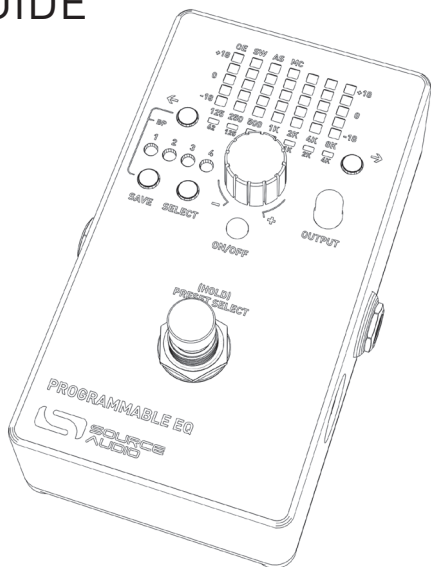

PROGRAMMABLE EQ

USER'S GUIDE



OVERVIEW

Thank you for purchasing the Source Audio Programmable EQ. The Programmable EQ is a compact, 7-band digital equalizer with four user preset locations. It uses high-precision processing combined with professional quality analog/digital converters for superior tone. The digital nature of the unit offers a significant advantage over analog equalizers in that presets can be easily saved and recalled. The MIDI input and Backpage features further extend the capabilities of the unit.

- **Flexible Range:** +/- 18dB of range over 7 bands. An 8th band at 62Hz can be edited using the Octave Extend Backpage function.
- **Small Footprint:** A compact, rugged, cast aluminum housing.
- **State of the art DSP:** 56-bit processing and crystal clear 24-bit converters.
- **Digital Flexibility:** Presets can be quickly saved and restored. All presets can be accessed via the footswitch.
- **Universal Bypass™:** Selectable bypass modes. Use either relay-based True Bypass or buffered analog bypass.
- **MIDI input:** recall presets, control parameters, and engage/bypass remotely via MIDI.

CONNECTIONS

1. Power

To power the unit, connect the included 9V battery or connect a Source Audio 9V power supply to the 9V DC jack.

Note: Use of a non-Source Audio power supply may damage the unit and void the warranty.

2. Guitar/Audio Connections

The unit has ¼-inch mono input and output jacks for use with guitar, bass, and other instruments.

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

3. MIDI input

The Programmable EQ also features a MIDI (Musical Instrument Digital Interface) input which allows certain functions of the pedal to be accessed remotely. See the MIDI implementation table (page 6) for more details.

CONTROLS

EQ Display: The heart of the Programmable EQ is the 7-band graphic equalizer display. The LED display shows the currently active settings of the equalizer within a range of +/-18 decibels (dB) for each of the seven accessible bands. The left and right arrow buttons select the frequency band to be adjusted and the main encoder knob adjusts the level of the selected band up or down. The center frequency (in Hz) of each band is indicated at the bottom of the display.

Band Select Buttons: The band select buttons flank the display and are indicated by left and right arrows. Press a corresponding button to select a higher or lower frequency to be edited.

Note: The equalizer can be quickly “zeroed” by pressing the left and right arrow buttons simultaneously.

Encoder: The main knob on the unit is an encoder style control that allows incremental up or down level changes to the selected frequency band in 1dB steps. The maximum range is +18dB and the minimum is -18dB for each frequency band.

SELECT Button: Pressing the select button will scroll through the four user presets. The display will update to show the saved equalizer curve and output for each preset location. Also, the four LEDs above the SELECT button will indicate which of the four presets is currently selected.

SAVE Button: Once a preset has been selected, it can be edited. When any of the controls are changed from their saved value, the preset LEDs will begin to blink to indicate that the preset has been edited. To save the new settings, press and hold the SAVE button for two seconds. The preset LED will blink 3 times quickly when the saving process is complete.

OUTPUT: This small knob adjusts the final output volume after the equalizer, it can be used to compensate the overall volume for any loss or gain in the equalizer. The OUTPUT knob setting will be saved along with the equalizer curve per preset. The OUTPUT knob is also illuminated by a blue LED which will increase in brightness as the knob is turned up. This way, the brightness of the OUTPUT knob will give some indication of the output volume setting when scrolling through presets

ON/OFF Footswitch: Pressing and releasing the footswitch engages or bypasses the unit. When engaged the ON/OFF LED will be lit. When engaged the audio input will be routed through equalizer and the output volume knob. When bypassed, the audio is routed through a hardwired relay connection directly to the output. This is sometimes referred to as “hardwire” or “true bypass.” There are no buffers or components between the input and output in bypass.

