



Optical Carrier, SONET, SDH Test Platforms

June 2023

- **SONET & SDH OPTICAL TESTING**

- ◆ Channelized LightSpeed1000™ Dual OC-3 / STM-1, OC-12 / STM-4 Tester
- ◆ Unchannelized LightSpeed1000™ Dual OC-3 / STM-1, OC-12 / STM-4 Tester
- ◆ LightSpeed1000™ mTOP™ High Density OC-3/12, STM-1/4 Testers
- ◆ LightSpeed1000™ mTOP™ Probe OC-3/12, STM-1/4 Testers
- ◆ Channelized Analyzer OC-3 / STM-1, OC-12 / STM-4 Tester

- **ETHERNET/IP TESTER**

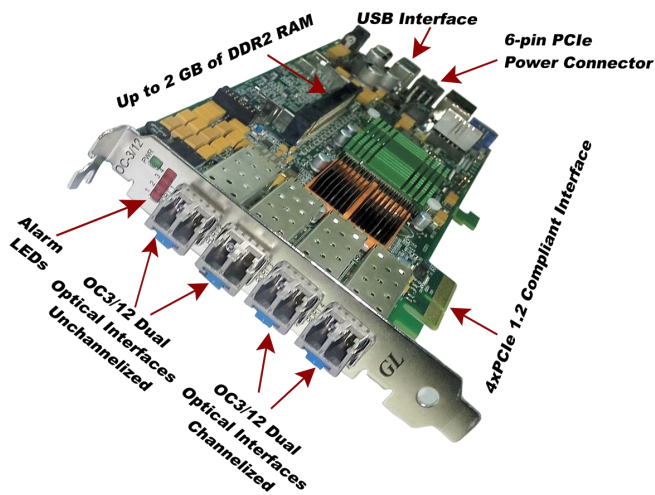
- ◆ PacketExpert™ 1G Optical and Ethernet Tester
- ◆ PacketExpert™ Next Generation 10G Ethernet/IP Tester
- ◆ PacketExpert™ 1G/10G Multi-Functional Ethernet Tester
- ◆ PacketExpert™ mTOP™ 10G/1G Multi-Port Ethernet Tester
- ◆ PacketExpert™ mTOP™ 10G/1G Probe - Portable Tester

For more details, refer to [SonetExpert™ Channelized \(SEC\) Analyzer \(gl.com\)](http://www.gl.com) webpage.

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Optical Carrier, SONET, SDH Test Platforms



Channelized LightSpeed1000™

Channelized LightSpeed1000™ Dual OC-3 / STM-1, OC-12 / STM-4 Tester

GL's LightSpeed1000™ - with quad optical ports supports Channelized SONET and SDH mapping to T1/E1 framing modes. LightSpeed1000™ supports direct access to all 336 T1s (or 252 E1s) channels on an OC-12/STM-4 line per port for analysis and simulation – all within a single PC. Main advantage is that any of the T1/E1 or DS0 test requirements can be met without resorting to electrical access.

Two ports out of the 4 ports are meant for SONET/SDH unchannelized and unframed data. The remaining two ports are meant for SONET/SDH channelized data of carrying many independent unframed/framed T1, E1, T3, and E3 streams.

For more details, visit LightSpeed1000™ webpage.



Unchannelized LightSpeed1000™

Unchannelized LightSpeed1000™ Dual OC-3 / STM-1, OC-12 / STM-4 Tester

GL's LightSpeed1000™ hardware platform (PCIe Card and USB Pod) is capable of OC-3/12 and STM-1/4 wire-speed processing on quad optical ports for functions such as wire-speed recording and wire-speed playback of Unchannelized ATM, PoS, and RAW Traffic.

For more details, visit LightSpeed1000™ webpage.



