



PX-1300R & PXA/PXB-1300iR Series

Fiber Optic RS-232 Data Transmission System

Installation Instructions

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1.0 Product Description

Meridian's product PX-1300 series products are fiber optic modems that transmit one channel of bi-directional, 2-wire RS-232 data over either one or two optical fibers using FM 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-1000/S, SR-1200/S, SR-1500/S, and SR-2001 & SR-2000 series 19" equipment chassis.

2.0 Installation

Series PX-1300R and PXA/PXB-1300iR products are one-slot wide cards and, as such, occupy only one slot in Meridian's standard chassis (SR-500/S, SR-1 000/S, SR-1 200/S, SR-1 500/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.

Front Panel Indicators – There is a front panel power indicator on the PXA/PXB- 1300 series modems.

Product Part Numbers

These modems are available in either one or two fibers and with either 3-pin terminal connectors or a DB9 female connector. The table below identifies these various products and their associated part numbers.

PX-1300 Part Numbers					
Transmitter (Side A)	Receiver (Side B)	# Fibers & Type	Transmit Wavelength	Receive Wavelength	Data Connector
PX-1300R-0	PX-1300R-0	2 – MM	850 nm	850 nm	3-pin block
PX-1300R-1	PX-1300R-1	2 – MM	1300 nm	1300 nm	3-pin block
PX-1300R-2	PX-1300R-2	2 – SM	1310 nm	1310 nm	3-pin block
PXA-1300iR-0	PXB-1300iR-0	1 – MM	850/1300 nm	1300/850 nm	3-pin block
PXA-1300iR-1	PXB-1300iR-1	1 – SM	1310/1 550 nm	1550/1310 nm	3-pin block
PX-1300R9-0	PX-1300R9-0	2 – MM	850 nm	850 nm	DB9 female
PX-1300R9-1	PX-1300R9-1	2 – MM	1300 nm	1300 nm	DB9 female
PX-1300R9-2	PX-1300R9-2	2 – SM	1310 nm	1310 nm	DB9 female
PXA-1300iR9-0	PXB-1300iR9-0	1 – MM	850/1300 nm	1300/850 nm	DB9 female
PXA-1300iR9-1	PXB-1300iR9-1	1 – SM	1310/1 550 nm	1550/1310 nm	DB9 female

3.0 Modem Optical Connection

The PXA/PXB-1300iR 1-fiber data modems are single fiber modems and, as such, must be connected in 'pairs'. In other words, a PXA unit must be optically connected to the corresponding PXB unit at the other side. A PXA unit will not communicate with another PXA unit. Likewise, a PXB unit will not communicate with another PXB module. The 2-fiber modules (PX-1300) are identical and will communicate with each other. These 2-fiber units (PX-1300-x) will not work with the 1-fiber units (PXA/PXB-1300iR).

3.1 Product Signal Format & Specifications

The PXA & PXB-1300iR (1-fiber) and PX-1300R (2-fiber) series products transmit and receive the following signals:

