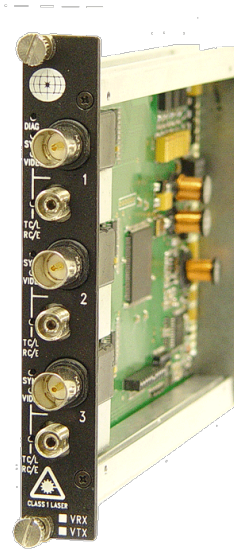




Fiber Optic Data Transmission System

Installation Instructions



ST/SR-1L-x

ST/SR-2L-x

ST/SR-3L-x

Transmitter & Receiver up-to 3 channels of TTL Data

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1.0 Product Description

Meridian's product series ST/SR-3L-x are fiber optic modems that transmit or receive from one to three channels unidirectional TTL Data over 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-1002/S, SR-1600/S, and SR-2001 & SR-2000 series 19" equipment chassis.

Refer to Section 6.0 "Product Part Numbers" of this manual for the part number variations.

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. Optional conformal coating provides an additional level of protection from environments with high humidity.

2.0 Installation

Series ST/SR-3L products are one-slot wide cards and 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 card 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" sub-rack 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 ST/SR-3L series products can transmit and receive the following signals:

Signal Type	Channels
LVTTL Data	1-3

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

TTL Data	
Format	LVTTTL Data
Rate	DC to 10Mb/s
Bit Error Rate (BER)	10^{-9}
Jitter/PWD	10ns
TX/RX Latency	50ns

Connectors	
Data	BNC w/gold center pin
Optical	Single-mode – ST or FC, Multimode - ST

3.1 Optical Specifications

The table below lists the optical specifications for both single-mode 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) 62.5/125	-6	-22	16	1300	ST	22
Single-mode (FP Laser) 9/125	-6	-22	16	1310	ST, FC	22
Single-mode (DFB Laser) 9/125	0	-22	22	1310, 1550	ST, FC	22



Compliant with Class 1 Laser Safety Rating.

4.0 Front Panel Pinout Assignment Diagram

Figures 4.1 and 4.2 below show the front panel layout, connector location and pinout assignment for the Tx and Rx cards in a 3-ch configuration.

