



## **Fiber Optic Video/Data Transmission System**

### ***Installation Instructions***

**Part Number:**

**FT/FR-2W2D/2D-x (ST/FC)**

**FT/FR-4W2D/2D-x (ST/FC)**

***(1 to 4-Channels of Video Tx/Rx and 2-Channels RS-232 Data Transceiver)***

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**FT/FR-4W2D/2D-x**  
**Fiber Optic Video/Data Transmission System**  
**Installation Instructions**

## **1.0 Product Description**

Meridian's FT/FR-4W2D/2D-x products are fiber optic modems that transmit one to four channels of 10-bit uni-directional digitized video and two bi-directional RS-232 data signals over one optical fiber using digital 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-1001/S, SR-1002/S, SR-1002/S, SR-1200/S, SR-1500/S, SR-1600/S and SR-2001 & SR-2000 series equipment chassis.

Both ST and FC optical connectors are supported, depending on the part number. An ST optical interface is available for both multimode and singlemode fiber applications. The FC optical interface is available only for singlemode products. Conformal coating provides an additional level of protection from environments with high humidity.

## **2.0 Installation**

Series FT/FR-4W2D/2D-x products are one-slot wide cards and, as such, occupy one slot in Meridian's standard chassis. To install in these 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 19" 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 Product Signal Format & Specifications

The FT/FR-4W2D/2D-x series products transmit and receive the following signals:

| Signal Type           | Channels | Transmit     | Receive      |
|-----------------------|----------|--------------|--------------|
| NTSC/PAL/SECAM video  | 1 to 4   | FT-4W2D/2D-x | FR-4W2D/2D-x |
| RS-232 (Tx & Rx data) | 2        | Yes          | Yes          |

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 Ohm, 1.5Vp-p (max) |
| Bandwidth          | 5 Hz to 7 MHz @ -3 dB        |
| Differential Gain  | <0.6%                        |
| Differential Phase | <0.3°                        |
| SNR                | >67dB (weighted)             |
| Return Loss        | >30dB                        |
| Field Tilt         | <0.5%                        |

| Data                 |                              |
|----------------------|------------------------------|
| Formats              | RS-232                       |
| Date Rate (RS-232)   | DC to 125 Kb/s               |
| Bit Error Rate (BER) | Better than 10 <sup>-9</sup> |

| Connectors |                                         |
|------------|-----------------------------------------|
| Video      | 75 Ohm BNC w/gold center pin            |
| Data       | RJ45                                    |
| Optical    | Singlemode – ST or FC<br>Multimode - ST |

### 3.1 Optical Specifications

The table below lists the optical specifications for both singlemode and multimode fiber applications.

| 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)<br>62.5 / 125 | -5                   | -25                  | 20                  | 1300/850        | ST                | 25                         |
| Singlemode (FP Laser)<br>9 / 125   | -5                   | -25                  | 20                  | 1310/1550       | ST, FC            | 25                         |

## 4.0 Data Connector Pin Assignment and Status indicators

The RS-232 channel is used for transmitting/receiving two channels of 2-wire RS-232 (Tx/Rx)

| Data Connector Pinout Assignment |                   |
|----------------------------------|-------------------|
| Pin #                            | RS-232            |
| 1                                | Ch 1 INPUT (RD)   |
| 2                                | Ch 2 INPUT (DTR)  |
| 3                                | Ch 1 OUTPUT (TD)  |
| 4                                | Ch 2 OUTPUT (DSR) |
| 5                                | GROUND            |
| 6                                | NA                |
| 7                                | NA                |
| 8                                | NA                |

The figures 4.1 & 4.2 show the connector and LED indicator locations for the various video & data 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:

| Indicators | Function                                      |
|------------|-----------------------------------------------|
| Power      | Green – ON                                    |
| Diagnostic | Green – OK, Red – alarm                       |
| TX Carrier | Optical output Green – OK, Red – overload     |
| RX Carrier | Optical input Green – OK, Red – error         |
| Sync       | Sync received Green, Red – Load absent        |
| Video      | Video signal Green – OK, Red – video overload |

