



Installation/Operation Instructions

Fiber Optic Video Transmission System

Part Number:

DT-2S-x

(2-channel S-Video Transmitter)

DR-2S-x

(2-channel S-Video Receiver)

Meridian Technologies, Inc.
700 Elmont Road, Elmont NY 11003
Telephone: 516-285-1000 Fax: 516-285-6300
E-mail: sales@meridian-tech.com
Web: www.meridian-tech.com
Document Version 1
08/05/2011

Table of Contents

1.0	Product Description.....	3
2.0	Installation	3
3.0	Operation	3
3.1	Video Status indicators.....	4
4.0	Specifications.....	4
5.0	Front Panel Pinout Assignment Diagram	5
6.0	Troubleshooting	8
	Appendix 1 – Applicable Product Part Number Variations	11

1.0 Product Description

Meridian's product series DT/DR-2S-x are fiber optic modems that transmit and receive 2 10-bit S-Video channels over optical fiber using digital transmission technologies (the exact type and number of channels is determined by the part number guide in Appendix 1). 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 SIM that contains the fiber optic interface. The optical output (Tx) connector is located on the left side of the module while the optical input (Rx) connector is adjacent to it on the right side of the module. The next two SIM cards contain 2 video channels.

2.0 Installation

Series DT/DR-2S-x products are two-slot wide cards and, as such, occupy two slots in Meridian's standard chassis (SR-1000/S, SR-1001/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 populated 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 Operation

Video – One S-video connector accepts a standard NTSC, PAL, SECAM video input signal (DT module) and transmits these signals to the receive unit (DR module). The respective video output signal is located on the same channel (location) as the input video signal. Connect the input video signal to the appropriate S-video input connector on the transmitter module (DT-2S) and the output video connector on the associated port on the receiver module (DR-2S).

3.1 Video Status indicators

The figures at the end of this document show the connector and LED indicator locations for the various video status indicators on the transmitter and receiver modules. There are a number of diagnostic indicators on the front panel of each module. In addition, each of the video input/output channels has indicators associated with them to provide quick visual indications of the channel activity. These indicators for each of the video channels are listed below:

Transmitter (DT-2S) Indicators		
Indicator	Location	Function
Tx carrier	Under optical output connector	Optical output (Green – OK, Red – error)
Power	Left side of module	Green – ON
Video #1 (each input)	Under video input connectors	Green – Sync received
Video #2 (each input)	Under video input connectors	Video signal – Green OK, Red – video overload

Receiver (DR-2S) Indicators		
Indicator	Location	Function
Rx Optical signal	Under optical input connector	Optical input (Green – OK, Red – absent)
Rx Carrier	Under optical input connector	Optical Carrier input (Green – OK, Red – error)
Power	Left side of module	Green – ON
Video #1 (each output)	Under video output connectors	Green – Sync received
Video #2 (each output)	Under video output connectors	Video signal – Green OK, Red – video overload

The attached figures in section 5 show the module front panel and associated connector location & pinouts.

4.0 Specifications

The tables below identify the specifications for the various signals that these modems transmit/receive. The DT & DR-2S series products transmit and receive the following signals:

Signal Type	Qty	Transmit	Receive
NTSC video	1	Yes	Yes

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

Video	DT/DR-2S
	10-bit Video
Format	NTSC, PAL, SECAM
Voltage/Impedance	1Vp-p, 75 Ohm, 1.5Vp-p (max)
Differential Gain	<0.6%
Differential Phase	<0.3°
SNR	>67dB (weighted)
Return Loss	>30dB
Field Tilt	<0.5%

Connectors	
Video	S-Video connector
Optical	Singlemode – ST or FC 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	-22	19	850	ST	22
Multimode (FP Laser) 62.5/125	-3	-22	19	1300	ST	22
Singlemode 9/125	-3	-22	19	1310	ST, FC	22
Singlemode 9/125	+2	-22	24	1310DFB	ST, FC	22
Singlemode 9/125	+3	-22	25	1550DFB	ST, FC	22

