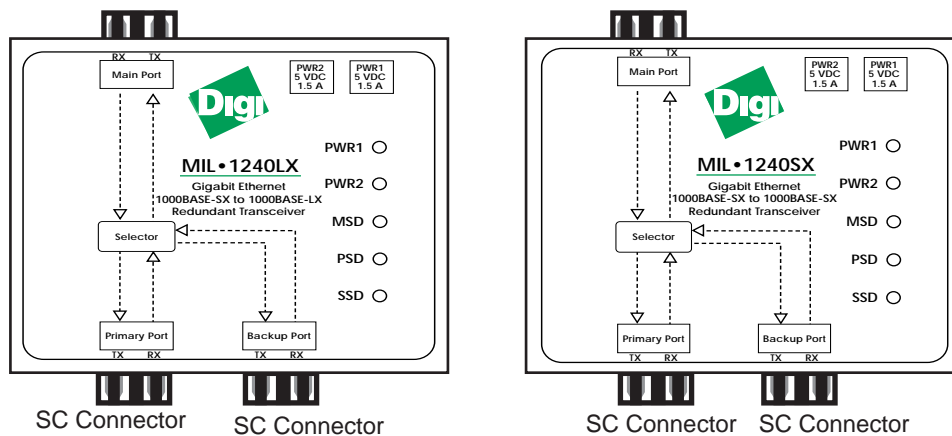




MIL-1240LX/MIL-1240SX

1000BASE to 1000BASE Redundant Transceiver



Installation Guide

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About this Manual

This guide covers both the MIL-1240LX and the MIL-1240SX. The terms “MIL-1240” and “transceiver” are used throughout this document to describe either unit.

Introduction

The MIL-1240 series of transceivers are 1000BASE, fault-tolerant transceivers that provide redundant path for a critical gigabit Ethernet devices (e.g., a file server). The difference in the models is:

- MIL-1240LX is a short-wave optic signals to long-wave optic signals transceiver
- MIL-1240SX is a short-wave optic signals to short-wave optic signals transceiver

There are three ports on the transceiver:

- **Main Port**
- **Primary Port**
- **Backup Port**

Typically, the **Main Port** connects to a critical gigabit Ethernet device. The **Primary Port** and **Backup Port** connect to two ports on the same switch or two ports on two different switches.

Features

- MIL-1240LX: One pair of multi-mode, short-wave transceivers using an SC connector and two pair of single-mode, long-wave transceiver using SC connectors
- MIL-1240SX: Three pair of multi-mode, short-wave transceivers using SC connectors
- Primary and backup power supplies capable, but ships with the primary power supply only

Installation

1. Connect an SC-type cable to the **Main Port** of the MIL-1240.
2. Connect the other end to the appropriate device.
3. Connect **Primary Port** and **Backup Port** to the appropriate devices. Use multi-mode 62.5/125mm fiber optic cables.
4. Connect a power cable to **PWR1**. A second, optional power supply may be



connected to the back-up power jack (**PWR2**) to offer redundant power.

5. Supply power to the converter and make sure the **PWR1** (and **PWR2** if applicable) LED(s) illuminates.
6. Check the LEDs for proper status. This depends on the status of the devices connected to the different ports.

Contact Digi's technical support if you experience difficulties installing a MIL-1240.

Indicators

There are 5 LEDs on the MIL-1240. All LEDs are yellow, except for the **PWR** LED, which is green.

- **PWR1** (Power One): This lights when the MIL-1240 is receiving power on the primary power adapter.
- **PWR2** (Power Two): This lights when the unit is receiving power on the back-up power adapter.
- **MSD** (Main port Signal Detect): This lights when the device detects activity on the **Main Port**.
- **PSD** (Primary port Signal Detect): This lights when the device detects an input signal on the **Primary Port**.
- **SSD** (Secondary port Signal Detect): This lights when the device detects activity on the **Backup Port**.

When **PSD** and **MSD** illuminate at the same time, the node attached to the **Primary Port** will connect to the node attached to the **Backup Port**.

Theory of Operation

The MIL-1240 consist of a fiber transceiver in the **Main Port** that converts sequential nibbles on the **Main Port** to serial bits for transmission on the media.

The two transceivers on the **Primary Port** and **Backup Port** have a signal detect pin. If the **Main Port** selects the **Primary Port**, this means the transceiver on the **Primary Port** detects a signal.