These indicators for data channels are listed below:

| Data Indicators | Function               |
|-----------------|------------------------|
| TD              | Data input Ch.1 Green  |
| RD              | Data output Ch.1 Green |
| TC              | Data input Ch.2 Green  |
| RC              | Data output Ch.2 Green |

Figure 4.1

# FT-4W2D/2D-x Front Panel Layout Diagrams

## FT-4W2D/2D-X

### PINOUT DIAGRAM

#### STATUS INDICATORS

PWR -POWER (GREEN)  
 DIAG - CARD DIAGNOSTIC\*  
 (GREEN-OK, RED-ALARM)  
 TX C/L -TX CARRIER (GREEN)  
 /OVERLOAD (RED)  
 RX C/E -RX CARRIER (GREEN)  
 /ERROR (RED)

#### STATUS INDICATORS CH.1

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

#### STATUS INDICATORS CH.2

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

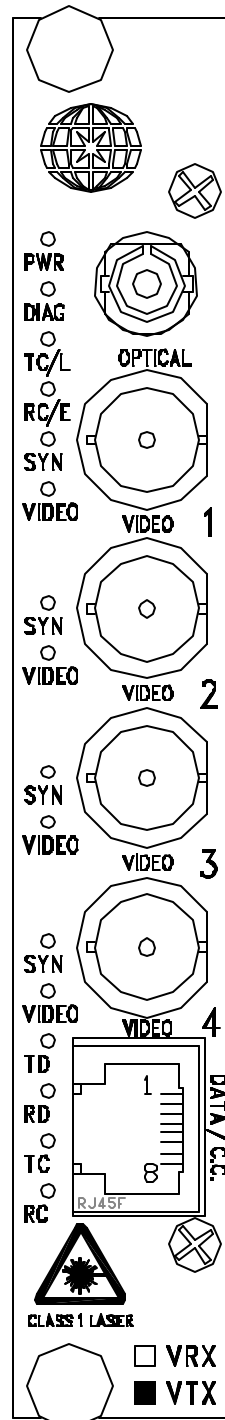
#### STATUS INDICATORS CH.3

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

#### STATUS INDICATORS CH.4

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

TD - DATA INPUT CH.1 (GREEN)  
 RD - DATA OUTPUT CH.1 (GREEN)  
 TC - DATA INPUT CH.2 (GREEN)  
 RC - DATA OUTPUT CH.2 (GREEN)



OPTICAL PORT IN/OUT  
 (ST, FC)

VIDEO INPUT (CH.1)

VIDEO INPUT (CH.2)

VIDEO INPUT (CH.3)

VIDEO INPUT (CH.4)

DATA INPUT/OUTPUT  
 (RJ-45)

1. (CH.1) RS232 INPUT
2. (CH.2) RS232 INPUT
3. (CH.1) RS232 OUTPUT
4. (CH.2) RS232 OUTPUT
5. GROUND
6. NA
7. NA
8. NA

Figure 4.2

# FR-4W2D/2D-x Front Panel Layout Diagrams

## FR-4W2D/2D-X

### PINOUT DIAGRAM

#### STATUS INDICATORS

PWR -POWER (GREEN)  
 DIAG - CARD DIAGNOSTIC\*  
 (GREEN-OK, RED-ALARM)  
 TX C/L -TX CARRIER (GREEN)  
 /OVERLOAD (RED)  
 RX C/E -RX CARRIER (GREEN)  
 /ERROR (RED)

