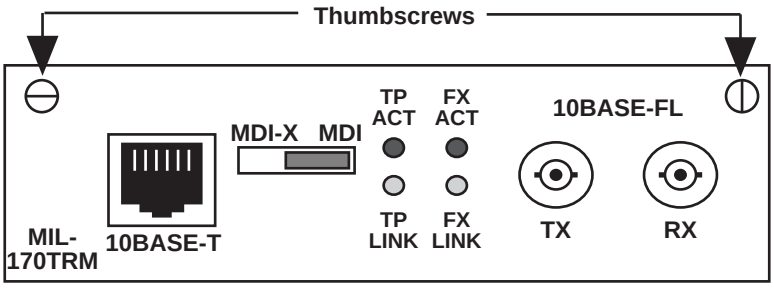
MIL-170TRM

10BASE-FL to 10BASE-T Media Converter for Digi's Media Conversion System



Installation Guide

This guide includes the following:

Doc #: 90000096 Rev. A

About this Manual

This document covers the MIL-170TRM media converter module. The terms “MIL-170,” MIL-170TRM,” and “converter” are used throughout this document to describe the MIL-170TRM.

Introduction

The MIL-170TRM is one of a series of modules designed to be installed into Digi's Media Conversion System. This half-/full-duplex device converts optical signals to electrical and vice-versa.

The device has a signal capability of transmitting up to 15 km (subject to fiber budget and collision domain restrictions). This module also has the Link Sentry feature.

Features

- One RJ-45 (UTP) connector
- One single-mode, ST connector
- Link Sentry feature
- Diagnostic LEDs
- Management ready–supplied by the optional SNMP modules (MIL-4650 and MIL-4655)
- Power supply equipped on the rack mount chassis

Installation

Do the following to install the MIL-170TRM into a redundant rack mount chassis:

1. Make any configuration changes to the module (i.e., DIP switch settings).
2. Remove the screws securing the faceplate and remove it from the chassis.
3. Slide the module into the slot through the guide rails.
4. Insert the module into the card-edge connector (port bay). Make sure it is seated firmly.
5. Secure the module with the two thumbscrews located on the faceplate of the unit.

The unit is now ready for network connections.

MDI-X/MDI Switch

The MDI-X / MDI switch allows for quick configuration of the 10BASE-T port. Cables used when the switch is in the MDI-X position (the “left” position):

- For a hub / repeater, use a swap cable (pins are connected 1 to 3, 2 to 6, 3 to 1, and 6 to 2)
- For a workstation / PC, use a straight-through cable (pins are connected 1 to 1, 2 to 2, 3 to 3, and 6 to 6)

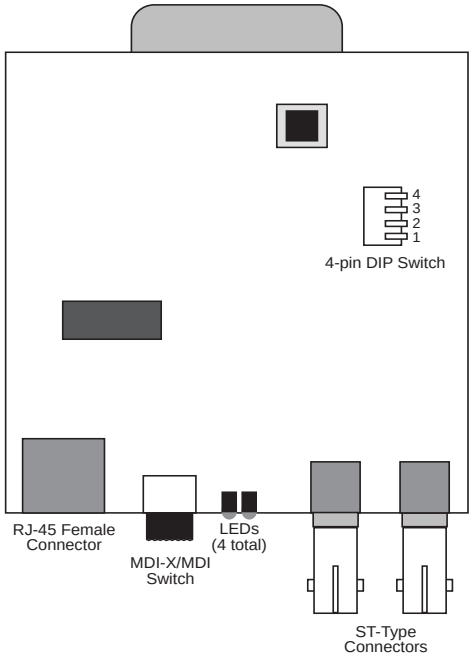


Figure 1.Inside of the MIL-170TRM

Cables used when the switch is in the MDI position (the “right” position):

- For a hub / repeater, use a straight-through cable (pins are connected 1 to 1, 2 to 2, 3 to 3, and 6 to 6)
- For a workstation / PC port, use a swap cable (pins are connected 1 to 3, 2 to 6, 3 to 1, and 6 to 2)

Link Sentry Configuration

The Link Sentry feature on the MIL-170TRM is configured through a 4-position DIP switch (refer to Figure 1). Default setting for the DIP switches: All switches are in the “up” position.

Link Sentry allows users to add new management tools to the network. When enabled, it monitors the selected receiver port and, if the Link test signal is not seen, the unit will stop sending a signal through the selected transmit port.

The following table shows which Link Sentry feature is enabled:

Table 1: Link Sentry Features

Switch	Losing Link on RX of	Stop sending Link on TX of
1 (down)	Fiber port	Fiber port
2 (down)	UTP port	UTP port
3 (down)	UTP port	Fiber port
4 (down)	Fiber port	UTP port

Note: For two MIL-170s used back-to-back and UTP-to-UTP, all DIP switches must be *enabled* (in the "down" position) on the first MIL-170. On the second MIL-170, enable switches 1 and 4 (in the "down" position).

Default setting for Link Sentry: All switches set in the "up" position (disabled). When using the SNMP module to control the Link Sentry feature, leave the switches in the default mode ("up").

Indicators

There are four LEDs, including:

TP/ACT: Receiving packets from the 10BASE-T port

TP/LINK: There is an active connection on the 10BASE-T port

FX/LINK: There is an active connection on the 10BASE-FL port

FX/ACT: Receiving packets from the 10BASE-FL port

Specifications

RJ-45: MDI

- Pin 1 = Transmit Data +
- Pin 2 = Transmit Data -
- Pin 3 = Receive Data +
- Pin 6 = Receive Data -

RJ-45: MDI-X

- Pin 1 = Receive Data +
- Pin 2 = Receive Data -
- Pin 3 = Transmit Data +
- Pin 6 = Transmit Data -

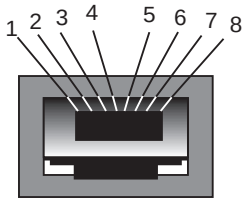


Figure 2.RJ-45 Pinouts

Fiber Specifications: ST connector

- 1300 nm single-mode fiber
- 8 or 9/125 µm single-mode fiber
- Launch power: -19 dBm
- Receive sensitivity: -36 dBm

Operating Conditions

Table 2: Recommended Operation Conditions

Parameters	Minimum	Maximum
Operating Temperature	+5° C	+50° C
Humidity: Non-condensing	10%	95%
Signal Output Load	35 ohm	75 ohm
Supply Voltage	4.75 V	5.25 V

Legal Declaration

Regulatory Approvals

- FCC Class A
- UL 1950
- CSA 22 No. 950
- EN60950
- CE
  – EN55022 Class B
  – EN50082-1

Canadian EMI Notice

This Class A digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the commission of the European Community. Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISPR 22) - Radio Frequency Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4) - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

Five-Year Limited Warranty

Digi International warrants to the original consumer or purchaser that each of its products, and all components thereof, will be free from defects in material and/or workmanship for a period of five years from the original factory shipment date. Any warranty hereunder is extended to the original consumer or purchaser and is not assignable.

Digi makes no express or implied warranties including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, except as expressly set forth in this warranty. In no event shall Digi be liable for incidental or consequential damages, costs, or expenses arising out of or in connection with the performance of the product delivered hereunder. Digi will in no case cover damages arising out of the product being used in a negligent fashion or manner.

To Contact Digi

For prompt response when calling for service information, have the following information ready:

- Product serial number and rev.
- Date of purchase
- Vendor or place of purchase

Reach Digi Technical Support at 408/744-2751
Or E-mail at “sun-tech@dgii.com”

Address: 1299 Orleans Drive
Sunnyvale, CA 94089
Voice: 408/744-2775
Fax: 408/744-2793
E-mail: info@dgii.com