The footswitch can also duplicate the function of the SELECT button. Pressing and holding the footswitch will make the unit begin to scroll through the four presets in the same manner as pressing the SELECT button. Releasing the footswitch will stop the scrolling on the last selected preset.

Note: If the unit is currently bypassed (OFF) the footswitch scroll function will engage when the switch is released. If the scroll function is used while the pedal is engaged, the unit will audibly step through the four presets and remain engaged when the switch is released.

MIDI CONTROL

The Programmable EQ features a MIDI input that can be used to remotely engage and bypass the unit as well as selecting presets. It also allows for potential future firmware updates for feature changes or future interfacing with a software editor.

MIDI Implementation Table:

Parameter	Message Type	Data Value - Default*
Enable Preset 1	Program Change	001
Enable Preset 2	Program Change	002
Enable Preset 3	Program Change	003
Enable Preset 4	Program Change	004
Disable Preset - Bypass	Program Change	005

*The Programmable EQ can be configured to engage any of the four user presets from any value Program Change. When saving a preset, the unit will assign the current preset to the last Program Change value received. To assign a PC number to bypass, perform a save while the unit is bypassed.

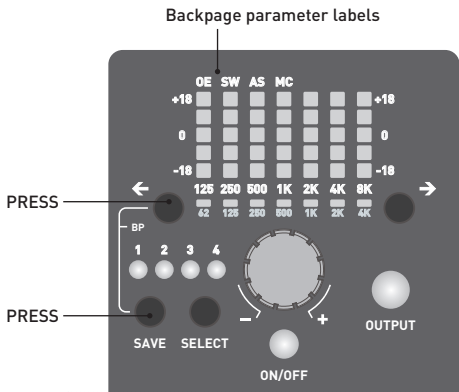
Parameter	Message Type	Data Value 1	Data Value2
Output	Continuous Controller	030	0-127
Engage/Bypass	Continuous Controller	031	<64 Bypass >=64 Engage
Output - Limited to Unity	Continuous Controller	032	0-127
Auto Scroll speed	Continuous Controller	033	0-127
Auto Scroll ON/OFF	Continuous Controller	034	<64 OFF >=64 ON
EQ Band level	Continuous Controller	035 - 042	0-127

The MIDI Channel is accessible as a Backpage parameter. See the next section for details

BACKPAGE PARAMETERS

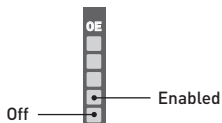
The Programmable EQ features an additional set of functions called Backpage Parameters. These features can be accessed in Backpage mode only. In this mode, the equalizer display takes on some secondary functionality.

To enter Backpage mode, press the left arrow band select button and the SAVE button simultaneously. The display will change to reflect the current Backpage parameter settings. Like an equalizer band, use the left and right buttons to select a column and use the encoder to change the value. Backpage mode can be exited by pressing both save and left select buttons together again.

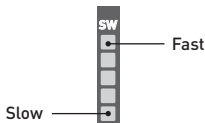


In Backpage mode, the first four columns of the display are used to edit four different parameters. Each parameter is denoted by a two letter abbreviation. They are as follows:

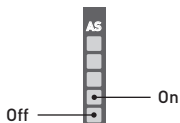
OE – Octave Extension: This parameter allows an 8th band to be added to the equalizer, the 8th band is at a frequency of 62 Hz, one octave below the normal low of 125 Hz. This frequency is especially helpful for use with bass. The lowest position on the display indicates this feature is off. The next LED position up from the bottom indicates the octave extension is enabled. After exiting backpage mode, the 62 Hz band can be accessed by pressing the left band select button until the 125 Hz column is selected. Pressing the left button again will shift the display and allow the 62 Hz band to be displayed and edited by the encoder. Press the right band select button to resume the normal 7-band view.



