

Fibox Digital Fiber-Optic Audio Transmission System

FIBOX SYSTEM

THE FIBER FUTURE MADE AFFORDABLE

The introduction of Fibox marks an extraordinary breakthrough in the transmission of audio signals. For the first time, all the advantages of 20-bit, full-bandwidth digital fiber-optic transmission are available at cost levels easily accessible to virtually any professional audio or broadcast application – from the network teleproduction facility down to the neighborhood church.

FIBOX SYSTEM: CLEAR ADVANTAGES

- No line loss
- No ground loops
- Inherent immunity to EMI and RFI
- High common mode rejection ratio (CMRR)
- 20-bit A/D and D/A conversion: 108dB dynamic range
- 48kHz sampling
- Transmission distances up to 4km (2.5 miles)
- Modular design: expandable from 2 to 12 channels on one fiber
- Analog or AES/EBU digital output
- Data interface for transmission of SMPTE, RS232/422/485, MIDI
- Easy installation and field set-up

A complete Fibox system comprises one or more Input modules, one or more Output modules (either analog or AES/EBU digital), plus fiber-optic cabling and any required power supplies, linking cables, and rack mounting hardware. This data sheet contains detailed information on Analog Input modules only.

FIBOX FBAI-M

TWO CHANNEL ANALOG MASTER INPUT MODULE

In one compact unit, the FBAI-M incorporates a two-channel preamplifier, 20-bit delta-sigma A/D converters, a digital multiplexer, and a fiber-optic transmitter. The FBAI-M accepts either microphone-level or line-level signals on balanced XLR inputs. The microphone preamplifier offers performance comparable to the finest studio mixing consoles, making the FBAI-M ideal for extremely demanding applications such as direct-to-digital remote recording of classical music. Phantom powering (48V) is provided for condenser microphones, selectable on/off with a front-panel switch.

Also on the front panel, each channel of the FBAI-M is provided with a Mic/Line input selector switch, a continuously variable gain control (4 to 70dB boost in "Mic" position only), and "peak" LED to indicate input overload. A rear panel input polarity ("phase") reversal switch is provided for channel 1.

Output of the FBAI-M is standard 1310nm wavelength on 62.5/125 μ multimode fiber with conventional ST connectors, assuring ease of use and fast set-up in the field or on the sound stage. A DB-15 multipin connector is provided to link the FBAI-M with up to five additional FBAI-SL slave units using the LKI-6 linking cable.

FBAI-SL

TWO-CHANNEL ANALOG SLAVE INPUT MODULE

The FBAI-SL is identical to the FBAI-M except it does not contain circuitry or connectors for fiber-optic transmission. Instead, the digital audio output of the FBAI-SL is fed through a linking cable to an FBAI-M master unit. A single FBAI-M master can accept, synchronize, and multiplex audio signals for up to five additional slaves, thus providing 12-channel capability on a single fiber link.



Actual size.

Available in master and slave models.

APPLICATIONS

Broadcast and Video Post-Production

- Links among multiple studios and mixing/editing suites
- Satellite uplinks/downlinks
- Remote broadcast for sports and special events

Recording Studios

- Replace long cable runs from studio to console
- Multichannel digital links among control rooms
- Direct-to-digital location recording

Concert Sound Reinforcement

- Sonically pure digital links from stage to FOH console, console to amp racks

Commercial Sound Installations

- Schools and universities • Auditoriums
- Convention facilities • Houses of worship
- Stadiums and arenas • Communication in harsh environments with high RFI/EMI emissions

Film Production

- Sound stage and back lot recording
- Field location recording

Units may be installed as stand-alone boxes, or up to 3 master or slave units may be mounted in one 19-inch rack panel using optional RMK rack mount kit.