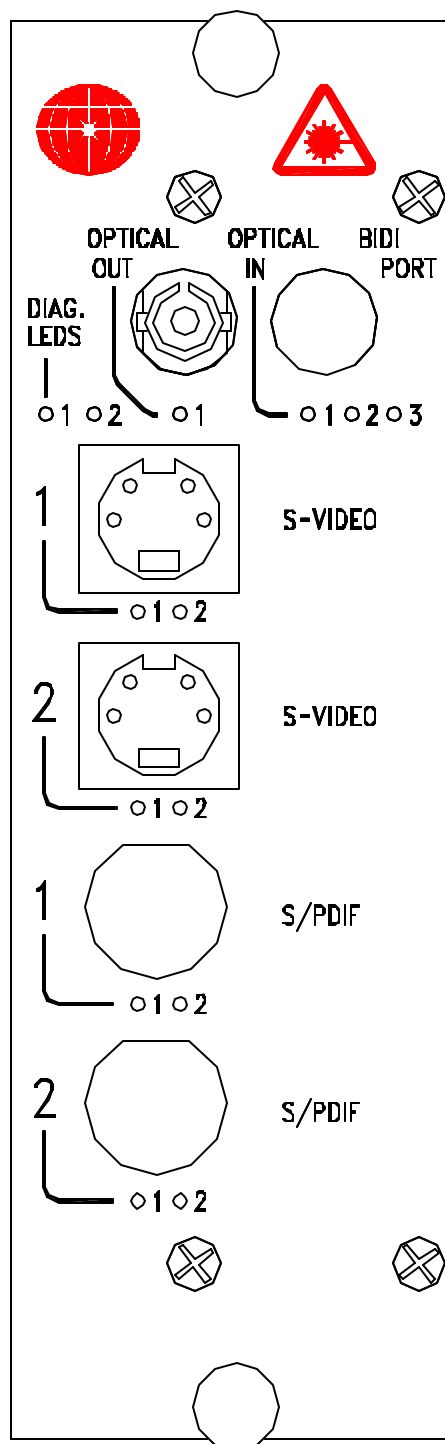
5.0 Front Panel Pinout Assignment Diagram

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

DT-2S-X

PINOUT DIAGRAM

- OPTICAL PORT**
- STATUS INDICATORS**
1. POWER (GREEN)
 2. NA
- STATUS INDICATORS**
1. TX CARRIER (GREEN)/ERROR (RED)
- S-VIDEO INPUT (CH.1)**
- STATUS INDICATORS**
1. SYNC PRESENT (GREEN)
 2. VIDEO PRESENT (GREEN)/OVERLOAD (RED)
- S-VIDEO INPUT (CH.2)**
- STATUS INDICATORS**
1. SYNC PRESENT (GREEN)
 2. VIDEO PRESENT (GREEN)/OVERLOAD (RED)



MERIDIAN TECHNOLOGIES INC.
FILE NAME;DTDR- 2S,DWG
12/08/2006 V.0

Figure 5.1
DT-2S-x Front Panel Diagram

DR-2S-X

PINOUT DIAGRAM

STATUS INDICATORS

1. POWER (GREEN)
2. NA

STATUS INDICATORS

1. NA

S-VIDEO OUTPUT (CH.1)

STATUS INDICATORS

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

S-VIDEO OUTPUT (CH.2)

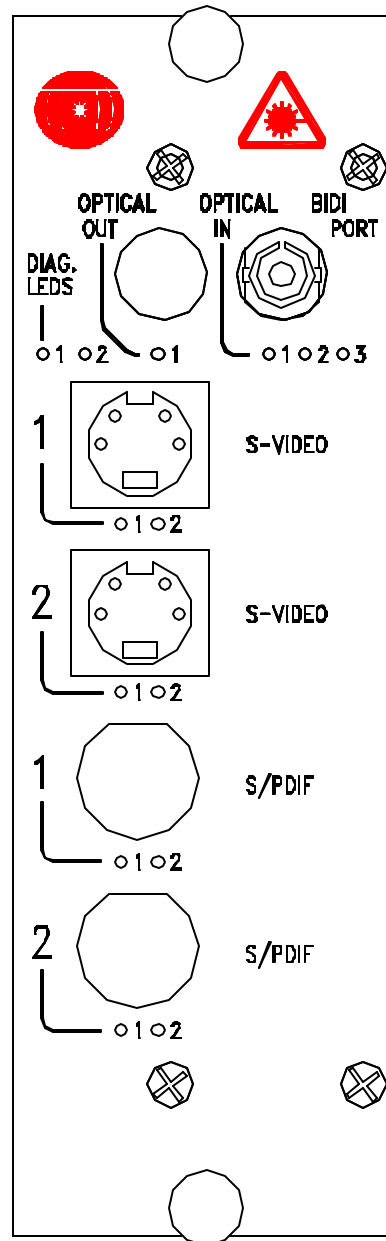
STATUS INDICATORS

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

OPTICAL PORT

STATUS INDICATORS

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



MERIDIAN TECHNOLOGIES INC.
12/08/2006 V.0

Figure 5.2
DR-2S-x Front Panel Diagram

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 (Green). 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.

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

Appendix 1 – Applicable Product Part Number Variations

The table below indicates the part numbers and product description that are included in this manual. The pinout diagram in section 5.0 shows the connector pinouts (input/output connections) for the all-inclusive product. Please use this table to determine the exact pinout and port location of the particular model of interest.

Product Part Number		# Video Channels & Type	Optical Connector	Fiber Type
Transmitter	Receiver	10-bit		
DT-2S-1	DR-2S-1	2	ST	Multimode
DT-2S-3	DR-2S-3	2	FC	Singlemode
DT-2S-3/ST	DR-2S-3/ST	2	ST	Singlemode

Notes:



Meridian Technologies, Inc
700 Elmont Road, Elmont, NY 11003, USA
Tel: 516-285-1000 Fax: 516-285-6300
E-mail: support@meridian-tech.com
www.meridian-tech.com

Document Version 1
08/05/2011