

HUB v1

MIDI Interface / Port Expander / Multi-Pedal Scene Saver

User's Guide



Welcome

Thank you for purchasing the Soundblox Hub v1. The Soundblox HUB unites your Soundblox 2 pedals into a single, stage-ready system. It features shared MIDI, passive expression pedal, Hot Hand®, and USB connections for up to five Soundblox 2 pedals. The HUB features a powerful new Scene Saving functionality, which allows you to create up to 128 multi-pedal presets (scenes), each recallable via MIDI Program Change messages. It is compatible with all Source Audio pedals, including the Soundblox 1 and Soundblox Pro series and allows sharing of expression and Hot Hand controls. Using the HUB with Soundblox 2 pedals allows access to scene saving and a wide set of additional features. Connect the HUB to your computer via USB for updates, saving and editing presets, and more.

Getting Started

Your Hub v1 package includes the following items:

- Hub v1 unit
- 9 Volt DC power supply (negative tip, positive barrel)
- 3 pcs of SA160 daisy chain/sensor cables
- 1 USB A to mini B cable

The Hub is powered by the included 9 Volt DC power supply. It can also be powered by a 9V DC output from most pedal board power supplies but please be sure to check the output voltage and polarity before connecting to the Hub.

The Hub uses a software application (the Hub Manager) for changing settings, updating firmware, and other features. You can download this application from the Hub product page at:

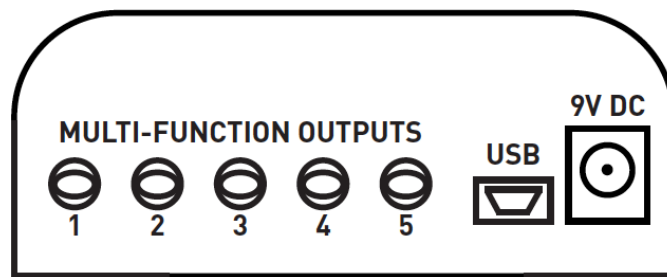
http://www.sourceaudio.net/products/toolblox/soundblox_hub_v1.php

The Hub Manager can also be used to update Soundblox 2 pedals firmware. Since the Hub adds a tremendous amount of new functionality to Soundblox 2 pedals, **we recommend that you check and update your firmware for each of your Soundblox 2 pedals before using any of the Hub features.** For a description of this process, please see the “Hub v1 – Soundblox 2 firmware update” document on the Hub product page.

Connections

Front

The front panel of the Hub features 5 Multi-Function outputs, USB, and the 9V DC power jack.

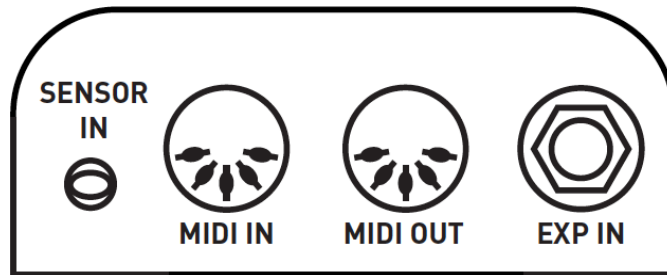


- **Multi-Function Outputs:** Connect your Soundblox 2 pedal’s Multi-Function Inputs here via the included daisy-chain/sensor cables. You can also connect the Multi-Function outputs of the Hub to Sensor Inputs on Soundblox Pro and Soundblox 1 pedals. Soundblox 2 pedals will recognize this connection, change to digital communication mode and send information back and forth from the pedals. Soundblox Pro and Soundblox 1 pedals can only use these ports in analog mode.
- **USB:** Connect to your computer via the included USB-Mini cable. The Hub will install automatically and can be used with the Hub Manager application. The Hub will also appear as a MIDI device for outputting MIDI directly to your Soundblox 2 pedals from a computer without requiring another MIDI interface device.
- **9V DC:** Power the Hub here with the included power supply. The power supply is negative tip, positive barrel type. The Hub can also be powered by most 9V DC outputs on common pedal board power supplies but please take care to assure that the polarity and voltage are correct. **Only REGULATED supplies should be used!!**

Connections

Rear

The rear panel of the Hub features MIDI I/O, an Expression Input, and a Sensor Input for use with Hot Hand.