Signal Type	Channels	Transmit	Receive
RS-232 (Tx & Rx data)	1	Yes	Yes

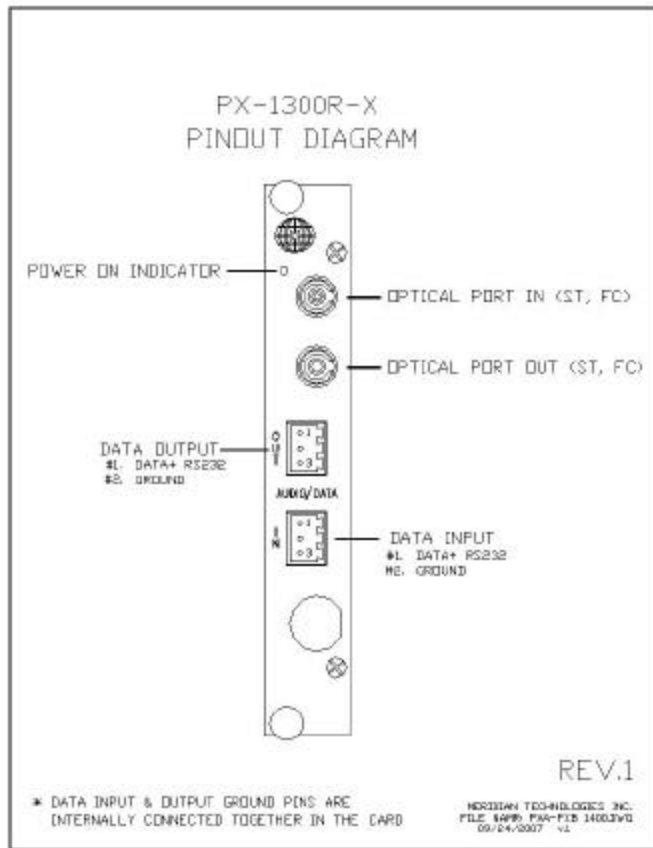
The tables below identify the specifications for the various signals that these modems transmit/receive.

Data	
Formats	RS-232
Date Rate (RS-232)	DC to 125Kb/s
Bit Error Rate (BER)	Better than 10^{-9}

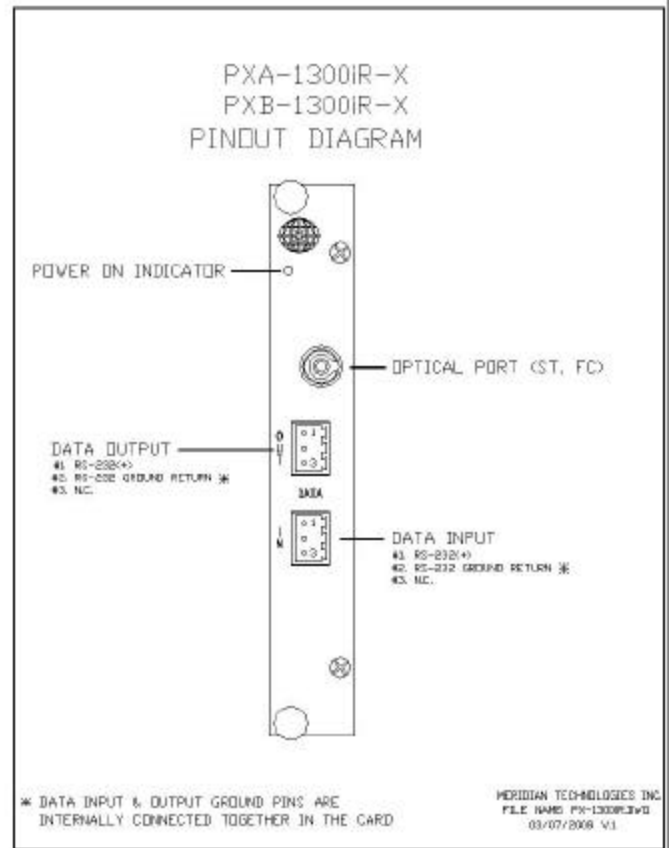
Connectors	
Data	Two, 3-pin terminal blocks or DB9 (female) (see front-panel diagrams for input/output connections)
Optical	Singlemode – ST or FC Multimode - ST

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	-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	1310/1 550	ST, FC	24

PX-1300R-x (2-fiber)



PXA / PXB-1300iR-x (1-fiber)