Optical Carrier, SONET, SDH Test Platforms



1U mTOP™ with 3x LTS1000



Stacked 1U mTOP™ with 6x LTS1000



LightSpeed1000™ mTOP™ Probe Unit

LightSpeed1000™ mTOP™ High Density OC-3/12, STM-1/4 Testers

LightSpeed1000™ hardware platform is capable of OC-3/12 and STM-1/4 wire-speed processing on quad optical ports for functions such as wire-speed recording and wire-speed playback of Unchannelized and Channelized ATM, PoS, and RAW Traffic.

The sleek design of the unit allows to stack multiple such units in a rack enclosure making it a high form-factor solution.

mTOP™ is a 1u or 2U rack mount enclosure, w/ or w/o Single Board Computer (SBC). mTOP™ systems not only provides space efficiency, but also account for easier scalability and reduced licensing cost per port.

For more details, visit LightSpeed1000™ webpage.

LightSpeed1000™ mTOP™ Probe Unit

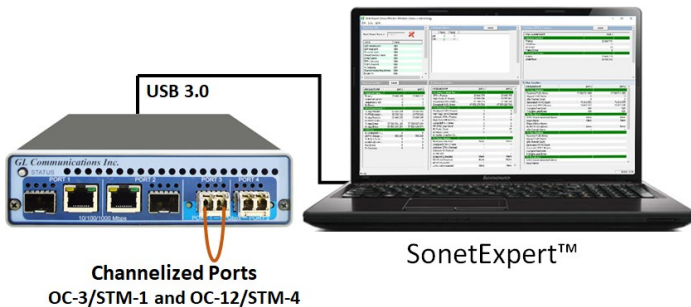
LightSpeed1000™ mTOP™ Probe unit includes USB hardware unit along with necessary PC interface, which makes it a complete stand-alone portable solution suitable for field testing. It is a perfect optical test tool for customers who require portable and remote accessibility.

SBC interface of the probe unit - Intel Core i3 or optional i7 NUC Equivalent, Windows® 10 64-bit Pro Operating System, USB 2.0 or 3.0 Ports, 12V/3A Power Supply, 256 GB Hard drive, 8G Memory (Min), Two HDMI ports.

For more details, visit LightSpeed1000™ webpage.



Optical Carrier, SONET, SDH Test Platforms



SonetExpert™

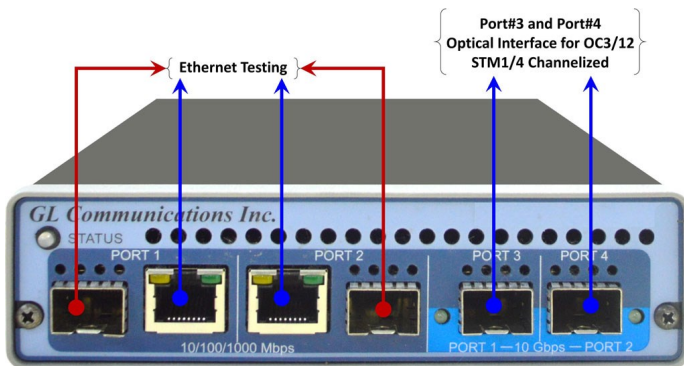
SonetExpert™ Channelized Analyzer OC-3/12, STM-1/4 Testers

SonetExpert™ hardware platform (USB Unit) is capable of OC-3/STM-1 and OC-12/STM-4-wirespeed processing on two optical ports (Port 3 and Port 4) for channelized data carrying many independent unframed/framed T1 and E1 streams.

In an OC-3/STM-1, all 84 T1s or all 63 E1s can be identified and processed in transmit and receive modes. In an OC-12/STM-4, all 336 T1s or all 252 E1s can be identified and processed in transmit and receive modes.

SonetExpert™ Channelized Analyzer

SonetExpert™ Channelized Analyzer comprises of hardware and software receiving and transmitting data using SONET and SDH networks and communicating with the GL Soft T1/E1 Analyzer application. Provides an essentially the same feature rich functionality as GL hardware based [T1/E1 Analyzers](#) with the difference that T1/E1 frames are multiplexed into SONET/SDH frames and transmitted over optical lines.