#### STATUS INDICATORS CH.1

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

#### STATUS INDICATORS CH.2

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

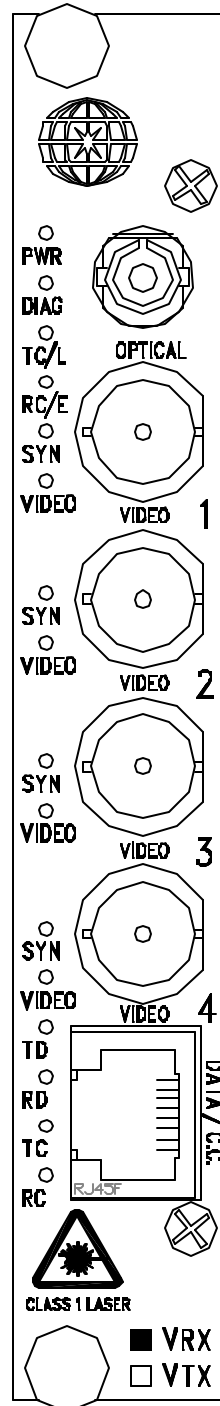
#### STATUS INDICATORS CH.3

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

#### STATUS INDICATORS CH.4

SYN -SYNC PRESENT (GREEN)  
 / LOAD ABSENT (RED)  
 VIDEO -VIDEO PRESENT (GREEN)  
 /OVERLOAD (RED)

TD - DATA INPUT CH.1 (GREEN)  
 RD - DATA OUTPUT CH.1 (GREEN)  
 TC - DATA INPUT CH.2 (GREEN)  
 RC - DATA OUTPUT CH.2 (GREEN)



OPTICAL PORT IN/OUT  
 (ST, FC)

VIDEO OUTPUT (CH.1)

VIDEO OUTPUT (CH.2)

VIDEO OUTPUT (CH.3)

VIDEO OUTPUT (CH.4)

DATA INPUT/OUTPUT  
 (RJ-45)

1. (CH.1) RS232 INPUT
2. (CH.2) RS232 INPUT
3. (CH.1) RS232 OUTPUT
4. (CH.2) RS232 OUTPUT
5. GROUND
6. NA
7. NA
8. NA

# 5.0 Signal Conditioning Switch/Jumper Settings

The sections below illustrate how to change the various contact mapping conditions. For jumper and switch locations see Figure 5.2

## 5.1 Data Selection jumpers

There are four (4) 3-pin jumpers located directly behind the RJ45 front-panel mounted connector.

The top 3 jumpers are used for 2 & 4-wire RS-485 selection and removing the default 120Ohm load on the RS-422 input channels.

The bottom jumper (Jp.4) used to select the power-on state of the contacts (NO or NC).

The illustration below describes the function of each of these 4 jumpers. The jumpers are shown in their default condition in Table 1.

|                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><div>JUMPER SETTINGS</div><div>RS-232</div><div><div>Pos.1 / Pos.2</div><div><div>Jumper 1</div><div>Jumper 2</div><div>Jumper 3</div><div>Jp4</div></div><div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div></div><div>12 PIN CONN</div></div><div>actory default settings data RS-232</div><div>Table 1</div></div> | <div><div>JUMPER SETTINGS</div><div>RS-422</div><div>RS-485 (4W)</div><div><div>Pos.1 / Pos.2</div><div><div>Jumper 1</div><div>Jumper 2</div><div>Jumper 3</div><div>Jp4</div></div><div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div></div><div>12 PIN CONN</div></div><div><div>*To convert from RS-232 to RS-422 or RS-485 (4w) data move Jumper 2 to Pos.2</div><div>Table 2</div></div></div> | <div><div>JUMPER SETTINGS</div><div>RS-485 (2W)</div><div><div>Pos.1 / Pos.2</div><div><div>Jumper 1</div><div>Jumper 2</div><div>Jumper 3</div><div>Jp4</div></div><div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div><div>SHUNT</div></div><div>12 PIN CONN</div></div><div><div>*To convert from RS-232 to RS-485 (2w) data move Jumpers 1,2,3 to Pos.2</div><div>Table 3</div></div></div> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# 5.2 Data Format Selection

A group of 10 switches is located on the bottom center of the module’s circuit card (see Figure 5.2). The left two (2) of these switches control the data format that is transmitted/received. These switches on both the transmitter and receiver must be set the same in order to have proper data communications format between them. FT and FR modules can be configuring different for data format conversion (see Figure 5.1)