ST-3L-X

PINOUT DIAGRAM

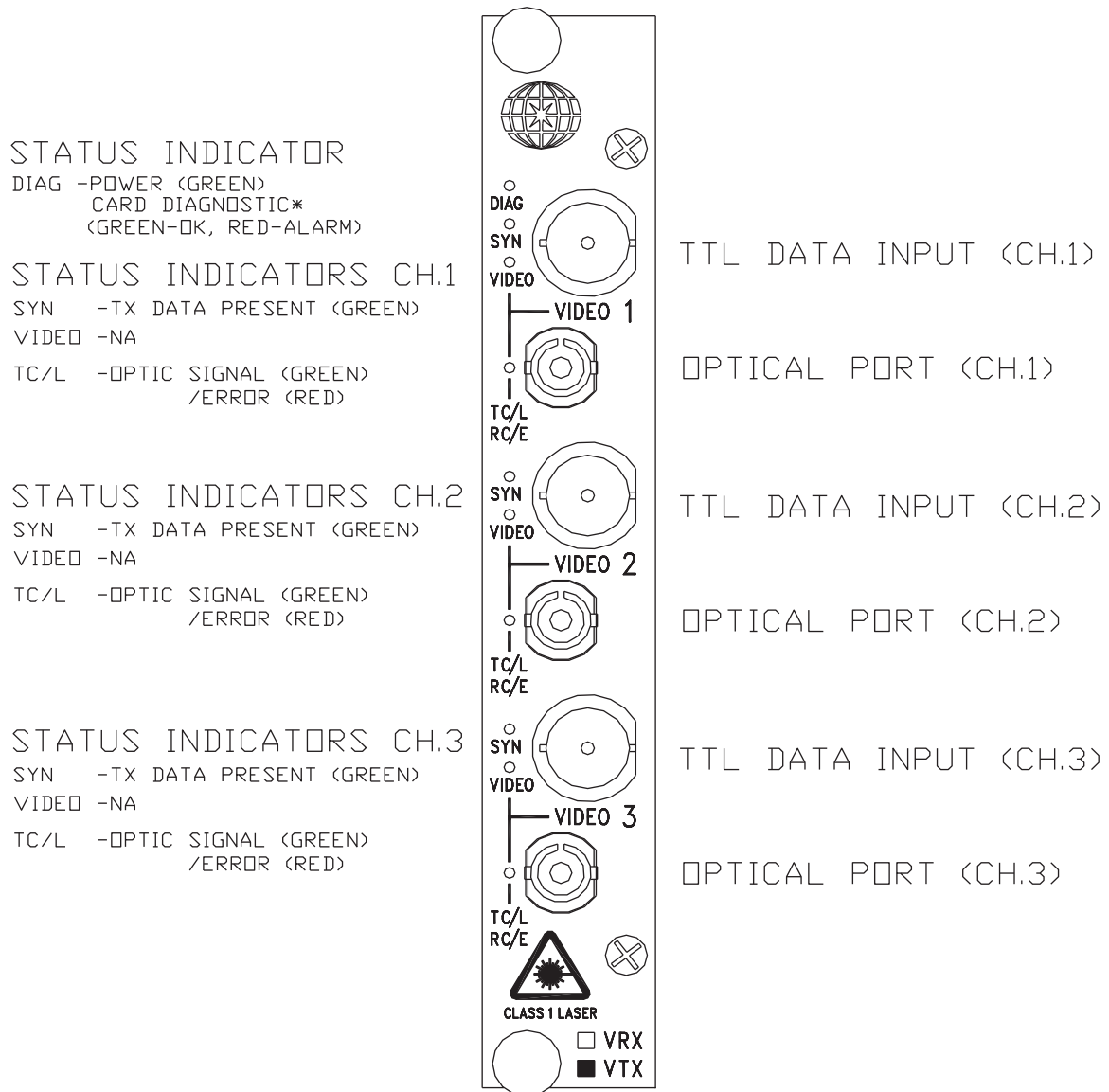


Figure 4.1
 ST-3L-x Card Front Panel Diagram.

