



# Analog Passthrough Adapter Hardware Guide

for Analog Passthrough Adapters and Quad Analog Passthrough Adapters

This document provides information and instructions for using the:

- Analog Passthrough Adapter with the:
  - Xgig1000 25G/32G 4-port chassis
  - Xgig1000 25G/32G 8-port chassis
  - Xgig1000 25G/32G/50G/100G/128G 10-port chassis
- Quad Analog Passthrough Adapter with the:
  - Xgig1000 25G/32G/50G/100G/128G 10-port chassis



## CAUTION

It is important to following the instructions contained in [“Connect the Analog Passthrough Adapters” on page 4](#) to minimize the risk of damage to the equipment during installation and use.

Topics covered in this document include the following:

- [“Related Information” on page 1](#)
- [“Analog Passthrough \(APT\) Adapters for SFP Connectors” on page 2](#)
- [“Quad Analog Passthrough \(QAPT\) Adapter for QSFP Connectors” on page 3](#)
- [“Connect the Analog Passthrough Adapters” on page 4](#)
- [“Technical Assistance” on page 8](#)

## Related Information

This guide serves as a supplement to the *Xgig 1000 Hardware Guide* that was shipped with your instrument.

## Analog Passthrough (APT) Adapters for SFP Connectors

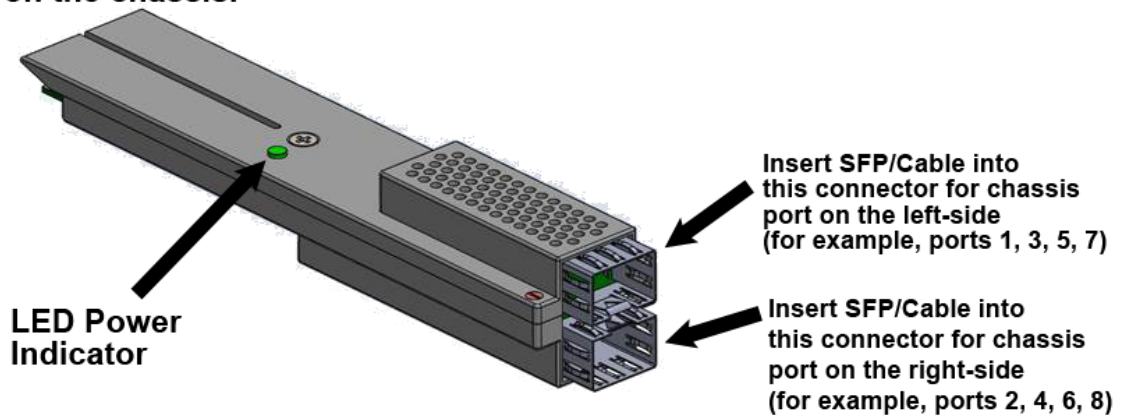
Xgig1000 chassis with 25 Gbps and 32 Gbps SFP ports are shipped with the appropriate number of analog passthrough (APT) adapters (see [Figure 1](#)). This adapter acts as a passthrough tap for both optical and electrical (copper) links.

- The Xgig1000 25G/32G 4-port chassis is shipped with 2 APT adapters.
- The Xgig1000 25G/32G 8-port chassis and the Xgig1000 25G/32G/50G/100G/128G 10-port chassis are shipped with four APT adapters.

Each adapter is designed to be inserted into two adjacent ports (e.g., ports 1-2 or 3-4 on chassis with four SFP ports and ports 1-2, 3-4, 5-6, or 7-8 on chassis with eight SFP ports). See [Figure 4 on page 6](#).

**Figure 1** Analog Passthrough Adapter for SFP Ports

Insert this end into two adjacent ports on the chassis.



The APT adapter supports analog pass-through using SFP28 optical modules or copper cables. The adapter is powered from the chassis and requires no external power supply.

An analog passthrough adapter bracket is also supplied which is used to support the APT adapters installed on the front of the chassis. In addition to supporting the adapters on the shelf-like bracket, thumbscrews secure the adapters to the bracket. Refer to [“Connect the Analog Passthrough Adapters” on page 4](#).



### CAUTION

The Analog Passthrough Adapter Bracket described in [“Connect the Analog Passthrough Adapters”](#) must be used to secure the adapters to the chassis. Using this bracket will greatly reduce the risk of damage to the equipment.