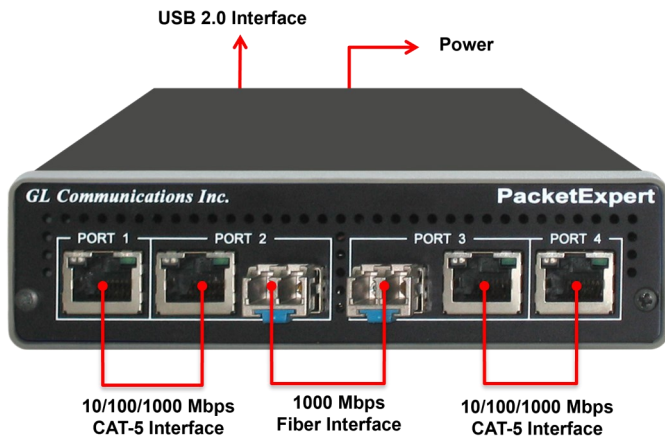


SonetExpert™ Hardware Unit

For more details, visit [SonetExpert™ Channelized \(SEC\) Analyzer](#) webpage.



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PacketExpert™ 1G - Portable Unit

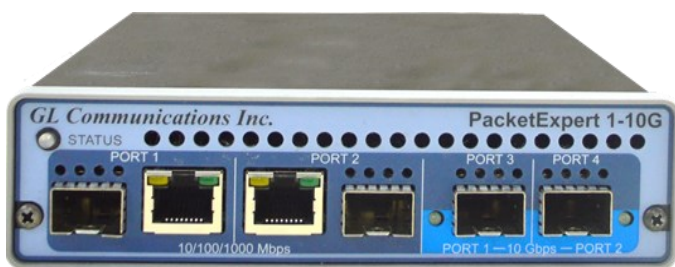
PacketExpert™ 1G Optical and Ethernet Tester

PacketExpert™ is a portable (USB based) Quad Port Ethernet / VLAN / MPLS / IP / UDP Tester with 4 Electrical Ethernet Ports (10/100/1000 Mbps) and 2 Optical Ports (1000 Mbps). The PacketExpert™ connects to a Notebook PC through a USB 2.0 interface.

Two of the 4 ports have both Electrical and Optical interfaces, enabling BERT and RFC 2544 testing on optical fiber links also. User selectable Electrical and/or Optical interface for Port 2 and Port 3 allows mixed technology testing.

Optical Ports can operate in 1000 Mbps speed line rate in Full Duplex mode only.

For more details, visit PacketExpert™ webpage.



PacketExpert™ 10GX - Portable Unit (PXN100)

PacketExpert™ 10GX (1G/10G) Multi-Functional Ethernet Tester- Portable Unit

PacketExpert™ 10GX, a multi-functional ethernet tester supports all interfaces, functionality and port capacity similar to PacketExpert™ 10G for comprehensive testing of 10 Gbps / 1 Gbps wirespeed Ethernet/IP networks.

The PacketExpert™ 10GX includes two 10/1 Gbps Optical ports, and two 10/100/1000 Mbps Electrical/Optical capable ports. The 10/1 Gbps Optical ports can be down-shifted to support 1Gbps Electrical ports, thus offering 4 Electrical / 4 Optical 1 Gbps ports for ethernet testing.

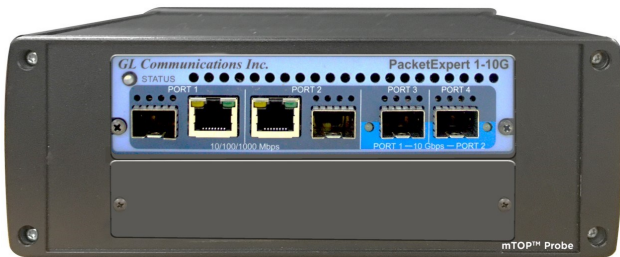
For more details, visit PacketExpert™- Multi-Functional Ethernet/ IP Test Solution webpage.



