4, this will enable the 40's decade.  Use this in conjunction with the Source "Nav Yx10 & Key" on the numbered pads so that you can then select any number as the last digit.  So after counting up to the 40's decade, stepping on key 5 would output 45.  This is implemented in the "Program Change.. " factory preset.  (See Factory Presets).

In Hosted mode, the y-axis (top or bottom pads) will show you the last value sent out from the scene on the alphanumeric display if the north or south pads are stepped on once.  If stepped on a second time you will see the scene display name show up on the alphanumeric display.  You can also assign the y-axis of the Nav Pad to do other things.

As you can see the outline is very similar to the modulation windows for each of the 10 keys.  (see the SoftStep Keys chapter for a more detailed explanation of the modline functions.)

The main difference is the circle under the header "Y counter".
This means that the Nav Pad value will count through the min
and max values. Enable the "wrap" button and this will allow the
counter to go bac to the min after it reaches the max.  For
example, if your min is set to 5 and max set to 120, stepping on
the pad again when the value is 120 will set it back to 5.  You
can reset the counter by clicking on the little circling arrow.



Another difference is Initial/Return and Once are not available as display modes in the Nav Pad modulation window.  Also the sources for the Nav Pad are different:

**Nav Y** (not available in Standalone mode) - This counts through the range of numbers set in the counter.  The Nav Pad's North/top pad increments the counter while the South/bottom pad decrements the counter.

**Nav Y Decade** (in Standalone mode this behavior is essentially what program change mode does) - This will count through the range of numbers set in the counter in "decades" and doesn't send the number out until one of the numbered key's is pressed.  This means the count will be treated as the diget for the ten's place.  For example: if you use the Nav N pad to increment up to count 4, this will enable the 40's decade.  Use this in conjunction with the Source "Nav Yx10 & Key" on the numbered pads so that you can then select any number as the last digit.  So after counting up to the 40's decade, stepping on key 5 would output 45.  This is implemented in the "Program Change.. " factory presets.  (See Factory Presets).

**Nav Y Inc-Dec** - Putting pressure on the Nav N pad will increment the value up to 127, putting pressure on the Nav S pad will decrement the value down to 0.  You can change the speed at which these values increment and decrement in the settings window by adjusting the "Y accel" setting.  (see the Y accel definition for the Nav Pad in the Settings chapter for more information).

**Nav N Foot On** (not available in Standalone mode) - Outputs a 1 when the Nav N pad is being pressed, and a 0 when not in use.

**Nav S Foot On** (not available in Standalone mode) - Outputs a 1 when the Nav S pad is being pressed, and a 0 when not in use.

**Nav N Foot Off** (not available in Standalone mode) - Outputs a 0 when the Nav N pad is being pressed, and a 1 when not in use.

**Nav S Foot Off** (not available it Standalone mode) - Outputs a 0 when the Nav S pad is being pressed, and a 1 when not in use.

**Nav N Trig** (not available in Standalone mode) - Sends pressure value out if foot on is held for 500ms on the North/top end of the Nav Pad.  The value goes back to 0 after 100ms.

**Nav N Trig Fast** (not available in Standalone mode) - Sends pressure value out as soon as you step on the Nav N pad, then goes back to 0 after 100ms.

**Nav N Trig Dbl** (not available in Standalone mode) - Sends pressure value after 2 quick, consecutive steps on the Nav N pad, then goes back to 0 after 100ms.

**Nav N Trig Long** (not available in Standalone mode) - Sends pressure value out after 1 second of holding down the Nav N pad, then goes back to 0 after 100ms.

**Nav S Trig** (not available in Standalone mode) - Sends pressure value out if foot on is held for 500ms on the South/bottom end of the Nav Pad.  The value goes back to 0 after 100ms.

**Nav S Trig Fast** (not available in Standalone mode) - Sends pressure value out as soon as you step on the Nav S pad, then goes back to 0 after 100ms.

**Nav S Trig Dbl** (not available in Standalone mode) - Sends pressure value after 2 quick, consecutive steps on the Nav S pad, then goes back to 0 after 100ms.

**Nav S Trig Long** (not available in Standalone mode) - Sends pressure value out after 1 second of holding down the Nav S pad, then goes back to 0 after 100ms.

**Pedal** - after calibrating a pedal from the Settings window, you will be able to use an expression pedal plugged into the expression port on the SoftStep.  The data will come through to this source if selected.

**Init** (standalone mode only) - Use this source to send an initial value every time the scene is selected.  You can use the offset function in the modline to send out any value between 0 and 127.

Tip: Set this up as a separate modline going to the same parameter destination as another modline to get an initial starting value for that destination.  It can also be useful for initializing a program change message when switching scenes.

The Hosted mode version of this would be to use the init mode and values which are grayed out when in Standalone mode. For more information see the Modulation chapter of this manual and view the "mode" and "init-val" definitions.

**MIDI A...H** (not available in Standalone mode) - These receive the values from the lettered MIDI Inputs in the settings window.

# Preset Modulation

MIDI input can be used as sources in the Preset Modulation window. You can use Preset Modulation to allow other MIDI controllers to change scenes or presets for the keys or Nav Pad. The Preset Modulation window opens when you click on the "open preset mod" button from the main window of the SoftStep Editor. This feature is not available in Standalone mode.
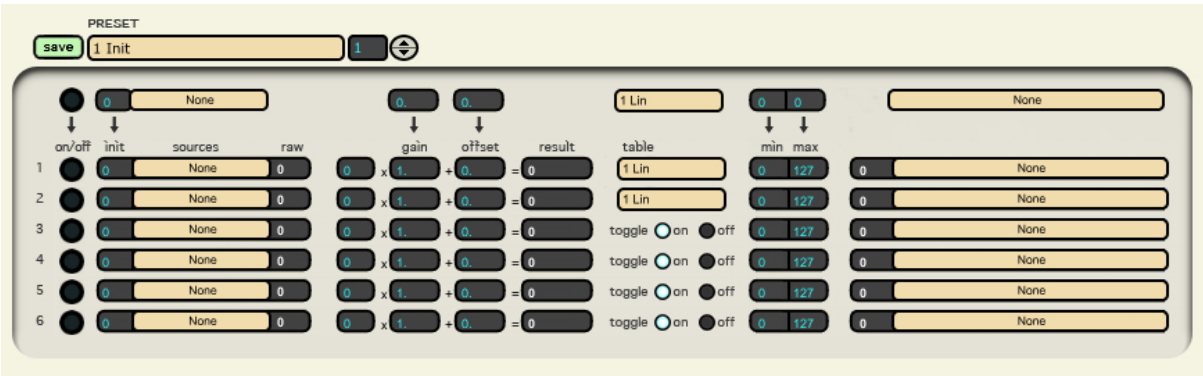


The sources that are available are MIDI Input sources A-H. These refer to the MIDI Inputs that you can set up from the settings window. The picture to the right shows the MIDI Input setup from the settings window. You can choose the device the MIDI Input is coming from, the channel, what type of data parameter it is and the parameter number (CC number, Program Change number, Note Number, etc...). The numbers in the "value" column show the data coming in. This number would also be displayed in the "raw" column in the preset mod window.