## Quad Analog Passthrough (QAPT) Adapter for QSFP Connectors

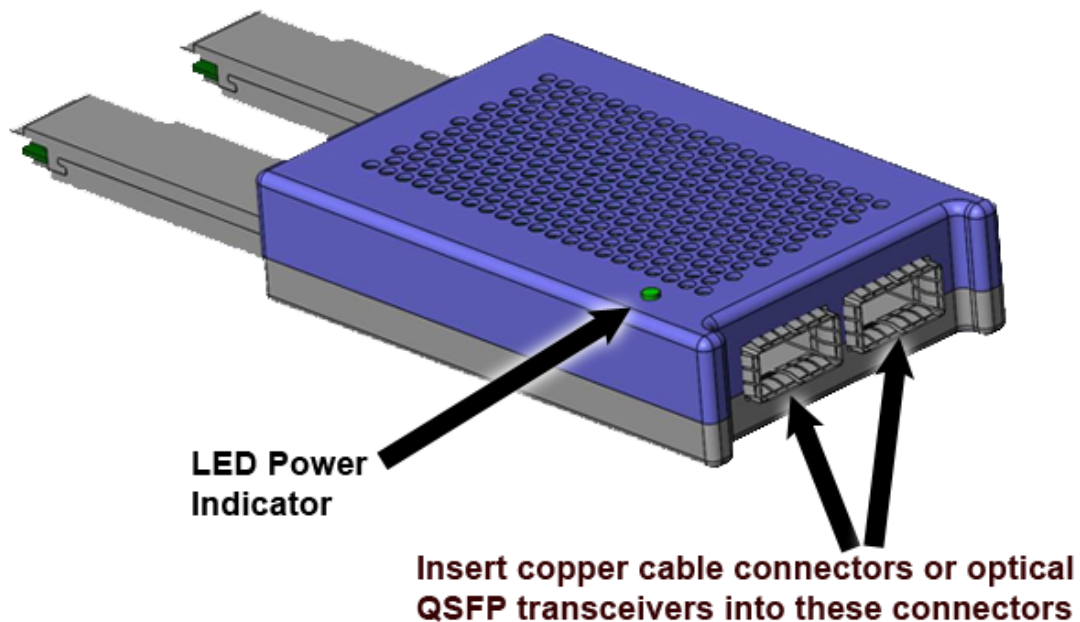
The Xgig1000 10 Port 25G/32G/50G/100G/128G chassis supports the Quad Analog Passthrough (QAPT) adapter (Figure 2) that plugs into its two front-panel QSFP ports. This QAPT adapter acts as a passthrough tap for both electrical (copper) and optical links for the 50GigE, 100GigE, and 128G FC protocols.

For electrical (copper) links, insert the cable connectors directly into the QAPT connectors.

For optical links, insert the optical QSFP transceivers into the QAPT connectors. These QSFP transceivers are specialized and are available by ordering the QSFP K-Kit from Viavi. Each K-kit includes two optical QSFP transceivers and two optical cables. You need to order Viavi part number 22110920 (which has the following description: XGIG1K-10002-MM;100GE/128G FC QSFP28 K-Kit Includes SFP28 and MM Cables).

Figure 2 QAPT Adapter

**Insert this end into the two adjacent QSFP ports on the Xgig 1000 chassis**



### CAUTION

To protect the adapter from damage, keep the plastic covers in place on the adapter's two QSFP arms until you are ready to plug the adapter into the two adjacent QSFP ports on the front panel of the chassis. Always re-install when not in use.

The QAPT adapter supports analog pass-through using QSFP optical modules or copper cables. The adapter is powered from the chassis and requires no external power supply.

An analog passthrough adapter bracket is also supplied which is used to support the QAPT adapter installed on the front of the chassis. In addition to supporting the QAPT adapter on

the shelf-like bracket, a thumbscrew secures the adapter to the bracket. Refer to “[Connect the Analog Passthrough Adapters](#)” on page 4.



**CAUTION**

The Analog Passthrough Adapter Bracket described in “[Connect the Analog Passthrough Adapters](#)” must be used to secure the adapter(s) to the chassis. Using this bracket will greatly reduce the risk of damage to the equipment.

## Connect the Analog Passthrough Adapters

To connect the APTs/QAPT, you will first install a shelf-like bracket (Analog Passthrough (APT) Adapter Bracket) on the front panel of the chassis and then you will insert the APTs/QAPT into the front-panel ports and secure them to the bracket. Connecting the APTs/QAPT to a properly-installed APT bracket minimizes the risk that the APTs/QAPT or the chassis will be damaged if it is bumped.



**CAUTION**

The APT adapter bracket must be used to secure the adapter(s) to the chassis. Using this bracket will greatly reduce the risk of damaging the equipment.

## Installing the Analog Passthrough Adapter Bracket

The Analog Passthrough (APT) Adapter Bracket kit contains the parts shown in [Table 1](#).

