

QUICK START

1. POWER

To power the unit, insert 4 AA batteries (included) or connect a Source Audio 9V power supply to the 9V DC jack (A).

2. GUITAR/AUDIO CONNECTIONS

Next, plug your guitar (or other instrument) into the jack labeled GUITAR IN (B) via a standard ¼-inch cable. Connect your amp (or other audio device) to the GUITAR OUT (C) jack, again with a standard ¼-inch cable. Both input and output are mono signals.

Note: The unit will not power up until a ¼-inch plug is inserted into the guitar input. This is to conserve power when the unit is running on batteries. Don't forget to unplug the cable from the input when the unit is not in use—otherwise the batteries will continue to drain.

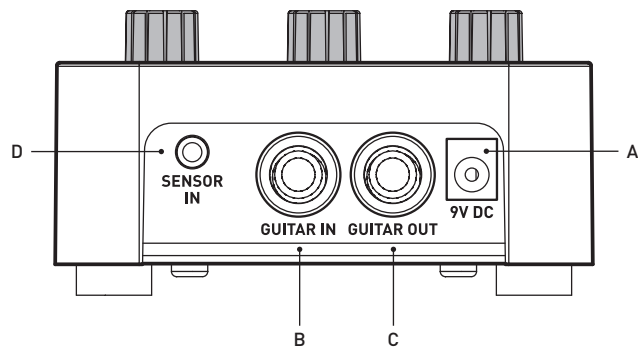
3. SENSOR IN (optional)

To use your Guitar Envelope Filter with a Hot Hand sensor: Connect the sensor to the SENSOR IN (D) jack and follow any instructions supplied with the sensor.

4. BRIEF KNOB AND PEDAL DESCRIPTIONS

(see *Controls* section for more details)

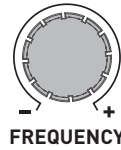
- **EFFECT** selects desired filter type.
- **FREQUENCY** adjusts the center frequency of the filter.
- **SWEEP RANGE** adjusts the direction (up/down) and breadth of the filter sweep or the depth of the Hot Hand modulation.
- **SPEED** controls the attack and decay speed of the envelope follower or the motion-sensitivity of the Hot Hand.
- **ON/OFF** engages and disengages the effect. In calibrate mode, the ON/OFF switch starts the calibration.



CONTROLS

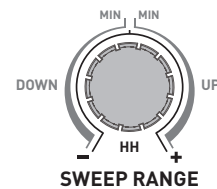
EFFECT

The effect knob selects the type of filter to be used. See the effect types section for more details. The effect knob also allows you to select the CALIBRATE mode for calibrating the signals from a Hot Hand sensor. See the *Use with Hot Hand* section for details.



FREQUENCY

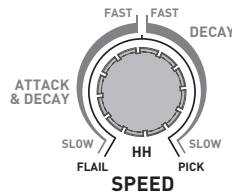
The frequency knob sets the center frequency of the filter sweep. Turning the knob counterclockwise will result in the filter moving over lower frequencies for a darker sound. Turning the knob clockwise will result in the filter sweep moving over higher frequencies, which will create a brighter and thinner sound.



SWEEP RANGE

The sweep range knob controls the direction and breadth of the filter sweep. To the right side of the knob, marked as UP, the filter will move in a positive sweep from low to high with greater range as you turn the knob further to the right. To the left side of the knob, marked as DOWN, the filter will move in a negative sweep from high to low with increased range as

you turn the knob to the left. With the Hot Hand controller plugged in, the knob controls the positive or negative depth of the sweep.



SPEED

The speed knob controls the attack and decay time of the envelope follower. The range of the speed control is divided into two parts. To the left of the midpoint (12 o'clock) both the attack and release times of the envelope detector are controlled together. They range from slow when fully turned to the left, to fast when set toward the midpoint. As the knob is turned to the right past the midpoint, the attack is fixed at the fastest setting while the decay time gets slower. In Hot Hand mode, the knob controls the response of the motion sensor. FLAIL being the slowest and PICK being the fastest response. See the *Use with Hot Hand* section for more details.

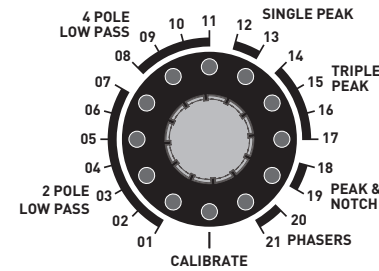
Note: The envelope follower signal can be reset to zero by a very brief moment of silence, allowing the next note played to experience the full sweep of the envelope all the way from zero.

ON/OFF

The ON/OFF switch engages or disengages the effect. When the effect is engaged, the ON/OFF LED will be lit. The LED will be off in bypass mode. The ON/OFF switch is also used to start the calibration routine when the EFFECT knob is set to CALIBRATE.

