



User Manual



Analog AUDIO over fiber
F-2/4/8/16A-TxRx

A Note from Thor Broadcast about this Manual

Intended Audience

This user manual has been written to help people who have to use, integrate and to install the product. Some chapters require some prerequisite knowledge in electronics and especially in broadcast technologies and standards.

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Chapter 1 - Introduction

1.1 Product Overview

Analog Audio over one fiber Transmitter and Receiver kit helps solve sending unbalanced audio over long distances using Fiber.

We have several different models supporting 2, 4, 8, 16 and 32 analog audios.

The audio fiber optic Transmitter, converts analog Audio 20hz to 20Khz fiber optic modulated digital stream so it could be transported over single mode or multimode fiber.(long haul available)

The optical receiver converts the optical signal back to its original Analog Wave form.

Offers very low latency 1ms so it's perfect for live events, shows, concerts, auditoriums, etc

The small and compact form factor means it could be used for any applications where copper has a limited distance or noise issues.

Applications:

Churches, Concerts, Military, Schools, Apartments, Cinemas, Cable TV, Headsets, TV Studio, Stadiums, or any live events

1.2 Key features

- Terminal block connector
- Point to point as well as point to multipoint transmission applications
- Singlemode or multimode fiber supported
- ST/PC fiber connector or different per request
- LED indicators
- Stand alone or rack mount blade available
- Short and long haul signal transport up to 120Km - model dependent
- Compact portable size
- 600 Ω Unbalanced

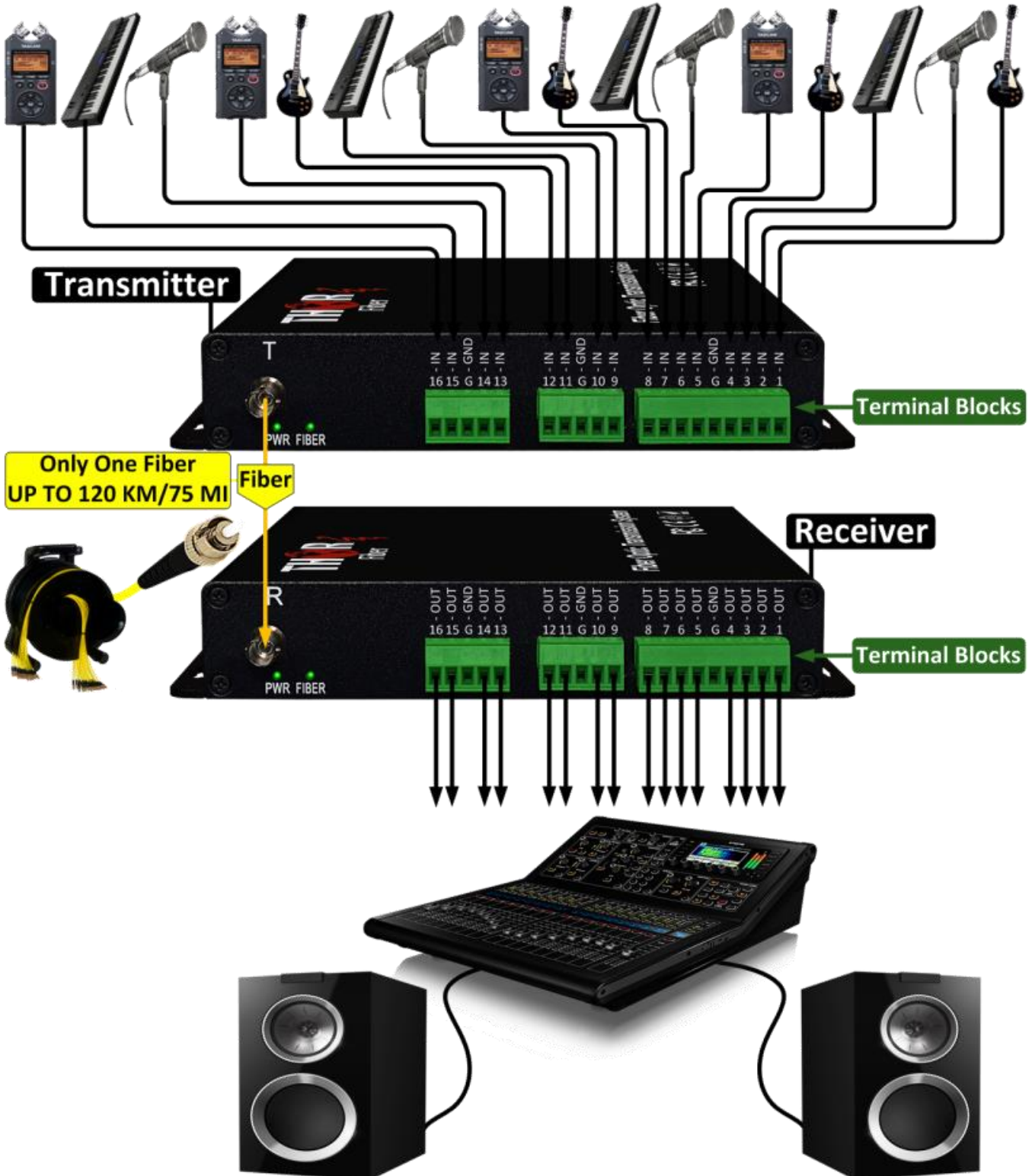
Bandwidth:	20Hz ~ 20KHz
Bit Resolution:	24-Bit
Signal-to-Noise Ratio(SNR):	> 80 dB

