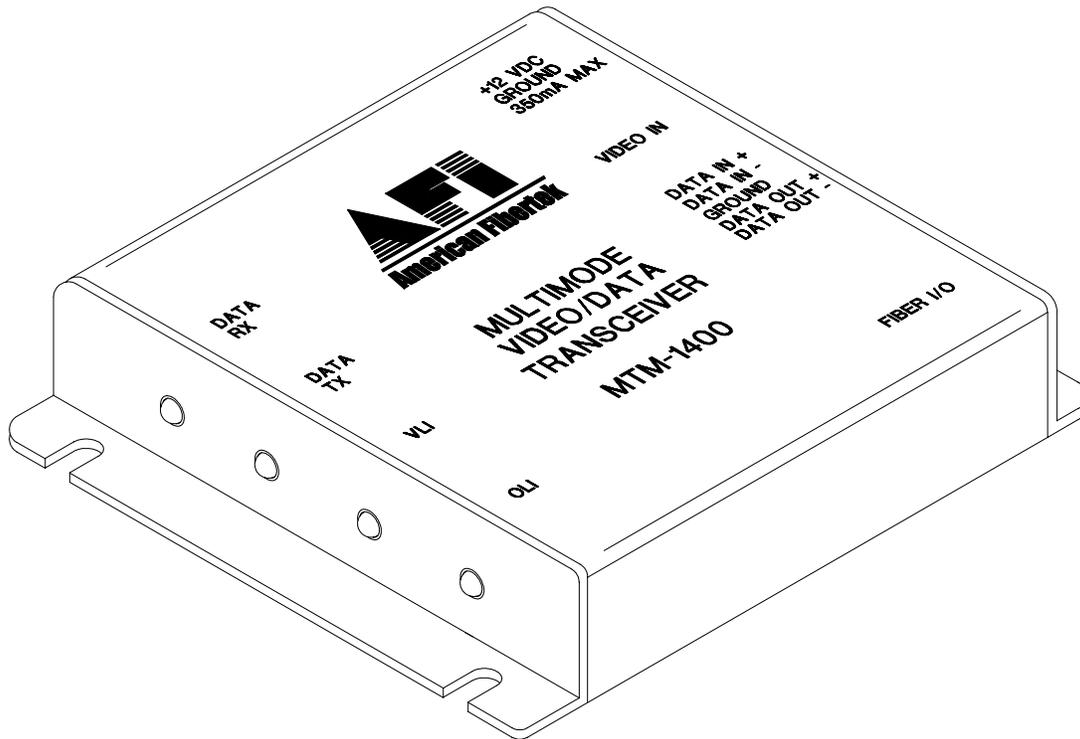




120 Belmont Drive  
Somerset, NJ 08873-1204

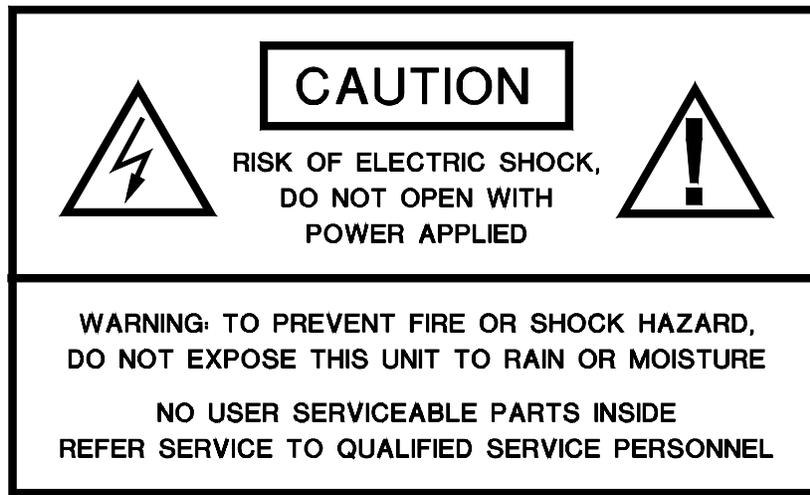
**American Fibertek**

Phone: 732.302.0660 Fax: 732.302.0667



## Instruction Manual

### MTM-1400 Video Transmitter With Bi-directional RS422 Data



## INSTALLATION AND OPERATION INSTRUCTIONS

### INTRODUCTION

Thank you for purchasing your American Fibertek MTM-1400 multimode mini video transmitter. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

### FUNCTIONAL DESCRIPTION

The MTM-1400 operates as half of a transmitter / receiver pair for the transmission of baseband NTSC, PAL, RS170, or RS343 video signals with bi-directional RS422 data. It is designed to operate with the MRM-1400 or RRM-1400 video receiver over a single multimode fiber optic cable.

The MTM-1400 converts a single video input and a single RS422 input into an optical output using a 1300 nm wavelength source. The MTM-1400 also converts an optical input signal returning on the same fiber into a RS422 output signal using an 850 nm wavelength detector. The M1400 Series product is designed to operate over an optical loss budget range of 0 to 12 dB. The MTM-1400 operates on 50 um or 62.5 um multimode fiber. Refer to the data sheets for detailed performance specifications.

This unit is contained in a compact and rugged aluminum housing with internal dc voltage regulation. The detachable terminal block and LED indicators provide for easy installation and monitoring of video and dc power.

The MTM-1400 is designed for mounting as a modular stand alone unit. For a rack mounted version please see the RTM-1400.

### INSTALLATION

THIS INSTALLATION SHOULD BE MADE BY A QUALIFIED SERVICE PERSON AND SHOULD CONFORM TO THE NATIONAL ELECTRICAL CODE, ANSI/NFPA 70 AND LOCAL CODES.

Mount the unit to a secure surface using #8 (3mm) hardware in four places. See the drawing on the next page for mounting dimensions. Be sure to allow sufficient room for the required minimum bend radius of the fiber cable used.

### POWER SOURCE

THIS PRODUCT SHALL BE POWERED BY A LISTED CLASS 2 POWER SUPPLY ONLY.

The unit requires a +12VDC power source for proper operation. The DC input is diode protected. In the USA and in Canada an American Fibertek PS-12 is supplied with this unit. The negative side of the power input is directly connected to ground. ANSI/NFPA 70 Class 2 wiring is recommended.

## POWER CONNECTION

Power is supplied to the unit via a two pin terminal connector. Follow the label on the unit for proper orientation of +12 volt dc and ground.

## VIDEO INPUT CONNECTION

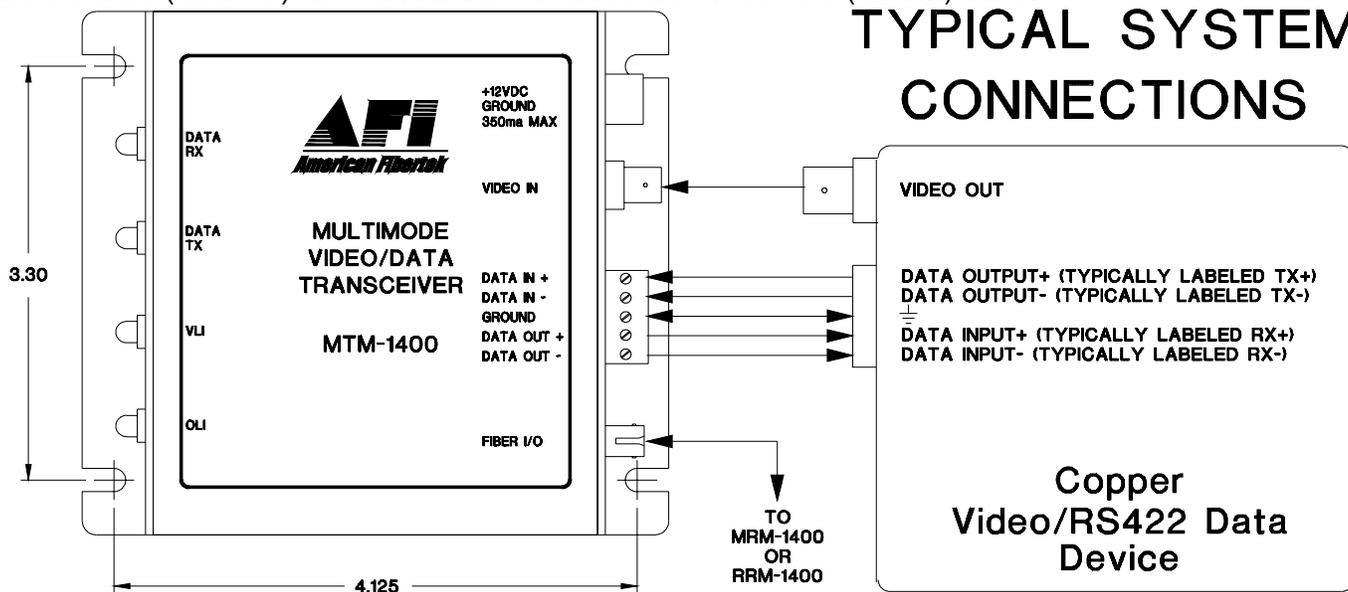
The video input connection is made via a BNC connector on the side of the unit. The video input should be connected to an appropriate 75Ω baseband video source such as a camera or a video recorder output. For optimum performance the video cables should be the shortest length of coax practical.

