

ELDRED AUDIO

GRENDL
MONITOR CONTROLLER
USER MANUAL

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1] Overview

The Grendel Monitor Controller is designed to provide a high quality monitor solution for recording set ups that do not have a traditional console monitor section. It allows you to select 3 separate stereo analogue inputs (A, B, C) and monitor across 3 different loudspeaker sets (A, B, C). Also included is a headphone output and talk back facilities for communication with talent.

Note that when mixing or mastering, the Grendel can not only monitor three inputs, but can also directly and quickly compare three combinations of inputs: A-C, B-C, and C-A, all while matching levels with designated A and C trims. The idea behind this is the ability to instantly compare commercial mixes from a variety of sources, to your own mixes or masters (pre or post processing).

It is standard practice to let the mastering engineer apply spectral balancing and digital limiting to a mix before release. But this can sometimes be a compromise, and can change the relationships that instruments and vocals have to each other in the finished mix, after EQ and limiting are applied.

With the Eldred Audio Grendel, the engineer can compare hot commercial mixes to a secondary raw mix derived from the console or DAW raw mix, to a third mix that has mastering style processing (such as a look ahead digital limiter) as a test to hear the changes that may occur in mastering. This is just one example of how the comparative abilities of the Grendel's inputs may be used.

2] Checking the Mains Input

The Grendel has a mains voltage selector on the rear panel next to the mains power inlet. Generally this will be pre-set to match the mains voltage of the country to which the unit has been originally sent. However in order to prevent damage to your unit, please take the time to check the setting of the voltage selector matches your mains power.

For proper protection, the mains fuse (found in the draw below the power inlet) should match the mains voltage as follows;

100-120V ac mains fit a 2A slow blow fuse.

220-240V ac mains fit a 1A slow blow fuse.

3] Audio Connections



Wiring: All XLR's are electronically balanced and wired to the usual standard as follows;

Pin 1 = signal GROUND

Pin 2 = signal HOT (+)

Pin 3 = signal COLD (-)

Inputs: On the rear panel of the Grendel you will find a pair of unbalanced RCA (phono) connectors for INPUT A and 4 female XLR connectors for INPUTS B and C. The INPUT A RCA connectors are intended for interface to -10dBv signals but are not compatible with turntable pickup cartridges, an external phono preamp will be required.

B Thru: Between INPUT B, and INPUT C, you'll find a set of male XLRs labelled INPUT B THRU and these are outputs hard wired to the INPUT B inputs (loop through). These can be used for a variety of purposes and some ideas are suggested below for the use of this feature:

A] Allows you to send a stereo feed to a secondary headphone distribution amplifier or on-stage monitors for additional artist fold back (in addition to the HP DIR OUT described below).

B] Allows you to insert the Grendel between the DAW L-R mix output, (or console/summing box output) and the final print stereo ADC input.

C] Allows you to insert the Grendel between the DAW L-R mix output and outboard mix bus processing (such as analogue compressors and eq). The output of the processing can then be patched back into INPUT C so you can easily compare pre and post processing with level matching.

Outputs: There are the 3 sets of male XLR SPEAKER output connectors intended to feed powered monitor speakers or power amplifiers. These outputs can drive balanced or unbalanced loads without signal degradation.

Also on the rear panel are a stereo pair of TRS (tip, ring, sleeve) ¼" jack sockets labelled HP DIR OUT. These outputs are intended for an external talent fold back system or amplifier and carry the selected input signal (at fixed volume level) and the talkback signal when activated. These outputs use a ground compensated amplifier that can drive balanced or unbalanced loads and are wired as follows;

Tip = signal HOT (+)

Ring = signal COLD (-)

Sleeve = signal GROUND

Another TRS ¼" jack labelled TB OUT carries just the talk back signal (when activated). This is an unbalanced output wired as follows, but will work with TRS wired cabling.

Tip = signal HOT (+)

Ring = signal GROUND

Sleeve = signal GROUND

Talkback Remote: A final ¼" jack socket labelled TB REM allows for the connection of a remote talk back switch (e.g.; a guitar foot switch). This socket is wired tip and sleeve, and a closed contact (switch) from sleeve to tip will activate the on board talk back mic.

4] Front Panel Controls



Input A: First up on the Grendel front panel is an additional 3.5mm stereo input socket for INPUT A and next to this a switch that selects either this socket or the rear panel RCA Input A connections. The 3.5mm socket is perfect for connecting portable audio devices such as smartphones, mp3 players, or tablets.

