MERIDIAN
TECHNOLOGIES

Four Simplex Channels of 48 kHz Digital Audio
over One Multimode or Singlemode Fiber

48 kHz Audio 1 →   48 kHz Audio 3 →

48 kHz Audio 2 →   48 kHz Audio 4 →
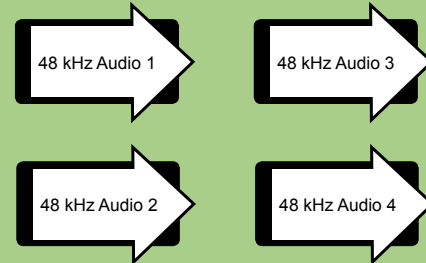
FEATURES

- Four Unidirectional Channels of 48 kHz Digitally Encoded Audio over one Fiber

- Transparent Audio Transmission, No SRC Processing

- Low Power Consumption

- High Efficiency, Isolated Power Supply

- Laser Based Systems for Multimode and Singlemode Fiber

- Surface Mount Technology (SMT) for High Reliability and Repeatability

- *SpectraSmart* Network Management Compatible

- Local LED Status Indicators to Monitor Critical

- System Diagnostics and Performance Parameters

- ST, FC Optical Connector

- Hot Swappable Rack Cards

- Back - Biased Photo Detector Circuitry for Stable Optical Laser Output Over Full Temperature Range

- Meets NEMA TS1 / TS2 & CALTRANS Specifications

- Utilizes Internal Switching Power Supplies

- Automatically Resettable Solid-State Current Limiters on All Power Lines: Provides Equipment Protection

- Wide Optical Dynamic Range: Optical Attenuators are Never Needed

- BNC Connectors for Audio

DESCRIPTION

The FT/FR-4AD-x series fiber optic transmission system that takes advantage of Meridian's new digital encoding technology transmits following signals over one multimode or singlemode fiber:

1.   Four Simplex 48 kHz digital audio

The functionality of FT/FR-4AD-x series is further enhanced by its compatibility with Meridian's PC based SpectraSmart, Network Management and Remote Diagnostic Software System. SpectraSmart supervises the operating parameters of the transmission system such as status on video levels, sync, carrier detect, voltage, temperature, optical levels, data present etc.   See the SpectraSmart brochure for more details.

Note: Additional, One Bi-directional Multi-protocol Data and One Bi-directional Contact Closure channels are available. See FT/FR-4AD1C1G/1C1G-x product for details.

CONFIGURATIONS

The FT/FR-4AD-x products are available as rack mount cards that can be installed in Meridian's card chassis, desk chassis and 19" racking frames. This system can be configured in either star (module to rack) or trunking (rack to rack) configurations. These systems can be made a standalone system by using the SR-500/s, 1 slot desk / wall mount chassis (87VAC-264VAC).

MARKETS

√ Security and Surveillance
√ Intelligent Transportation System (ITS)
√ Access Control Systems
√ Campus Lecture Networks

SPECIFICATIONS:

Audio Inputs (Tx)

Unbalanced AES-3ID Sample Rate	32 kHz - 48 kHz
Input Impedance	75Ohms, +/-5%, (IEC958)
Minimum Input Signal	320mV for 50% of cell period
Maximum Input Signal	1VppV, +/-20%
Return Loss	>15dB, 0.1 to 6.0MHz

Audio Outputs (Rx)

Unbalanced AES-3ID Sample Rate	32 kHz - 48 kHz
Input Impedance	75Ohms, +/-20%, 0.1MHz to 6.0MHz
Output Voltage	1.0 Vpp, +/-20% into 75Ohms
DC Offset	<50mV
Jitter	<20ns
Return Loss	>15dB, 0.1 to 6.0MHz

Optical

Fiber Data Rate	350 Mb/s

Connectors

Audio	75 Ohm BNC (Gold Center Pin)
Optical	ST, FC
Power (module)	See SR-500 Brochure for details

Power **

Card	5 Watts

Indicators (LEDs)

1 - Green	Power On
1 - Bi-color	TX Carrier/ Laser Over Current
1 - Bi-color	RX Carrier - Present / Error
4 - Bi-color	Audio Present Tx/Rx

