



PT/PR-500iR Series
Fiber Optic Video Transmission System
Installation Instructions

Product Description

Meridian's product series PT-500iR and PR-500iR series products are fiber optic modems that transmit one channel of uni-directional composite video and two bi-directional data or one bi-directional data and bi-directional audio signal over one optical fiber using FM transmission technologies. This product series uses Meridian's standard 1-slot wide chassis mount card assembly and plugs into the following Meridian chassis: SR-500/S, SR-1000/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment chassis.

Installation

Series PT-500iR and PR-500iR products are one-slot wide cards and, as such, occupy only one slot in Meridian's standard chassis (SR-500/S, SR-1000/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment chassis). To install in the chassis, orient the card with the Meridian logo at the top of the module and slide onto the top and bottom card guides in the chassis. Press securely on the top and bottom of the module to ensure that it is fully seated in the chassis so that the electrical connector mates with the chassis-mounted motherboard. Once installed, manually tighten the two thumbscrews located at the top and bottom of the card. Do not use tools to secure these and do not over tighten.

Note: A fully loaded subrack should have forced-air cooling to avoid excessive heat generation inside the chassis. A fan assembly tray (P/N FA-2000) with three (3) fans is available and should be installed under the 19" SR-2000/1 whenever possible.

Front Panel Indicators – There is a front panel power indicator on the PT/PR-500 series modems. In addition, the modems with audio have audio level indications next to the audio input/output potentiometers.

Product Signal Format & Specifications

The PT & PR-500iR series products transmit and receive the following signals:

Signal Type	Channels	Transmit	Receive
NTSC/PAL video	1	Yes	Yes
RS-232 (Tx & Rx data)	2	PT-500iR-V33/33	PR-500iR-V33/33
RS-422 (Tx & Rx data)	2	PT-500iR-V44/44	PR-500iR-V44/44
RS-232 & RS-422 (Tx & Rx data)	1 each	PT-500iR-V34/34	PR-500iR-V34/34
600 ohm Balanced Audio	1	PT-500iR-V5A/5A	PR-500iR-V5A/5A

The tables below identify the specifications for the various signals that these modems transmit/receive.

Video	
Format	NTSC, PAL, SECAM
Voltage/Impedance	1Vp-p, 75 Ω , 1.5Vp-p (max)
Differential Gain	<1%
Differential Phase	<0.7°
SNR	>67dB (weighted)
Return Loss	>30dB
Field Tilt	<0.5%

Data	
Formats	RS-232
Date Rate (RS-232)	DC to 125Kb/s
Data Rate (RS-422 & RS-485)	DC to 300Kb/s
Bit Error Rate (BER)	Better than 10 ⁻⁹

Audio	
In/Out Impedance	600 Ω , Balanced
Frequency Response	10Hz to 20KHz
SNR	>90dB (weighted) @ 1KHz
In/Out Level	-6 to +6dBm (4Vp-p, max)
THD	<0.01% @ 1KHz
Digitized Resolution	24 bit

(Audio Adjustment: Each modem (PT & PR) has a front panel mounted potentiometer for adjusting the input and output of the audio channel. Adjustments can be made from -6 dBm (counter-clockwise) to +6 dBm (clockwise). The audio should be first adjusted at the input side to approx. 0 dBm. This will cause the audio input level indicator to go on. Once this is done, the audio output level should be adjusted for approx. 0 dBm output. As with the input adjustment, the output level LED should also illuminate.)

Connectors	
Video	75Ω BNC w/gold center pin
Data/Audio	HD-15 Hi-Density 15 pin connector
Optical	Singlemode – ST or FC Multimode - ST

The data/audio input/output connectors are identified on the attached front-panel diagrams.

Optical Specifications						
Fiber Type/Size (um)	Optical Output (dBm)	Rx Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical connector	Optical Dynamic Range (dB)
Multimode (FP Laser) 62.5/125	-3	-24	21	1300/850	ST	24
Singlemode (FP Laser) 9/125	-3	-24	21	1310/1550	ST, FC	24
Singlemode (DFB Laser) 9/125	+3	-24	27	1310/1550	ST, FC	24

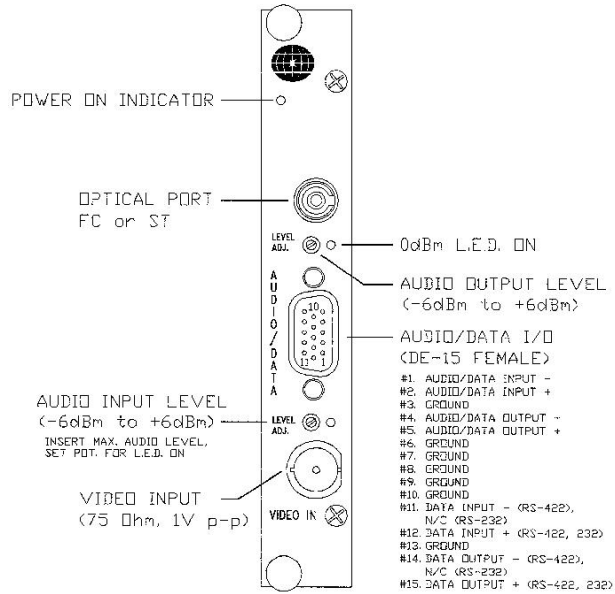
Troubleshooting

Below is a listing of several problems that may arise during the installation & operation of the modules. If you are having difficulty installing or operating the modules please refer to this list below.

- Problem:** *Module does not fit in chassis slots*
Action: Check module orientation. Meridian “Globe” must be oriented on the top left hand side of the module
- Problem:** *Make sure the card guides in the chassis are aligned with the extrusion on the module*
Action: *Card power LED does not light when power to the module/subrack is applied or power indicator turns on and off*
Check power supply to ensure that it is plugged in and turned on. If flashing continues, move module to another chassis or location in the same chassis, if available.
- Problem:** *No video at output of module*
Action: Check to ensure that the video channel-specific LEDs are on (Green). Also, check to ensure that the optical LEDs are ON. If no video is still present, check to ensure that the monitor is ON and the video cable is connected to the correct video port on the Rx module.
- Problem:** *Video image is dark*
Action: Check the iris control on the camera to ensure that it is open to the proper amount for the conditions
- Problem:** *Video image is too bright and appears overexposed*
Action: Check the Video overload indicator on the Rx module. If it is Red, the video signal level is too high and the CCTV iris should be checked to ensure that it is open properly for the conditions.
- Problem:** *No Data or Audio*
Action: Check the data input status indicator light #1 on the transmit module to ensure it is on (indicating a data input signal). Also check the data output status indicator light #2 on the corresponding receiver module to ensure that the signal is being transmitted and received. If not, please check the data input/output and fiber connections.

If the problem still persists after reviewing the above items, please contact Meridian technical support (516-285-1000).

PT-500iR-X
PINOUT DIAGRAM



PR-500iR-X
PINOUT DIAGRAM