Preset modulation works very similarly to key modulation. You can set a gain and an offset, put the data through a table, then set your min and max, and send it out to a destination.

The destinations that are available in Preset Modulation can increment or decrement a scene or preset. The inc and dec destinations will see a change from 0 to 1 as the cue to perform the increment or decrement. The destinations that do not say inc or dec will just go directly to the slot number that corresponds with the number from the source.

# Sending Program Changes to the SoftStep

You can send program change messages to your SoftStep as an alternate way to change scenes on your SoftStep.

If you are sending these program changes through SSCOM Port 1 through the USB connection from a computer then the SoftStep will receive program change messages on any MIDI channel.

If you are sending program changes through the MIDI Input of a SoftStep MIDI Expander then the SoftStep will only receive these messages through MIDI channel 16.

# Setting Up an Expression Pedal

First make sure you have an expression pedal with a 3 wire connection (a stereo jack). Along with the SoftStep we ship a 1/4in to 1/8in adapter that you can use to connect your 1/4in expression pedal to the expression port on the SoftStep.

The first thing you will probably want to do is calibrate your Pedal:

**Pedal Calibration:**

If you have a pedal plugged into the expression port on the SoftStep, here is where you can calibrate it. Clicking pedal calibration will open up this window:

Prior to calibrating you will see a plain linear table. Press the start button to calibrate and follow the on-screen instructions to calibrate your pedal. Move your foot from heal to toe at the rate of the progress bar.

You can always hit the blue reset button to go back to the linear table or press start again to re-calibrate. The test value shows the calibrated data from your pedal as you use the expression pedal.

You can set a pedal smoothing value. The trade off is smoothness vs. speed. The higher the value the more smoothing, the lower the value the less smooth. If the expression pedal value jumps around increase the smoothing.

The pedal calibration will be remembered between sessions. So every time you open up the SoftStep application the last pedal calibration table will be recalled. You can also calibrate your pedal in Standalone mode.

Now that you've calibrated the pedal you need to open up one of the modulation windows (any key's modulation window or the one for the Nav Pad will work). Select "pedal" as the source and then choose your

parameter destination to send the data out as a CC, Note, OSC, etc... Be sure to also select the correct device/route. The SoftStep Expander will send the data out through the SoftStep MIDI expander's MIDI Out port. If in Hosted mode and you would like to send the data out to another application use SoftStep Share (for Mac) or MIDI Yoke (for Windows). If in Standalone mode and you'd like to send the data to another application use SSCOM port 1. For more information about port selections see the Ports chapter.

Below is an example of how I would set up a modline to send it's data out on CC# 7 to the SoftStep Expander:



# Appendix

## SoftStep Sources

The following SoftStep sources are available in every key's modulation line:

**Pressure Live** - This value corresponds to the overall pressure sensed by the key (a higher value indicates more pressure applied). The value resets back to 0 when the key is depressed. There are 4 pressure se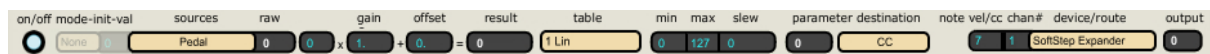nsors in each corner of every key. Depending on the sensor response mode you are in (average or maximum), which is selectable in the settings window of the application, the pressure data from the 4 sensors will either be averaged together or the maximum pressure will be used. (See also the settings chapter of this manual).

**X Live** - This value corresponds to the overall pressure in the X-axis or horizontal direction of the key. Applying more pressure to the right side of the key increases the value, while pressure to the left decreases. The raw value resets back to 63 (centroid value between 0 and 127) when the key is depressed.

**Y Live** - This value corresponds to the overall pressure in the Y or vertical direction of the key. Applying more pressure to the top of the pad increases the value, while pressure to the bottom decreases. The raw value resets back to 63 (centroid value between 0 and 127) when the key is depressed.

**Pressure Latch** - This value corresponds to the overall pressure sensed by the key (a higher value indicates more pressure applied). The term "latch" indicates that after the foot is taken off, the last recorded value still remains and will not be reset back to 0 (unlike Pressure Live).

**X Latch** - This value corresponds to the overall pressure in the X or horizontal direction of the key. Applying more pressure to the right side of the key increases the value, while pressure to the left decreases. The term "latch" indicates that after the foot is taken off, the last recorded value still remains and will not be reset back to 0 (unlike X Live).

**Y Latch** - This value corresponds to the overall pressure in the Y or vertical direction of the key. Applying more pressure to the top of the pad increases the value, while pressure to the bottom decreases. The term "latch" indicates that after the foot is taken off, the last recorded value still remains and will not be reset back to 0 (unlike Y Live).

**X Increment** - This value corresponds to the horizontal plane in an increment/ decrement style.  Step a few times on the right side of the key and see the value increment by different amounts corresponding to the pressure, also try stepping a few times on the left and see the value decrement.  You can also hold pressure onto one side and it will inc or dec smoothly towards one side.  You can change the acceleration of the incrementing and decrementing in the settings window under the "accel x" parameter (see the settings chapter of this manual for more info).

**Y Increment** - This value corresponds to the vertical plane in an increment/decrement style.  Step a few times on the top of the key and see the value increment by different amounts corresponding to the pressure, also try stepping a few times toward the bottom and seeing the value decrement.  You can also hold pressure at the top or bottom and it will inc or dec smoothly towards the top or bottom.  You can change the acceleration of the incrementing and decrementing in the settings window under the "accel y" parameter (see the settings chapter of this manual for more info).

**Rotation** (not available in Standalone) - With your foot pushing down on the SoftStep controller, roll the pressure of your foot in a clockwise or counter clockwise oriented movement and watch the values change.

**Rot Relative** (not available in Standalone) - no matter where you put your foot initially you'll get an output of 63 (the center of the dial) and then if you rotate your foot clockwise from that the value will go up.  If you rotate your foot counter-clockwise from that the value will go down.

**Foot On -** 1 indicates the foot is on (true) 0 indicates foot off (false).  The foot on and off thresholds are adjustable in the settings window.  If a pressure value above the foot on threshold is applied to a key, a foot on will register.  (See also the settings chapter of this manual for more information on foot on/off thresholds).