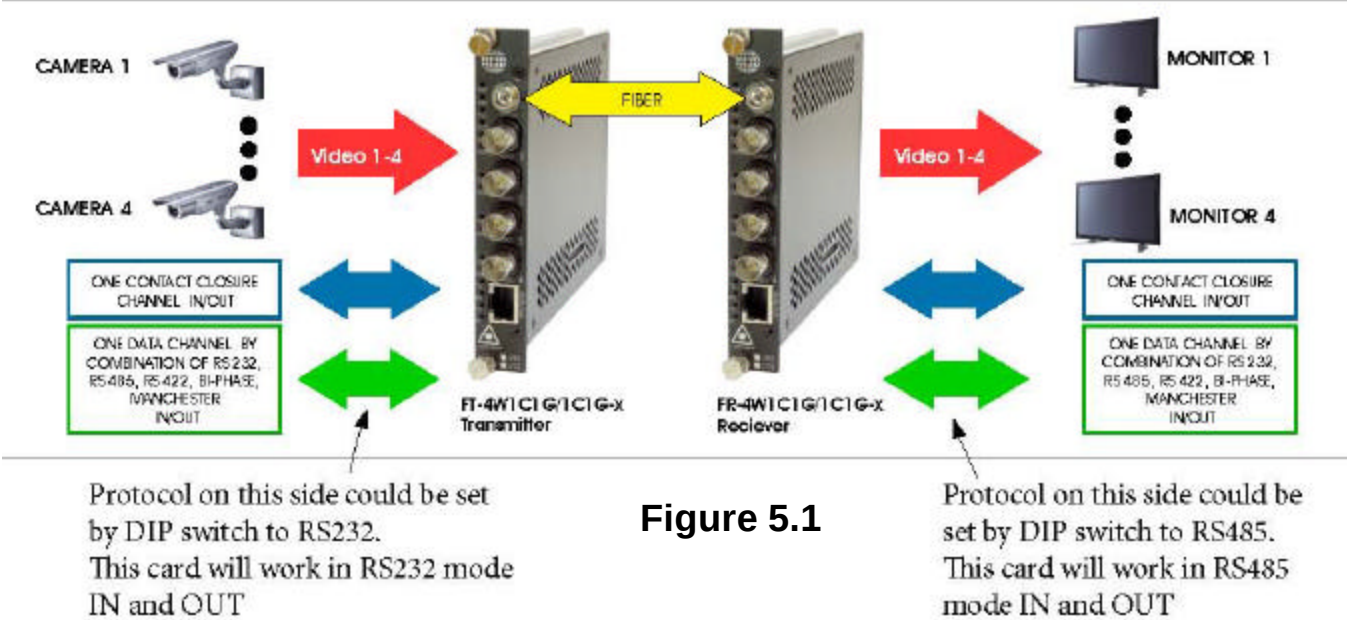


Figure 5.1

The figure and table below illustrates these switch locations on the board and how they are configured for the proper data format options. The factory-supplied default setting is for RS-232 data (Switch #1-2 OFF (up)).

