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Installation Guide for

Fast Ethernet Redundant Port Selector

Model NET-240

Doc IGNET240-SX Revised 10/03

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By using a Net Optics Redundant Port Selector you agree to the terms and conditions of usage set forth by Net Optics, Inc.

No licenses, express or implied, are granted with respect to any of the technology described in this manual. Net Optics retains all intellectual property rights associated with the technology described in this manual. This manual is intended to assist with installing Net Optics products into your network.

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Introduction

Thank you for purchasing the most versatile redundant port selector available today. Net Optics Fast Ethernet Redundant Port Selector offers the safety of duplicate connections for critical Fast Ethernet devices, such as switches, routers, and file servers.

The Fast Ethernet Redundant Port Selector connects two critical Fast Ethernet devices via a Main and Primary Port. When the Primary Port does not detect a link signal, a Backup Port automatically routes traffic through a backup device, such as a secondary server. The Redundant Port Selector minimizes the number of ports required to ensure network redundancy, maintaining Fast Ethernet device port availability for other vital network connections. Whether you are a novice or expert, this installation guide is designed to help answer any questions and to provide a quick set-up reference.

Key Features

Compatibility

- Compatible with all major manufacturer's network equipment.

Technology

- Net Optics Fast Ethernet Redundant Port Selector supports redundant network capabilities at 100 Mbps.
- The Redundant Port Selector supports full or half-duplex transmission.

Ease of Use

- Silk screened traffic diagram on the Redundant Port Selector also supports easy installation!
- Multiple LED indicators confirm link status.

Support

- Throughout the lifetime of your purchase, Net Optics offers free technical support (and has done so since our start in 1996!) Ourtechnical support team is available from 8 am to 5 pm Pacific Time, Monday through Friday at +1 408 737-7777 and via email at ts-support@netoptics.com. FAQs are also available on Net Optics website at www.netoptics.com.

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Product Diagram

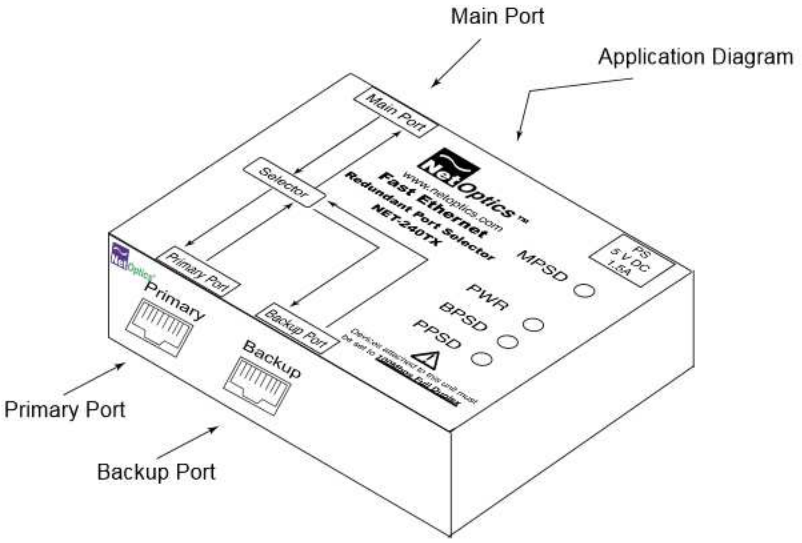


Figure 1.

- PWR: Power.
  Main/Redundant power illuminates Green when device is powered on.
- MPSD: Main Port Signal Detect.
  This LED illuminates yellow when the unit detects an input signal at the Main Port.
- PPSD: Primary Port Signal Detect.
  This LED illuminates yellow when the unit detects an input signal at the Primary Port.
- BPSD: Backup Signal Detect.
  This LED illuminates yellow when the unit detects an input signal at the Backup Port.

Note: When MPSD and PPSD illuminate at the same time, the node attached to the Main Port connects to the node attached to the Primary Port. When MPSD and BPSD illuminate at the same time, the node attached to the Main Port connects to the node attached to the Backup Port.

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Installing the Fast Ethernet Redundant Port Selector

1. Unpack the Fast Ethernet Redundant Port Selector, verify that you have all components, and obtain the required cables needed to successfully install the unit.
2. Using a RJ45 CAT5 cable, connect the appropriate switch, server, or router to the Fast Ethernet Redundant Port Selector's Main Port.
3. Using a RJ45 CAT5 cable, connect the appropriate switch, server, or router to the Fast Ethernet Redundant Port Selector's Primary Port. The device connected to the Primary Port will be supported by a redundant connection via the Backup Port.
4. Verify that the Fast Ethernet Redundant Port Selector's Main and Primary Ports are cabled in-line between two network devices.
5. Using a RJ45 CAT5 cable, connect the redundant device for the Primary Port to the Fast Ethernet Redundant Port Selector's Backup Port.
6. Supply power to the Fast Ethernet Redundant Port Selector using the two power supplies included with the unit.
7. Compare the LEDs on the Fast Ethernet Redundant Port Selector to the chart on the opposite page to verify correct setup.

Note: Straight-thru cable is used when connecting the Fast Ethernet Redundant Port Selector to a NIC. Cross-over cable is used when the Redundant Port Selector is not directly connecting to a NIC (for example, when the connection is to a switch, router, or hub.)