**Foot Off -** Opposite logic to Foot On.  1 indicates foot off (true), 0 indicates foot on (false).  If a pressure value below the foot off threshold is applied to a key, a foot off will register.

**Top** - The top source responds like Foot On but only when you are stepping on the top half of the SoftStep key pad.  When your foot is pressing down on the top you will get a 1, when you release your foot the value will return to 0.

**Bottom** - The bottom source responds like Foot On but only when you are stepping on the bottom half of the SoftStep key pad.  When your foot is pressing down on the bottom you will get a 1, when you release your foot the value will return to 0.

**Wait Trig** (not available in Standalone) - Trig is short for trigger.  Triggers the pressure value if foot on is held for 500ms.  The value goes back to 0 after 100 ms.

**Fast Trig** (not available in Standalone) - Triggers the pressure value as soon as you step on the key then goes back to 0 after 100ms.

**Dbl Trig** - Short for double trigger, the pressure value is triggered after two quick impulsive steps on the key.  The value goes back to 0 after 100ms.

**Long Trig** - Triggers the pressure value after 1 second of holding down pressure on the key.  The value goes back to 0 after 100ms.

**Off Trig** (not available in Standalone) - as soon as a foot off is received after stepping on a key, a 1 is sent out for 100ms before returning to 0.

**Delta Trig** (not available in Standalone) - measures change in pressure.  If pressure greater than the delta setting in the settings window occurs, then you'll get a trigger. (See the settings chapter of this manual for more information).

**Wait Trig Latch** (not available in Standalone) - Same as Wait Trig but the value doesn't go back to 0 after the trigger

**Fast Trig Latch** (not available in Standalone) - Same as Fast Trig but the value doesn't go back to 0 after the trigger

**Dbl Trig Latch** (not available in Standalone) - Same as Dbl Trig but the value doesn't go back to 0 after the trigger

**Long Trig Latch** (not available in Standalone) - Same as Long Trig but the value doesn't go back to 0 after the trigger

**Pedal** - This value comes from an expression pedal when connected to the SoftStep's expression port (next to the USB port).  The pedal can be calibrated in the settings window of the application.  See the settings chapter of this manual for more information on pedal calibration.

**Init** (standalone mode only) - Use this source to send an initial value every time the scene is selected.  You can use the offset function in the modline to send out any value between 0 and 127.

---

Tip: Set this up as a separate modline going to the same parameter destination as another modline to get an initial starting value for that destination.  It can also be useful for initializing a program change message when switching scenes.

The Hosted mode version of this would be to use the init mode and values which are grayed out when in Standalone mode.  For more information see the Modulation chapter of this manual and view the "mode" and "init-val" definitions.

---

**Nav Y** (not available in Standalone) - This source looks to the Nav Pad's y-axis as it counts through the range of numbers set in the counter.  The Nav Pad's North/Top pad increments the counter while the South/bottom pad decrements the counter.

**Nav Y x 10 & Key** - This unique source works with the Nav Y Decade source for the Nav Pad.  It takes the number you are at from the Nav Pad's counter, multiplies it by 10 and adds the Key number to that number.  No value is sent out until the last digit is selected with the key.  Stepping on the top of the Nav Pad increments the tens digit of the value, similarly the bottom of the Nav Pad decrements the tens digit.  The final value is achieved after stepping on one of the 10 pads if they are using this source, indicating the ones digit. For example, step on the top pad 14 times to increment the counter to 14, then hit the number 2 key, and the final value will be 142.  Use this setting to reach larger numbers quickly.  The "Program Change..." factory scenes are set up to take advantage of this source to quickly select program changes.

**Any Key Value**  - This value corresponds to which of the 10 keys is stepped on. Stepping on key 7 gives the raw value of 7, stepping on key 2 gives the value of 2.  For Example:  If you use Any Key Value on key 1's modline and you press on key 3, a 3 will be output from key 1's modline.

**Prev Key Value** - This setting remembers the order of which pads you pressed down on and outputs the last key, not the current. If you step on key 2 then key 8, the value output would be 2.

**This Key Value** - This source will output whatever key value you are on whenever you step on it. For example, if I am in the key 7 modulation window and I choose This Key Value as a source, stepping on all other key won't trigger any value except when step on key 7, and the value "7" will appear.

**Key 1...10 Pressed** - This source will send out a 1 if you step on the key that corresponds with whatever "Key [#] Pressed" source you choose.  For example, if you select "Key 4 Pressed" as your source a 1 will output if you step on key 4.  This is extremely useful for programming the LEDs.

**Other Key Pressed** - When selecting this as a source for a key, stepping on any key other than the one you selected this source for will output a 1.  For example:  If key 4 is set to Other Key Pressed stepping on key 1,2,3,5,6,7,8,9, or 0 will output a 1.  Stepping on key 4 would output a 0.

**Mod 1...6 Output** - This setting takes the output value from any of the other modlines as the raw value of its own.

**MIDI A...H** (not available in Standalone) - These receive the values from the lettered MIDI Inputs in the settings window

## SoftStep Parameter Destinations

**Note Set** - When you select Note as your parameter destination any number above 0 will send a note on message and a 0 will send a note off message.  After selecting Note as your destination you will have the ability to control the note number, the velocity, and the channel number you're sending it out on.

**Note Live** - This is similar to Note Set except that the value from the source will determine what note is being triggered.  This destination does not work well with the trigger sources.  Try setting up Pressure Live as the source for this Parameter Destination.  You'll notice that the "note field" next to the parameter destination menu changes with the pressure live.  Next to the Note you can set the Velocity and the channel number for the data to go out to.

**CC** - (Control Change) This will send out any number from 0-127.  After selecting CC you'll be able to set the control number and the channel number that you want your value sent out on.

**Bank** - Sends out any number from 0-127.  After selecting Bank you can set the channel number you want to send your value out on.

**Program** - This will receive numbers to be used as program change messages.  After selecting Program you will be able to choose which channel the program change message is sent out on.

**OSC** (not available in Standalone) - (Open Sound Control) Sends out any number from 0-127.  After selecting OSC you can set the route name for your values.  In the settings window you can set the OSC IP address and port.  **Note:** do not use port 8400.  This port is used for communication between Sensor View (now a separate app) and the SoftStep application.

**Pitch Bend** - Sends out values between 0 and 127, with 63 as the center value for 0 pitch bend.  The synth you send it to will determine the range.  After selecting the Pitch Bend you can set the channel number for your value to output on.

**MMC** - (MIDI Machine Control) You can use this to control DAWs.  The number next to the Parameter Destination menu will be the device ID for your message to output on.  Next to that is where you can select what type of message you're sending (stop, play, deferred play, fast forward, rewind, punch in, punch out, pause).