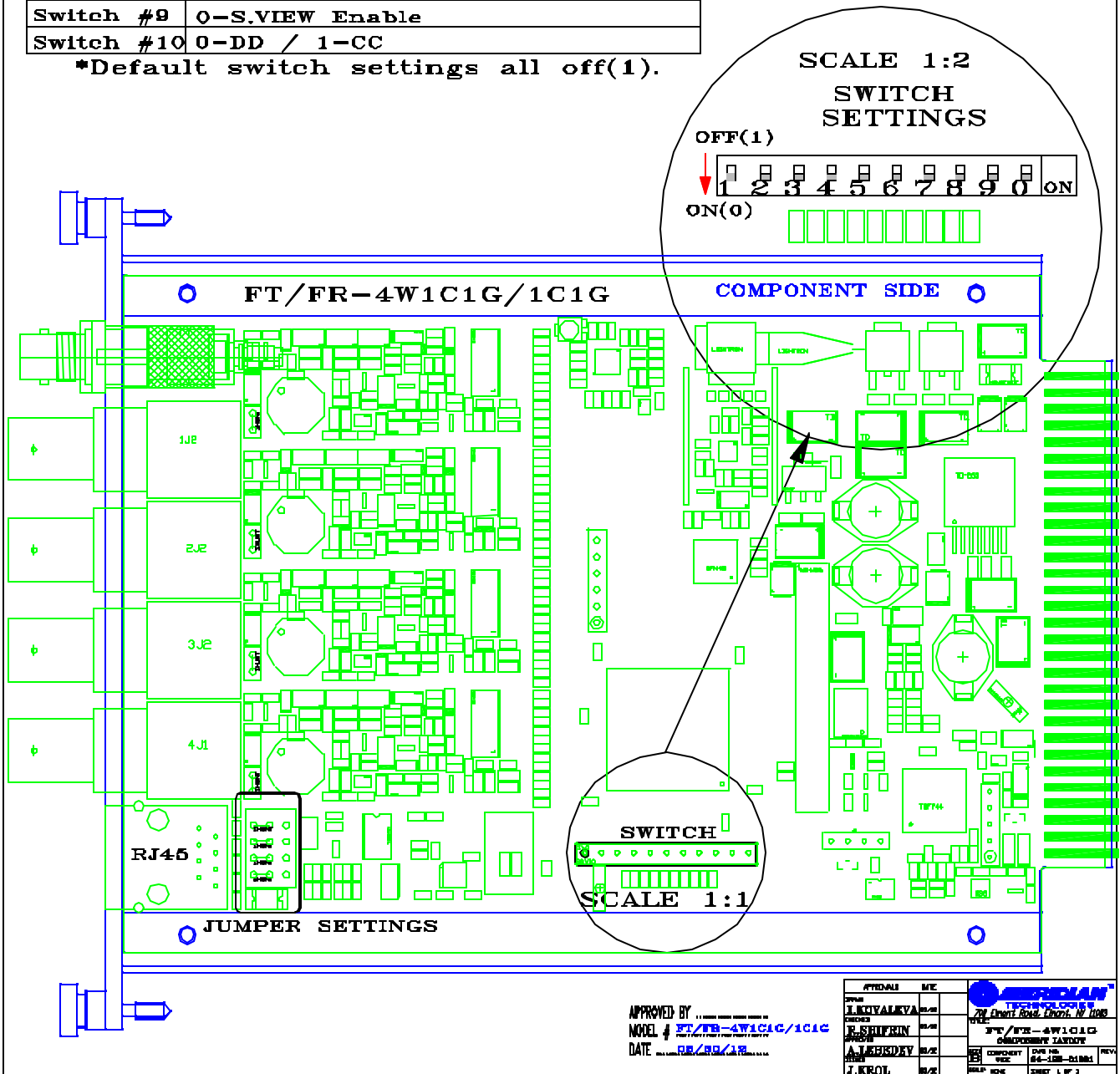
| Data Format Selection |           |           |
|-----------------------|-----------|-----------|
|                       | Switch #1 | Switch #2 |
| RS-232                | OFF (up)  | OFF (up)  |

Switches 3 and 4 should set by Meridian technician.  
The illustration below describes the function of each of these switches.

# SWITCH SETTINGS FT/FR-4W1C1G/1C1G CARD

| Test Signals |                  |        |            |            |
|--------------|------------------|--------|------------|------------|
|              | RS-232           | RS-422 | RS485 (4W) | RS485 (2W) |
| Switch #1    | 1                | 0      | 1          | 0          |
| Switch #2    | 1                | 0      | 0          | 1          |
|              | 8-CH.            | 4-CH.  | 2-CH.      | 1-CH.      |
| Switch #3    | 1                | 1      | 0          | 0          |
| Switch #4    | 1                | 0      | 1          | 0          |
| Switch #5    | 0-L Loop Enable  |        |            |            |
| Switch #6    | 0-R Loop Enable  |        |            |            |
| Switch #7    | 0-TX Test Enable |        |            |            |
| Switch #8    | 0-RX Test Enable |        |            |            |
| Switch #9    | 0-S.VIEW Enable  |        |            |            |
| Switch #10   | 0-DD / 1-CC      |        |            |            |

\*Default switch settings all off(1).



