



Installation/Operation Instructions

Fiber Optic Data Transmission System

Part Number:

DXA-xL-x & DXB-xL-x

(Multi-Channel TTL Data Transceiver)
(For modules with 2, 4, 6, or 8 TTL data channels)

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1.0 Product Description

Meridian's DXA/DXB-xL product series are fiber optic modems that transmit from two to eight channels of full-duplex TTL 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-1200/S, SR-1500/S or 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 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. Each of the second through fifth SIMs contains four, bi-directional TTL data channels (depending on total number of channels).

2.0 Installation

Series DXA/DXB-xL products are two-slot wide cards and, as such, occupy two slots in Meridian's standard 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 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 Product Part Number Signal Format & Specifications

The DXA/DXB-xL series products transmit and receive the following signals:

TTL (bi-directional) Module Part #'s		
Part #	Channels	Fiber type
DXA-2L-2 & DXB-2L-2	2	Multimode
DXA-2L-5 & DXB-2L-5	2	Single-mode
DXA-4L-2 & DXB-4L-2	4	Multimode
DXA-4L-5 & DXB-4L-5	4	Single-mode
DXA-6L-2 & DXB-6L-2	6	Multimode
DXA-6L-5 & DXB-6L-5	6	Single-mode
DXA-8L-2 & DXB-8L-2	8	Multimode
DXA-8L-5 & DXB-8L-5	8	Single-mode

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

Data	
Formats	TTL (bi-directional)
Data Rate	DC to 125Kb/s
Bit Error Rate (BER)	Better than 10^{-9}

Connectors	
Data	DB15 Female (4 Bi-directional TTL channels per connector)
Optical	Single-mode – FC or ST Multimode - ST

4.0 Data SIM Signal Assignment (Pin-outs) & Indicator Lights

There are two data SIM cards in these modules. Each of the data SIM cards will transmit / receive up to four Bi-directional, TTL data signals. Each data SIM has a DB15 female connector.

The table below shows the appropriate pinout for each of the connectors

TTL Data Connector Pin-out Assignment (each SIM is identical)	
Pin #	Description
1	Ch. 1 INPUT
2	Ch. 2 INPUT
3	Ch. 3 INPUT
4	Ch. 4 INPUT
5	Gnd
6	NA
7	Ch. 1 OUTPUT
8	NA
9	Ch. 2 OUTPUT
10	NA
11	Ch. 3 OUTPUT
12	NA
13	Ch. 4 OUTPUT
14	NA
15	NA

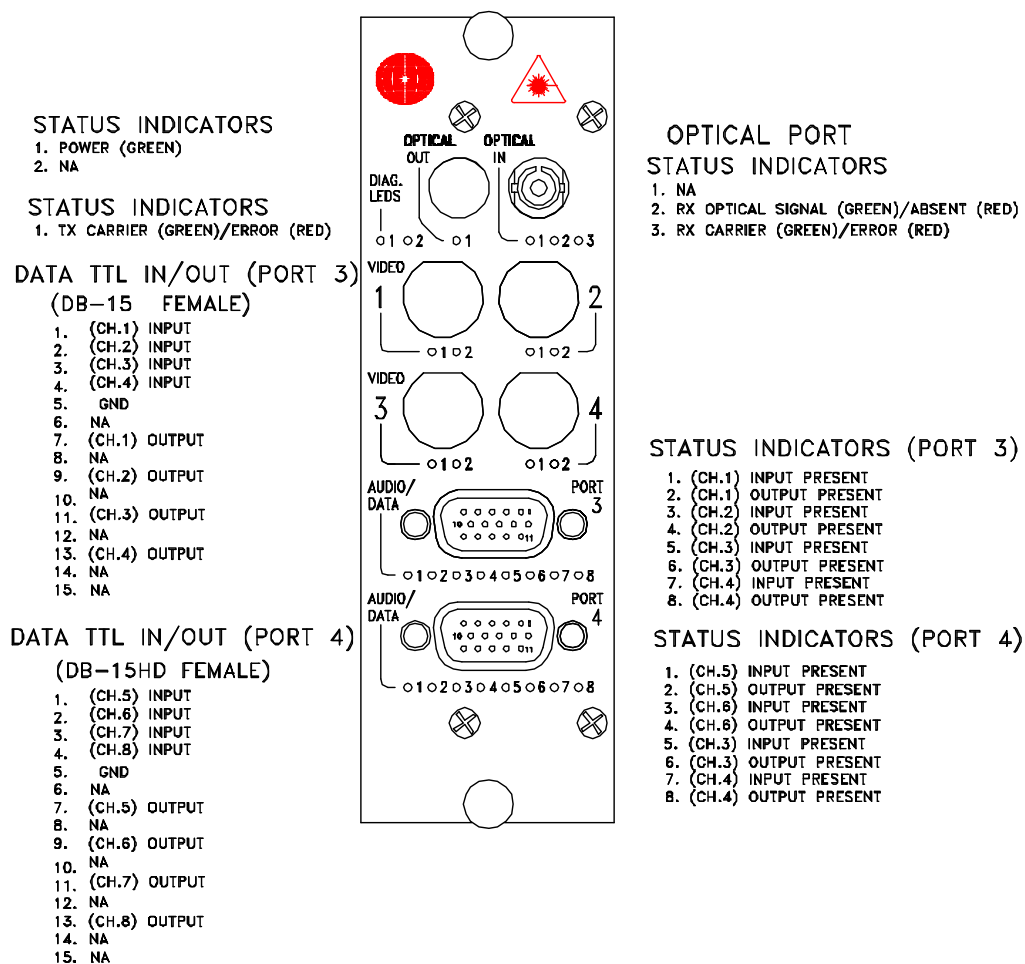
The table below shows the LED status indicators associated with each data SIM

Data SIM LED status indicators (each SIM is identical)	
LED #	Description
1	Ch. 1 Data Input
2	Ch. 1 Data Output
3	Ch. 2 Data Input
4	Ch. 2 Data Output
5	Ch. 3 Data Input
6	Ch. 3 Data Output
7	Ch. 4 Data Input
8	Ch. 4 Data Output

Front Panel Layout / Pin-out Diagrams

DXA/DXB-8L/8L-X

PINOUT DIAGRAM



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08/06/2010 V.0

5.0 Optical Specifications

Optical Specifications							
Fiber Type/Size (um)	Optical Output (dBm)	Rx Sensitivity (dBm)	Optical Budget (dB)	Wavelength (nm)	Optical connector	Optical Dynamic Range (dB)	Max Distance (Km)
Multimode (FP Laser) 62.5/125	-5	-26	21	1300/850	ST	24	4
Single-mode (FP Laser) 9/125	-5	-26	21	1310/1550	ST, FC	24	60

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 Data transmission.
Action:	Check the data input status indicator lights below data connector to ensure it is on (indicating a data input signal). Also check the associated data output status indicator lights on the corresponding receiver module to ensure that the signal is being transmitted / 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 at (516-285-1000).