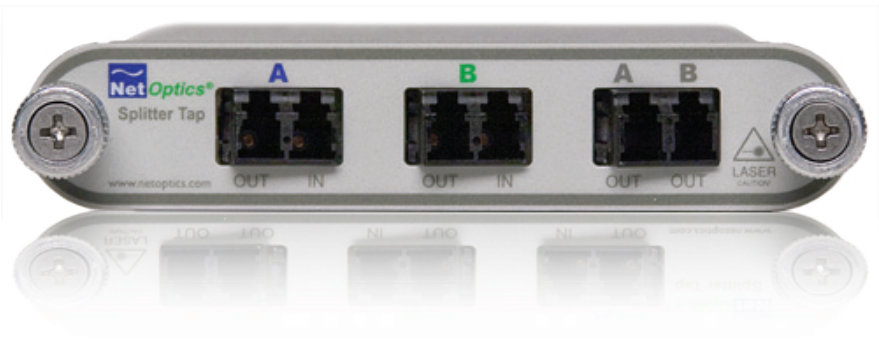

Installation Guide for Fiber Taps



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PLEASE READ THESE LEGAL NOTICES CAREFULLY.

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

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Additional Information

Net Optics, Inc. reserves the right to make changes in specifications and other information contained in this document without prior notice. Every effort has been made to ensure that the information in this document is accurate.

Introduction

Get total traffic visibility for monitoring and security devices by placing Net Optics Fiber Slim Taps on critical network links. The all-optical design of the Fiber Tap is optimized and tested for high-performance on fiber networks. Available in LC connector types for singlemode or multimode fiber networks running at ATM, Gigabit and 10 GigaBit speeds.

All Optical Design

Requiring no power, Fiber Taps maintain permanent passive access ports without introducing a point of failure or disturbing other network connections. These passive Taps deliver full-duplex monitoring with zero impact on network traffic around the clock.

Simply Plug It In

Full-duplex monitoring is a snap with a custom monitoring cable that sends each side of the signal to a separate NIC on the monitoring device. All monitoring and network cables are included with Net Optics Fiber Taps for plug-and-play deployment.

Security and Visibility

Without an IP address, monitoring devices are isolated from the network, dramatically reducing their exposure to attacks. However, the monitoring device connected to the Tap still sees all full-duplex traffic as if it were in-line, including Layer 1 and Layer 2 errors.

Key Features

Passive, Secure Technology

- Provides passive access without data stream interference or introducing a point of failure
- All-optical design is optimized and tested for fiber networks
- Permanent in-line installation without affecting network performance
- Passes all full-duplex traffic (including errors) from all layers for comprehensive troubleshooting
- No IP address is needed for the Tap or monitoring device, enhancing monitoring security
- Completely transparent to the network and requires no power
- Fully RoHS compliant

Ease of Use

- Front-mounted connectors make installation and operation quick and easy
- Connectors are perfectly angled to reduce cable strain
- Optional 19-inch rack frames hold up to 8 Taps, depending on model purchased
- Compatible with all major manufacturers' monitoring devices, including protocol analyzers, probes, and intrusion detection systems

Unsurpassed Support

In the event that you require our assistance, our world-class technical support is available to help you.

Support is available 24x7 for customers with a Premium Service Plan, and from 7:00 a.m. to 5:30 p.m. PST, Monday through Friday, for all other customers.

If, at any time, you have questions, please feel free to contact us by using one of the following methods:

- Phone: (408) 737-7777
- Email: ts-support@netoptics.com
- Customer Portal: <http://customer.netoptics.com/portal>

About This Guide

Please read this guide before attempting to install the Fiber Tap. This guide covers the following models:

Part Number	Description
TP-50SXn*-LCSLM	GigaBit Multimode LC Fiber Slim Tap (SX) 50um
TP-SXn*-LCSLM	GigaBit Multimode LC Fiber Slim Tap (SX)
TP-LXn*-LCSLM	GigaBit Singlemode LC Fiber Slim Tap (LX)
TP-50SRn*-LCSLM	10 GigaBit Multimode LC Fiber Slim Tap (SR) 50um
TP-SRn*-LCSLM	10 GigaBit Multimode LC Fiber Slim Tap (SR)
TP-LRn*-LCSLM	10 GigaBit Singlemode LC Fiber Slim Tap (LR)
TP-ERn*-LCSLM	10 GigaBit Singlemode LC Fiber Slim Tap (ER) 1550um

* The letter “n” is the split ratio where 5 is 50/50, 4 is 60/40, 3 is 70/30, 2 is 80/20, and 1 is 90/10.