## FIBER CONNECTION

The fiber optic connection is made via a ST connector located on the side of the unit.

## DATA INPUT / OUTPUT CONNECTIONS

Data input/output connections are made via a terminal block on the side of the unit. Follow the label on the MTM-1400 for proper orientation of data input/output wires. An example of the RS422 interconnection between the MTM-1400 series unit and the copper device to which it is attached is shown below. This illustration is based on industry standard EIA terminology for the transmission of electronic data signals. Using this terminology, the driver of an electronic signal is labeled TX or data out. Correspondingly, the receiver of an electronic signal is labeled RX or data in. Not all manufactures follow standard EIA terminology. Consult the installation instructions for your copper device if you are unsure which two wires are the drive (data out) wires and which two wires are the receive (data in) wires.



Please note that Data In on the MTM-1400 becomes Data Out on the MRM-1400 or RRM-1400 after going across the fiber. The reverse flow follows the same orientation.

## MTM-1400 STATUS INDICATORS

The MTM-1400 provides the following LED status indicators to aid in installation and troubleshooting:

### OLI

A bi-color LED indicator monitors the optical input power of the data signal that is being received at the MTM-1400 from the MRM-1400 or the RRM-1400. DC power and optical input status associated with this LED are summarized below.

Optical Level Indicator	DC Power Status	Optical Status
Green	On	Proper Optical Input Power Present
Red	On	Optical Input Not Detected
Off	Off	Check Power Supply

## VLI

A bi-color LED indicator is provided for the video input to the MTM-1400. DC power and video status associated with this LED is summarized below.

Video Presence LED	DC Power Status	Video Status
Green	On	Proper Input Video Present
Red	On	Input Video Not Detected
Off	Off	Check Power Supply Input

## DATA TX

A green LED indicator is provided to monitor the RS422 input data from the electrical interface, through the MTM-1400, and out onto the fiber. The intensity of this indicator will vary with input data patterns, however in typical applications it will cycle on and off as data is transmitted. RS422 status associated with this LED is summarized below.

DATA TX LED	RS422 Status
Green	Data Flow Present
Off	Data Flow Not Detected

## DATA RX

A green LED indicator is provided to monitor the RS422 data coming in from the fiber, through the MTM-1400, and out onto the electrical interface. The intensity of this indicator will vary with input data patterns, however in typical applications it will cycle on and off as data is received. RS422 status associated with this LED is summarized below.

DATA RX LED	RS422 Status
Green	Data Flow Present
Off	Data Flow Not Detected

## LIFETIME WARRANTY INFORMATION

American Fibertek, Inc warrants that at the time of delivery the products delivered will be free of defects in materials and workmanship. Defective products will be repaired or replaced at the exclusive option of American Fibertek. A Return Material Authorization (RMA) number is required to send the products back in case of return. All returns must be shipped prepaid. This warranty is void if the products have been tampered with. This warranty shall be construed in accordance with New Jersey law and the courts of New Jersey shall have exclusive jurisdiction over this contract. **EXCEPT FOR THE FOREGOING WARRANTY, THERE IS NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, EXPRESSED OR IMPLIED, WHICH EXTENDS BEYOND THE WARRANTY SET FORTH IN THIS AGREEMENT.** In any event, American Fibertek will not be responsible or liable for contingent, consequential, or incidental damages. No agreement or understanding, expressed or implied, except as set forth in this warranty, will be binding upon American Fibertek unless in writing, signed by a duly authorized officer of American Fibertek.

## SERVICE INFORMATION

There are no user serviceable parts inside the unit.

In the event that service is required to this unit, please direct all inquiries to:

American Fibertek, Inc.  
120 Belmont Drive  
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