Input Trims: Adjacent to the INPUT A select switch is the INPUT A level TRIM control which provides 10dB of level boost or cut to match other inputs. Next to that is a similar control that provides 10dB of level boost or cut to balanced INPUT C (rear XLR connection). These 2 control allow you match INPUT A and C volumes to the B INPUT.

Input Select: Next up is the INPUT SELECT switch which, as the name suggests, determines which input (A, B, or C) will feed the SPEAKER and HEADPHONE VOLUME controls and the rear panel HP DIRECT OUT sockets.

Speaker Select: This rotary switch determines which SPEAKER output (A, B, or C) will be feed via the SPEAKER VOLUME control. There is also a handy OFF position to mute all the speakers when desired.

Modes: Three toggle switches provide additional monitoring modes; mute the LEFT speaker, mute the RIGHT speaker and switch the Grendel signal path into mono (left and right mixed together). These controls affect both the SPEAKER outputs and the on board HEADPHONE amplifier but not the rear panel HP DIRECT OUT.

Volume Controls: Adjacent to the toggles are the rotary pots for SPEAKER VOLUME and HEADPHONE VOLUME. Note the HEADPHONE control only adjusts the volume of the on board headphone amplifier, the HP DIRECT OUT is fixed in volume.

Talkback: Pushing the PUSH TO TALK switch on the right of the Grendel front panel (or using the rear TB REM switch input) activates the talk back MIC, and all the SPEAKER outputs are automatically “dimmed” (about -15dB). Once talk back is activated, the INPUT signal feeding the rear HP DIR OUT is muted and replaced with the talk back MIC signal.

There are several options for how the talk back signal is used with the on board headphone amplifier (see Options section below), but as supplied, activating the talk back will mute the INPUT signal from the headphone outputs and replace it with the talk back MIC signal.

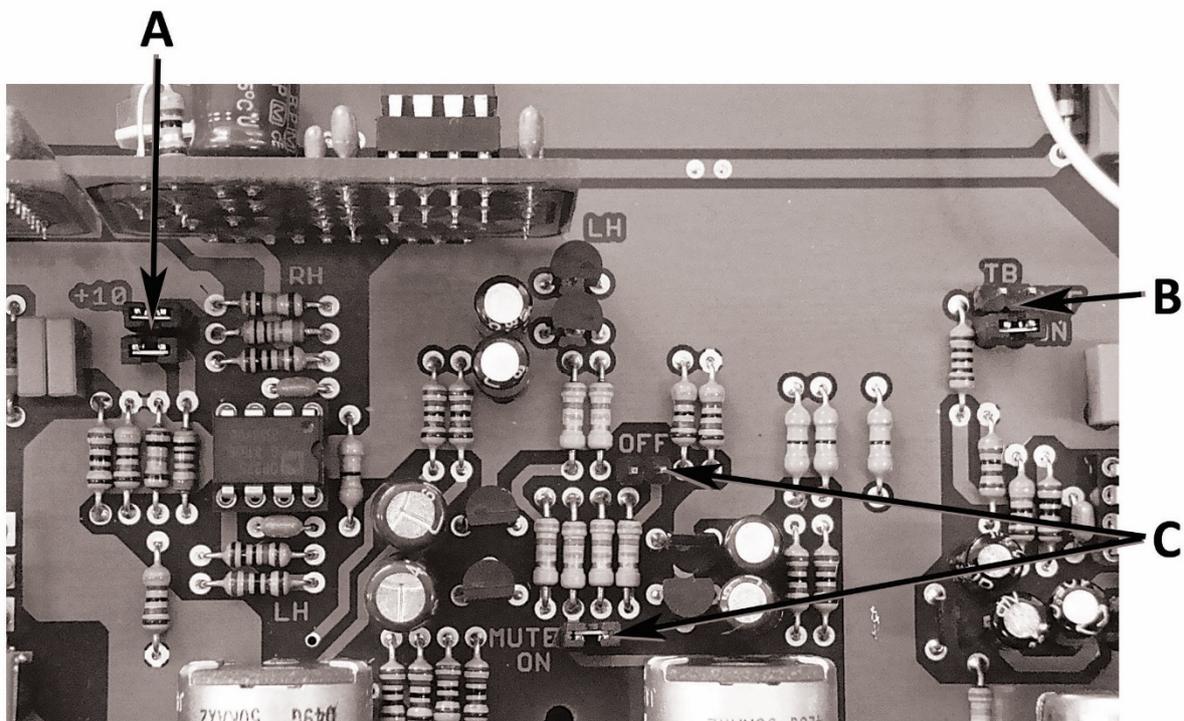
The TALKBACK VOLUME control adjust the volume of the MIC feeding the on board headphone amp and the HP DIR OUT connectors. It does not affect the level of the MIC signal on the TB OUT connector, however, the TB GAIN trimmer (used to set the overall gain of the talk back MIC amplifier) does.