SW – Switching speed: This parameter controls scrolling speed when using the footswitch to scroll through presets or using the auto-scroll mode (see below). The full range of the display is used for this parameter. Slowest speed is at the bottom and fastest at the top.

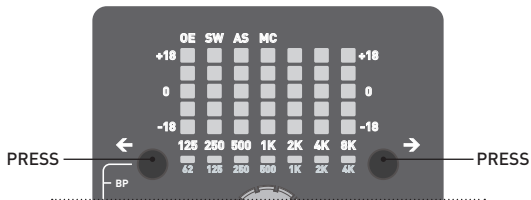


AS – Auto-Scroll: This parameter enables/disables the auto-scroll function. When in auto-scroll mode, the footswitch preset scroll will continue to scroll automatically even after the footswitch is released. This can be a fun way to get unique tremolo or sequencer sounds as the unit steps through the four equalizer presets at a given programmable rate. The rate of the scrolling is controlled by the switching speed (SW) parameter. Auto-scrolling will stop when the footswitch is pressed again. Like the OE function, this parameter uses the two bottom LEDs on the display to indicate ON or OFF.



MC – MIDI Channel: Use this parameter to edit the MIDI channel for the Programmable EQ. The display will numerically indicate the currently selected channel from 1 to 16.

Note: Backpage parameters can be reset to factory default values by pressing both band select left and right buttons simultaneously.



UNIVERSAL BYPASS™

The Programmable EQ features Universal Bypass allowing the user to select a bypass mode that best suits their needs. Relay-based True Bypass uses a small signal relay to provide a hardwire bypass. Alternatively, buffered bypass uses analog switching and provides a consistent input impedance and buffered output.

To switch between these two modes, press and hold the footswitch while connecting a cable to guitar input. The ON/OFF LED will blink 3 times to indicate that buffered bypass is selected. The LED will blink 2 times to show that relay-based True Bypass is currently selected.

Note: Relay-based True Bypass is the default mode.

SPECIFICATIONS

Dimensions

- L: 4.5 inches (11.4cm)
- W: 2.5 inches (6.4cm)
- H: 2 inches (5.1cm)

Weight

- .625 lbs (.28 kg)



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

Power

- 80mA @ 9V max
- Negative tip power jack

Audio Performance

- 115dB Dynamic Range ADC
- 24-bit audio conversion
- 56-bit digital processing
- 1Mohm input impedance
- 2.2V RMS input range

For full compliance with EN 61000-4-6 standard, input cable must be less than 3 meters in length.

LIMITED WARRANTY

Source Audio, LLC (hereinafter "Source Audio") warrants that your new Source Audio Programmable EQ 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.

Under this Limited Warranty, Source Audio's sole obligation and the purchaser's sole remedy shall be repair, replacement, or upgrade, at Source Audio's sole discretion, of any product that, if properly used and maintained, proves to be defective upon inspection by Source Audio. Source Audio reserves the right to update any unit returned for repair and to change or to improve the design of the product at any time without notice. Source Audio reserves the right to use reconditioned parts and assemblies as warranty replacements for authorized repairs. Any product repaired, replaced, or upgraded pursuant to this Limited Warranty will be warranted for the remainder of the original warranty period.

This Limited Warranty is extended to the original retail purchaser. This Limited Warranty can be transferred to anyone who may subsequently purchase this product provided that such transfer is made within the applicable warranty period and Source Audio is provided with all of the following information: (i) all warranty registration information (as set forth on the registration card) for the new owner, (ii) proof of the transfer, within thirty (30) days of the transfer, and (iii) a photocopy of the original sales receipt. Warranty coverage shall be determined by Source Audio in its sole discretion. This is your sole warranty. Source Audio does not authorize any third party, including any dealer or sales representative, to assume any liability on behalf of Source Audio or to make any warranty on behalf of Source Audio.

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Source Audio may, at its option, require proof of the original purchase date in the form of a dated copy of original authorized dealer's invoice or sales receipt. Service and repairs of Source Audio products are to be performed only at the Source Audio factory or a Source Audio authorized service center. Prior to service or repair under this Limited Warranty, the purchaser must request from Source Audio a return authorization, which is available at:

Source Audio LLC
120 Cummings Park, Woburn, MA 01801
(781) 932-8080 or at www.sourceaudio.net.

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