If the **Main Port** does not detect link, no signal will be transmitted on the **Primary** or **Backup Ports**. Conversely, if a link signal is not detected on the **Primary** and the **Backup Ports**, no signal will be transmitted on the **Main Port**.

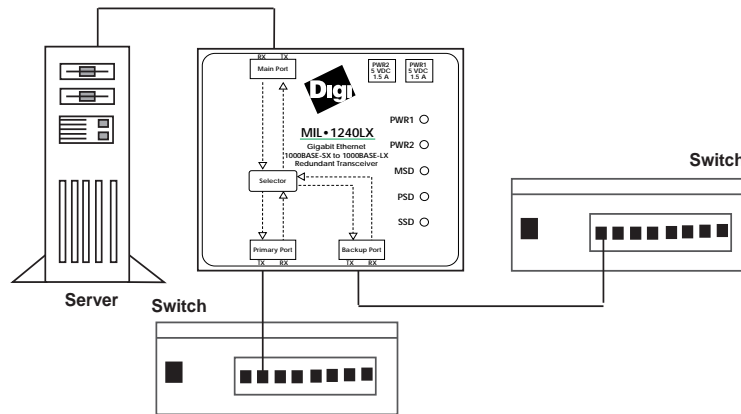


Figure 1.MIL-1240 Connections

Specifications

Specification for Single-Mode

- Connector type: SC
- Wavelength: 1270-1355 nm
- Cable specification: 8/125 μm in 3 km cable
- Min. optical power output: -13.0 dBm
- Max. optical power output: -3.0 dBm
- Receive optical sensitivity:

Min.	Max.
-3	-20
- Return loss: -12dB
- Supports up to 3 km of single-mode cable

Specification for Multi-Mode

- Connector type: SC
- Wavelength: 830-860 nm
- Cable specification: 125 μm with 550 m links and 62.5/125 μm in 300 m links
- Min. optical power output: -10.0 dBm
- Max. optical power output: -4.0 dBm
- Transmitter jitter: 195 ps

- Receive optic characteristics:

	typ.	max.
Sensitivity/input optic. power min.	-18.5	-17
Maximum input optical power	0	0
Return loss	-12 dB	
Receiver jitter	300 ps	
- Supports up to 550 m of multi-mode cable

Dimensions: 4.0" x 3.5" x 1"

SC Connectors



Figure 2. SC- type Connector (Rear View)

Operating Conditions

Table 1: Recommended Operation Conditions

Parameters	Minimum	Maximum
Operating Temperature	+5° C	+50° C
Humidity: Non-condensing	10%	95%
Signal Output Load	35 ohm	75 ohm
Supply Voltage	4.75 V	5.25 V
Ambient Operation	0	70

Power Supply

External power is required, with the output of 5VDC @ 1.5 amp. The system board draws 900 mA at normal operation in room temperature of 25° C.

- An 110 VAC wall mount for domestic use
- A 220 VAC with IEC socket for international use

Legal

Regulatory Approvals

- FCC Class A
- UL 1950
- CSA 22 No. 950
- EN60950
- CE
 - EN55022 Class B
 - EN50082-1

Canadian EMI Notice

This Class A digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the commission of the European Community. Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISPR 22) - Radio Frequency Interference
- EN50082-1 (IEC801-2, IEC801-3, IEC801-4) - Electromagnetic Immunity
- EN60950 (IEC950) - Product Safety

Five-Year Limited Warranty

Digi International warrants to the original consumer or purchaser that each of its products, and all components thereof, will be free from defects in material and/or workmanship for a period of five years from the original factory shipment date. Any warranty hereunder is extended to the original consumer or purchaser and is not assignable.

Digi makes no express or implied warranties including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose, except as expressly set forth in this warranty. In no event shall Digi be liable for incidental or consequential damages, costs, or expenses arising out of or in connection with the performance of the product delivered hereunder. Digi will in no case cover damages arising out of the product being used in a negligent fashion or manner.

To Contact Digi

For prompt response when calling for service information, have the following information ready:

- Product serial number and rev.
- Date of purchase
- Vendor or place of purchase

Reach Digi Technical Support at 408/744-2751
Or E-mail at "sun-tech@dgii.com"

Address: 1299 Orleans Drive
Sunnyvale, CA 94089
Voice: 408/744-2775
Fax: 408/744-2793
E-mail: info@dgii.com