**Table 1** Analog Passthrough (APT) Adapter Bracket Kit Contents

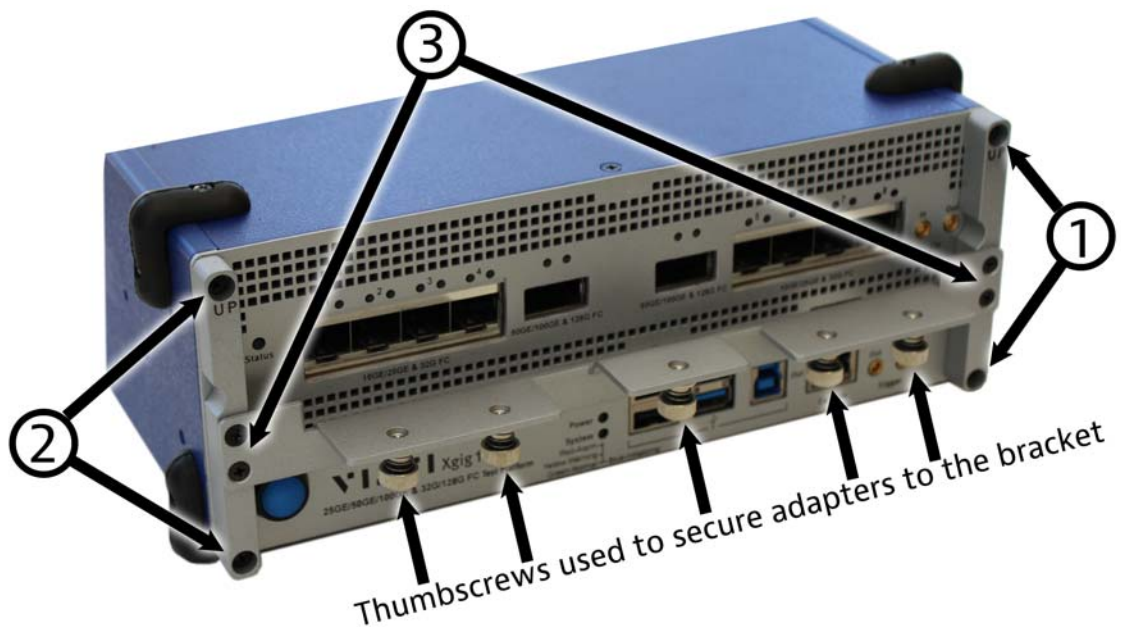
Part Description	Image	Qty
APT Adapter Bracket (with thumbscrews)		1
APT Adapter Bracket Side Bar		2
Pan-head screw, 12mm		4
Flat-head screw, 8mm		4

To install the APT bracket:

- 1 Remove two screws from the right-side corners of the chassis front panel. Do not remove any other chassis screws. Refer to the screw locations shown by callout (1) on [Figure 3](#).

- 2 Attach one of the front-panel APT adapter bracket side bars to the right side of the chassis front panel using the pan-head screws. Refer to the positions indicated by location (1) on [Figure 3](#).  
Each APT adapter bracket side bar is attached to the front panel using 2 screws. The bracket side bars are labeled “UP” to identify the direction on the front panel that the bracket that should be mounted. Note that both bracket side bars are the same.
- 3 Repeat steps 1 and 2 for the left side of the chassis front panel. Refer to the screw locations shown by callout (2) on [Figure 3](#).
- 4 Attach the APT adapter bracket to both of the front-panel APT adapter bracket side bars using 2 flat-head screws on each side. Refer to location (3) on [Figure 3](#).

**Figure 3** APT Adapter Bracket Mounted to Chassis Front Panel



- 5 With the APT adapter bracket installed, you are now ready to connect the APT adapters or the QAPT adapter to the ports on the Xgig 1000 chassis. To connect:
  - APT adapters, refer to [“Connecting the APT Adapters”](#) on page 6.
  - QAPT adapter, refer to [“Connecting the QAPT Adapter”](#) on page 7.

## Connecting the APT Adapters

When connecting the APT adapters, you will first insert the adapters into the appropriate chassis port pairs. Then you will secure the adapters to the APT adapter bracket using the bracket's thumbscrews.

To connect the APT adapters, follow these steps:

- 1 Insert the adapters into the appropriate port pairs on the chassis.  
Gently push the adapter into the chassis port pair connectors, just until it feels like it is seated in the connectors. Do not push any harder than necessary when inserting the adapter.