1.3 Specifications

Audio Interface	Terminal block
Audio input/output impedance	600 ohm - unbalance
Audio Level voltage	up to 2V-pp
Audio Level	0 dbm
Audio bandwidth	10hz to 24.5khz
Sample Rates	48kHz
Digital bandwidth	24 bit
SNR	better than 79db
THD@1khz	1%
Optical connector	ST/PC (other connectors avialable by request -extra \$)
Optical fiber distance	Base unit supports 2000feet 50/125u, 62.5/125u multimode fiber and up to 20KM on - 9/125u single mode fiber (Other distnces are available by request - extra\$)
Optical Wavelength	1310nm (other -1550nm or CWDM are available per request- extra\$)
Power	5V DC
Power Comsupcion	3W
Power Adaptor	AC-90-240AVC / 5060HZ
Dimensions :	7" x 6.5" x 1"
Operating Temperature	-20°C ~ +75°C
Weight	1lb
MTBF	over 100,000 hours

1.4 Principle Chart

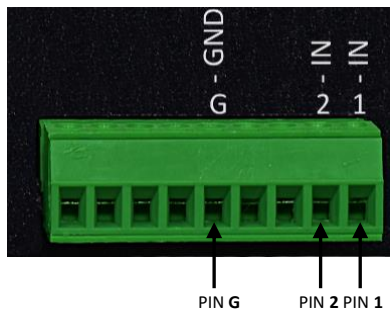
**2,4,8,16 or 32 Unbalanced Analog Audio Over Fiber
Transmitter + Receiver**



F-2A-TX

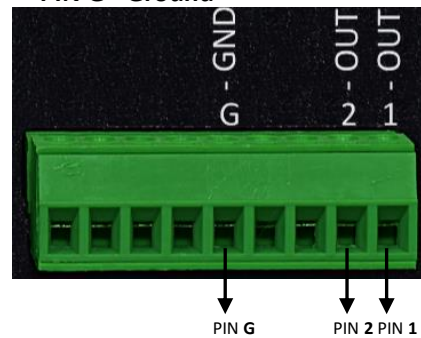
Transmitter

- PIN 1 - Audio 1 Input
- PIN 2 - Audio 2 Input
- PIN G - Ground**



Receiver

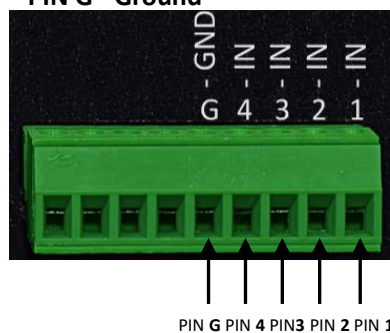
- PIN 1 - Audio 1 Output
- PIN 2 - Audio 2 Output
- PIN G - Ground**



F-4A-TX

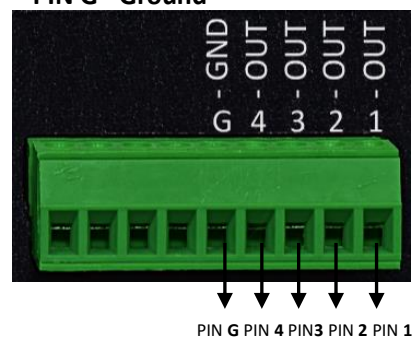
Transmitter

- PIN 1 - Audio 1 Input
- PIN 2 - Audio 2 Input
- PIN 3 - Audio 3 Input
- PIN 4 - Audio 4 Input
- PIN G - Ground**