SR-3L-X

PINOUT DIAGRAM

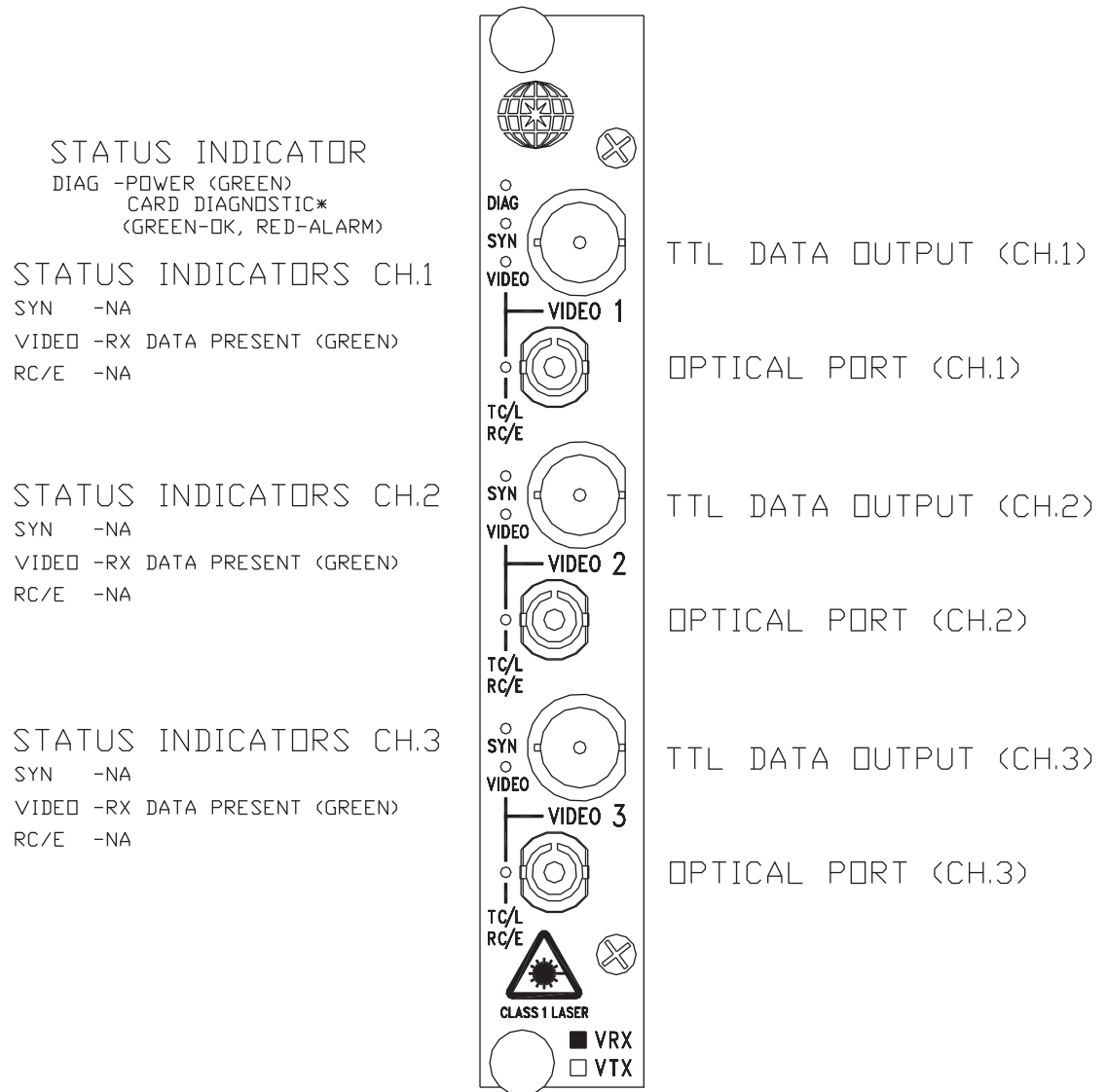


Figure 4.2
 SR-3L-x Card Front Panel Diagram

Figures 4.3 and 4.4 below show the front panel layout, connector location and pinout assignment for the Tx and Rx cards in a 1-ch configuration.

