

## Limited warranty

This product is guaranteed to be free of functional defects for a period of 1 year from original purchase date. Proof of purchase is required for any warranty claim. Return shipping costs are covered by Boredbrain Music within the first 30 days of purchase only. Products with obvious signs of abuse or that have been modified by the end user, may not be covered under this warranty, at the discretion of Boredbrain Music.

## service & inquiries

If you experience a problem with your Boredbrain product, or just want to share something interesting with us, please contact us at the link below and be sure to include your name, original purchase date, and a description of the problem you are experiencing. Then just hold tight, as we return most inquiries within 48 hours. We want to work with you to resolve your issue as soon as possible. Thanks.

[boredbrainmusic.com/contact](http://boredbrainmusic.com/contact)

Designed and Built in Richmond, VA USA



## calibration procedures

### VU Meters

Feed a 1 kHz sine wave or similar into **IN1 L** and turn **CHAN 1** all the way up. Use an oscilloscope to measure the peak-to-peak voltage from the **OUT L** jack (tip and sleeve), and set the **VOLUME** knob so the signal output is exactly **4.37 Vpp**. Now adjust both trimpots on the bottom of the module until their respective **RED LEDs** just barely illuminate. In most cases it is better to match left and right as close as possible rather than be exact.

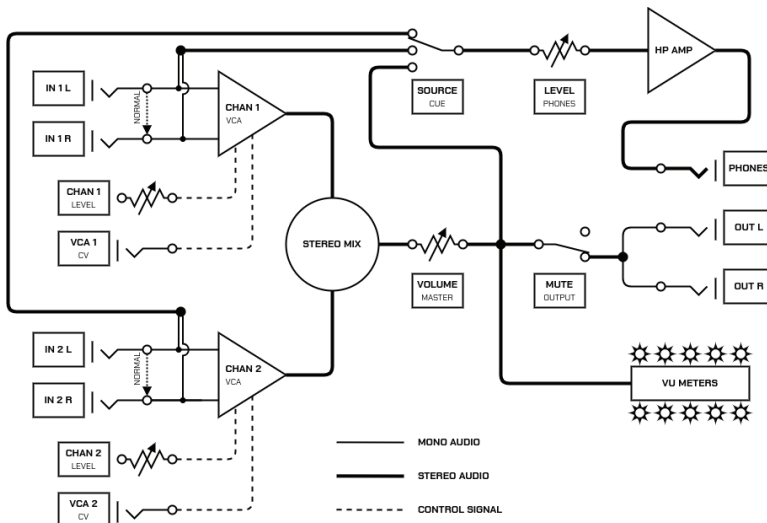
### Stereo VCA Mixer

Monitr's two stereo inputs, **IN 1** and **IN 2**, are AC-coupled specifically for audio signals, with the **R** inputs normalled to the **L** inputs. These input signals are amplified and mixed via stereo VCA circuits to reduce noise and allow for external voltage control. The **CHAN 1** and **CHAN 2** parameters are for manual adjustments of audio levels, while the **VCA1** and **VCA2** jacks accept control voltages. The full range of each stereo VCA is 10 Vpp. The mixed stereo signal is buffered and passed on to the master volume circuit.

### Master Control

The **VOLUME** parameter is a variable attenuator which controls the master stereo output level. It can also amplify the signal up to +6dB above unity gain.

The output volume is visually indicated by two 5-segment **VU METERS**, scaled appropriately for +4 dBu professional line-level output. Best practice is to keep the master signal volumes within +3 dBu (**GREEN, YELLOW**), with transient peaks occasionally reaching +6 dBu (**RED**). This will optimize the signal's dynamic range when feeding into interfaces or amplifiers.



## boredbrain monitr

Monitr is a comprehensive audio output monitoring utility for eurorack systems. The module is equipped with a stereo VCA-controlled input mixer with master volume control and VU meters, plus a powerful headphone section for both live performance and detailed monitoring.

- 2-channel stereo VCA mixer with CV per channel
- Master volume control and dual 5-segment VU meter
- Headphone amp with level and 3-way selectable cue source
- System mute switch for convenient output silencing
- Low-noise balanced pro line-level outputs at +4 dBu

## technical specs

- **Width:** 10 HP
- **Depth:** 1.57 in (40 mm)
- **Weight:** 5.1 oz (145 g)
- **HP Output Impedance:** 10  $\Omega$
- **Power:** +12 V 85 mA, -12 V 65 mA



# monitr

MASTER OUTPUT CONTROL

## USER GUIDE

Monitr also features a **MUTE OUTPUT** switch that completely silences the main outputs. This is convenient once soundcheck levels are adjusted before a live performance, as the mute switch does not affect the VU meters or headphone cueing section.

### Headphone Cue

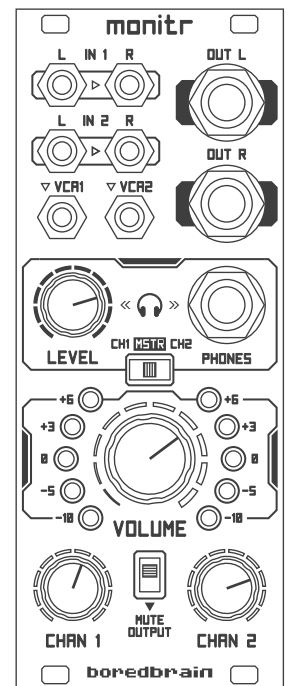
The module's headphone circuit is designed to drive a wide-range of headphones with enough detail and power for both studio monitoring and live performance. The **LEVEL** parameter adjusts the volume of stereo headphones plugged into the **PHONES** jack. Acceptable headphone impedance ranges from 32  $\Omega$  up to 600  $\Omega$ .

The headphone source is selected with a 3-way switch, which is useful for cueing during a live performance. The center position, **MSTR** (Master), monitors the primary master output signal post Volume, so the master **VOLUME** also affects the headphone volume. The other two positions, **CH1** and **CH2**, exclusively monitor the two input signals respectively, and are not affected by their VCA levels (**CHAN 1**, **CHAN 2**, **VCA1**, or **VCA2**).

**WARNING:** Plugging a **MONO** cable into the **PHONES** jack and cranking the **LEVEL** can cause damage to the headphone output circuit, as this will short excess current directly to ground.

### Balanced Output

**OUT L** and **OUT R** provide balanced line-level stereo output of the master audio signal via 1/4-inch TRS jacks, typically to an audio interface, mixer or amplifier. These balanced connections allow for low-noise signal transmission over longer cable runs, provided the destination input is also balanced. However, unbalanced TS cables can also be used and will simply carry the signal unbalanced.



10 HP