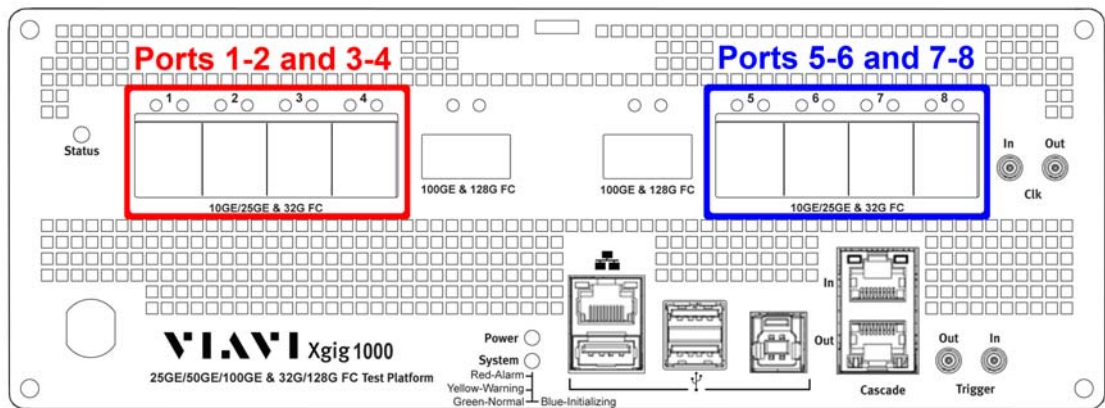
### CAUTION

Use caution when inserting the APT adapters into the chassis. Applying excessive force can damage the chassis. The Xgig 1000 connector's specification for maximum insertion force is 40 Newtons (9 Pounds/force).

Refer to the following list and to [Figure 4](#) for the connector locations.

- 4-port chassis, use port pairs 1-2 or 3-4.
- 8-port chassis and the 10-port chassis, use SFP port pairs 1-2, 3-4, 5-6, or 7-8.

**Figure 4** Ports on Xgig1000 25G/32G & Xgig1000 25G/32G/50G/100G/128G Chassis



- 2 Secure each adapter to the bracket using the thumbscrew on the bottom of the bracket as shown in [Figure 3](#).
- 3 Insert the SFPs or cables, as appropriate, into the APT adapter(s).

When the APT adapter is inserted into the chassis, the chassis is switched to analog passthrough mode. When the APT adapter is removed from the chassis, the chassis is switched to digital retime mode.

## Connecting the QAPT Adapter

When installing an QAPT adapter, you will first insert the adapter into the adjacent QSFP port pair (the two adjacent QSFP ports) and then you will secure the adapter to the support (APT adapter) bracket using the bracket's thumbscrew.

When installing a QAPT adapter, follow these steps:

- 1 Insert the adapter into the adjacent QSFP ports on the chassis.  
Gently push the adapters into the chassis connector, just until it feels like it is seated in the connector. Do not push any harder than necessary when inserting the adapter.

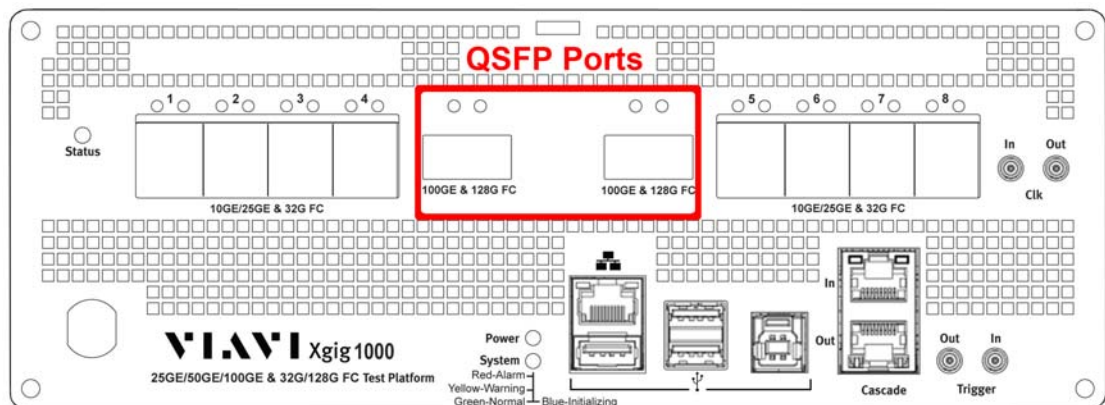


### CAUTION

Use caution when inserting the QAPT adapter into the chassis. Applying excessive force can damage the chassis. The Xgig 1000 connector's specification for maximum insertion force is 40 Newtons (9 Pounds/force).

Refer to [Figure 5](#) for the 2 QSFP port locations.

**Figure 5** QSFP Ports on Xgig1000 25G/32G/50G/100G/128G Chassis



- 2 Secure each adapter to the bracket using the center thumbscrew on the bottom of the bracket as shown in [Figure 3](#).
- 3 Insert the QSFPs or cables, as appropriate, into the QAPT adapters.

When the QAPT adapter is inserted into the chassis, the chassis is switched to analog passthrough mode. When the QAPT adapter is removed from the chassis, the chassis is switched to digital retime mode.

## Technical Assistance

If you require technical assistance, call 1-844-GO-VIAVI (1-844-468-4284) or e-mail [Techsupport-snt@viavisolutions.com](mailto:Techsupport-snt@viavisolutions.com).

For the latest TAC information, go to <http://www.viavisolutions.com/en/services-and-support/support/technical-assistance>.



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