**Aftertouch** (not available in Standalone) - Sends out values from 0-127 for the pressure amount.  After selecting Aftertouch you can select the channel number for your pressure amount to go out on.

**Poly Aftertouch** (not available in Standalone) - Sends out values from 0-127 for the pressure amount.  After selecting Poly Aftertouch you can select the note number and the channel number for your pressure amount to go out on.

**GarageBand** - This parameter destination allows you to control transport functions in GarageBand.  In order to use this you'll need to download Garage Remote.  It's a free program that is added to your system preferences that will receive MIDI data and translate for GarageBand.  You can download it here:  http://www.muratnkonar.com/otherstuff/garageremote/downloads.shtml

**HUI** (not available in Standalone) - HUI (Human User Interface) is a midi mapping protocol used for a hardware control surface to communicate with DAW (digital audio workstation) software. This communication protocol allows the SoftStep to control the DAW's transport as well as individual track functions such as fader volume, mute, solo, and record enable.  HUI is selectable from the parameter destination menu in a modulation line.  Once HUI is selected as a parameter destination, the menu to the right will let you chose which HUI command you would like to send.  The transport functions such as play, stop, fast forward and rewind are global controls.  The individual track controls such as fader volume, record enable, solo and mute are targeted at tracks 1-8 in whichever bank of 8 tracks is currently selected.

To setup your SoftStep to send HUI messages to Pro Tools:  Open the SoftStep application before you open Pro Tools.  Once Pro Tools is open, navigate to the Setup drop down menu at the top of your screen and select Peripherals.  When the Peripherals window opens, select Midi Controllers.  You will want to add a HUI controller, so for #1 under Type chose HUI.  Once HUI is selected, you much change Receive From to receive midi from the SoftStep, so go ahead and select SoftStep Share or another MIDI Bus (Windows users might be using MIDI Yoke).  You don't have to worry about the Send To menu, since we are only listening to HUI messages coming in and not sending HUI messages out.  If for some reason you do not see SoftStep Share (or MIDI Yoke) as a menu item in the receive from list, go back to the Setup menu and select midi, then midi input devices.  Make sure SoftStep Share is checked so Pro Tools can use its midi information.  If SoftStep Share still does not appear in Midi Input Devices, you might want to try restarting the SoftStep application.

Thats it, Pro Tools is now ready to receive HUI commands directly from the SoftStep.  You can now either build your own custom HUI control layouts, or select the Pro Tools HUI Template from one of the built in presets.  If you would like to use the Pro Tools HUI Template, please refer to the back of this manual where there is a further description on the Pro Tools HUI Template.

Note about HUI track control banks:  HUI track control is grouped into banks of 8 tracks.  The 8 tracks which are currently selected will be highlighted with blue rectangles.  If you want to control more than 8 tracks, you must use one of the bank select messages to move to the next or previous bank of 8 tracks.  This gives you the ability to make control assignments targeted at the track number inside the currently selected bank.  For example; when you have a HUI record enable command being sent to track 1, this will record enable the first track in whichever bank of 8 tracks you have currently selected.  This is very useful for navigating through a larger session with more than 8 tracks.

**Y Inc Set** (not available in Standalone mode) - This destination allows you to set the state of the Y Increment source, which you can then use on another modline.  This is very useful when setting up an initial value for the Y Increment source, the initial value can be set up to go straight to the Y Inc Set destination and then on a separate modline you can use the Y Increment source which will receive its initial state from the other modline and start from the number specified by the "init-val" (see the Modulation chapter for an explanation of Initial Values).

**X Inc Set** - (not available in Standalone mode) - This destination allows you to set the state of the Y Increment source, which you can then use on another modline.  This is very useful when setting up an initial value for the Y Increment source, the initial value can be set up to go straight to the Y Inc Set destination and then on a separate modline you can use the Y Increment source which will receive its initial state from the other modline and start from the number specified by the "init-val" (see the Modulation chapter for an explanation of Initial Values).

## Using SoftStep with Ableton Live (in Hosted mode)

Ableton Live is an incredibly versatile performance and composition environment and the SoftStep integrates easily into the Live universe.

Setup:

For the SoftStep to communicate with Ableton Live on a Macintosh, all modulation destinations in the SoftStep program *must be set to the SoftStep Share device* (for mac users)*.*  Windows does not come with a built-in MIDI bus, so you must download one and use that as your destination. See the Ports chapter for more information. Then in Ableton, select the Live drop-down menu and select Preferences.  Click on the tab that says MIDI Sync. Under Midi Ports, you should see a line that says "SoftStep Share" with 3 On/Off buttons to the right. Turn all 3 of these buttons on so that they show up yellow.  The rest of this window can be configured to match your setup, or left completely off.  All Ableton needs to know to work with the SoftStep software is that it needs to listen for data coming in on this internal MIDI bus.
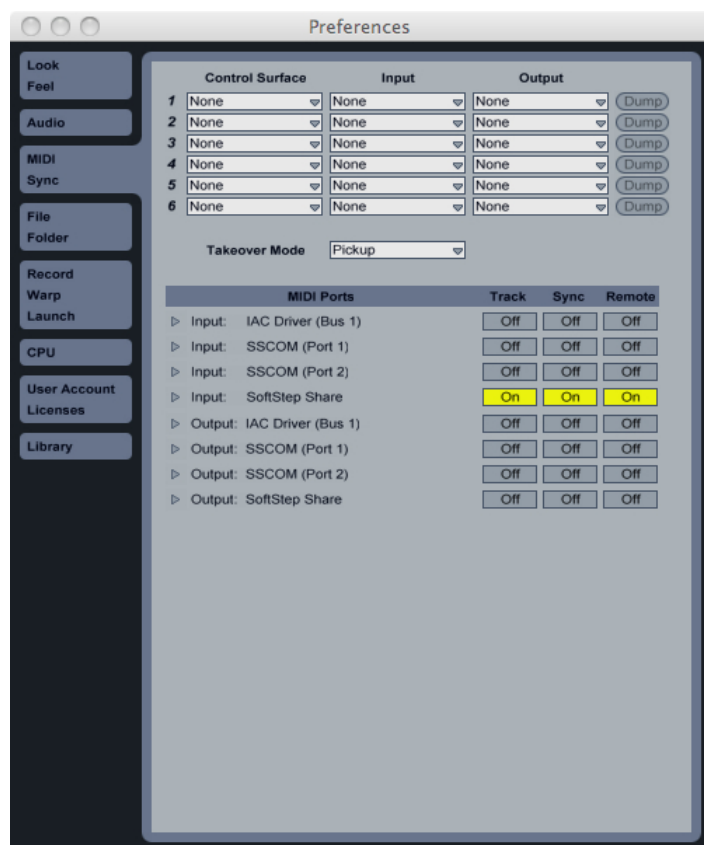


If you wish to follow along, unzip the "Live_Example1_DrumLoops.zip" file which is in the "application_examples" folder of the SoftStep application package.