Optical Carrier, SONET, SDH Test Platforms



PacketExpert™ 1G mTOP™ Probe Unit



PacketExpert™ 10GX mTOP™ Probe Unit



**1U mTOP™ with 3x PXN100 USB units
(MT001/MT001E + PXN100)**



**1U mTOP™ with single PXN100 USB unit
(MT001/MT001E + PXN100)**

PacketExpert™ 1G/10GX mTOP™ Probe Unit

The sleek design of PacketExpert™ 1G USB unit and the PacketExpert™ 10GX USB unit allows them to be easily incorporated within the mTOP™ Probe box.

mTOP™ Probe unit along with the USB hardware unit includes necessary PC interface, which makes it a complete stand-alone portable solution suitable for field testing.

SBC interface of the probe unit - Intel Core i3 or optional i7 NUC Equivalent, Windows® 10 64-bit Pro Operating System, USB 2.0 or 3.0 Ports, 12V/3A Power Supply, 256 GB Hard drive, 8G Memory (Min), Two HDMI ports.

For more details, visit [Multi-Port GigE Ethernet/IP Tester](#) webpage.

PacketExpert™ mTOP™ 10G/1G Multi-Port Ethernet Tester

The sleek design of PacketExpert™ 10GX (PXN100) portable hardware allows to easily stack multiple USB units in a mTOP™ 1U/2U rack mount enclosure (MT001/MT001E, MT002) to provide high density GigE ports form factor solution (MT001/MT001E + PXN100) for testing GigE switches, routers and network conditions. It is perfect ethernet test tool for customers who require multi-port testing but are constrained by lab space. It is a compact with reduced power requirements appliance for high performance and optionally can include 12-port user-configurable TTL trigger ports as an important enhancement.

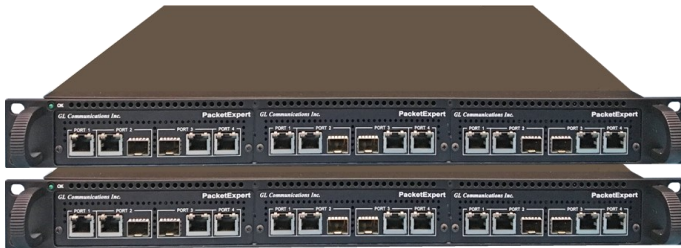
For more details, visit [Multi-Port GigE Ethernet/IP Tester](#) webpage.



Optical Carrier, SONET, SDH Test Platforms



PacketExpert™ 1G mTOP™ 1U Rack Solution



Stacked 1U PacketExpert™ 1G mTOP™ Rack



PacketExpert™ 1G - SA (4 ports)

PacketExpert™ mTOP™ 1G Rack Solution

Multiple PacketExpert™ 1G USB hardware units can be stacked in mTOP™ rack forming a High Density 12/24 GigE ports solution for testing multi-port switches, routers and end-to-end networks. Each of the 12/24 GigE port supports auto-negotiation and flow control. The chassis comprises of both electrical and optical (fiber) interfaces.

Each GigE port provides independent Ethernet/VLAN/MPLS/IP/UDP testing at wirespeed with applications such as BERT, Smart Loopback, BERT/Loopback, and RFC 2544. BERT is implemented for all layers. RFC 2544 is applicable for Layers 2, 2.5, and 3, and Loopback is applicable for Layers 2, 3, and 4.

Packet Analyzer hardware is capable of generating event driven triggers based on packet filters. For each packet that satisfies filter criteria that will be forwarded for timestamping and synchronizing with other equipment.

For more details, visit [Multi-Port GigE Ethernet/IP Tester](#) webpage.