EFFECTS

Here are some brief technical descriptions of the filter effects included in the Guitar Envelope Filter. Some of the filter types are intended to approximate, but not exactly copy, some common and well-known envelope filter effects.



2 POLE FILTERS

01: Resonant low pass. A flat response at low frequencies, rising to a resonant peak, and then falling at 12 dB/octave. Low resonance (low Q).

02: Resonant low pass. High resonance (high Q).

03: Notch, Resonant low pass. The frequency response begins flat, then has a deep notch, then back to flat, and then a resonant peak followed by a 12 dB/octave fall.

04: Notch, Notch, Resonant low pass. Same as 03, but with two notches.

05: Peak, Notch, Resonant low pass. A resonant peak, followed by a notch, followed by a resonant low pass.

06: Resonant low pass, Peak, Peak. As the response of the low pass filter falls, the fall is interrupted by two peaks. The low pass resonant peak moves in the opposite direction from the additional higher frequency peaks.

07: Two resonant low pass filters in parallel.

4 POLE FILTERS

08: Resonant four pole low pass. Like the two pole low pass, but after the resonant peak, the signal falls at 24 dB/octave.

09: Four pole low pass with two resonant peaks. The resonant peaks are separated by 1.3 octaves.

10: Peak, Four pole low pass. A four pole low pass with an extra peak at a lower frequency than the resonant peak.

11: Four pole low pass, peak. A four pole low pass with an extra peak at a higher frequency than the resonant peak.

SINGLE PEAK

12: Peak. The frequency response is flat, except in the region around the peak. Moderate Q.

13: Peak. As above, with higher Q.

TRIPLE PEAKS

14, 15: Three peaks moving together.

16, 17: Three peaks moving in opposing directions.

PEAKS AND NOTCHES

18: Peak, Notch, Peak.

19: Notch, Peak, Notch.

PHASERS

20: Notch, Notch. A pair of frequency response notches creates a standard two notch phaser. There is a little feedback to boost the non-notched frequencies.

21: Notch, Notch, Notch. A three notch phaser with some feedback.

SPECIFICATIONS

Dimensions

- L: 7 inches
- W: 4 inches
- H: 2 inches (including knobs)

Weight

- 1.25lbs

Power

- 125mA @ 9V DC (max 145mA with Hot Hand Wireless Adapter)
- 15-20 hours battery life
- NEGATIVE tip power jack

Audio Performance

- 115dB DNR audio ADC
- 24-bit audio conversion
- 56-bit digital data path
- Analog bypass

TROUBLESHOOTING

Noise:

Low Power	Change batteries or plug in a DC power supply.
Near noise source	Move pedal away from power supplies and other equipment.
Other equipment	Remove other effects from signal chain, see if noise persists.
Bad cables	Swap out audio cables.

Low volume:

Low power	Change batteries or plug in a DC power supply.
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Hot Hand doesn't work:

Low power	Change batteries or plug in a DC power supply.
Not calibrated properly	Calibrate the Hot Hand (see <i>Use with Hot Hand</i>).
Not connected	Check Hot Hand connections.

Knobs don't work /light up:

Low power	Change batteries or plug in a DC power supply.
Wrong power supply	Use correct power supply (see <i>Quick Start</i>).
Corroded input cable plug	Check input cable plug for corrosion on sleeve, swap out cable if necessary.
TRS (stereo) cable used	Only use mono cable for input cable.

For additional assistance, please visit www.sourceaudio.net



If possible, dispose of the device at a recycling centre. Do not dispose of the device with the household waste.

LIMITED WARRANTY

Source Audio, LLC (hereinafter “Source Audio”) warrants that your new Source Audio Soundblox Effects Pedal, when purchased at an authorized Source Audio dealer in the United States of America (“USA”), shall be free from defects in materials and workmanship under normal use for a period of one (1) year from the date of purchase by the original purchaser. This Limited Warranty does not extend to the batteries which are purchased as is. Please contact your dealer for information on warranty and service outside of the USA.

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FEATURES

The Soundblox Guitar Envelope Filter is a new type of envelope filter effect. The unit features multiple filter types ranging from classic to modern and beyond which are all controlled by a flexible envelope follower. An envelope follower is an algorithm that responds to the amplitude (or volume) of the incoming signal and creates a control signal based on the input level. This control signal is used to “move” or modulate the filter to create a wah-like effect. Additionally, the filter effects can be controlled by a Hot Hand Motion Sensor. Either a wired or wireless sensor can be plugged into the sensor input on the back panel. When a sensor is plugged in, the unit goes into “Hot Hand Mode” and the controls take on slightly different functions. Also, the calibrate feature is intended for use with the “Hot Hand Mode” only.

