

## 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](https://boredbrainmusic.com/contact)

Designed and Built in Richmond, VA USA



## boredbrain xport

Xport is an ultra-compact balanced audio output module for eurorack synthesizer systems. The module features six channels of precise level scaling with signal and peak indicators, and ¼-inch balanced outputs for professional audio use.

- Eurorack to balanced line-level audio conversion
- Low-noise signal path with isolated channel circuitry
- Signal level and peak LED indicators per channel
- ¼-inch TRS outputs with phantom power protection

## technical specs

- **Width:** 6 HP
- **Depth:** 1.57 in (40mm)
- **Weight:** 2.6 oz (74g)
- **Input Impedance:** 100 kΩ
- **Output Impedance:** 50 Ω
- **SNR:** > 102 dB
- **Power:** +12 V 85 mA, -12 V 85 mA



# xport

6-CHANNEL BALANCED OUTPUT

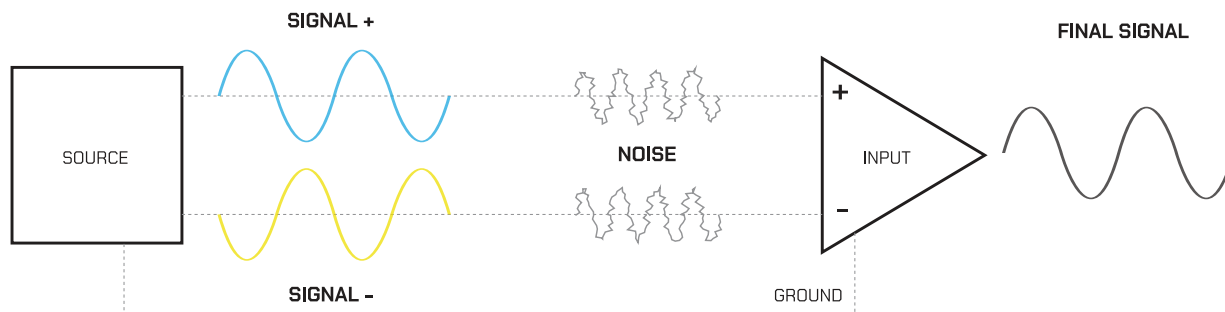
## USER GUIDE

### Balanced Output

Xport is specifically designed to convert eurorack audio to professional balanced line-level signals. Balanced audio is essential in pro audio applications due to its immunity to noise introduced in long cable runs. Audio signals in this format are commonly used with pro audio interfaces, mixers, patchbays and live sound equipment.

The module's six ¼-inch TRS jacks, **OUT 1-6**, output differential signals scaled to +4 dBu, which can drive long cable runs with high capacitive loads. The compact 6-channel layout is possible by using high performance balanced line driver ICs rather than much larger isolation transformers.

These differential or "balanced" signals are the key to noise rejection. Prior to signal output, a duplicate is made with an inverted polarity. Using a TRS cable, the original signal, **SIGNAL +**, is connected the tip (T) of the plug, while the inverted signal, **SIGNAL -**, is connected to the ring (R). These two signals travel on separate wires within the same cable. At the balanced input, the inverted signal is re-inverted and combined with the original signal. Because any noise picked up across the cable affects both signals equally, it undergoes phase cancellation and is removed from the **FINAL SIGNAL**.



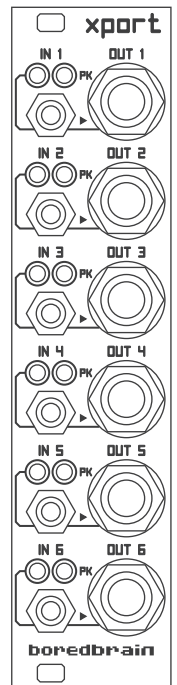
### Signal Integrity

Although Xport packs six channels into only 6 HP, it has been carefully designed for complete isolation of all channel circuitry to eliminate crosstalk or "bleed" between channels. Each channel circuit has its own 0 V (ground) reference running independently to the main power connector.

The six audio inputs, **IN 1-6**, accept eurorack level audio signals in the range of ±5 V (10 Vpp). DC-offset is removed, then the signals are buffered and scaled down before reaching the balanced line drivers.

The dynamic signal level of each channel is represented visually by the **GREEN LED**. The **RED PK** (peak) LED indicates the output signal has reached +6 dBu.

**IMPORTANT:** Xport is equipped with circuitry to prevent damage when accidentally supplied with +48 V phantom power from balanced microphone inputs. Best practice is to ensure phantom power is turned off.



6 HP