- **Sensor Input:** Connect a wireless Hot Hand receiver or wired Hot Hand unit here. The Hot Hand unit will be powered from the Hub. The Hot Hand signals will automatically be routed in either digital or analog mode to any connected Soundblox pedals.
- **MIDI IN and OUT:** Standard 5-pin DIN connectors can be used here to connect a MIDI controller to the MIDI IN jack. The Hub can receive and respond to a variety of MIDI commands. See the MIDI Features section for more detail. The MIDI OUT jack is by default a MIDI Thru connection. This means that any messages received on the MIDI IN port are immediately passed to the OUT port. The function of the MIDI OUT port can be changed using the Hub Manager application.
- **Expression IN:** Connect a passive expression pedal (example: SA161 Source Audio Dual Expression) here using a stereo (TRS) ¼ in. cable. If using a 3rd-party pedal, the connection must be “tip hot” and the value of the internal pot should be in the 10k to 50k range for best results.

Top Panel Controls

The Hub v1 has a very simple interface on the top panel. The blue POWER LED should be lit whenever the device is powered. There are also two buttons that perform multiple functions:

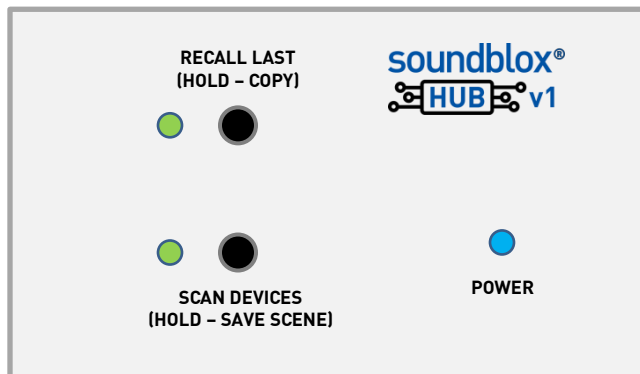
- **Scan Devices (Hold – Save Scene):**
 - **Scan Devices:** Pressing the Scan button will send a “ping” message to all of the attached Soundblox devices to check the connections and the state of the pedal. The Hub automatically scans the attached pedals when it power up. However, if a new pedal is connected later, press Scan to make sure that the Hub is properly connected to it. The MIDI LED on any connected Soundblox 2 pedals will blink to acknowledge.
 - **Save Scene:** Pressing and holding the button for two seconds will perform a “Scene Save” function. The Hub queries all of the attached Soundblox pedals settings and stores them in flash memory inside the Hub. There are 128 Scene locations. By default, scenes are stored to location 1. To access the other locations, connect an external MIDI controller. The Hub will automatically save scenes to the last received MIDI Program Change number (1 through 128).

Top Panel Controls - continued

- **Recall Last (Hold – Copy):**

- **Recall Last:** Pressing the Recall Last button to recall the scene corresponding to the last MIDI Program Change number received. On powering up, the Hub will recall the scene in location 1 when the Recall Last button is pressed. The LED next to the Recall button will also flash when the Hub receives an incoming MIDI message.
- **Copy:** Press and hold to button for two seconds to put the Hub into Copy mode. The LED next to the button will begin to blink to indicate that the Hub is in Copy mode. While in Copy mode, the Hub will ignore any incoming MIDI Program Change messages. This allows you to cycle through PC numbers until you get to the desired PC number you wish to save the scene to. Press and hold the Copy button again to complete the Scene Save to the new location. The LED will blink slowly to acknowledge that the save was successful.

Example: The last PC number sent to the Hub was 10. Scene 10 was recalled. To save the same scene to location 37, enter copy mode. Cycle through PC numbers on your MIDI controller until 37 is reached. Press and hold Recall/Copy again for two seconds. Scene 10 is now copied to location 37.



Scene Saving

One of the most powerful features of the Hub v1 is the ability to save pedal board scenes for all of the connected Soundblox 2 devices. A scene is a snapshot of all the connected pedals including ON/OFF state, all knob settings, and all control options. Since all pedal settings are saved, this gives users the ability to save and store unique effect combinations that would otherwise not be possible with traditional pedals and stompboxes.

Currently, only Soundblox 2 pedals support the scene saving functionality of the Hub. All future Source Audio effects pedals will include Hub support.

There are 128 scene memory locations that can be selected by received MIDI messages. The Hub v1 requires the use of an external MIDI device or computer to set the current scene memory location to be saved or recalled. A simple MIDI PC switcher like the Tech 21 MIDI Mouse can be used for this purpose. More advanced MIDI controllers, computers, and tablets can also be used.