**Figure 5.2**  
**1-Slot Module Data Format Selection Switch Location**

## 6.0 SpectraView™ Network Monitoring

The table below lists the function of each of these switches (numbered from left to right) and identifies how to set the various diagnostic test modes.

| Test<br>Switch                             | Local<br>Loop<br>Back | Remote<br>Loop<br>Back | Transmit<br>Test | Receive<br>Test | Spectra<br>View<br>Enabled | Reserved   |
|--------------------------------------------|-----------------------|------------------------|------------------|-----------------|----------------------------|------------|
| SW1 – SW2 – Data format selection switches |                       |                        |                  |                 |                            |            |
| SW5                                        | <b>ON</b>             | OFF                    | OFF              | OFF             | OFF                        | OFF        |
| SW6                                        | OFF                   | <b>ON</b>              | OFF              | OFF             | OFF                        | OFF        |
| SW7                                        | OFF                   | OFF                    | <b>ON</b>        | OFF             | OFF                        | OFF        |
| SW8                                        | OFF                   | OFF                    | OFF              | <b>ON</b>       | OFF                        | OFF        |
| SW9                                        | OFF                   | OFF                    | OFF              | OFF             | <b>ON</b>                  | OFF        |
| SW10                                       | OFF                   | OFF                    | OFF              | OFF             | OFF                        | <b>OFF</b> |

Note: To turn a switch “ON”, move the switch in the down position. Likewise, to turn a switch “OFF”, move it in the up position.

In order to enter the test modes on the module, it is necessary to actuate one of the above switches as described below:

**Local Loopback test (SW5)** -These tests will test all of the bi-directional data and contact closures installed on the module associated with the loopback test. Obviously, the channels that can be tested are determined by the type of channels associated with the particular module under test.

The following procedures can be used to properly perform the loopback testing on both the FT & FR series modules. Note that it is not necessary for both of the modules to be connected via fiber in order to perform the Local Loopback tests.

Note: Local loopback test is not available for RS-485 (2-wire) configuration.

### Data Test:

1. Place SW5 in the ON (down) position
2. Use Switches 1-2 to select the appropriate data format to be tested
3. Apply an appropriate digital signal into the respective data input connector
4. Connect a data-monitoring device (oscilloscope, BERT test equipment, etc.) to the respective data output channel.
5. The output channel should be receiving the same data signal that was input to the respective data input channel.
6. The front panel Data Transmit & Receive LEDs (TD & RD) on the module’s data channel under test should light.
7. When complete, place SW5 in the OFF (up) position to return it to its normal operating mode.

**Remote Loopback Tests (SW6)** -These tests will test all of the bi-directional data and contact closures installed on the module associated with the remote loopback test. Obviously, the channels that can be tested are determined by the type of channels associated with the particular module under test.

Note: Remote loopback test is not available for RS-485 (2-wire) configuration or transmit/receive modules with a video channel.

The following procedures can be used to properly perform the loopback testing on both the FT & FR series modules. In order to perform the remote loop back tests, it is necessary to configure both the FT & FR modules as follows:

- ✍ Both the FT & FR modules must be connected together via fiber and power applied in order to perform the Remote Loopback tests.
- ✍ When testing the data channels, it is necessary that the data formats for both the FT & FR units be set the same (RS-232, RS-422, RS-485)
- ✍ The Remote Loopback test switch (SW6) on the remote module must be in the ON (down) position
- ✍ Test switches (SW5-10) on the local unit must be in the OFF (up) position