ST-1L-X

PINOUT DIAGRAM

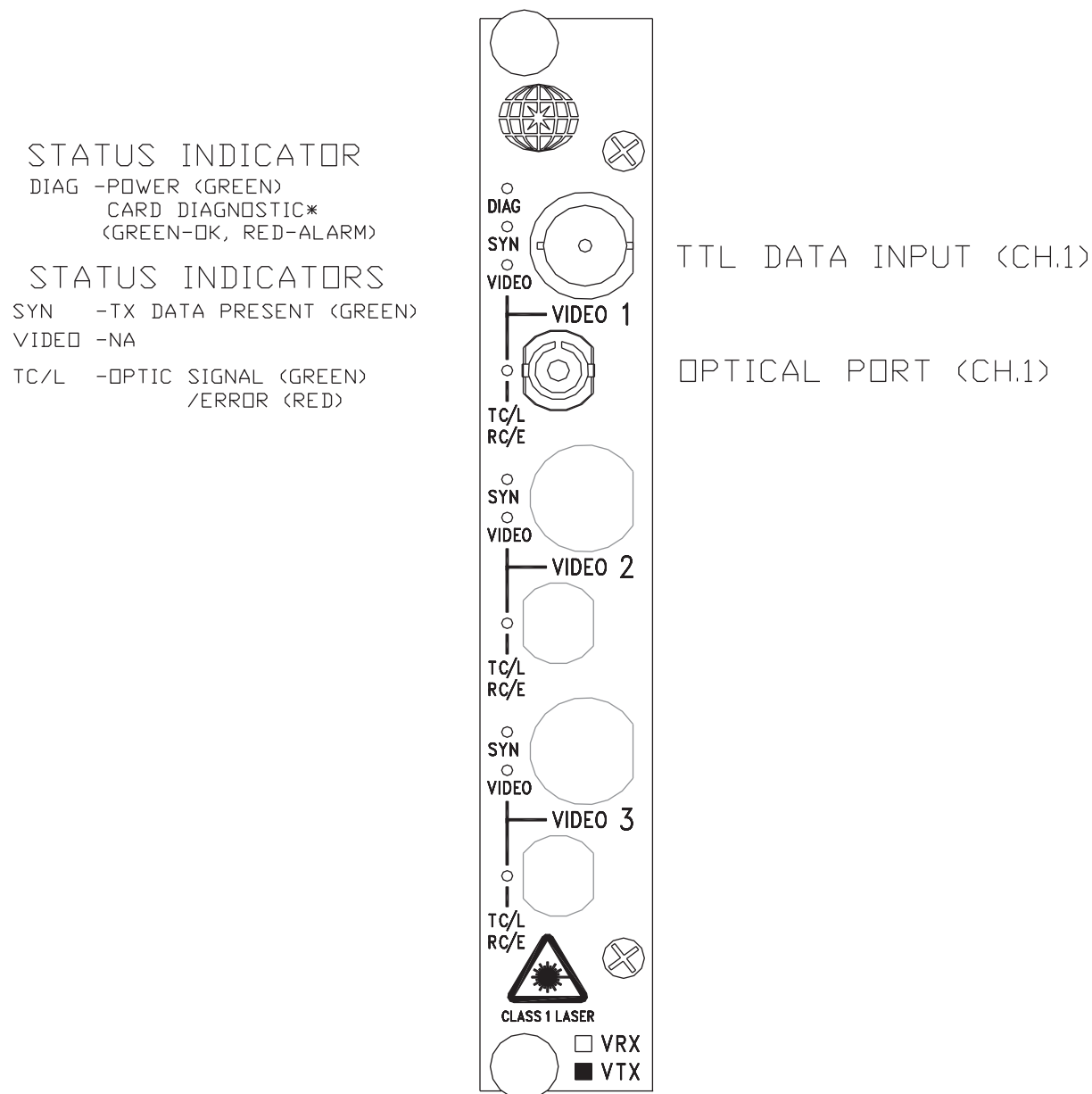


Figure 4.3
ST-1L-x Card Front Panel Diagram

SR-1L-X

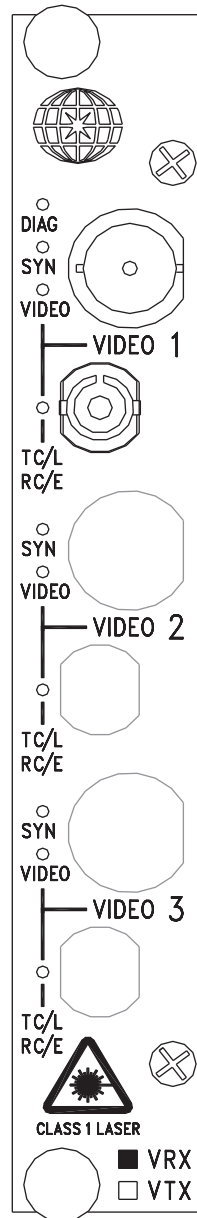
PINOUT DIAGRAM

STATUS INDICATOR

DIAG -POWER (GREEN)
CARD DIAGNOSTIC*
(GREEN-OK, RED-ALARM)

STATUS INDICATORS

SYN -NA
VIDEO -RX DATA PRESENT (GREEN)
RC/E -NA



TTL DATA OUTPUT (CH.1)

OPTICAL PORT (CH.1)

Figure 4.4
SR-1L-x Card Front Panel Diagram

5.0 Troubleshooting

Below is a listing of several problems that may arise during the installation & operation of the modules.

- 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
Card power LED does not light when power is applied to the card/sub-rack or power indicator is blinking
Action: Check power supply to ensure that it is plugged in and turned on. If flashing occurs, move module to another chassis or location in the same chassis, if possible.
- Problem:** No Data
Action: Check that both the transmit and receive modules are set to transmit/receive the same data format and that the data connections are correct. Check to ensure that the data source is operating properly.

If the problem persists please contact Meridian technical support by phone at +1-516-285-1000 or e-mail to support@meridian-tech.com

6.0 Product Part Numbers

Tx Part #	Rx Part #	# of TTL Chan.	Description
ST-1L-1	SR-1L-1	1	1-Ch TTL Data, multimode 1300mm ST
ST-1L-3	SR-1L-3	1	1-Ch TTL Data, single-mode 1310 FC
ST-1L-3/ST	SR-1L-3/ST	1	1-Ch TTL Data, single-mode 1310 ST
ST-2L-1	SR-2L-1	2	2-Ch TTL Data, multimode 1300mm ST
ST-2L-3	SR-2L-3	2	2-Ch TTL Data, single-mode 1310 FC
ST-2L-3/ST	SR-2L-3/ST	2	2-Ch TTL Data, single-mode 1310 ST
ST-3L-1	SR-3L-1	3	3-Ch TTL Data, multimode 1300mm ST
ST-3L-3	SR-3L-3	3	3-Ch TTL Data, single-mode 1310 FC
ST-3L-3/ST	SR-3L-3/ST	3	3-Ch TTL Data, single-mode 1310 ST
ST-3L-7	SR-3L-7	3	3-Ch TTL Data, single-mode 1550 FC
ST-3L-7/ST	SR-3L-7/ST	3	3-Ch TTL Data, single-mode 1550 ST
ST-3L-9	SR-3L-9	3	3-Ch TTL Data, single-mode 1310 FC
ST-3L-9/ST	SR-3L-9/ST	3	3-Ch TTL Data, single-mode 1310 ST



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