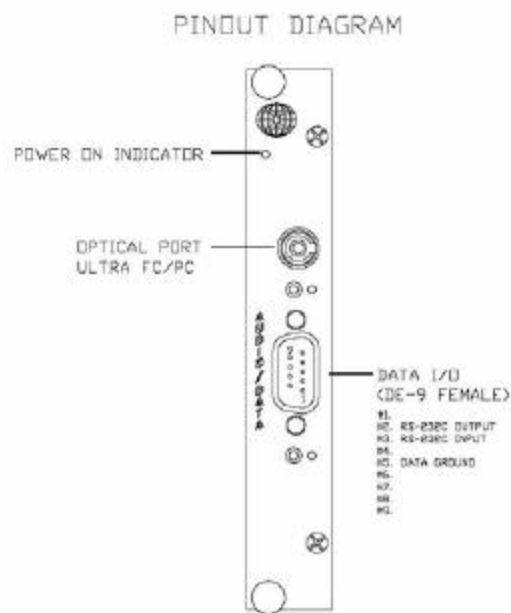
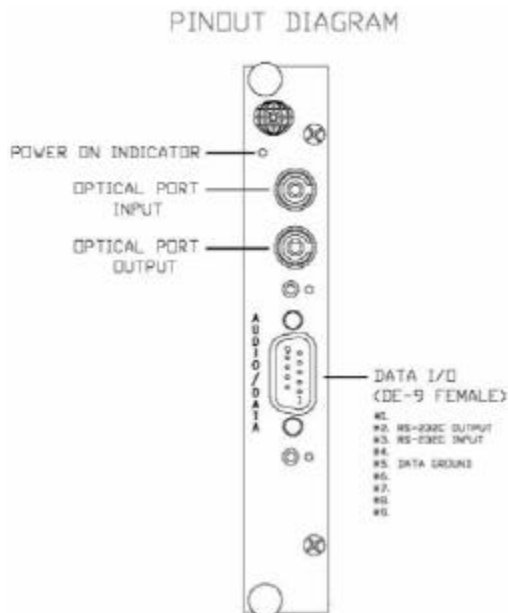


RS-232 Data Modems with 3-pin Screw Terminal Connector

PX-1300R-x-DB9 (2-fiber)

PXA / PXB-1300iR-x-DB9 (1-fiber)