If there is a NIC connection, the NIC should be set to 100 Mbps mode. If this is not possible, then the device connection should be set to 100 Mbps ***only*** *mode.*

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Installing the Fast Ethernet Redundant Port Selector

1 Connect Main, Primary, and Backup Copper Ports

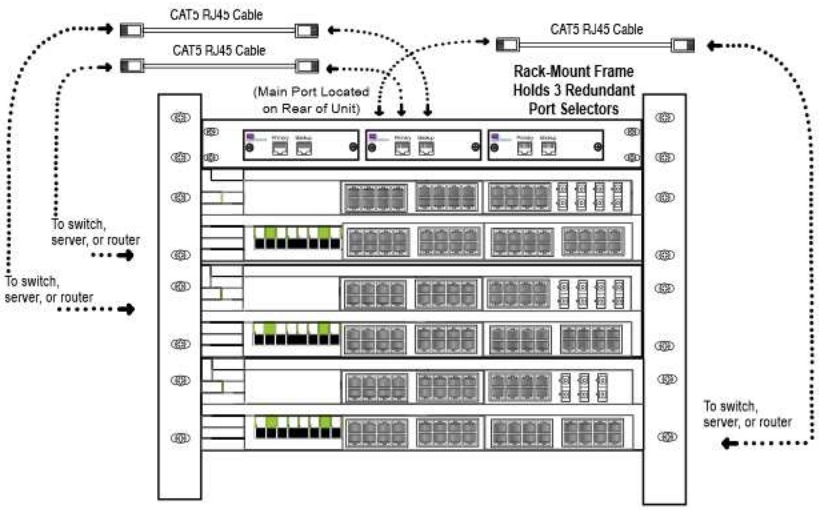


Figure 2.

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Fast Ethernet Redundant Port Selector Operation

Theory of Operation

The Fast Ethernet Redundant Port Selector has three PMD transceivers: each transceiver converts the incoming optical signal to NRZI (PECL level) which is then fed to the outgoing transceiver. The transceiver for the Main Port selects the either the Primary Port or the Backup Port for transmission and reception. The Main Port selects the Primary Port if the transceiver on the Primary Port detects a link signal. Otherwise, the Main Port selects the Backup Port. If the Main Port did not detect a link signal, then no signal will be transmitted on the Primary Port or the Backup Port. If a link signal is not detected on the Primary Port and Backup Port, then no signal will be transmitted on the Main Port.

Device Detection

Devices on the Backup Port will not detect a link if the Fast Ethernet Redundant Port Selector finds a link on both the Main and Primary Port or detects no link on the Main Port.

Devices on the Primary Port will not detect a link if the Fast Ethernet Redundant Port Selector detects no link on the Primary Port and the Backup Port.

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Specifications

Operating Specifications:

Operating Temperature: 5°C to 40°C
Storage Temperature: -25°C to 75°C
Relative Humidity: 10% min, 95% max, non condensing

Mechanical Specifications:

Power Supply: Input: 100-240 VAC, 50-60 Hz, 0.6A
(AC100-125V, 50-60Hz, 30VA for Japan)
Output: 5V, 2A (5V, 2.4A for UK and Japan)

Delay: less than or equal to 20 nanoseconds
Dimensions: 1" high x 3.5" deep x 4.0" wide

Cable Interface:

Copper Cable Type: 22-24 AWG unshielded twisted pair cable, CAT5

Receptacles:

(3) RJ45, 8 pin connectors

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Order Information

Tap and Redundant Port Selector Order Information

Part Number	Description
96042-G	GigaBit SX Tap
96142-G	GigaBit LX Tap
96042	ATM Multimode Tap
96142	ATM Singlemode Tap
96153-G*	GigaBit SX 6 Station Tap
96430	10/100BaseT Tap
96321**	High Density 10/100BaseT Tap
96333	DS3 Tap
96297	GigaBit TX Tap
96204	GigaBit LX to SX Tap
96262	GigaBit TX to SX Tap
96370	GigaBit FX to TX Tap
96260-SX***	GigaBit SX Redundant Port Selector
Net-240	Fast Ethernet Redundant Port Selector

* 6 and 12 Station Taps can be ordered in GigaBit or ATM, singlemode and multimode models.

** High Density 10/100 Taps can be ordered in 20, 16, 12, and 8 station models.

*** GigaBit Redundant Port Selectors are available in SX and LX models.

Accessories Order Information

Part Number	Description
96178-0XM	X Meter Custom Analyzer, Multimode 62.5/125μm
BA31515-0XM	X Meter SC/SC Duplex Patch Cord, Multimode 62.5/125μm
L54P45RD-0XM	X Meter RJ45 CAT5 Straight Through Cable
96278-DB9FF	3 Meter DB9 Cable
96045	19" Rack-Mount Frame. Holds up to (3) 5" Taps, 96041 holds (12)
96209	19" Rack-Mount Frame. Holds up to two 6.5" Taps
96041-1	Blank Plate Insert for 96045 or 96041

Singlemode cables are also available.

In addition to the products above, Net Optics also offers the SpyderSwitch™ line of Analyzer Switches for monitoring multiple networks with a single protocol analyzer. For further information, please call our Net Optics Customer Support team at +1 408 737-7777 or send an email to cs-support@netoptics.com.

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Net Optics, Inc. warrants this redundant port selector to be in good working order for a period of ONE YEAR from the date of purchase from Net Optics or an authorized Net Optics reseller.

Should the unit fail anytime during the said ONE YEAR period, Net Optics will, at its discretion, repair or replace the product. This warranty is limited to defects in workmanship and materials and does not cover damage from accident, disaster, misuse, abuse or unauthorized modifications.

If you have a problem and require service, please call the number listed at the end of this section and speak with our technical service personnel. They may provide you with an RMA number, which must accompany any returned product. Return the product in its original shipping container (or equivalent) insured and with proof of purchase.

Additional Information

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Net Optics is always open to any comments or suggestions you may have about its products and/or this manual.

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