

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 bass 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.

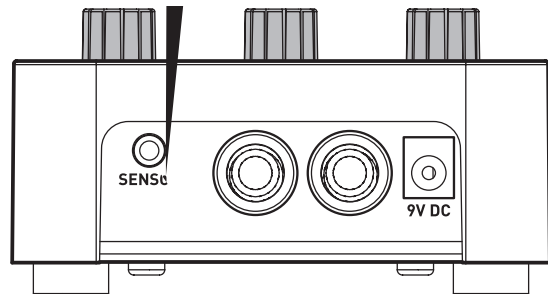
3. SENSOR IN (optional)

To use your Multiwave Bass Distortion 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)

- **CLEAN LEVEL** adjusts the clean (no distortion) signal level.
- **DRIVE** the amount of distortion gain applied to the signal.
- **DISTORTION LEVEL** adjusts the level of the distorted signal.
- **ON/OFF** engages and disengages the effect. In calibrate mode, the ON/OFF switch starts the calibration.



CONTROLS

EFFECT (A)

The effect knob selects which effect type will be used. There are 21 effect positions around the knob as well as a setting for CALIBRATE. For information on the individual settings see the next section. See the *Use with Hot Hand* section for information on calibration.

CLEAN LEVEL (B)

This controls the level of the clean signal. Having a separate control for the clean level allows you to balance the clean/distorted mix. The pure distorted signal tends to lose some of the precious low frequency content. The clean signal can be used to add it back in.

DRIVE (C)

The DRIVE control adjusts the gain of the signal going into the distortion section. The higher the DRIVE, the more distorted the signal.

DISTORTION LEVEL (D)

Adjusts the distortion level. This is useful for setting the level of the effect compared to the bypass signal. Note that because the effect compresses the signal, the dynamic range of the distorted signal will be less compared to the dry signal. This should be accounted for when setting levels.

ON/OFF

The ON/OFF switch engages or disengages the effect. When the effect is engaged, the ON/OFF LED (E) 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. See the section on *Use with Hot Hand* for more details.



EFFECTS

Here are some brief descriptions of the effects included in the Multiwave Bass Distortion. The EFFECT knob settings are split into two major categories: MULTI BAND and SINGLE BAND. MULTI BAND settings use the band splitting discussed in the feature section and the SINGLE BAND settings do not. Each main category contains 3 sub-categories: NORMAL, FOLDBACK, and OCTAVE. For each sub-category, turning the effect knob clockwise tends to produce more dramatic effects.

MULTI BAND

NORMAL 1-3

These three settings are best for maximum clarity when playing multiple notes. These distortion curves are similar to standard distortions.

FOLDBACK 4-9

The foldback of the distortion curve greatly increases the distortion components for these settings. The higher numbered effects have more foldback creating even more distortion.

OCTAVE 10-14

Settings 10 and 11 give the purest octave effect. Settings 12 through 14 also have foldback and can get pretty strange. Dial down the guitar volume knob for a different range of sounds.

SINGLE BAND

NORMAL 15-16

These two settings are fairly conventional distortion sounds.

FOLDBACK 17-19

With the entire bass signal processed through a single foldback distortion curve, there will be much more intermodulation-type distortion produced. These are great for getting synth-like sounds and work well with long sustained notes.

OCTAVE 20, 21

20 is the purest single band octave effect, and 21 includes some foldback.

SPECIFICATIONS

Dimensions

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

Weight

- 1.25lbs

Power

- 110mA @ 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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DO NOT OPEN THE EFFECTS PEDAL UNDER ANY CIRCUMSTANCE. THIS WILL VOID THE WARRANTY.

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FEATURES AND THEORY OF OPERATION

The Soundblox Multiwave Bass Distortion is a special version of the original guitar Multiwave. In creating this effects pedal, we didn’t intend to duplicate, model, or emulate any existing types of distortion. The types of algorithms we use to create the distortion are quite different from the standard set, although with certain settings the result can sound similar.

One of the techniques used is to divide up the input guitar signal into multiple frequency bands. Each band is separately distorted, and then all are recombined. Because of this, you can achieve a lot of clarity between notes on chords with complex harmonies. It’s possible to leave several notes droning, while a melody is played on top. A normal distortion tends to reduce such playing to mush by compressing and distorting low and high notes together. Because of the multiple bands, it’s also possible to get several notes feeding back at the same time. The first 15 settings (labeled MULTI BAND) on the effect knob use band splitting while the last 8 (labeled SINGLE BAND) do not.

The shapes of the distortion curves are also different from standard distortions. Normally, as the input signal voltage rises, the output voltage also rises, but begins to level off and finally pins (or clips) at a maximum value. With a foldback curve, for large enough values of the input, the output will begin to decrease. With more extreme amounts of foldback, after decreasing for a while, the output can begin to increase again. Maximum foldback has many regions where the output alternates between increasing and decreasing. These types of curves add a lot of high frequency content to the output. It also can provide additional control over the sound, based on the level of the input signal. With heavy foldback, chords containing only octaves and fifths tend to sound best. Other intervals can cause some strange, although not necessarily undesirable sounds.

Using a special shape of the distortion curve, strong second harmonics can be created, sounding like a note an octave higher. Rolling off the bass guitar tone control will help maximize the octave impression. The result is very sensitive to the input signal level (as long as the DRIVE control is not set too high) and can give a sort of auto-wah effect.

A conventional distortion effect tends to turn the bass guitar signal into square waves. Playing harder only makes the transition from negative clipping to positive clipping a little bit steeper. With our foldback and octave algorithms, a slightly higher input can have a radical effect on the shape and sound of the output signal.

USE WITH HOT HAND

While the primary function of the Multiwave Bass Distortion is as a standalone effects pedal you also have the option of exploring some additional functions by plugging in a Hot Hand sensor. When connected, the Hot Hand sensor will control the amount of DRIVE. The maximum amount of drive you can get by moving the sensor is determined by the position of the DRIVE knob.

Hot Hand Basics

The Hot Hand motion sensors are sold separately and come in either wired or wireless versions. Both will work with the Multiwave Distortion. 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 Multiwave Bass Distortion can only use the x-axis of the ring sensor. Please note that for the Multiwave Bass Distortion, the typical Hot Hand control parameters can NOT be adjusted.

Calibration

The Multiwave Bass Distortion 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 MAXIMUM point of the DRIVE sweep for any position of your hand. Depending on your playing style, you may find it useful to try some different calibration positions. The default, and most common use of calibration, is to have your hand pointing straight up as the maximum point of the DRIVE 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, point the front of the sensor (the H logo) straight up towards the ceiling and run the calibration procedure again.

MULTIWAVE BASS DISTORTION

USERS GUIDE

Thank you for purchasing the Soundblox Multiwave Bass Distortion. The Multiwave Bass distortion produces some very unique distortion sounds and does not attempt to model or emulate any classic distortions. It offers some new and different distortions ranging from the more organic to synth-like and octave sounds. Like the other Soundblox effects pedals, the Multiwave Bass Distortion is HOT HAND® READY.

Enjoy!
The Source Audio team

- **DIVERSE SOUND PALETTE**
Featuring 21 varieties of our distortion algorithm.
- **MULTIBAND PROCESSING**
Signal is split into multiple bands and each is distorted individually for unprecedented sound clarity.
- **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.
- **HOT HAND READY**
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.