Physical

Dimensions (Card)	20 (W) x 127 (H) x 160 (D) mm
	(0.8 x 5.0 x 6.3 inch)
Weight (Card)	450 gms (16 Oz)
No. of Slots	1
Module	See SR-500 Brochure

Enviromental

Operating Temperature	-34°C to +74°C
Storage Temperature	-55°C to +85°C
Relative Humidity	0 to 95% Non-condensing

Quality

MTBF	>170,000 hours @ Ground Fix
	35°C per MIL217F

Part Numbers:

F ☐ ———— 4AD ———— ☐ ☐ - ☐

- **T** - TRANSMITTER
- **R** - RECEIVER

MULTIMODE LASER - **1**
SINGLEMODE FP LASER - **3**
SINGLEMODE DFB LASER - **9**

CONFORMAL COATING - **C**
SpectraSmart ™ DIAGNOSTIC - **D**

ST - MULTIMODE CONNECTOR
FC or ST - SINGLEMODE CONNECTOR
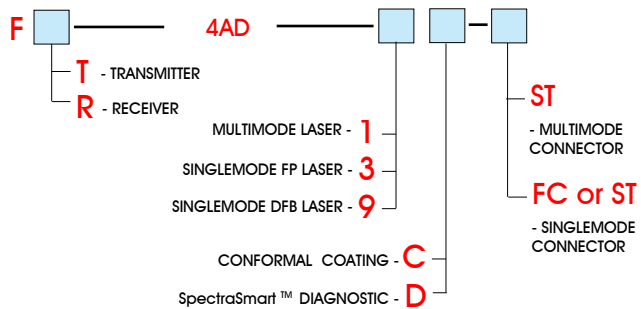
*   measured @ max. optical budget
** Due to variations of drivers and diagnostic options, power shown @ max value

48 kHz DIGITAL AUDIO 1 IN →
48 kHz DIGITAL AUDIO 2 IN →
48 kHz DIGITAL AUDIO 3 IN →
48 kHz DIGITAL AUDIO 4 IN →

FT-4AD-x Transmitter — FIBER → **FR-4AD-x Receiver**

→ 48 kHz DIGITAL AUDIO 1 OUT
→ 48 kHz DIGITAL AUDIO 2 OUT
→ 48 kHz DIGITAL AUDIO 3 OUT
→ 48 kHz DIGITAL AUDIO 4 OUT
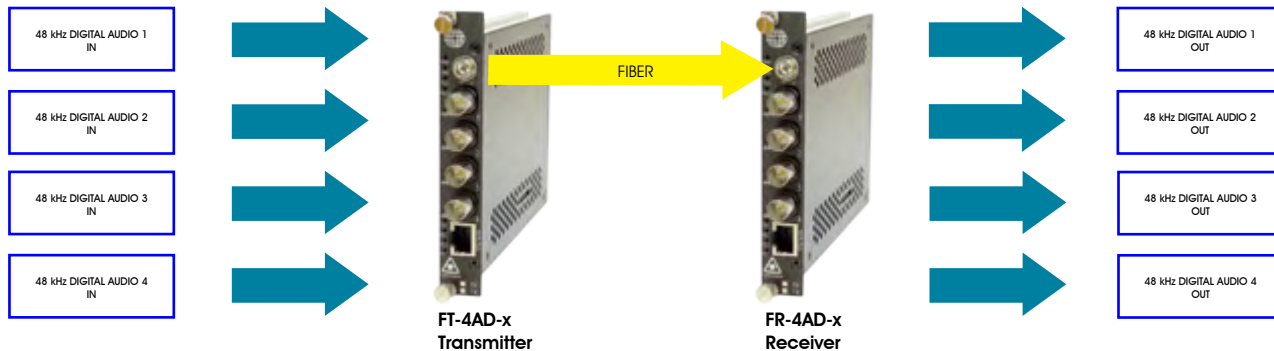
OPTICAL:

Fiber Type/Size (um)	Optical Output (dBm)	Receiver Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical Connector	Optical Dynamic Range (dB)
Multimode (Laser) 9 / 125	-5	-26	21	1300	FC	23
Singlemode (FP Laser) 9 / 125	-5	-26	21	1310	ST, FC	23
Singlemode (DFB Laser) 9 / 125	+2	-26	28	1310	ST, FC	23