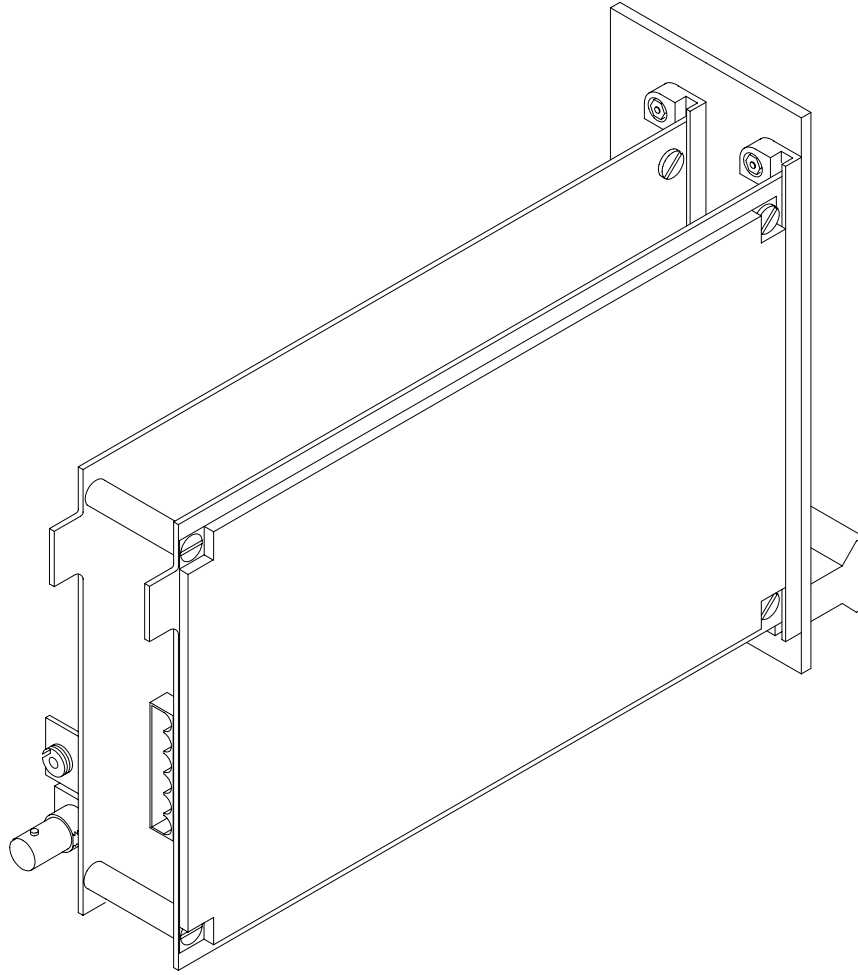




120 Belmont Drive  
Somerset, NJ 08873-1204

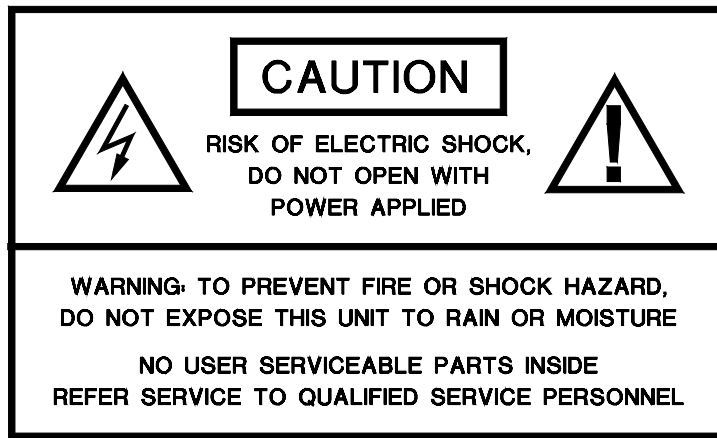
***American Fibertek***

Phone: 732.302.0660 Fax: 732.302.0667



## Instruction Manual

# RRM-3485-4 Video Receiver With Bi-directional 4-Wire RS485



## INSTALLATION AND OPERATION INSTRUCTIONS

### INTRODUCTION

Thank you for purchasing your American Fibertek RRM-3485-4 singlemode video receiver with bi-directional 4-Wire RS485 data. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

### FUNCTIONAL DESCRIPTION

The RRM-3485-4 operates as half of a transmitter / receiver pair for the transmission of a baseband NTSC, PAL, RS170, or RS343 video signal with bi-directional 4-Wire RS485 data. It is designed to operate with the MTM-3485-4 or RTM-3485-4 video transmitter over one singlemode fiber optic cable.

The RRM-3485-4 converts a 4-Wire RS485 data input into an optical output using a 1550 nm wavelength source. The RRM-3485-4 also converts an optical input signal returning on the same fiber into a single video output and a 4-Wire RS485 data output using a 1310 nm wavelength detector. The M3485-4 Series product is designed to operate over an optical loss budget range of 0 to 10 dB. The RRM-3485-4 operates on 9 um singlemode fiber. Refer to the data sheets for detailed performance specifications.

This unit is designed for rack mounting in any of the four American Fibertek subracks available. The subrack models are SR-20/1, SR-20R/1, SR-20/2, and SR-20D/2. Slide in rack mounting, detachable terminal blocks, and a LED indicator provide for easy installation and monitoring of video, data, and optical power.