MIDI Features

The Hub v1 uses MIDI PC messages for saving and recalling scenes. Additionally, the Hub can also respond to MIDI Continuous Control (CC) messages and MIDI Clock.

MIDI CC messages received by the Hub are passed on to the connected Soundblox 2 pedals. The function of each CC number is hard mapped to pedal functions across the Soundblox 2 line. The implementation table is available at the end of this document. Each pedal type has an assigned CC number mapping so that they can be used as a single system when connected to the Hub.

The Hub can also accept MIDI Clock messages to synchronize LFOs on Soundblox 2 pedals that support this function. This allows an external MIDI device to set the LFO rate on an effect by sending a MIDI Clock stream to the Hub. The MIDI Clock is sent to simultaneously to attached pedals so it's possible to use MIDI Clock input to synchronize LFOs between two or more pedals.

The MIDI Output functions as a MIDI Thru connection by default. This means that any incoming MIDI messages are immediately sent back out on the MIDI Out jack. However, it's possible to use the Hub Manager application to change the mode of the MIDI Out. For example, it can be set to take incoming Expression and Hot Hand messages and send them on the MIDI Out as Continuous Control messages. Other modes will likely be supported in future firmware/software revisions.

Specifications

- **Weight:** 6 oz.
- **Dimensions:** 3.8 in. (W) x 2.1 in. (L) x 1.4 in. (H)
- **Power requirements:** 9 Volts DC @ 40mA (up to 80mA with Hot Hand accessories)
- **Power plug size:** 2.1mm (inner dia.), 5.5mm (outer dia.) center negative, barrel positive
- **Expression Pedal input:** Stereo ¼ in. plug, tip hot, 10k-50k Ohm resistance. Linear type.
- **Multi-Function connector:** 4 conductor, 3.5mm plug

MIDI Continuous Control Table

This table describes the mapping of MIDI CC messages to functions on corresponding Soundblox 2 effect pedals. This table will be updated as new products are added to the line.

SA220 Multiwave Distortion

MIDI CC#	Parameter Name
0	SA220_DRIVE
1	SA220_SUSTAIN
2	SA220_OUTPUT
3	SA220_TREBLE
4	SA220_MID
5	SA220_BASS
6	SA220_EFFECT
7	SA220_ONOFF
8	SA220_MORPH

SA221 Multiwave Bass Distortion

12	SA221_DRIVE
13	SA221_CLEANMIX
14	SA221_OUTPUT
15	SA221_TREBLE
16	SA221_MID
17	SA221_BASS
18	SA221_EFFECT
19	SA221_ONOFF
20	SA221_MORPH

SA223 Manta Bass Filter

36	SA223_DEPTH
37	SA223_FREQUENCY
38	SA223_MODSOURCE
39	SA223_SPEED
40	SA223_RESONANCE
41	SA223_MIX
42	SA223_OUTPUT
43	SA223_DISTORTION
44	SA223_DISTTYPE
45	SA223_EFFECT
46	SA223_ONOFF
47	SA223_DIRECTMOD

SA225 Dimension Reverb

60	SA225_TIME
61	SA225_PREDELAY
62	SA225_OUTPUT
63	SA225_DIFFUSION
64	SA225_LFORATE
65	SA225_BASS
66	SA225_LFODEPTH
67	SA225_TREBLE
68	SA225_MIX
69	SA225_EFFECT
70	SA225_SEND
71	SA225_ONOFF

SA226 Orbital Modulator

MIDI CC#	Parameter Name
72	SA226_FREQUENCY
73	SA226_DEPTH
74	SA226_SPEED
75	SA226_MODSOURCE
76	SA226_FEEDBACK
77	SA226_OUTPUT
78	SA226_LORETAIN
79	SA226_TREMOLO
80	SA226_MIX
81	SA226_EFFECT
82	SA226_ONOFF
83	SA226_DIRECTMOD

SA227 OFD Guitar microModeler

84	SA227_VOICE
85	SA227_DRIVE
86	SA227_OUTPUT
87	SA227_TREBLE
88	SA227_MID
89	SA227_BASS
90	SA227_EFFECT
91	SA227_ONOFF
92	SA227_MORPH

SA228 OFD Bass microModeler

96	SA228_MIX
97	SA228_DRIVE
98	SA228_OUTPUT
99	SA228_TREBLE
100	SA228_MID
101	SA228_BASS
102	SA228_EFFECT
103	SA228_ONOFF
104	SA228_MORPH

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