5] Options

The Grendel has a few operational options that are set with internal jumpers.

Before removing the top panel to change these jumpers it is important the mains cord is completely disconnected from the Grendel for your safety!

The first set of jumpers are located behind the speaker and headphone volume controls on the main circuit board.

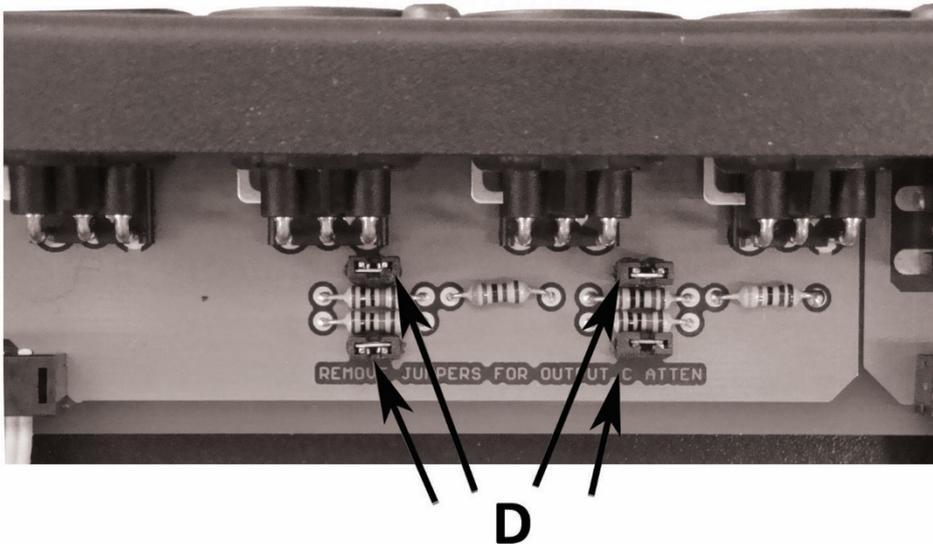


Jumpers A: For best left to right tracking of the SPEAKER VOLUME control it should be operated around the centre of its range. If you have very sensitive monitors and the SPEAKER VOLUME control

is operating near the bottom of its range, you can remove these 2 jumpers to drop the speaker output level by 10dB.

Jumper B: To remove the talk back MIC signal from the on board headphone amplifier, move the TB jumper from the ON position to the OFF position.

Jumper C: To prevent the on board headphone amplifier from muting when the talk back is activated, move this jumper from MUTE ON to OFF.



Jumpers D: In some cases the Grendel speaker output level may be too hot for some small powered loudspeakers. It is possible to attenuate the SPEAKER C output by approximately 8dB by removing all 4 jumpers located on the Grendel connector board at the rear of the unit.

6] Specifications

Frequency Response; 3Hz to 210kHz (-3dB)

Harmonic Distortion; 0.001% @ 100Hz, 0.001% @ 1kHz, .005% @ 10kHz, 0.018% @ 100kHz

Noise; volume control at position 5, -95dBu

L to R Crosstalk; -90dB @ 1kHz, -70dB @ 10kHz

Maximum Input Level; A input +24dBu (unbalanced), B and C inputs +30dBu (balanced)

Maximum Output Level; +26dBu

Headphone Amp Output; 24 volts peak to peak into 100 ohms.

7] Warranty

Disclaimer: Atlas Pro Audio is not liable for any damage to microphones, amplifiers, consoles, speakers or any other equipment and/or electric shock to humans that is caused by negligence or improper installation and/or use of the Grendel unit.

Product Warranty: Atlas Pro Audio guarantees the Grendel Monitor Controller to be free of defective materials and/or workmanship for a period of 1 year (12 months) from the date of sale, and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use – provided the unit is returned to our factory (or duly authorized service centre) via prepaid transportation with a copy of the proof of purchase, i.e., sales receipt. This warranty provides that examination of the returned product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product that has been subjected to misuse, neglect, accident, improper installation, or where the date code has been removed or defaced. We encourage you to return the enclosed warranty card to register your purchase with us.

Contact Us:

Distributed Worldwide by Atlas Pro Audio
4846 Sun City Center Blvd., #142
Sun City Center, FL 33573-6281. U.S.A.

Call toll free (within USA); 866-235-0953
Outside USA call; +1-813-746-4058

Email; sales@atlasproaudio.com

Web; www.eldredaudio.com