This includes a Live Set with some samples and effects created to be controlled by SoftStep factory preset 12, called Ableton Live Demo.  The preferences and MIDI

assignments are already setup.  If you do not already own a copy of Ableton Live, then go to:

http://www.ableton.com/downloads/

Here, you can download a free trial version of Live version 8.  Follow their installation instructions and then open our file Live_Example1_DrumLoops.als.

Background on Ableton Live:

An Ableton Live file (called a set) is built around audio samples called *clips.* A Set has two environments - the Session view and the Arrangement view.  This example is concerned with the Session view, which holds clips in a grid of *slots*.  Vertical columns (tracks)  can hold as many audio clips as you want, but only one can be played back at a time.  Horizontally, you can have as many tracks playing back as you like.

For example, if you wanted a drum loop and a bass loop to play back together, you would make two tracks - let's call them Beats and Bass. Then you would click and drag your drum loop into slot one of the Beats track, and the bass line into slot 1 of the Bass track.  Then you can play those back using the play button in the left corner of each clip - or you can start them both at the same time by clicking the play button in slot 1 of the Master track on the far right.

| Beats | Bass | | A Return | B Return | Master | |
|---|---|---|---|---|---|---|
| ▶ DrumLoop1 | ▷ BassLine | | | | ▷ | 1 |
| ▷ DrumLoop2 | ☐ | | | | ▷ | 2 |
| ☐ | ☐ | | | | ▷ | 3 |
| ☐ | ☐ | | | | ▷ | 4 |
| ☐ | ☐ | Drop Files and Devices Here | | | ▷ | 5 |
| ☐ | ☐ | | | | ▷ | 6 |

If you wanted the drum beat to change but the bass line to continue, you would drag your second drum loop to slot 2 of the Beats track and click its play button. The first drum beat will stop when it gets to the end of the current bar and the second beat will start looping.

To record a new clip into a slot, assign your audio input/output devices in the preferences window, then arm the track by clicking the record button at the bottom.

Now all of the little stop/play buttons in each slot will turn into circles, signifying that recording is enabled. When you click one of these circles, playback of any other active tracks will start and a clip will be created in that slot for you and recording will begin.

On the left side of the screen one can select devices (Audio effects, plugins, MIDI effects and instruments) by clicking and dragging them to a track. The example Set has one track set up with a lowpass filter, delay and reverb. The lowpass filter and the reverb have both been bypassed by clicking the power button in the top left corner of each module, this allows dry audio to pass through.

Assigning Live functions to the SoftStep:

Live accepts continuous controller data, midi note on/off data and pitchbend data, so in the SoftStep application in the destination menu for each modline you would select Note, CC or Pitchbend. Live has many continuous parameters (such as wet/dry on the reverb and delay) and their ranges automatically default to 0-127, just like the non-triggered SoftStep sources. Live also has many useful triggered functions (such as play, stop and record on each slot, or the bypass button on each device) and these can also be easily assigned to the SoftStep keys.

To view MIDI assignments in Live, click the MIDI button in the top right corner of the screen.

All the parameters that may be assigned to MIDI control will light up blue, and a list will appear showing what you have already assigned. All of these highlighted parameters can be assigned to the SoftStep.

To make a new assignment, set up the modline in the SoftStep software first. Then, while in Live in the MIDI assignment view, click on any parameter that is highlighted blue that you would like to assign to that modline. Now press the desired key on the SoftStep and as soon as Live receives a MIDI message, the desired parameter will always be controlled from that MIDI source.

In Live_Example1_DrumLoops:

In Factory Preset 12 (Ableton Live Demo) SoftStep keys 6-10 are assigned to trigger (and retrigger) the 5 clips located on track 1, slots 1-5. In the modline, I have selected "Foot On" for my source, which outputs a 1 when I press that key. The gain has been changed to 127 so that when I press the key, the modline outputs 127. When I take my foot off, that key outputs a 0, but clip launch buttons in Live do not respond to 0 so the clip will continue to loop until I trigger a different one using a different key. If I press the same key again, the clip will start looping from the beginning again. Or, I can stop playback altogether by pressing Key 1. This is also set up with a Foot-On source and a gain of 127, but its destination is the stop button at the bottom of track 1. These modlines are sending out note numbers on channel 1 with the modline value (0 or 127) setting the note's velocity.

Any Note-On message (a note with a velocity greater than 0) can be assigned to Live's triggers. A continuous controller destination would have the same function, but for Live to recognize it as an on-trigger, the controller value must be 127 (not just greater than 0.) This is easily setup in the SoftStep application by using a gain value of 127, as in this example, or using the table Toggle 127. Every time this table receives a 1 after a 0 it toggles back and forth between outputting 0 and 127. For more on this method, see Factory Preset 3: Ableton Live Loops.

Key 2 and Key 3 have been set up to control the Wet/Dry parameter and the bypass button in Live's Auto-Filter and Reverb devices respectively. Both of their top modlines have their source set to Pressure Live. This is being scaled and sent out as continuous controller values to the filter frequency (like a Wah pedal) and to the reverb Wet/Dry amount. Modline 2 sends the Foot-On source through a gain value of 127 to control the bypass button on each module. This way, when you take your foot off of the key, the device is bypassed.



Key 4's modline is setup using a continuous controller destination too, but its source is Y-Increment. It is controlling the Delay device's Wet/Dry amount, but unlike the previous 2 keys, when you take your foot off of Key 4, the Delay's parameters will stay where you left them and the device does not turn off because we have not assigned the bypass button.



Last but not least, Key 5 uses the Foot-On source and Note destination to tap in a tempo. This was set up by clicking the MIDI assign button in Live as usual, and then clicking on the TAP button in the top left corner of the screen.



Tapping Key 5 four times will set the tempo for all samples to play back. It can be changed in real time for interesting dynamic effects.

There are many, many more functions in Live that can be assigned in creative ways to SoftStep sources, for more ideas you can download the Ableton Live manual here:

http://www.ableton.com/pages/downloads/manuals

And be sure to watch for more examples on our website in the future!

# Glossary

The SoftStep manual uses much vocabulary that is specific to the SoftStep and the SoftStep Application.  When skimming through the manual as most people do instead of reading everything, you might come across a word that confuses you because it was initially defined earlier.  Instead of having to go in search of the explanation you can just look for our quick definition of the word here.  There are also several links on words like this that will bring you here to the glossary for more information.

