# Installation/Operation Instructions

***Fiber Optic Video & PTZ Control Data Transmission System***

## Part Number:

## *DTDR-1W/1M-x Series*
## *(1-Channel Pelco Coaxitron video/data channels)*

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# 1.0 Product Description

Meridian's product series DT-1W/1M and DR-1W/1M are fiber optic modems that transmit one channel of uni-directional, fixed video signals and one Pelco Coaxitron video/data channels over one optical fiber using digital transmission technologies. This product series uses Meridian's standard 2-slot wide chassis mount card assembly and plugs into the following Meridian chassis: SR-1000/S, SR-1001/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment chassis.

The digital modules consist of various plug-in personality function cards or SIMs. The top card is the optical card that contains the fiber optic interface. The optical input & output connectors are located on the left side of the module. The next SIM contain one channel each of the Pelco 'up-the-coax' video / data interface.

# 2.0 Installation

Series DT-1W/1M and DR-1W/1M products are two-slot wide cards and, as such, occupy two slots in Meridian's standard chassis (SR-1000/S, SR1001/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.

# 3.0 Part Number Configuration

The table below shows the various product part numbers available.

| Product Part Number Guide | | | | |
|---|---|---|---|---|
| **Transmitter** | **Receiver** | **# up-the-coax video** | **Fiber Type** | **Optical Connector** |
| DT-1W/1M-2R/M | DR-1W/1M-2R/M | 1 | Multimode | ST |
| DT-1W/1M-5R/M | DR-1W/1M-5R/M | 1 | Singlemode | FC |
| DT-1W/1M-5R/M-ST | DR-1W/1M-R/M- | 1 | Singlemode | ST |

Note: The suffix "R" or "M" refers to either a rack mount unit ('R' suffix) or a stand alone module ('M' suffix). The stand alone unit comes with the SR-1000, 2-slot chassis. When specifying the part number, use only the "R" or "M" suffix.

# 4.0 Product Signal Format & Specifications

The DT & DR-1W/1M series products transmit and receive the following signals:

| Signal Type | Channels | Transmit | Receive |
|---|---|---|---|
| | | | |
| Pelco Coaxitron video ~ data | 1 | Yes | Yes |

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

| Video | |
|---|---|
| Format | NTSC, PAL, SECAM |
| Channels 1-8 | Pelco Coaxitron video ~ data ('up-the-coax') |
| Voltage/Impedance | 1Vp-p, 75 Ohm, 1 .5Vp-p (max) |
| Differential Gain | <0.6% |
| Differential Phase | $<0.3^{o}$ |
| SNR | >60dB (weighted) |
| Return Loss | >30dB |
| Field Tilt | <0.5% |

| Connectors | |
|---|---|
| Video | 75 Ohm BNC w/gold center pin |
| Optical | Singlemode – ST or FC<br>Multimode - ST |

| 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 | 1310/1 550 | ST, FC | 24 |
| Singlemode (DFB Laser) 9/125 | ~3 | -24 | 27 | 1310/1550 | ST, FC | 24 |

Note: Because of the characteristics of the Pelco Coaxitron signal, the maximum operating distance between the camera and controller is approximately 2KM. This distance includes the length of the fiber and coaxial cable length.

# 5.0 Front Panel Pinout Assignment & Status Indicator Diagram

Figures 5.1 and 5.2 below show the front panel layout, connector location and pinout assignment for both the DT & DR modules.

# DT-1W/1M-x
# PINOUT DIAGRAM

### STATUS INDICATORS
1. POWER (GREEN)
2. NA

### STATUS INDICATORS
1. TX CARRIER (GREEN)/ERROR (RED)

### VIDEO IN/DATA OUT (CH.1)

### STATUS INDICATORS
1. SYNC PRESENT (GREEN)
2. VIDEO PRESENT (GREEN) / OVERLOAD (RED)

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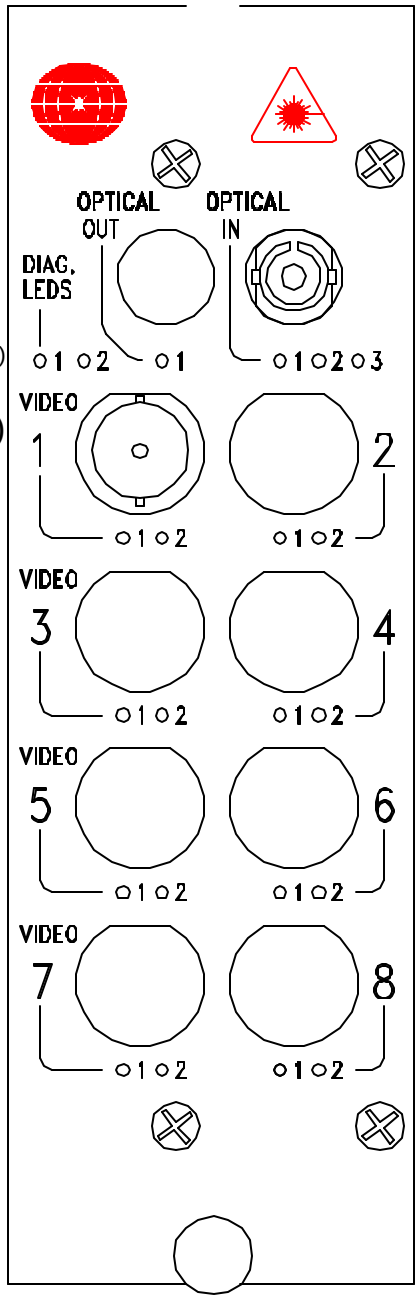


### OPTICAL PORT
### STATUS INDICATORS
1. NA
2. RX OPTICAL SIGNAL (GREEN)/ ABSENT (RED)
3. RX CARRIER (GREEN) / ERROR (RED)

### STATUS INDICATORS
1. DATA PRESENT (GREEN)
2. NA

**Figure 5.1**
**DT-1W/1M-X Front Panel Layout**

**Figure 5.2**
**DR-1W/1M-X Front Panel Layout**

## 5.1 Status Indicators

There are status indicator lights associated with each video and up-the-coax data channel. The Transmitter (DT-4V/4M) and Receiver (DR-4V/4M) indicators are as follows:

| | |
|---|---|
| Power: | Green (ON) |
| Tx Carrier: | Green (OK)/Red (Error) |
| Rx Optical Signal: | Green (Present)/Red (Absent) |
| Rx Carrier Signal: | Green (Present)/Red (Error) |
| Video Sync: | Green (Present) – one for each channel |
| Video: | Green (Present)/ Red (video input Overload) – one for each channel |
| Data present: | Green (OK) – available only for up-the-coax channels |

Refer to the front panel diagrams in section 5.0 for the location of each indicator light.

# 6.0 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
Make sure the card guides in the chassis are aligned with the extrusion on the Module.

**Problem:** *Card power LED does not light when power to the module/subrack is applied or*
*power indicator turns on and off*
**Action:** 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 up-the-coax control*
**Action:** Check to ensure that the up-the-coax video cables are connected to the appropriate
input/output BNC connectors. Check to ensure that the proper connections are made to the PTZ controller.

Check to ensure that the total camera to controller distance has not exceeded to 2km maximum distance. If longer than 2km, the video will still work but the camera control may not function or the operation may be erratic.

As you move the camera using the controller, check to see if the 'Data Present' lights associated with each of the up-the-coax channels (DR unit) are blinking. If not, check the data connections to the controller.

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

## Notes:

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