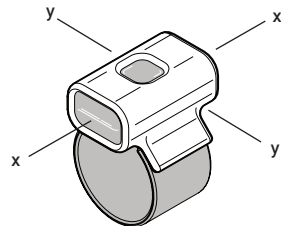
HOT HAND READY

While the primary function of the Guitar Envelope Filter is as a stand-alone effect pedal you also have the option of exploring some additional functions by plugging in a Hot Hand sensor. When a sensor is plugged in the unit goes into Hot Hand mode. In Hot Hand mode, the controls take on some secondary functions. These are shown by the white text beneath main label of the knobs.

Hot Hand Basics

The Hot Hand motion sensors are sold separately and come in either wired or wireless versions. Both will work with the Guitar Envelope Filter. Additionally, the SENSOR IN jack will be compatible with any future Source Audio sensors.

The Hot Hand ring contains an accelerometer that responds to acceleration and is not based on any type of proximity to the guitar. By moving your hand or by changing the position of your hand you can modulate the effect. For a good description of Hot Hand Theory, download the Hot Hand Motion Controlled Wah Filters manual. It is available at www.sourceaudio.net. Keep in mind that the Guitar Envelope Filter can only use the x-axis of the ring sensor.



USE WITH HOT HAND

Depth

In Hot Hand mode, the SWEEP RANGE knob becomes the depth of the effect based on the sensor input. It can alternatively be thought of as a gain control for the Hot Hand signal. Increasing the depth will cause the filter to move more based on smaller motions of the sensor. Decreasing the depth will decrease the movement of the filter. In Hot Hand mode, the depth increases turning the knob to the left or right except that in the ‘+’ region the motion of the filter will be from low to high and in the ‘-’ region the filter will move from high to low. This effectively inverts the Hot Hand signals.

Motion Control

The SPEED control becomes the MOTION control in Hot Hand mode and is used to smooth out the input from the sensor by filtering out fast changes in the signals. The amount of smoothing is controlled by the knob. Turning the knob towards FLAIL provides the most amount of smoothing and the effect will now only react to large, slow motions of the sensor. This is useful when you only want the effect to respond to large, deliberate motions. Turning the knob all the way to PICK sets the smoothing at a minimum. This means that fast changes in the sensor signal will be applied to the effect. The motions created from normal picking will be enough to move the filter. This may cause the sound to be too “jittery”, in which case, turn the knob towards STRUM and FLAIL to get the desired response. The STRUM setting is a nice compromise that allows some moderately fast motions through without being too jittery.

Calibration

The Guitar Envelope Filter has a calibration feature which is only used in Hot Hand mode. However, calibration is not required before use. The calibration feature allows you to set the midpoint of the filter sweep for any position of your hand. Depending on your playing style, you may find it useful to try some different calibration positions. The most common use of calibration is setting your resting hand position on the guitar to be the midpoint of the filter sweep. Calibration can also be useful if you are putting the sensor on a headband or other alternate locations.

To perform a calibration

- Turn the EFFECT knob to the CALIBRATE position.
- Hold the sensor in the desired position.
- While holding the sensor steady, press the ON/OFF footswitch and wait for 1 second.
- Turn the EFFECT knob away from calibrate to use your new calibration setting. Note: Calibration settings will be saved between power cycles.

If you have trouble with calibration and need to get back to the default setting, place the sensor on a flat, level surface with the blue LED facing down and run the calibration procedure again.

GUITAR ENVELOPE FILTER

USERS GUIDE

Thank you for purchasing a Soundblox Guitar Envelope Filter. The Guitar Envelope Filter is a highly flexible envelope filter effect specially optimized for the guitar. With 21 filter types and a variety of control options, the Guitar Envelope Filter can create a wide range of envelope filter sounds from traditional filter effects to unique advanced filter sounds.

Enjoy!
The Source Audio team

- **DIVERSE SOUND PALETTE**
Featuring 21 types of envelope filter and phaser effects.
- **FLEXIBLE ENVELOPE CONTROL**
A simple but powerful control set makes it easy to dial in your desired envelope response.
- **MODERN DESIGN**
A thoughtfully designed box which features rugged construction and sleek looks.
- **STATE-OF-THE-ART DSP**
Our proprietary 56-bit Digital Signal Processor, the SA601, and crystal clear 24-bit converters.
- **MOTION CONTROL**
All Soundblox pedals are “Hot Hand Ready” and can be used with any Hot Hand motion sensor to extend the capabilities of the unit.
- **ACTIVE ANALOG BYPASS**
Bypass is fully routed around the DSP and active input ensures zero signal degradation.

SA127

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Soundblox®