Unpacking and Inspection

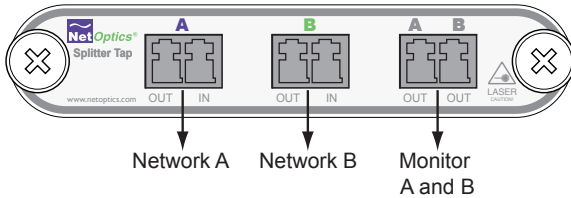
Carefully unpack the Fiber Tap and check for damaged or missing parts. The Fiber Tap ships with the following:

- Fiber Tap
- Test report
- Installation Guide

You may have also ordered a panel for rack mounting and an extended warranty. Carefully check the packing slip against parts received. If any part is missing or damaged, contact the Net Optics Customer Service Department immediately.

Product Diagram

Figure 1: Front Panel LC Models



Connecting to the Network

1. Connect Network Port A to the appropriate network device using a Duplex LC cable.
2. Connect Network Port B to the appropriate network device using a Duplex LC cable.
3. Verify that the Tap Network Ports are cabled in-line between two devices.

Note:

The use of Singlemode (8.5µm), Multimode (50µm or 62.5µm), or LC cabling is determined by the model purchased.

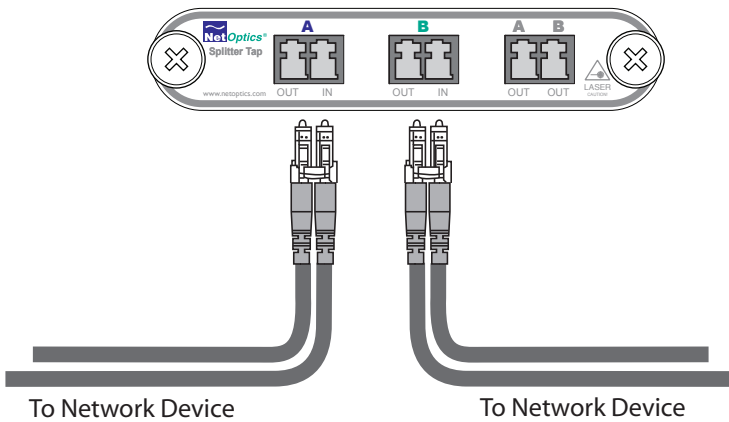


Figure 3: Connecting to the Network

Connecting to the Monitoring Device

1. Connect to the Monitor Port using the included custom LC analyzer cable.
2. Connect one side of the twin-duplex fiber cable into a RX port on the monitoring device to view one side of the full-duplex link.
3. Connect the other side of the twin-duplex fiber cable into another RX port on the monitoring device to view the other side of the full-duplex link.
4. Verify that the Tap Monitor Port is cabled to the monitoring device.

Note:

The connectors on the twin-duplex side of the custom analyzer cable contain RX connections only. The empty TX sides are present to eliminate cabling errors and should also be connected to the monitoring device.

