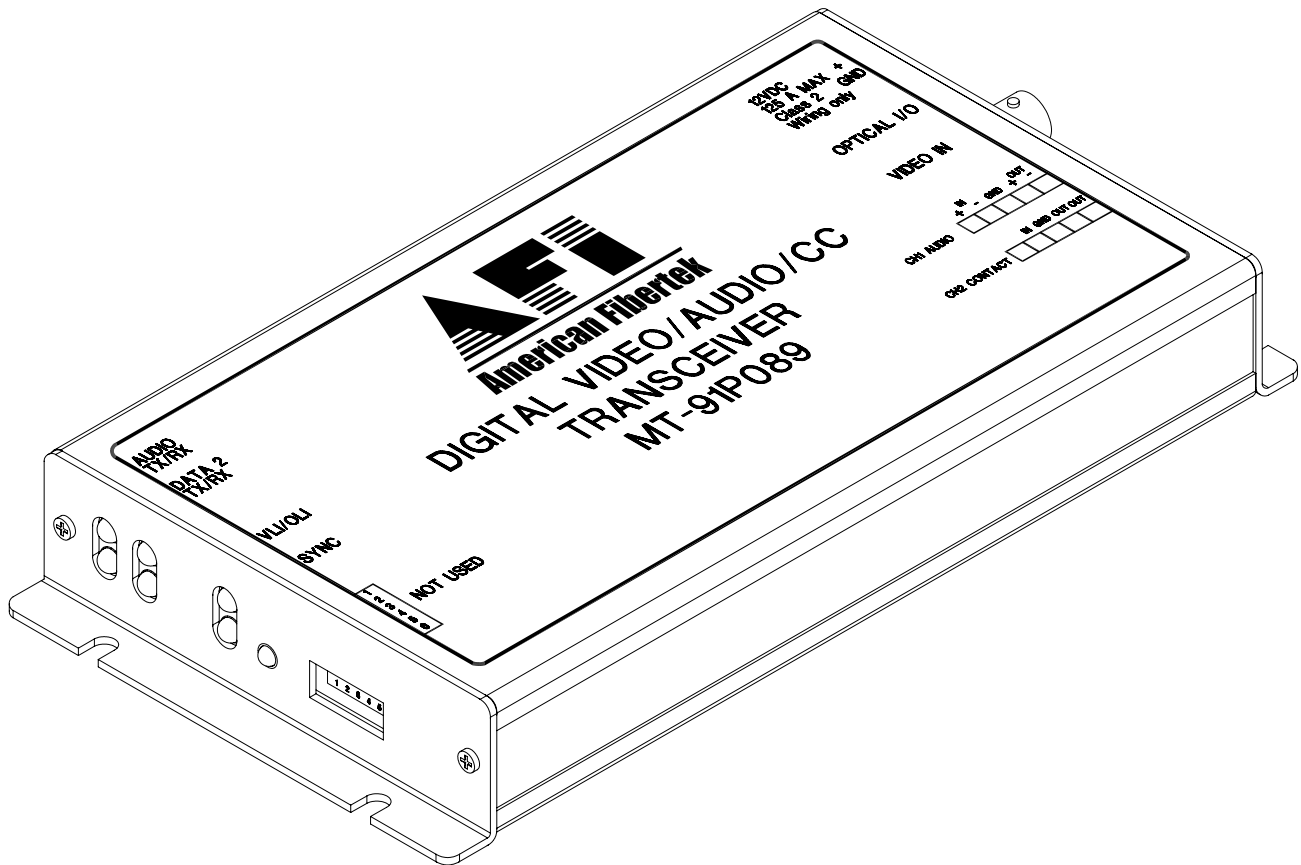


# afi

120 Belmont Drive  
Somerset, NJ 08873-1204

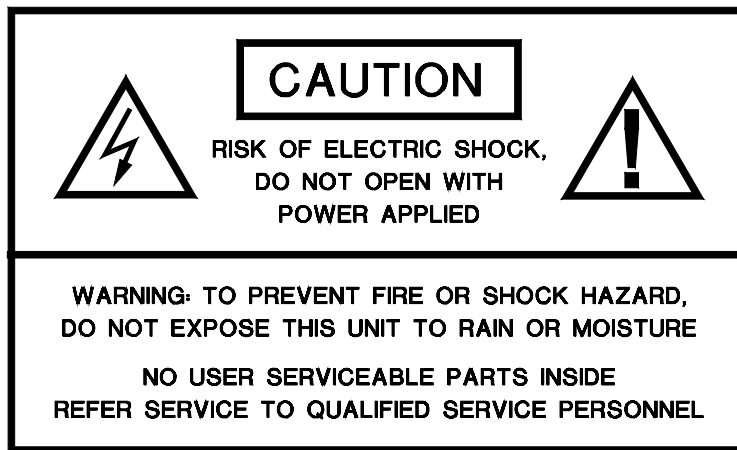
american fibertek Phone: 732.302.0660 Fax: 732.302.0667



## Instruction Manual

MT-91P089

Video Transmitter With  
Bi-directional Audio  
And Contact Closure



## INSTALLATION AND OPERATION INSTRUCTIONS

### INTRODUCTION

Thank you for purchasing your American Fibertek MT-91P089 multimode video transmitter with bi-directional audio and bi-directional contact closure. Please take a few minutes to read these installation instructions in order to obtain the maximum performance from this product.

### FUNCTIONAL DESCRIPTION

The MT-91P089 operates as half of a transmitter / receiver pair for the transmission of high performance 10 bit digital NTSC, PAL, RS170, or RS343 video signals. The MT-91P089 also supports one bi-directional channel of four wire audio and one bi-directional channel of contact closure. The MT-91P089 is designed to operate with the MR-91P089 or RR-91P089 video receiver over one multimode fiber optic cable.

The MT-91P089 multiplexes a single video input signal along with one audio signal and one contact closure signal into a high speed serial data stream. This serial data stream modulates a laser at 1310 nm wavelength. The MT-91P089 also detects and demultiplexes a return optical serial data stream signal containing one audio signal and one contact closure signal at 1550 nm wavelength. The 91P089 Series product is designed to operate over an optical loss budget range of 0 to 12 dB with a maximum distance of 4Km. Refer to the data sheet for detailed performance specifications.

This unit is contained in a rugged aluminum housing with internal dc voltage regulation. The detachable terminal blocks and LED indicators provide for easy installation and monitoring of video, audio, contact closure, and optical power. The MT-91P089 is designed for mounting as a modular stand alone unit. For a rack mounted version please see the RT-91P089.

### 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.

This unit requires a +12VDC power source with a current rating of 1.25 amps for proper operation. The DC input is diode protected. In the USA and in Canada an American Fibertek PS-12D 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

