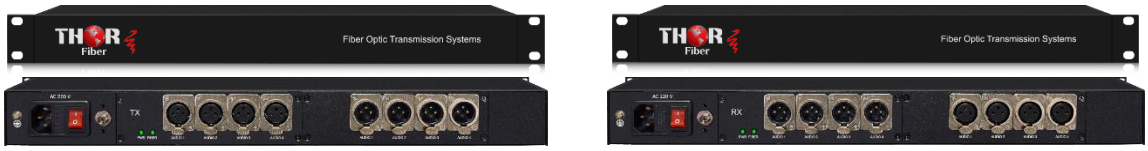
Datasheet : F-4A-XLR-B-TxRx



4-Channel Bi-Directional Balanced XLR Audio over Fiber (Rack-Mount)

The **F-4A-XLR-B-TxRx** is a professional, broadcast-grade **4-channel bi-directional balanced analog audio over fiber system**, designed for long-distance, noise-immune transport of high-quality XLR audio signals. Each unit functions as both a **transmitter and receiver**, allowing **simultaneous two-way audio transport** over a **single fiber strand**.

Using optical isolation, the system completely eliminates **ground loops, EMI, and RF interference**, making it ideal for broadcast, studio, live production, stadiums, campuses, and industrial environments where long cable runs and electrical noise are a concern.

The unit supports **4 balanced XLR inputs and 4 balanced XLR outputs**, enabling **4 audio channels in each direction at the same time**. The rack-mount enclosure makes it suitable for fixed installations and professional headend environments.

Features :

- 4 bi-directional balanced XLR audio channels
- Simultaneous transmit and receive on all channels
- Single-fiber operation (Tx/Rx on one strand)
- Analog, uncompressed audio transport
- Balanced XLR (mic/line-level compatible)
- No latency, no compression
- Immune to EMI, RFI, and ground loops
- Long-distance transmission over fiber
- Rack-mount metal enclosure
- Broadcast- and studio-grade reliability

Typical Applications :

- Broadcast studios and TV stations
- Audio links between control rooms and studios
- Live sound and event production
- Stadiums and arenas
- Houses of worship
- Campus and facility intercom/audio distribution
- Industrial and high-EMI environments
- Audio transport between buildings without ground-loop risk

System Architecture :

Each **F-4A-XLR-B-TxRx** unit operates as a **bi-directional node**:

- **4 XLR inputs → transmitted over fiber**
- **4 XLR outputs ← received from fiber**
- A **pair of identical units** is required to form a complete link
- Audio is transported **uncompressed and in real time**

F-4A-XLR-B-TxRx

Specifications:

Parameter	Specification
Audio Channels	4 balanced XLR bi-directional (4 Tx + 4 Rx)
Audio Type	Analog balanced audio
Connector Type	XLR (female inputs / male outputs)
Direction	Simultaneous bi-directional
Audio Level	Line level (mic/line compatible depending on system configuration)
Frequency Response	20 Hz – 20 kHz
Signal-to-Noise Ratio	≥ 90 dB
Distortion (THD)	< 0.01%
Latency	Zero / real-time
Optical Interface	Single-mode fiber
Fiber Connector	LC / SC (model-dependent)
Fiber Type	Single-mode
Transmission Distance	Up to 20 km (standard), longer distances optional
Optical Wavelength	1310 nm / 1550 nm (WDM)
Power Supply	AC 100–240 V or DC (model-dependent)
Form Factor	Rack-mount (1U)
Operating Temperature	0°C to +50°C
Housing	Metal enclosure

Model Selection :

Uni-Directional Models:

F-2A-XLR-TX/RX - 2 XLR Balanced Audio over Fiber Transmitter / Receiver kit up to 20KM singlemode / 3000feet multimode -Stand alone (portable)

F-4A-XLR-TX/RX - 4 XLR Balanced Audio over fiber Transmitter / Receiver kit up to 20KM singlemode / 3000feet multimode - Stand alone (portable)

F-8A-XLR-TX/RX-RM - 8 XLR Balanced Audio over fiber Transmitter / Receiver kit up to 20KM singlemode / 3000feet multimode 19"Rack Mountable

F-16A-XLR-TX/RX-RM - 16 XLR Balanced Audio over fiber Transmitter / Receiver kit up to 20KM singlemode / 3000feet multimode (special order) 19"Rack Mountable

F-32A-XLR-TX/RX-RM - 32 XLR Balanced Audio over fiber Transmitter / Receiver kit up to 20KM singlemode / 3000feet multimode (special order) 19"Rack Mountable

F-4A-XLR-B-TxRx

Bi-Directional Models:

F-2A-XLR-B-TX/RX - Stand alone (portable) 2 Bi-directonal XLR Balanced Audio over 1 fiber Transmitter / Receiver (transceivers) kit up to 20KM singlemode / 3000feet multimode

F-2A-XLR-B-TX/RX-RM 2 Bi-directonal XLR Balanced Audio over 1 fiber Transmitter / Receiver (transceivers) kit up to 20KM singlemode / 3000feet multimode - 19"Rack Mountable form factor

F-4A-XLR-B-TX/RX-RM - 4 Bidirectional XLR Balanced Audio over 1 fiber Transmitter / Receiver (transceivers) kit up to 20KM singlemode / 3000feet multimode 19"Rack Mountable form factor

F-8A-XLR-B-TX/RX-RM - 8 Bidirectional XLR Balanced Audio over 1 fiber Transmitter / Receiver (transceivers) kit up to 20KM singlemode / 3000feet multimode 19"Rack Mountable form factor

PN: F-4A-XLR-TX/RX-XX (XX= 40,60,80,120) 40km, 60Km, 80km 120km models available for all XLR Audio products (special order)

Ordering Information :

- **Model:** F-4A-XLR-B-TxRx
- **Configuration:** 4-channel bi-directional XLR audio over fiber
- **Included:** One Tx/Rx unit (two units required per link)

Summary :

The **F-4A-XLR-B-TxRx** provides a **robust, transparent, and professional solution** for transporting **4 channels of balanced analog audio in both directions over a single fiber**, with **zero latency and absolute electrical isolation**. It is ideal for mission-critical audio applications where reliability and audio integrity are essential.