**alphanumeric display** - the 4 letter display on the SoftStep just to the right of the numbered key pads.

**DAW** - stands for Digital Audio Workstation.  A computer application that allows you to record, edit, and playback audio and MIDI.  For example; Ableton Live, Logic, Cubase, Pro Tools, Digital Performer, etc...

**decade** - in reference to incrementing and decrementing in decades with the y-axis of the Nav Pad.  A decade is the number in the tens diget.  A wider range of numbers can be reached by incrementing and decrementing in decades and using the numbered keys to fill in the last digit of the number.

**destination** - see parameter destination

**device** - the Port on which the MIDI data will travel.  Be sure to use the same device as the MIDI Input for whatever you are sending the data to.

**false** - in reference to programming the LEDs false means 0.  When the LED state is set to false the LED will light up when a modline outputs a 0

**firmware** -  firmware is software that is programmed into the memory contained in a hardware device.  We provide users with firmware updates from time to time in order to improve performance and add features.  Sometimes a firmware update will be required when a new software version is released in order to keep the SoftStep compatible with the software.

**host application** - if using the SoftStep with an application on your computer (other than the SoftStep application) this application can be referred to as the host application.

**Hosted mode** - running the SoftStep Application in Hosted mode gives you access to all of the features the application has to give, but means that the SoftStep application must be open in the background in order to send programmed data.

**HUI** - stands for Human User Interface.  This refers to a data paradigm that some DAWs recognize to control things like transport functions (stop, play, record enable, rewind, etc...).

**init (modline)** - abbreviation of the word initial.  This refers to the initial value and mode for the initial value in a modline of the SoftStep application.  Setting an initial value for a modline allows you to begin a scene with that modline set to a certain number.  The mode determines how often an initial value is used.  Practical application:  if you assigned a modline to control a volume level and wanted to start with the volume all the way up you might set an init value at 127.

**init (preset or scene)** - all presets for each key pad, the Nav Pad, the settings window, and the Preset Modulation window contain one init preset which you can use as a blank slate for the creation of a new preset from scratch.

**init (source)** - This source is available in Standalone mode and offers an alternate way to initialize values since setting a modline with an initial value is not available in Standalone mode.  You can use the Init source with an offset on an additional modline for a key pad to send out the offset value to any parameter destination when you enter the scene.

**key** - refers to one of the numbered pads on the SoftStep.  The word key is used to refer to these instead of pad in order to differentiate them from the Nav Pad.  They aren't referred to as buttons because they are much more than just on/off switches.

**key-lockout** - The SoftStep is programmed to only recognize one key press at a time so that accidentally triggering an adjacent key is not possible while another key is in use.  We call this key-lockout mode and this can be turned off from the settings window by selecting "multiple key mode enable".

**latch** - refers to a type of data source from the SoftStep that stays in place after releasing a key.  For example, X Latch stays where you left the pressure of your foot in the x-axis after releasing the key as opposed to X Live which returns to 63 every time your foot is released.

**LED** - each numbered key on the SoftStep has a green and a red light next to the upper right hand corner.  These can be programmed to turn on, to flash at two possible speeds, or blink once.  The green and red LEDs can be combined to make yellow for an additional state.

**live** - refers to a type of data source from the SoftStep that does not stay where you leave it.  For example, Pressure Live will return to 0 when you release your foot from a key.

**MIDI Bus (inter-application)** - a special MIDI port within the computer that you can use to route MIDI data from one application to another.

**MMC** - stands for MIDI Machine Control.  This refers to a data paradigm that some DAWs recognize to control transport functions (stop, play, record, pause, rewind, etc...).

**modline** - a single line of logic available in the modulation windows for SoftStep keys and the Nav Pad.  This is where you set up the data that you want to send out from the SoftStep.

**modulation window** - there is a modulation window for each key, the Nav Pad, and also one for preset control.  This is where you set up what data you want to send out with the SoftStep using the modlines.  The 10 key pads have 6 different modlines each for sending out up to 6 different types of data per key.

**Nav Pad** - the diamond-shaped pad on the right side of the SoftStep is referred to as the Nav Pad.  There are 4 points of pressure on this pad, North, South, East, and West.

**OSC** - stands for Open Sound Control.  It is a format for messaging among computers, sound synthesizers, and other multimedia devices that are optimized for modern networking technology.

**pad** - In this manual the word pad is used mostly to refer to the Nav Pad.  The word key is used for the numbered pads in order to differentiate.

**parameter destination** - This is the type of data that you want to send out.  Control Changes messages, Program Change messages, MMC, OSC, etc... are all parameter destinations.

**port** - The SoftStep hardware has 2 ports: One for the SoftStep to send up through USB to the computer (port 1) and one for sending data through the SoftStep MIDI Expander.  You can think of these ports as roads on which data travels, each road going somewhere different.  In Hosted mode you need a MIDI Bus to send Data to other applications.  We include our own MIDI Bus in the mac version called SoftStep Share.

**preset** - a set of saved modulation settings for keys.  Presets for each key can then be saved together in a scene.

**scene** - A scene determines which preset for each key you are using and what Nav Pad preset you are using with them.  Other similar terms used by other foot controllers could be: bank, program, set, cue, preset, etc...  We call ours a scene to differentiate it from other functions that use similar names within the application.

**scene abbreviation** - this refers to the 4 letters that are saved with each scene that show up on the SoftStep's alpha numeric display when scrolling through scenes.  These four letters are typed into the box labeled "display" in the Main window of the SoftStep application next to the scene menu.

**setlist** - this contains the chosen scenes that you can then scroll through using the SoftStep Nav Pad's x-axis.  This way when you're performing a show you don't have to scroll through all of your scenes to find the one you want to use.  In Standalone mode the setlist is currently limited to 16 scenes.

**slew** - Slew uses the output of a modline as a target value. Each new value output from a modline becomes the new target value, and the slew time (ms) sets the time it takes for the current output value of a modline to move to its new target value.

**source** - refers to the different ways the sensor data from the SoftStep keys are interpreted.  These sources are presented visually in the sensor view window.  Pressure Live, X Live, Y Increment, Foot On, etc... are examples of sources.

**SSCOM** - This is what the SoftStep ports are called.

**Standalone mode** - putting the application in this mode allows you to use the application as an editor and then download your settings to the SoftStep so you can use it without the application.

**state recall** - When moving between presets, state recall retains the state (or current parameter values of inc/dec, led, rotation, latching, etc...) of a particular scene. When the user changes these parameters, then navigates away from a scene, and subsequently returns to it, these parameter values are recalled.

**threshold** - A numerical boundary point or dividing line. A threshold creates a switch, where as soon as the incoming data goes above this threshold number, one thing happens, but as soon as it crosses back something else happens.