#### **Data Test:**

1. Place SW6 on the remote unit in the ON (down) position
2. Use Switches 1-2 to select the appropriate data format to be tested.
3. Apply an appropriate digital signal into the respective data input connector on the local unit (either Channel 1 or 2).
4. Connect a data-monitoring device (oscilloscope, BERT test equipment, etc.) to the respective data output channel on the local unit.
5. The output channel should be receiving the same data signal that was input to the respective data input channel.
6. The front panel Data Transmit LED (TD) on the transmit module's data channel under test should light as well as the Data Receive LED (RD) on the receiver module's front panel for each data channel under test.
7. When complete, place SW6 on the remote unit in the OFF (up) position to return it to its normal operating mode

**Data/Contact Transmit Test (SW7)** – (applicable to both full-duplex transceiver modules and one-way data transmission modules) The type and quantity of channels that can be tested are determined by the type of channels associated with the particular module under test.

In order to perform the transmit test, it is necessary to configure both the modules as follows:

- ✍ The FT or FR modules must be connected together via fiber and power applied in

order to perform the Transmit tests.

- ✍✍ When testing the data channels, it is necessary that the data formats for both the modules be set the same (RS-232, RS-422, RS-485)
- ✍✍ The Transmit Test switch (SW7) on the module initiating the test must be in the ON (down) position
- ✍✍ Test switches (SW5-10) on the local unit must be in the OFF (up) position
- ✍✍ This test overrides any external data that may be at the input terminals of the unit under test.

This test will inject the Data and Contact Closure test signals into the transmitter and will be sent over fiber to the associated receiver module. This test will perform diagnostic tests on all of the channels integrated in the module using the module's own internal test signals. In addition, the internal frequency/data rate of the various internal tests is as follows:

Data - 1Hz square wave  
Contact closure - 1Hz square wave

Once the Transmit test switch on the remote FT or FR module is switched ON, the above signals will be transmitted over fiber to the receiving unit. The outputs can be monitored by standard Data and Contact mapping measurement/monitoring techniques.

LED indicator status – During the test, the Tx channel indicator lights for the data and contact mapping (TD & TC) on the module initiating the test will flash at a 1Hz rate. This applies to each type and number of channels in the module. Likewise, each of the channel's front panel Rx channel indicator lights for the data and contact mapping (RD & TC) on the receiver module's front panel will flash at a 1Hz rate to indicate proper reception of the test signals.

To disable the test, move SW7 on the FT or FR switch to the OFF position.

**Data/Contact Receive Test (SW8)** - (applicable to both full-duplex transceiver modules and one-way receiver modules) These tests will test all of the data and contact closure transmission channels installed on the module associated with the remote loopback test. Obviously, the channels that can be tested are determined by the type of channels associated with the particular module under test.

In order to perform the receive tests, it is necessary to configure both the modules as follows:

- ✍✍ The FR and FT modules do not need to be connected together via fiber.
- ✍✍ The type of data output will be as per the data format selection switches 1 through 2 (RS-232, RS-422, RS-485)
- ✍✍ The Receive Test switch (SW8) on the module initiating the test must be in the ON (down) position

The receive test will perform diagnostic tests on all of the channels integrated in the module using the module's own internal test signals. The internal frequency/data rate of the various internal tests is as follows:

Data - 1Hz square wave  
Contact closure - 1Hz square wave

Once the Receive test switch on the FT or FR module is switched ON, the above signals sent to the appropriate electrical outputs on the same module. These signal outputs can be monitored by standard Data and Contact mapping measurement/monitoring techniques.

LED indicator status – During the test, each of the channel's front panel Rx channel indicator lights for the data and contact mapping (RD & TC) on the receiver module's front panel will flash at a 1Hz rate to indicate proper reception of the test signals. This applies to each type and number of channels in the module.

To disable the test, move SW7 on the FR or FT switch to the OFF position. This will restore operation to its normal mode.

**Video Test** – (Applicable to one-way transmission modules (FT & FR units). This video test mode will allow the user to test the video transmission channel without the use of an external camera to generate a video signal.

There are two video tests available – Transmit video & Receive video. The following describes the test setup for each:

Transmit video test – This test injects a 4-bar video test pattern into the video transmitter and sends this signal over fiber to the associated receiver module.