ELECTRICAL SPECIFICATIONS

A/D Converter	20-bit delta-sigma
Oversampling	64x
Bandwidth (-3dB)	0.1Hz - 21.5kHz
Dynamic Range	108dB typical (A weighted)
Channel Separation	98dB or greater
Sampling Rate	48kHz
Input Impedance	3kΩ
Input Sensitivity	-70dB to +20dB
Gain Control	Continuously variable
Phantom Power	+48v switchable on/off
Phase Reversal	Switchable on channel 1
Mic/Line Switch	Provided on both channels
Master/Slave Link	DB15 connector

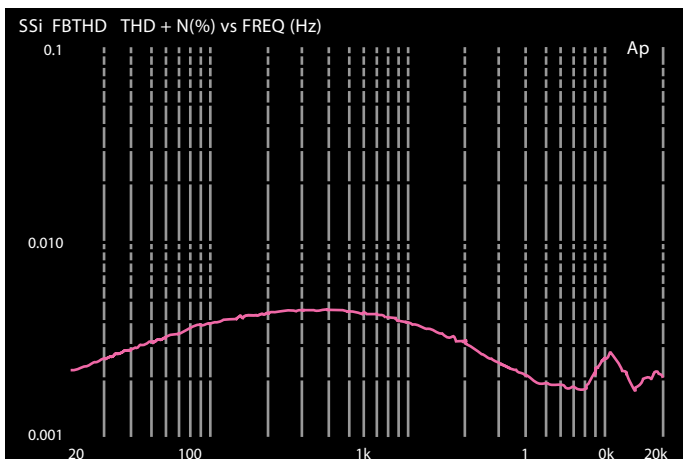
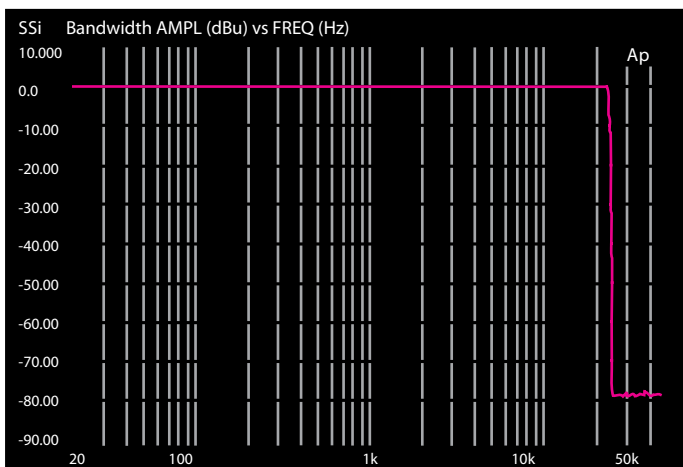
OPTICAL SPECIFICATIONS (FBAI-M master unit only)

Transmission Distance	4km
Wavelength	1310nm (recommended fiber cable 62.5/125 μ) multimode
Transmitter Optical Output (Avg.)	-18dBm minimum -14dBm maximum
Receiver Optical Input Sensitivity (Avg.)	-33.5dBm minimum -14.0dBm maximum
Optical Power Budget	15.5dBm

Single Mode option available

PHYSICAL CHARACTERISTICS

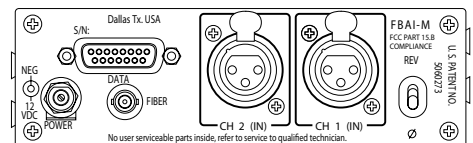
Dimensions	(w x h x d) 6" x 1.75" x 8"
	150mm x 44mm x 200mm
Weight	2lbs. 7.5oz/1.12kg (master)



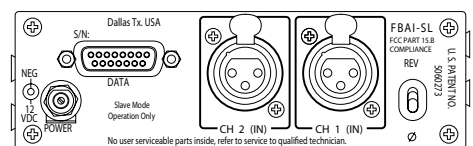
12 MIC/LINE INPUTS
20-BIT A/D
CONVERSION



CONTROL ROOM
20-BIT D/A
CONVERSION



Master Unit Back Panel



Slave Unit Back Panel



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