**toggle** - refers to data which goes back and forth between 2 different numbers every time you step on a key.  For example; If using the toggle 127 table used with Foot On as the source in the SoftStep modlines for keys, the first time you step on the key the output will be 127 and when you step on the key again the output will go back to 0.  You can continue stepping on the key and it will go back and forth between the 2 outputs.

**trigger** - refers to one of the sources that go from zero to a positive number when you step on a key.

**true** - in reference to programming the LEDs true means 1.  When the LED state is set to true the LED will light up when a modline outputs a 1.

**x-axis** - this is the horizontal plane of the SoftStep's keys and the Nav Pad.  Shifting the weight of your foot from side to side will cause the x-axis data to increase and decrease.

**y-axis** - this is the vertical plane of the SoftStep's keys and the Nav Pad.  Shifting the weight of your foot up and down will cause the y-axis data to increase and decrease.

# Troubleshooting

**Make sure the software and the firmware versions are compatible with each other.**

Note: If you used the Mac version 1.099 or RC1 please archive or delete them before updating to version 1.1 so you don't accidentally launch either of these older versions (particularly important if your firmware is not VK1 or higher).

In the SoftStep Editor version 1.2 you will be prompted to update your firmware if one is needed when you open up your application.  Be sure to click update if prompted.  The VK2 firmware will be sent down to your SoftStep.

If you are having trouble of any kind make sure you double check the following before moving on to the chapters below that address specific problems:

1. With your SoftStep plugged in check Audio MIDI Setup's MIDI view and make SoftStep's SSCOM icon is active (not grayed out).  If it is not active try these:
    1. Unplug your SoftStep and plug it back in.
    2. Unplug your SoftStep, restart your computer, and plug your SoftStep back in.
    3. Try a different USB cable
2. Make sure you are using the correct firmware.  The firmware version will flash on the SoftStep display just after you've plugged it in.  VK2 is the firmware version that goes with software version 1.2.
3. Make sure your SoftStep application is in the same directory with your presets folder.  It's best to keep the SoftStep directory as is after downloading so that everything that is relevant to the version you downloaded stays together.  You can make an alias or shortcut and then put that wherever you wish.
4. Delete your SoftStep Preferences folder:  "/__User__/Library/Preferences/ SoftStep Folder/" then restart your computer

## DAW/Host Application Trouble

If you are having problems getting a DAW or other host application (Ableton Live, Logic, Digital Performer, Mobius, GarageBand, etc...) to "learn" the correct MIDI information that you are trying to send with your SoftStep make sure you double check and try out the following:
1. Make sure the SoftStep application is communicating with the SoftStep.  Check the Sensor View screen to make sure you can see the interface reacting to your interactions with the SoftStep.  If you do not see anything responding to your foot presses check out the [Connectivity Trouble](#) headline of this Troubleshooting

chapter and then come back to this headline if you still experience problems getting MIDI into your other application.

2. If in **Hosted** mode, check that in the SoftStep application you are using either SoftStep Share or a MIDI Bus (IAC Driver Bus or MIDI Yoke) as the device/route in the modulation windows of all the keys. See the Port chapter of this manual for instructions on using MIDI Yoke. If in **Standalone** mode, make sure your device/route is set to SSCOM Port 1 (sometimes called "USB Audio Device (1)" in Windows XP) and that your selected MIDI Input in your DAW is set to SSCOM Port 1 also.

3. Make sure you open up your host application after you open up the SoftStep application. If you are using SoftStep Share as your device, the host application will not be able to find it unless the SoftStep application is open. Some applications do not automatically update their Port list after a new device has become available.

4. Now that you have the data outputting from the SoftStep application, if you're in Hosted mode make sure that you understand that Port 1 of the SoftStep will also still be sending raw sensor data for the SoftStep application to mold. Because both Port 1 and SoftStep Share (or your MIDI Bus) will be sending information at the same time you will need to filter out Port 1 from being seen by your DAW. For more information on the Ports of SoftStep check out the Ports chapter of this manual.

To filter out Port 1 from your DAW or host application you can usually find a preferences or MIDI settings menu somewhere where you can select which MIDI Inputs you want to be available. Here is a screenshot of Ableton Live's MIDI Preferences menu:
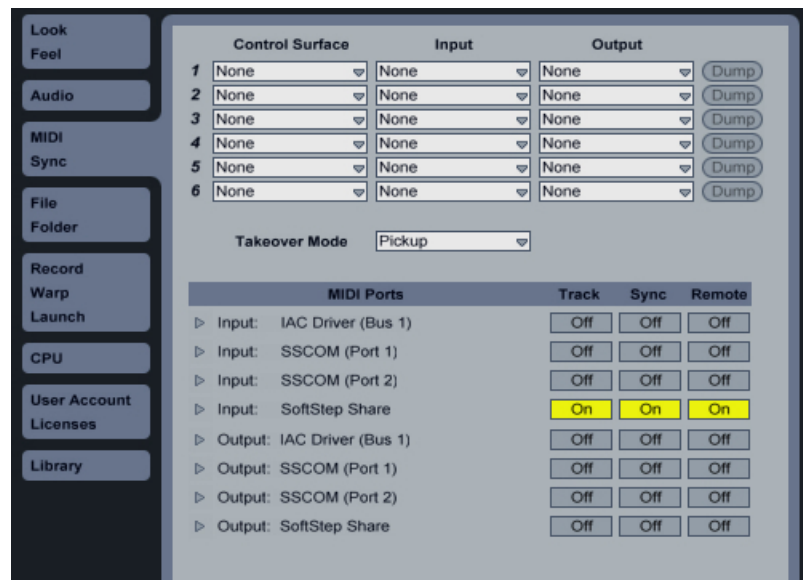


5.

6. If your host application does not give you the ability to filter out or select a specific MIDI Input device (like Logic or Mainstage) you could either select your MIDI data manually instead of using the learn function, or you can try this:

> When in Learn mode instead of pressing on the key on the SoftStep foot controller, go to the SoftStep application's modulation window for the key you want to be "learned" and wiggle the output number box toward the end of the modline. This will send out just the data you want the learn function to receive from the application and will prevent Logic from being confused by the data coming from Port 1. Then when you're out of learn mode you can step on the keys all you want.