The RRM-3485-4 is designed for rack mounting only. For a modular stand alone version please see the MRM-3485-4.

### 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.**

The unit slides into any two adjacent slots in the SR-20, SR-20R, or SR-20D subrack. Use a small screwdriver to push and lock the four ¼ turn fasteners into place.

### POWER SOURCE

Power to the unit is supplied by the subrack. Please refer to the SR-20, SR-20R, SR20D and PSR-2 instructions for further details.

### POWER CONNECTION

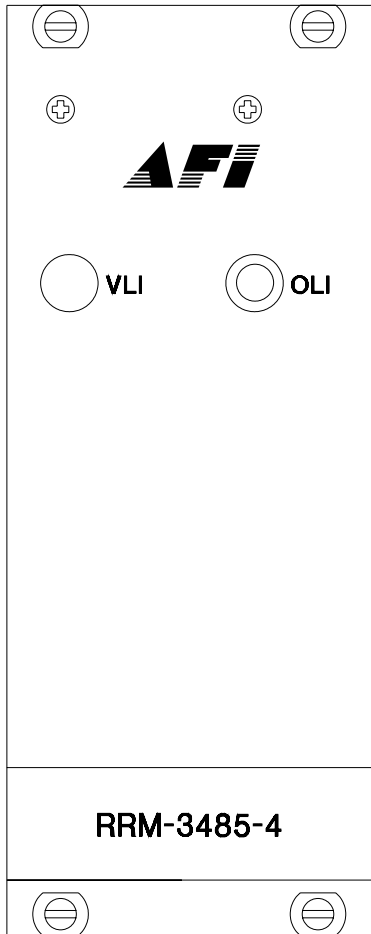
Power is supplied to the unit via a four finger backplane connector. The RRM-3485-4 can be inserted into the subrack or removed from the subrack with power applied to the backplane.

## FIBER CONNECTION

The fiber optic connection is made via a FC/PC connector located on the back of the unit. Be sure to allow sufficient room for the required minimum bend radius of the fiber cable used.

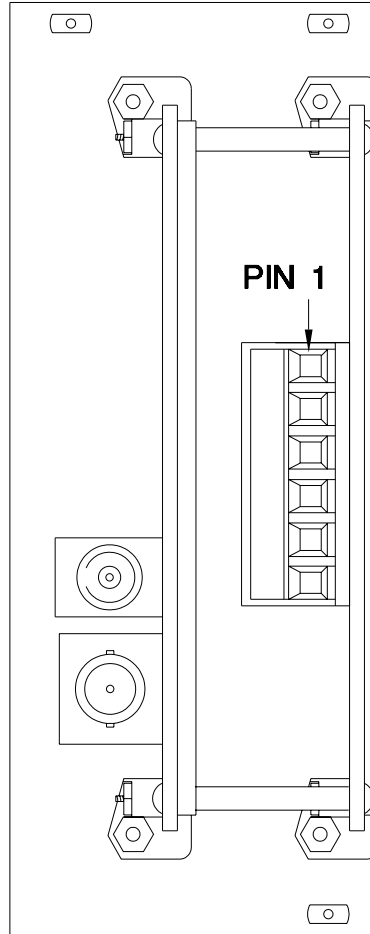
## VIDEO OUTPUT CONNECTION

The video output connection is made via a BNC connector on the back of the unit. The 75Ω video output can be looped through typical baseband video inputs of switchers, recorders and other equipment as required. For proper operation, the output must be terminated with 75Ω. For optimum performance the video cables should be the shortest length of coax practical.



OPTICAL I/O  
(FC-PC)

VIDEO OUTPUT



RS485 INPUT -  
GROUND  
RS485 INPUT +  
RS485 OUTPUT -  
GROUND  
RS485 OUTPUT +

## DATA INPUT / OUTPUT CONNECTIONS

Data input and output connections are made via a terminal block on the back of the unit. See the drawing above for proper orientation of input and output connections.

## TYPICAL 4-WIRE RS485 DATA CONNECTIONS

4-Wire RS485 data connections are 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. The plus terminal of the copper device is connected to the plus terminal of the fiber modem and the minus is connected to the minus. 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 RRM-3485-4 becomes Data Out on the MTM-3485-4 or the RRM-3485-4 after going across the fiber. The reverse flow follows the same orientation.

## RRM-3485-4 STATUS INDICATOR

The RRM-3485-4 provides the following LED status indicator to aid in installation and troubleshooting:

### OLI

A bi-color LED indicator monitors the optical input power of the video / 4-Wire RS485 data signal that is being received at the RRM-3485-4 from the MTM-3485-4 or the RTM-3485-4. Internal 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

**This unit complies with 21 CFR  
1040.10 and 1040.11**

### LIFETIME WARRANTY INFORMATION

American Fibertek, Inc waRRMants 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 waRRManty is void if the products have been tampered with. This waRRManty 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 waRRManty, 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  
Somerset, NJ 08873

Phone: (877) 234-7200

Phone: (732) 302-0660

FAX (732) 302-0667

E-mail: [techinfo@americanfibertek.com](mailto:techinfo@americanfibertek.com)