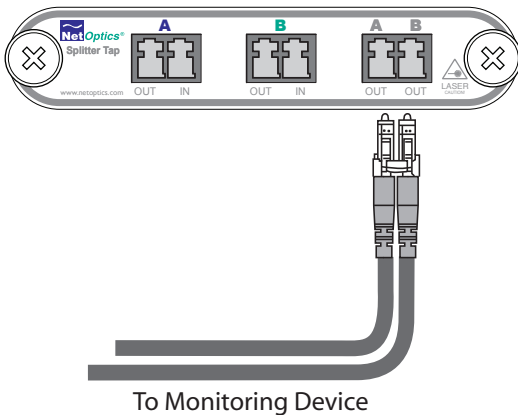


Figure 4: Connecting the Monitoring Device (LC model shown)

Specifications

Splitter Specifications

Fiber Type:

Corning Multimode 62.5/125 μ m, wavelength 850nm

Corning Multimode 50/125 μ m, wavelength 850nm

Split Ratio	Network Port Insertion Loss	Monitor Port Insertion Loss
50/50	≤ 4.5 dB	≤ 4.5 dB
80/20	≤ 1.8 dB	≤ 8.1 dB
70/30	≤ 2.4 dB	≤ 6.3 dB
60/40	≤ 3.1 dB	≤ 5.1 dB
90/10	≤ 1.3 dB	≤ 11.5 dB

Fiber Type:

Corning Singlemode 8.5/125 μ m, wavelength 1310nm

Corning Singlemode 8.5/125 μ m, wavelength 1550nm

Split Ratio	Network Port Insertion Loss	Monitor Port Insertion Loss
50/50	≤ 3.7 dB	≤ 3.7 dB
80/20	≤ 1.3 dB	≤ 8.0 dB
70/30	≤ 2.0 dB	≤ 6.1 dB
60/40	≤ 2.8 dB	≤ 4.8 dB
90/10	≤ 0.8 dB	≤ 12.0 dB

Environment

Operating Temperature: 0°C to 40°C

Storage Temperature: -10°C to 70°C

Relative Humidity: 10% min, 95% max, non-condensing

Mechanical

LC Model Dimensions: 0.8" high x 5.5" deep x 4" wide

Connectors

(1) Duplex LC connector (monitor port)

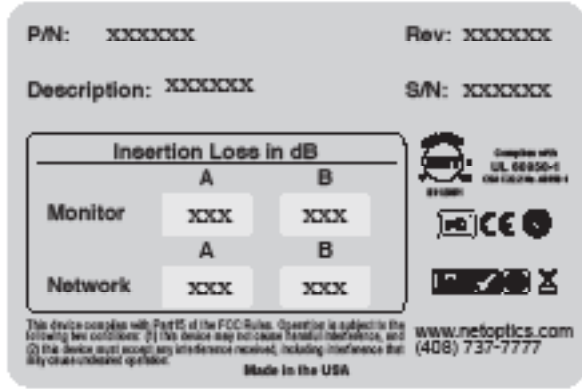
(2) Duplex LC connectors (network ports)

Certifications

Fully RoHS compliant

Labels

The product label shown here can be found on the top cover of the Tap.



The label displays the following information pertaining to the particular unit:

- P/N: Part number (model number)
- Rev: Revision level
- Description: Model description
- S/N: Serial number
- Insertion Loss in dB: Light insertion loss measured at each port

The symbols are as follows:



Indicates WEEE compliance



Indicates CE compliance



Indicates RoHS compliance



Indicates C-Tick compliance



Indicates VCCI compliance



Indicates MET compliance (U.S.A. safety)

In addition, the label shown here prevent you from taking the cover off of the unit without voiding your warranty. You should not take the cover off because there are no user-serviceable parts inside.

WARNING: Warranty void if removed

Limitations on Warranty and Liability

Net Optics offers a limited warranty for all its products. IN NO EVENT SHALL NET OPTICS, INC. BE LIABLE FOR ANY DAMAGES INCURRED BY THE USE OF THE PRODUCTS (INCLUDING BOTH HARDWARE AND SOFTWARE) DESCRIBED IN THIS MANUAL, OR BY ANY DEFECT OR INACCURACY IN THIS MANUAL ITSELF. THIS INCLUDES BUT IS NOT LIMITED TO LOST PROFITS, LOST SAVINGS, AND ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT, even if Net Optics has been advised of the possibility of such damages. Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Net Optics, Inc. warrants this Tap 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

Net Optics, Inc. reserves the right to make changes in specifications and other information contained in this document without prior notice. Every effort has been made to ensure that the information in this document is accurate. Net Optics is not responsible for typographical errors.

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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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