Receiver

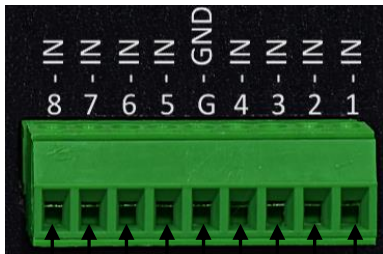
- PIN 1 - Audio 1 Output
- PIN 2 - Audio 2 Output
- PIN 3 - Audio 3 Output
- PIN 4 - Audio 4 Output
- PIN G - Ground**



F-8A-TX

Transmitter

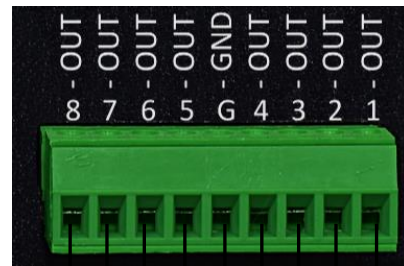
- PIN 1 - Audio 1 Input
- PIN 2 - Audio 2 Input
- PIN 3 - Audio 3 Input
- PIN 4 - Audio 4 Input
- PIN G - Ground**
- PIN 5 - Audio 5 Input
- PIN 6 - Audio 6 Input
- PIN 7 - Audio 7 Input
- PIN 8 - Audio 8 Input



PIN8 PIN7 PIN6 PIN5 PIN4 PIN3 PIN2 PIN1

Receiver

- PIN 1 - Audio 1 Output
- PIN 2 - Audio 2 Output
- PIN 3 - Audio 3 Output
- PIN 4 - Audio 4 Output
- PIN G - Ground**
- PIN 5 - Audio 5 Output
- PIN 6 - Audio 6 Output
- PIN 7 - Audio 7 Output
- PIN 8 - Audio 8 Output

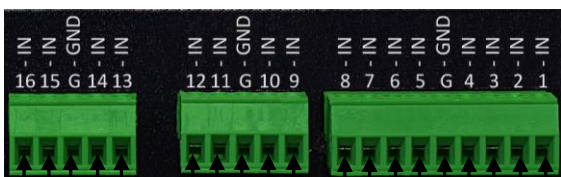


PIN8 PIN7 PIN6 PIN5 PIN4 PIN3 PIN2 PIN1

F-16A-TX

Transmitter

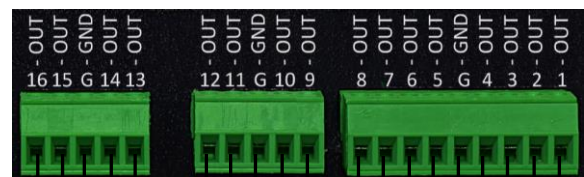
- | | |
|-----------------------------|-----------------------------|
| PIN 1 - Audio 1 Input | PIN 9 - Audio 9 Input |
| PIN 2 - Audio 2 Input | PIN 10 - Audio 10 Input |
| PIN 3 - Audio 3 Input | PIN G - Ground Input |
| PIN 4 - Audio 4 Input | PIN 11 - Audio 11 Input |
| PIN G - Ground Input | PIN 12 - Audio 12 Input |
| PIN 5 - Audio 5 Input | PIN 13 - Audio 13 Input |
| PIN 6 - Audio 6 Input | PIN 14 - Audio 14 Input |
| PIN 7 - Audio 7 Input | PIN G - Ground Input |
| PIN 8 - Audio 8 Input | PIN 15 - Audio 15 Input |
| | PIN 16 - Audio 16 Input |



PIN16 PIN15 PIN14 PIN13 PIN12 PIN11 PIN10 PIN9 PIN8 PIN7 PIN6 PIN5 PIN4 PIN3 PIN2 PIN1

Receiver

- | | |
|------------------------------|------------------------------|
| PIN 1 - Audio 1 Output | PIN 9 - Audio 9 Output |
| PIN 2 - Audio 2 Output | PIN 10 - Audio 10 Output |
| PIN 3 - Audio 3 Output | PIN G - Ground Output |
| PIN 4 - Audio 4 Output | PIN 11 - Audio 11 Output |
| PIN G - Ground Output | PIN 12 - Audio 12 Output |
| PIN 5 - Audio 5 Output | PIN 13 - Audio 13 Output |
| PIN 6 - Audio 6 Output | PIN 14 - Audio 14 Output |
| PIN 7 - Audio 7 Output | PIN G - Ground Output |
| PIN 8 - Audio 8 Output | PIN 15 - Audio 15 Output |
| | PIN 16 - Audio 16 Output |



PIN16 PIN15 PIN14 PIN13 PIN12 PIN11 PIN10 PIN9 PIN8 PIN7 PIN6 PIN5 PIN4 PIN3 PIN2 PIN1