# Display Trouble

If you are having problems getting the alpha numeric display and LEDs to respond to display changes from the Application try this:
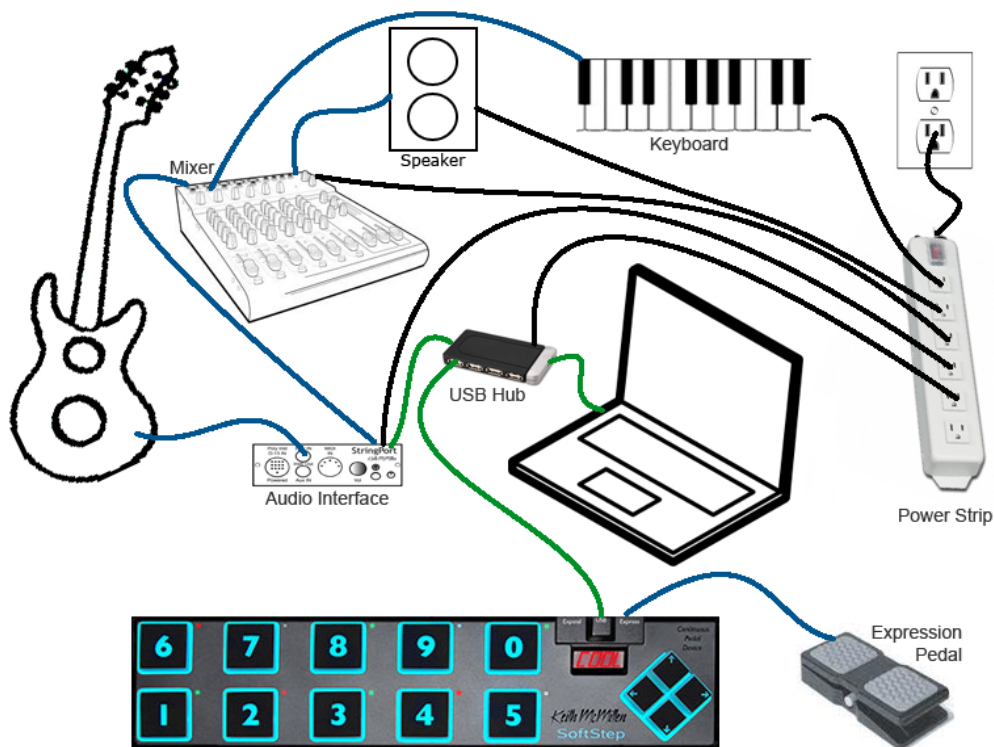
1. If your computer's language settings are set to something other than English:
    1. Set the language to English in the "System preferences / Language&Text".
    2. Restart your computer to make the change take effect.
    3. With the SoftStep disconnected delete the SSCOM icon in the Audio MIDI setup utility.
    4. Plug in the SoftStep and the SSCOM icon appears with the English named ports "Port 1".
    5. Set the language back to the language you had it set to before in "System Preferences / Language&Text".
    6. Restart your computer one more time for the changes to take effect.
2. Make sure you have the latest firmware installed on your SoftStep.  The current latest firmware that goes with software version 1.2 is VK2.
3. If using multiple USB devices, unplug ALL of them, then restart the computer, then try plugging in the SoftStep by itself.  If that works, add the other devices back in one by one to see if there is a conflict.
4. If using multiple USB devices, use a powered usb hub. If a device like a printer or webcam is taking too much power, this could interfere with USB communication.
5. Update your Mac OS to the latest version.

## Noise Trouble

If you are experiencing noise or hum in your audio setup that you believe is caused by the SoftStep check to see if this is due to the Electro-Luminescent (EL) backlighting of the SoftStep by going into the Settings window of the SoftStep application and set the EL to off.  If this makes the audio noise stop then what you'll want to do is adjust the grounding of your audio set up.  Here are a few suggestions that could help you to be able to use the SoftStep with the EL on:
1. Try using a powered USB Hub for the SoftStep.  Having the SoftStep separated from audio device plugged into USB could help because something else could hoarding the power or the computer might not be providing enough.  Having a separate powered USB hub ensures the SoftStep is getting the correct amount of power.
2. If you are using a laptop try using it without the power charger plugged into the laptop.
3. Make sure all power for your audio setup is coming from the same wall socket.  Using 2 different sockets can sometimes cause hum in cases like this because different power sources can be producing slightly different amounts of AC.

Here is a diagram of a good way to set up that likely won't have grounding problems:

Mixer
Speaker
Keyboard
USB Hub
Audio Interface
StringPort
Power Strip
6 7 8 9 0
1 2 3 4 5
SoftStep
Expression Pedal

black connections are power cables
blue connections are audio cables
green connections are USB cables

**Note**:  Everything is connected to the same power outlet.  The laptop in the picture is not hooked up to power because often a power charger connected to a laptop will be a source of noise.  If using a desktop computer that requires power to turn on, you'll want it plugged into the power strip.

# Connectivity Trouble

If you are having trouble with the SoftStep staying connected on your computer try the following:

1. Make sure you plug the SoftStep in before opening the SoftStep application.
2. If using multiple USB devices, unplug ALL of them, then restart the computer, then try plugging in the SoftStep by itself.  If that works, add the other devices back in one by one to see if there is a conflict.
3. If using multiple USB devices, use a powered USB hub. If a device like a printer or webcam is taking too much power, this could interfere with USB communication.
4. Open Applications>Utilities>Disk Utility. Select your hard drive and click on "Repair Disk Permissions." This has solved connectivity issues before.
5. Try reseting the PRAM.
   1. Shut down the computer.
   2. Locate the following keys on the keyboard: Command, Option, P, and R. You will need to hold these keys down simultaneously in step 4.
   3. Turn on the computer.
   4. Press and hold the Command-Option-P-R keys. You must press this key combination before the gray screen appears.
   5. Hold the keys down until the computer restarts and you hear the startup sound for the second time.

6. Release the keys.
6. Try reseting the System Management Controller.
   http://support.apple.com/kb/HT3964?viewlocale=en_US

   Press Command + Option + Escape to force quit any application that is not responding.
   Put your Mac to sleep by choosing the Apple (?) menu from the upper-left menu bar and then choosing Sleep. Wake the computer after it has gone to sleep.
   Restart your Mac by by choosing the Apple (?) menu from the upper-left menu bar and then choosing Restart.
   Shut down your Mac by by choosing the Apple (?) menu from the upper-left menu bar and then choosing Shut Down.

   Then to reset SMC. Procedure varies from computer to computer, but all steps are listed at the link above. For Macbook Pro:

   Shut down the computer.
   Plug in the MagSafe power adapter to a power source, connecting it to the Mac if its not already connected.
   On the built-in keyboard, press the (left side) Shift-Control-Option keys and the power button at the same time.
   Release all the keys and the power button at the same time.
   Press the power button to turn on the computer.  Note: The LED on the MagSafe power adapter does not change states or temporarily turn-off when you reset the SMC.


If you still have questions please visit the SoftStep user forum at forum.keithmcmillen.com or feel free to e-mail support at support@keithmcmillen.com