



# **SX/LX Optical TAP Installation Guide**



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# Introduction

TAPs can be either optical (LX/SX) or copper (Full duplex ethernet). Although they work using different technologies, their function is the same: To capture both sides of the full-duplex signal for processing on the proprietary interface card, without affecting your network.

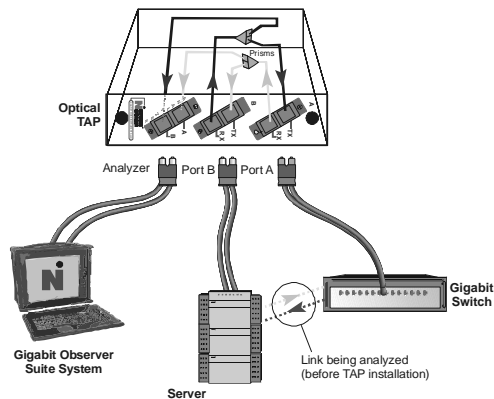
## What is an Optical TAP?

A Test Access Point (TAP) is a passive mechanism for capturing the data stream from a high-speed network link (typically between a switch and DTE “device of interest”). An Optical TAP splits the optical signal into two identical data streams. One signal is passed through to the network while the other is simultaneously streamed into an analyzer such as Network Instruments’ Gigabit Observer® Suite in real time.

A TAP is preferable to an inline connection because of its convenience. TAPs (unlike analyzers) are inexpensive enough that you can leave them permanently installed. This allows you to connect and disconnect the analyzer as needed without breaking the full-duplex signal.

A TAP is also preferable to using a switch’s port spanner/mirroring capability to capture the data stream. Unlike the port spanning mechanism on a switch, a TAP cannot drop packets. An additional advantage is that a TAP does not use any of the switch’s CPU resources.

## How an Optical TAP Works



The TAP uses prisms to split the optical signals from a full-duplex connection (SX or LX) between the network and a device of interest. This allows an analyzer to receive an exact copy of the data stream that is flowing on the wire, while in no way affecting that data stream.

# Installing the TAP

To install the TAP, you must:

- Physically mount the TAP in your network's 19" rack system, if desired. Note that for single-channel TAPs, rack mounting is optional via a single channel TAP 19" mount (sold separately).
- Use the TAP Cable Kit to complete the connection between the device of interest and the network.

## Rack Mounting the Optical Network TAP

Network Instruments' optical taps are shipped in both single- and multi-channel configurations. In multi-channel configurations, each 1U rack mount unit can be installed directly in the rack.

Rack mount TAP units are available in channel densities of 2, 4 and 6 per 1U rack.

### Single-channel Optical TAPs

To rack mount a single-channel TAP, you must first install it in the single-TAP mount bracket. Each TAP mount bracket can accommodate up to 3 single-channel TAPs in a 1U format.

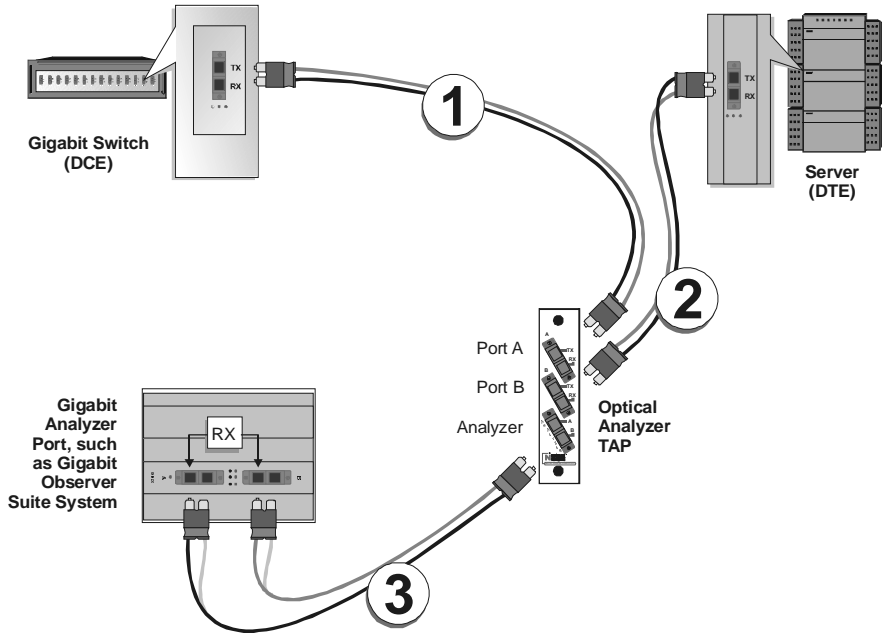
### DCE and DTE Devices

DCE (Data Circuit-terminating Equipment) refers to a device (such as a switch) that links a DTE (Data Terminal Equipment) device to the network. A DTE device is a device that acts as a source or sink of data on the network (a server, for example).

# Cabling the Optical TAP

To cable the Network Instruments Optical Analyzer TAP, follow these steps:

Before you temporarily break the link between the device of interest and the network, you may want to shut down access to that device and notify users of the downtime.



1. Disconnect the optical cable from the server, and connect to TAP Port A.
2. Use the supplied full-duplex optical cable to connect the server to TAP Port B.
3. Use the splitter cable to connect the TAP's ANALYZER port to the optical analyzer ports. The live plugs on the Y-ends of the splitter cable must be plugged into the RX sockets on the analyzer. You can see the tips of the optical cables extending beyond the ends of these plugs.

## Notes: