GL Communications Inc.

T3 E3 Platforms

October 2023

- T3 E3 Portable USB Analyzer
- mTOP™ Rackmount and Probe T3 E3 Analyzer
- mTOP™ Rackmount and Probe T1 E1, and T3 E3 Testers
- Physical Layer Analysis
- Unchannelized T3 E3 Platforms
  - ⇒ T3 E3 HDLC Tx/Rx Test + Analyzer (GUI)
    Send Receive Analyze HDLC over T3 E3
  - ⇒ T3 E3 Frame Relay Protocol Analyzer
  - ⇒ T3 E3 ATM Protocol Analyzer
  - ⇒ T3 E3 PPP Protocol Analyzer with PDA
- Channelized T3 E3 Platforms
- Windows Client Server for T3 E3 Analysis

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T3 E3 Platforms

Front Panel

Back Panel

T3 E3 Portable USB Analyzer

T3 E3 Portable USB Analyzer

GL's T3 E3 Analyzer is available as portable as well as a rackmount system. A portable USB-based unit supports 2x T3 E3 ports per unit. GL's T3 E3 Analyzer is capable of processing signaling, voice, and data full T3 (DS3) or E3 data streams, dropping and inserting T1 (DS1) or E1, and analysis of HDLC, ATM, Frame Relay, and PPP Protocols. It includes various signal testing capabilities for Unchannelized (Unstructured) and Channelized (Structured) T3 E3 Traffic.

For more details, visit https://www.gl.com/test-high-speed-wan-services-t3-e3-ds3-line.html

T3 E3 mTOP™ Rackmount Analyzer

mTOP™ Rackmount and Probe T3 E3 Analyzer

A 2U Rack supports 6x T3 E3 ports (6 * 672 DS0s) per unit. Multiple rack units can be stacked together for greater scalability.

mTOP™ T3 E3 Probe unit includes GL's USB based T3 E3 Analyzer hardware unit combined with necessary PC interface, which makes it portable stand-alone unit suitable for field testing.

For more details, visit https://www.gl.com/test-tools-in-rack-based-platforms.html

mTOP™ T3 E3 Probe

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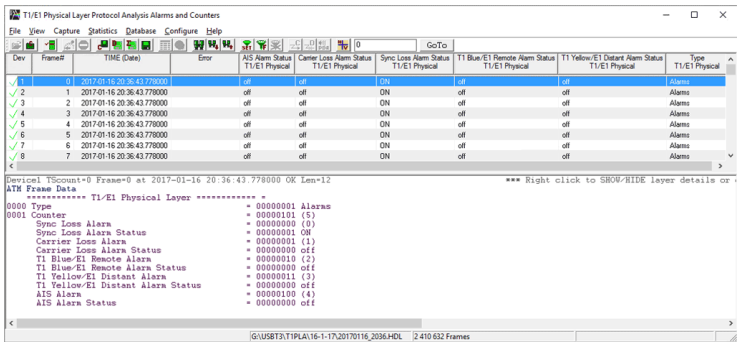
T3 E3 Platforms

Rackmount mTOP™ T3 T1 E3 E1 Multi Interface

mTOP™ Rackmount - T1 E1, and T3 E3 Testers

GL's rack based **Channelized T3 E3 Analyzer**, supports T3 E3 and T1 E1 Multi-interface. A T3 (DS3) consists of a total of 28 T1s, or 672 full duplex voice channels. Similarly, an E3 consists of a total of 16 E1s, or 480 full duplex voice channels.

For more details, visit https://www.gl.com/test-high-speed-wan-services-t3-e3-ds3-line.html



Physical Layer Analysis

Physical Layer Analysis is used to monitor T3 E3 and T1 E1 line alarms. The analyzer helps to track the time at which alarms (Sync Loss, Carrier Loss, Remote, Distance MF, AIS) occurs and periodically send these information to either centralized database such as Oracle DB, or send traps to SNMP monitoring applications.

For more information, visit https://www.gl.com/16-port-t1-e1-analysis-pcie-card-tscan16.html

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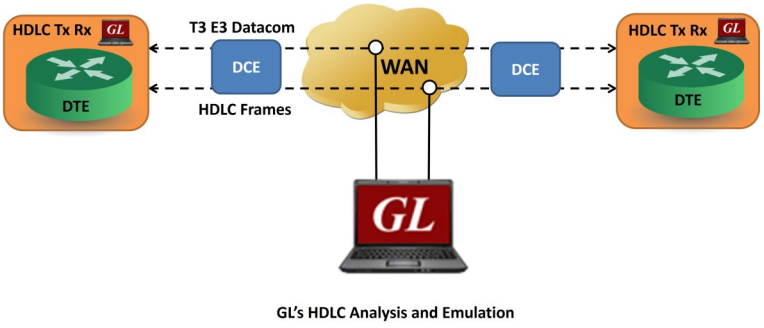
Unchannelized T3 E3 Platforms



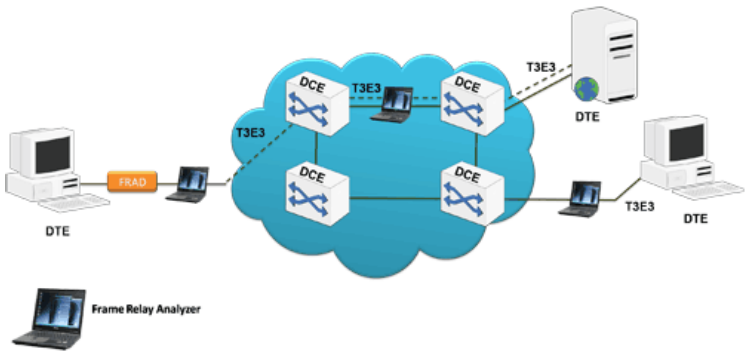
GL's HDLC Analysis and Emulation

HDLC Protocol Analysis for T3 E3 Analyzer`

T3 E3 Datacom HDLC Protocol Analysis

GL's T3 E3 Datacom HDLC protocol analyzer provides the capability to capture, and analyze HDLC data on a T3 E3 Datacom lines. There may be a single data channel per T3 E3 Datacom line. After setting the T3 E3 Datacom ports and FCS type and starting the decoding process, the main screen displays the captured HDLC frames. Flags are stripped, and all other data is presented, including FCS bytes.

In addition to HDLC Analyzer, T3 E3 Datacom analyzer supports HDLC Tx Rx Test application that further helps in transmitting and capturing pre-defined HDLC frames. For more details, visit https://www.gl.com/t3-e3-datacom-hdlc-analysis.html



T3 E3 Frame Relay Protocol Analyzer

T3 E3 Frame Relay Protocol Analyzer

GL's T3 Frame Relay Protocol Analyzer can be used to analyze and decode frames conforming to Q.921, Q.922, LAPF, Frame Relay Forum standard -FRF.9 and FRF.12, Multiple Protocol Encapsulation, LCP RFC1661, Q.933 SVC and LMI SNAP, PPP, IP, SMTP, POP3 and so on. It also analyses Permanent Virtual Connection (PVC) and Switched Virtual Connection (SVC) frames.

For more details, visit https://www.gl.com/t3-e3-frame-relay-analysis.html

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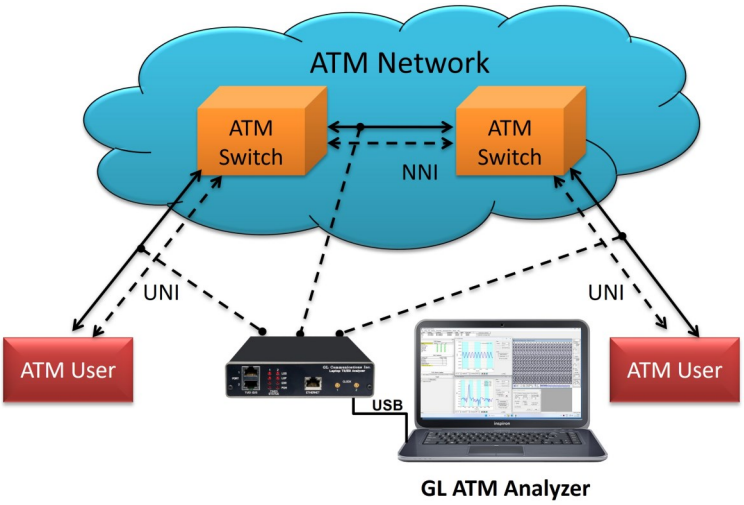
Unchannelized T3 E3 Platforms



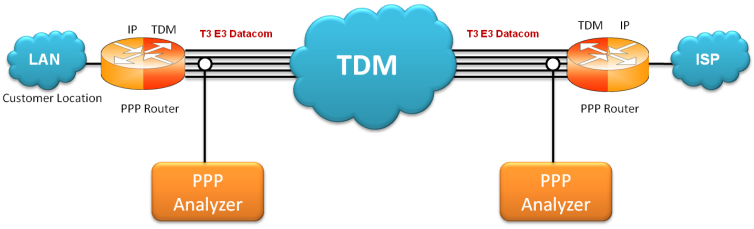
ATM in a T3 E3 Network

T3 E3 ATM Protocol Analyzer

Asynchronous Transfer Mode (ATM) is a flexible network, which carries voice, video, and data in the same way, i.e. fixed length cells. It has generated a number of revenue opportunities because of its different classes of service support for multimedia traffic, efficient bandwidth management for burst traffic, support for LAN/WAN architecture and high performance via hardware switching.

GL's T3 ATM Analyzer is used to analyze and decode different ATM protocols like ATM, AAL2 Protocols (CPS-SDU, SSSAR-SDU, and SSCS), AAL5 (CPCS), UNI and others across U plane and C plane of UNI and NNI interface.

For more information, visit https://www.gl.com/t3-e3-atm-analysis.html



Analysis of PPP frames over T3 E3 lines

T3 E3 PPP Protocol Analyzer with PDA

The GL's PPP Analyzer can be used to capture and decode a host of PPP protocols exchanged between pairs of nodes over T3 E3 Serial Data Communications links. It provides useful analysis of the PPP, MLPPP, and MC-MLPPP protocols which includes distribution of protocols, protocol fields, frame lengths and frame status.

A user can obtain detail analysis of the protocol and can perform various statistics measurements. PPP analyzer also supports Packet Data Analysis module (requires additional license) to perform detail analysis of PPP packets over IP and segregates them into SIP / H323 / Megaco / MGCP / T.38 Fax calls.

For more details, visit https://www.gl.com/t3-e3-ppp-analysis.html

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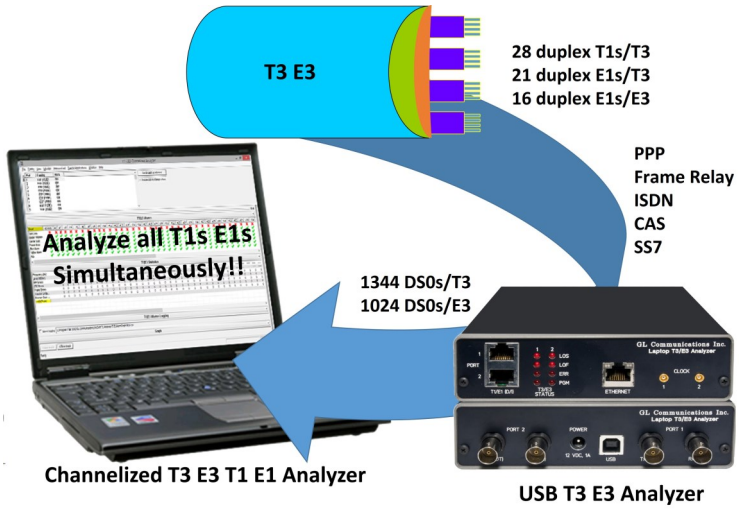
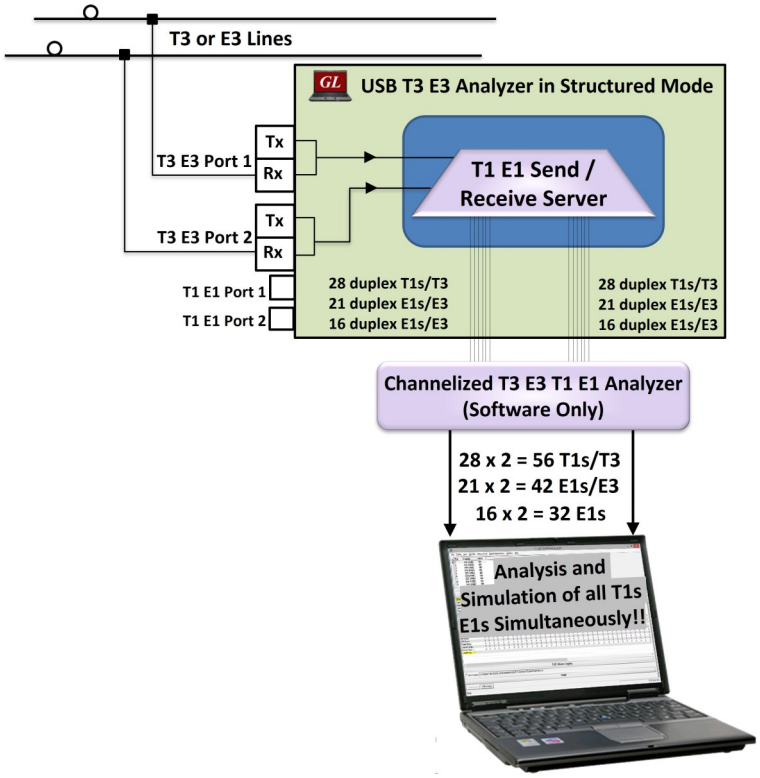
Channelized T3 E3 Platforms





Channelized T3 E3

The T3 E3 hardware platform with associated T1 E1 Receive Server and Channelized T3 E3 analyzer software can capture, record, and monitor multiple T1 or E1 channels over Channelized T3 E3 links. It can perform analysis of various signal types including voice, digits, tones, fax, modem, and raw data.

The Channelized T3 E3 to T1 E1 solution, comprises of two modules, namely, the High-Speed T3 E3, and Low-Speed T1 E1 modules. These two modules are actually two separate processes running on the same computer. The High-Speed T3 E3 process is called as T1 E1 Receive Server, as the name suggests it runs as a service and works with USB T3 E3 hardware. The Low-Speed T1 E1 module part is referred to as Channelized T3 E3 analyzer software.

The T1 E1 Receive Server application within USB T3 E3 analyzer acts as software based Multiplexer- Demultiplexer application capable of channelization of a T3 signal into 56 independent T1 channels and an E3 signal into 32 E1 channels. The channelized streams containing T1 E1 frames are forwarded to T3 E3 Channelized T1 E1 analyzer software over UDP using GL Message Protocol for analyzing frames per channel.

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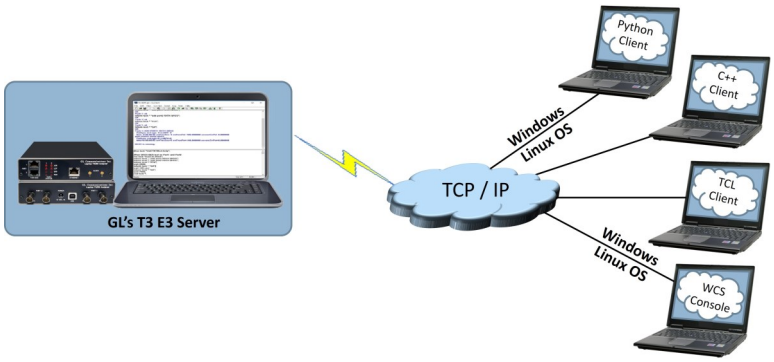
T3 E3 Platforms



Windows Client Server for Laptop T3 (DS3)/ E3 Analyzers

Windows Client Server for T3 E3 Analysis

GL's Windows Client/Server software is a non-GUI based program for remote, scripted, and automated control of configuration, capture, transmission and more. T3 E3 Cards in a server mode can be easily controlled through software based clients at remote or local sites via TCP/IP sockets, thus allowing multi-site connectivity. Connectivity can be via Dial-Up, LAN, WAN, or more typically the Internet. The server software can run multiple tasks simultaneously at the request of the client software.

For more information, visit https://www.gl.com/t3-e3-windows-client-server.html

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