RS-232 Data Modem with DB9 Connectors

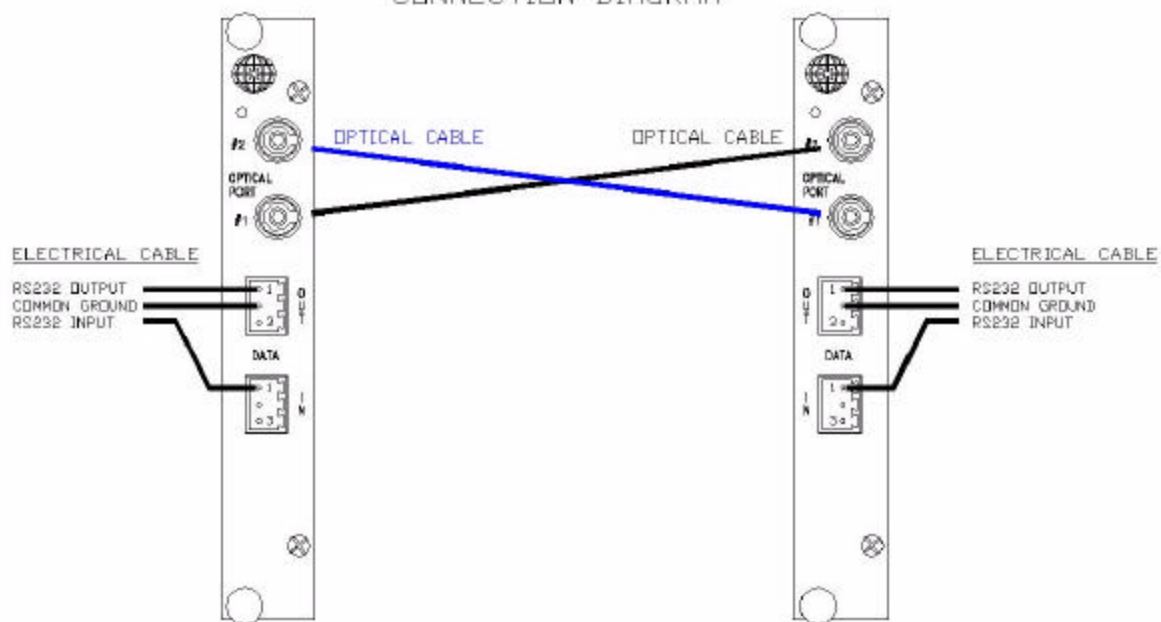


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PX-1300R-X

CONNECTION DIAGRAM

PX-1300R-X



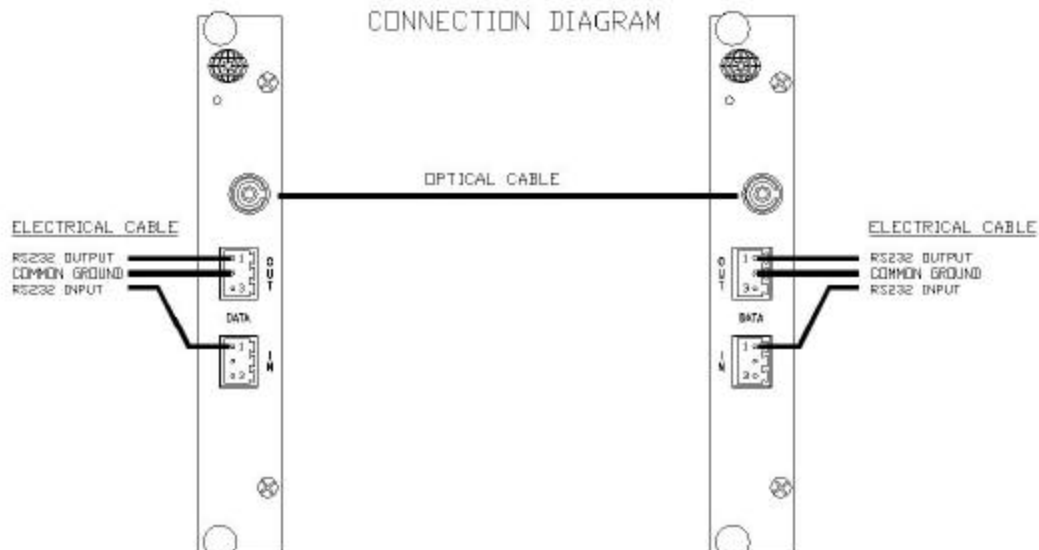
* DATA INPUT & OUTPUT GROUND PINS ARE
INTERNALLY CONNECTED TOGETHER IN THE CARD

MERIDIAN TECHNOLOGIES INC.
FILE NAME: CONNECTPX1300R.DWG
09/24/2007 V1

PXA-1300iR-X

CONNECTION DIAGRAM

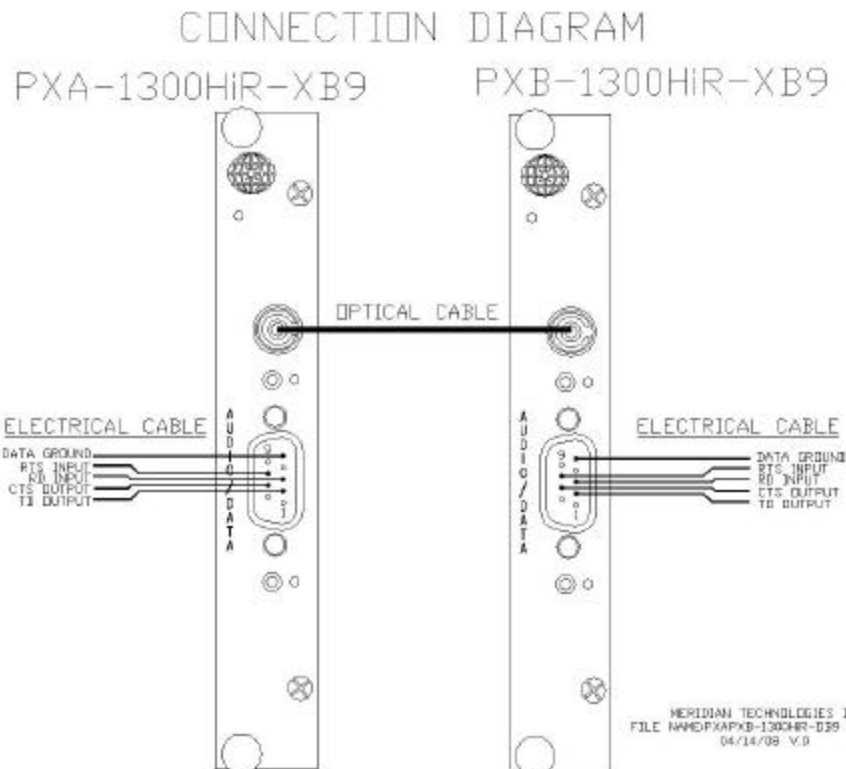
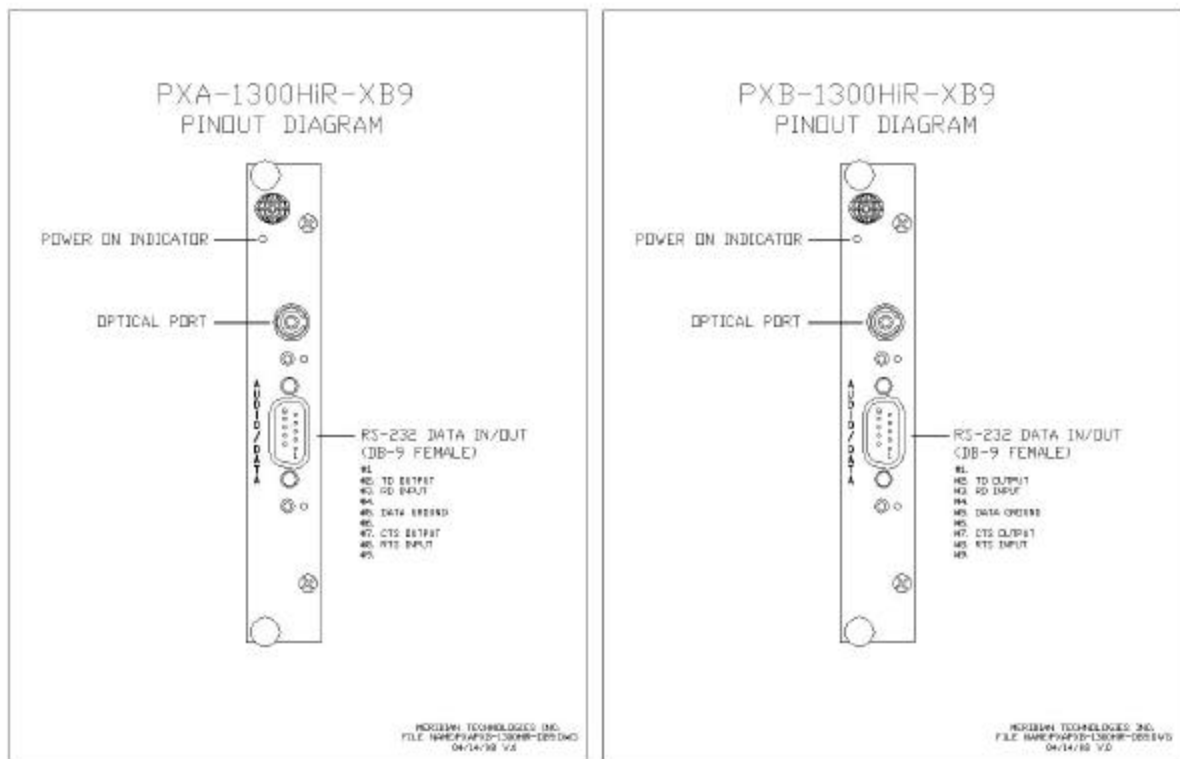
PXB-1300iR-X



* DATA INPUT & OUTPUT GROUND PINS ARE
INTERNALLY CONNECTED TOGETHER IN THE CARD

MERIDIAN TECHNOLOGIES INC.
CONNECTPXA1300iR.DWG
11/17/2006 V1

RS-232 Handshake Data Modem with DB9 Connectors



5.0 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
Action: 1) Check to ensure fibers properly connected on the 2-fiber units
2) Check to ensure that the electrical pins are properly connected

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