

## 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



## boredbrain xchangr

Xchangr is designed for low noise exchange of audio signals between high-fidelity stereo pedals and eurorack systems. The module features three stereo channels—two sends and one receive—each with switchable 12 or 18 dB boost/cut to interface with digital pedals and line-level processors.

- Ultra-low noise buffered level scaling designed for stereo effects pedals
- Two stereo sends with selectable -12/-18 dB attenuation
- One stereo receive with selectable +12/+18 dB amplification
- Functional as auxiliary line-level audio input and output

## technical specs

- **Width:** 8 HP
- **Depth:** 1.49 in [38 mm]
- **Weight:** 3.4 oz [97 g]
- **SNR:** > 109 dB
- **Power:** +12 V 11 mA, -12 V 11 mA



# xchangr

STEREO SIGNAL INTERCHANGE

## USER GUIDE

### Signal Interchange

The availability of quality stereo effects in pedal format still outnumbers those available in eurorack format, and thus processing eurorack-level signals with them is often desired. This requires proper attenuation and amplification, especially as the inputs of these digital effects can be unforgiving if the signals are too hot, have excess noise, or a slight DC offset.

Xchangr is meant to facilitate this signal interchange with its overall simplicity and purposely designed circuitry. Its three separate sections together exchange stereo audio with external processors at proper levels and with sonic transparency.

### Level Scaling

The upper two **SND** sections are identical, and both apply attenuation to pairs of discrete inputs (3.5 mm) to send into stereo pedals and line-level processors. Each is equipped with a two-position switch to select the amount of attenuation, either **-12 dB** or **-18 dB**. The right side input is normalled to the left, so if no plug is present, the right **SND** output (1/4-inch) will copy the left.

The lower **RCV** section applies amplification to its pair of discrete inputs (1/4-inch) to bring external audio back up to eurorack levels. It is also equipped with a switch to select the amount of amplification, either **+12 dB** or **+18 dB**. The right side input is normalled to the left, so if no plug is present, the right **RCV** output (3.5 mm) will copy the left.

When interfacing with a stereo pedal, this leaves an extra **SND** pair on the module, which can be used for parallel processing or as an additional line output to a mixer, interface, or amplifier.

±18 dB is suggested for high-fidelity pedals, and ±12 dB for rackmount or line-level processors.

### Audio Fidelity

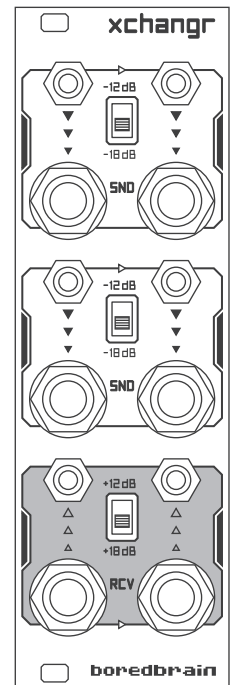
Xchangr's connections are AC-coupled specifically for audio signals. This means control voltages are not meant to pass through the module, and any DC offsets will be removed.

The inputs of the two **SND** sections use first order low pass filters just above 25 kHz to attenuate any high-frequency noise in the signals like EMI (Electromagnetic Interference). The signals also run through 1.5 Hz high pass filters to remove any DC offset just prior to being output.

The inputs of the **RCV** section employ 5 Hz rumble filters to reduce any unwanted low frequency noise prior to being amplified back up to eurorack-level.

The combined filtering sections, along with low-noise buffering, allow only the desired parts of the signal to be processed and returned. The result is clean and undistorted external stereo effects processing.

All 1/4-inch inputs and outputs are TS unbalanced mono connections.



8 HP