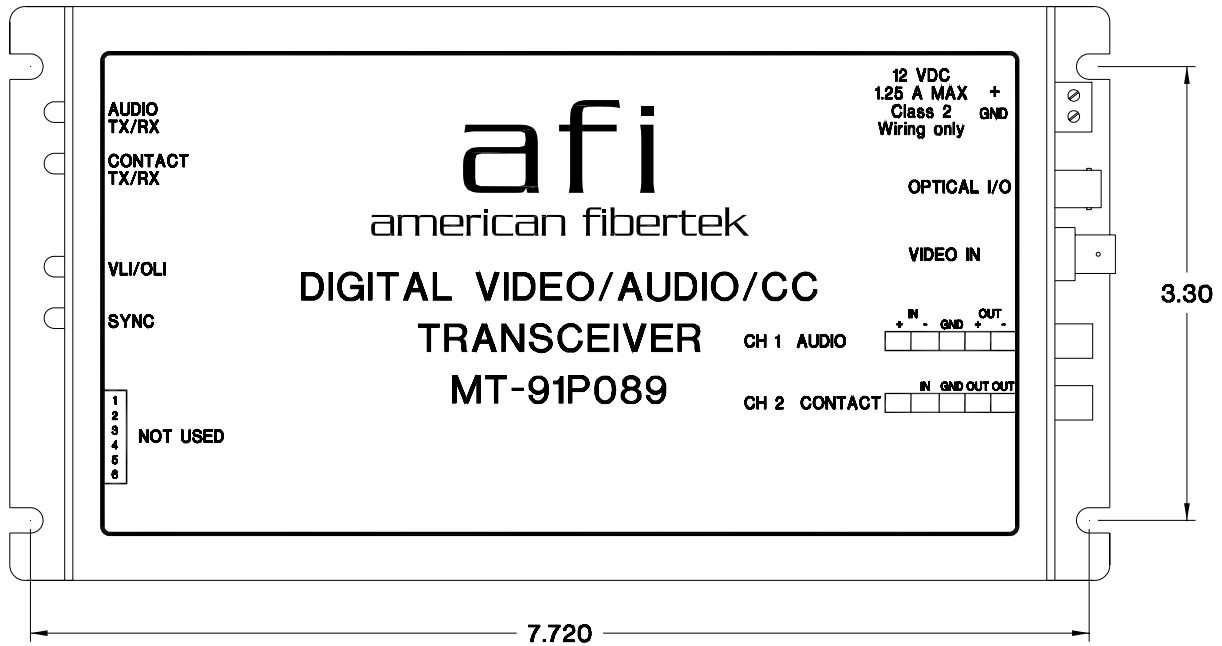
Power is supplied to the unit via a two pin terminal connector on the right side of the unit. Follow the label on unit for proper orientation of +12 volt dc and ground.

**FIBER CONNECTION**

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

**VIDEO INPUT CONNECTION**

The video input connection is made via a BNC connector on the right 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.



**AUDIO AND CONTACT INPUT / OUTPUT CONNECTIONS**

Audio and contact closure input and output connections are made via a terminal block on the right side of the unit. Follow the label on unit for proper orientation of input and output connections. Please note that the far right pin on the label (OUT-) corresponds with the terminal block pin located closest to the base of the unit.

**MT-91P089 STATUS INDICATORS**

The MT-91P089 transmitter provides the following LED status indicators to aid in installation and troubleshooting:

**AUDIO/CONTACT TX**

A green LED indicator is provided to monitor the audio / contact closure coming in from the electrical interface, through the MT-91P089, and out onto the fiber. The intensity of this indicator will vary with input audio levels, however in typical applications it will cycle on and off as audio is transmitted. Audio / contact closure transmission status associated with this LED is summarized below.

AUDIO/CONTACT TX LED	Audio/Contact Closure Status
Green	Audio Present at Proper Signal Level/Contact Closed
Off	Audio Signal Not Detected/Contact Open

**AUDIO/CONTACT RX**

A green LED indicator is provided to monitor the audio / contact closure coming in from the fiber, through the MT-91P089, and out onto the electrical interface. The intensity of this indicator will vary with input audio levels, however in typical applications it will cycle on and off as audio is received. Audio / contact closure received status associated with this LED is summarized below.

AUDIO/CONTACT RX LED	Audio/Contact Closure Status
Green	Audio Present at Proper Signal Level/Contact Closed
Off	Audio Signal Not Detected/Contact Open

A bi-color LED indicator is provided for the video input to the MT-91P089. 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

**OLI**

A bi-color LED indicator monitors the optical input power of the data signal that is being received at the MT-91P089 from the MR-91P089 or the RR-91P089. 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

**SYNC**

A bi-color LED indicator is provided to monitor the proper serialization of the electrical data stream through the MT-91P089 and out onto the fiber. DC power and sync status associated with this LED are summarized below.

Sync LED	DC Power Status	Sync Status
Green	On	Proper Data Stream Serialization Present
Red	On	Data Stream Serialization Not Detected
Off	Off	Check Power Supply

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

**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  
Somerset, NJ 08873

Phone: (877) 234-7200  
Phone: (732) 302-0660  
FAX (732) 302-0667

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