In order to initiate the internal transmit video test it is necessary to configure the modules as follows:

- SW7 on the FT video Tx module must be set to the ON (down) position.
- SW8 on the FR video Rx module must be set to the OFF (up) position.
- The optical fiber between the FT & FR modules must be connected together
- Connect a standard video monitor to the output of the FR (Video Receiver) module
- 4 grey-scale vertical bars will be displayed on the monitor
- Receiver module LEDs – If a video monitor is not available, the activity of the transmit video test can be monitored on the receiver's front panel LEDs. When this test is activated, the receiver modules Video Sync & Video Present green LEDs (SYN & VIDEO) will light.

Receive video test – This test injects an 8-bar video test pattern into the video receiver and sends it to the receiver output BNC for display on a video monitor.

In order to initiate the internal receive video test it is necessary to configure the modules as follows:

- SW7 on the FT video Tx module must be set to the OFF (up) position.
- SW8 on the FR video Rx module must be set to the ON (down) position.
- The optical fiber between the FT & FR modules must be connected together
- Connect a standard video monitor to the output of the SR (Video Receiver) module
- 8 grey-scale vertical bars will be displayed on the monitor

**SpectraView Enabled (SW9)** - (Applicable to one-way transmission modules with video (FT & FR units). This video mode will enable the vertical video bars to be displayed in the event that either the incoming video signal has been removed or if the optical signal from the transmitter has been interrupted.

To enable this video bars feature it is necessary to configure the modules as follow:

- SW 9 on the FR (video Receiver) module must be set to the ON (down) position
- SW 9 on the FT (video Transmitter) module must be set to the ON (down) position

Under normal operation, the video from the CCTV camera will be displayed on the respective monitor at the receive side. There are two ‘alarm’ modes - one for loss of video sync and one for loss of optical signal. When one or the other of these alarm modes is present, the monitor will display the following:

Loss of video sync - 4 vertical gray-scale bars across the monitor screen

Loss of optical signal - 8 vertical gray-scale bars across the monitor screen

Note: Modules equipment with Meridian’s SpectraSmart Network Diagnostic System option will have a slightly different video display. Instead of the vertical bars, the monitor will actually display a text message (as described below):

Loss of video sync error: will display the message “No Video Sync”

Loss of Optional signal error: will display – “No Optical Fiber”

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This procedure concludes the testing of the video/data/contact channels within Meridian’s DigiCool (1-slot) fiber optic digitally-encoded transmission modules.

## 7.0 Product Part Numbers

The table below lists the various part numbers and description that are available for this series of product.

| Product Part Number Guide |                 |               |                 |                   |
|---------------------------|-----------------|---------------|-----------------|-------------------|
| Part Number               | Matching Part # | Video channel | Fiber Interface | Optical Connector |
| FT-2W2D/2D-2              | FR-2W2D/2D-2    | 2             | Multimode       | ST                |
| FT-2W2D/2D-5              | FR-2W2D/2D-5    | 2             | Singlemode      | FC                |
| FT-2W2D/2D-5ST            | FR-2W2D/2D-5ST  | 2             | Singlemode      | ST                |
| FT-4W2D/2D-2              | FR-4W2D/2D-2    | 4             | Multimode       | ST                |
| FT-4W2D/2D-5              | FR-4W2D/2D-5    | 4             | Singlemode      | FC                |
| FT-4W2D/2D-5ST            | FR-4W2D/2D-5ST  | 4             | Singlemode      | ST                |

**Note:** *This FT & FR series cards are not compatible with the other 1-slot ST & SR cards.*

## 8.0 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 the SpectraView display on the monitor for an indication of what the problem may be. Also, 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*

**Action:** Check that both transmit and receive modules is set to transmit/receive the same data format (see section 5.0 for switch settings). Confirm that the data connections are correct (see section 4.0 for data pinout connections). Check to ensure that the data source is operating properly.

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

### Notes:

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