

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.

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Designed and Built in Richmond, VA USA



boredbrain optx

Optx is a compact and bi-directional ADAT lightpipe converter for eurorack synthesizers. The module provides 8 channels of input and output expansion to many pro audio interfaces, and may be used standalone for noise-free interconnections between eurorack systems.

- Encodes 8 analog inputs into ADAT lightpipe
- Decodes ADAT lightpipe into 8 analog outputs
- DC-coupled I/O supports both CV and audio signals
- Selectable 44.1/48 kHz internal sample clock or external sync
- Dual LED indication of output signal strength and polarity

technical specs

- **Width:** 8 HP
- **Depth:** 1.5 in (38 mm)
- **Weight:** 3.7 oz (105 g)
- **Resolution:** 24 bit, 44.1/48 kHz
- **Max I/O Level:** ± 10 V (20 Vpp)
- **Power:** +12 V 78 mA, -12 V 78 mA



patch tips

CV/GATE/MOD & AUDIO RETURNS

Use CV capable software such as Bitwig Studio or Ableton CV tools to send pitch, gate, and modulation signals to Optx outputs. Patch them respectively into a 1V/oct oscillator, envelope gate input, and filter cutoff control. Then patch the audio signal(s) back to the Optx inputs to mix within the DAW software. Instrument tracks can then contain both the sequence data and audio returns for simple and powerful integration with your eurorack synth.

NOTE: 1V/oct signals will require calibration within the software.

DRUM TRIGGERS & AUDIO RETURNS

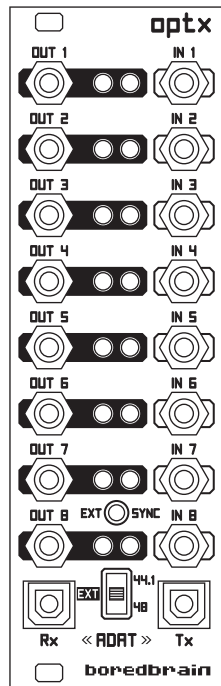
Using a drum rack in one of the aforementioned CV capable softwares, send up to 8 drum triggers to Optx outputs. Patch them into trigger inputs of drum modules, envelopes, etc. Now patch their respective audio signals back to Optx inputs to mix and process within the DAW.

NOTE: Some drum modules are responsive to varying trigger voltage. If the trigger CV output level is modulated using velocity/etc in the software, then Optx will dynamically produce trigger voltages based on velocity!

optx

ADAT OPTICAL CONVERTER

USER GUIDE



ADAT Encoding & Decoding

Some computer audio interfaces are equipped with one or more pairs of ADAT expansion ports allowing for additional input and output channels. Optx takes full advantage of these often unused ports, providing multi-channel connections directly to and from eurorack systems.

The module accepts any 8-channel ADAT encoded digital signal at the **Rx** TOSLINK jack (via lightpipe optical cable) and converts it into 8 discrete analog signals available at the **OUT 1-8** jacks.

Conversely, Optx accepts 8 discrete analog signals at the **IN 1-8** jacks and converts them into an 8-channel ADAT encoded digital signal available at the **Tx** jack.

DC-Coupled I/O

All of the module's analog connections are DC-coupled, meaning signals can be AC (audio) or DC (control voltages). So when used in conjunction with software such as Bitwig Studio or Ableton CV Tools, Optx becomes a bi-directional interface for control voltages like 1V/oct pitch and gate signals, or LFOs, ADSRs and other modulators. The amount of creative potential here cannot be overstated.

Computers and software are not needed to take advantage of DC-coupling. When used standalone, both audio and control voltage signals can be sent between Optx modules.

8 HP

Signal LEDs

Optx also provides visual signal indication of the 8 decoded ADAT channels feeding the **OUT 1-8** jacks. Each pair of **WHITE** LEDs indicates the polarity (-Ve left, +Ve right) and relative strength of the signal (± 10 V).

Audio-rate signals will generally light both LEDs continuously, whereas LFOs will alternate more apparently between the two. Gates, triggers and positive-going envelopes will generally light only the right LED (+Ve).

Sample Clock Synchronization

The module has three options for sample clock sync, selectable using the 3-way switch.

- 44.1** Generates and syncs to internal clock of 44.1 kHz
- EXT** Syncs to external clock from ADAT signal at Rx
- 48** Generates and syncs to internal clock of 48 kHz

With the switch set to **EXT**, the blue **EXT SYNC** LED will illuminate when a valid sample clock is detected at **Rx**.

