



T1 E1 Platforms

November 2023

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GL Communications Inc.

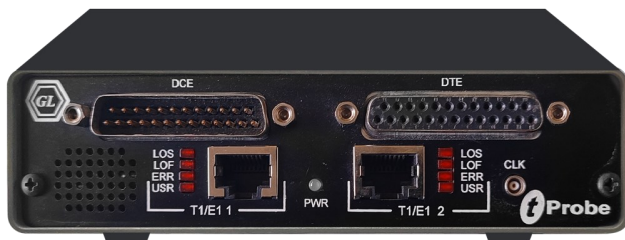
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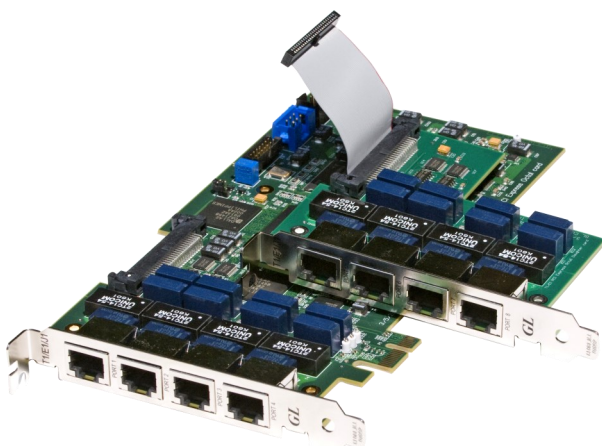
T1 E1 Platforms



tProbe™ T1 E1 VF Unit



tProbe™ Datacom in DTE Mode



Octal & Quad T1 E1 boards

tProbe™ T1 E1, VF, Datacom, FXO/FXS

GL's **tProbe™** is an enhanced version of our popular USB-based T1 E1 VF Analyzer / Emulator. This hardware incorporates all the features of the previous analyzer such as portability, USB interface, remote accessibility, scripting, and a vast collection of optional applications. It is enhanced with a forward thinking hardware design for future daughter board expansion capabilities, that includes support for 10/100 Ethernet Interface, 2-Wire Daughter Board for FXO and FXS (RJ-11) connections, embedded processor flash and platform flash, Datacom interfaces, and more. The Datacom board supports the following DTE/DCE interfaces.

For more details, visit [tProbe™ - T1 E1 VF and Serial Data Analysis and Emulation Hardware](#) webpage.

- RS-232 (V.28)
- X.21 (V.11)
- RS-449/V.36 (V.10 & V.11)
- EIA-530 (V.10 & V.11)
- EIA-530A (V.10 & V.11)
- V.35 (V.35 & V.28)

Quad / Octal T1 E1 Boards

GL's **Octal & Quad T1 E1 boards** are high density PCIe cards that provide Four (4) or Eight (8) RJ-48 T1 E1 ports and multiples thereof. For example, configurations of 8, 12, 16, 64 T1 E1s in a single rack are possible. Octal boards are compatible with dual, quad, and higher core motherboards and software that simulate dual and quad cores (hyper-threading).

For more details, visit [T1 E1 Quad and Octal Analysis & Emulation Hardware](#) webpage.



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Dual T1 E1 Express (PCIe) Card

Dual T1 E1 Express (PCIe) Boards

GL's **Dual T1 E1 Express (PCIe) Boards** are high-density **dual** T1 or E1 boards with newer PCIe (x1) bus interface. These cards are identical to the portable tProbe™ units, except for FXO FXS and Datacom functionality.

The Dual T1 E1 Express (PCIe) Boards also support enhanced VF drop and insert capabilities with software selectable VF Tx and Rx impedances (135Ω, 150 Ω, 600 Ω, 900 Ω, or High), Pulse Mask Compliance Testing, Jitter Generation and Measurement applications.

For more details, visit [Dual T1 E1 Express \(PCIe\) Analysis & Emulation Boards](#) webpage.



tScan16™ - 16 T1 or E1 PCIe Analysis Boards (Rx only)

GL's **tScan16™** is a high-density T1 E1 board with 16 ports and the newer PCIe (x1) bus interface. The sixteen T1 or E1 ports are **Receive-only** ports optimized for high performance voice and data capture, monitoring, and analysis requirements. tScan16™ extends the family of GL's T1 E1 platforms with greater density, increased ports, and reduced power. Most all "[Rx Applications](#)" are available for tScan16™ cards.

For more information, visit [tScan16™ - T1 E1 Analysis Hardware \(16 T1 or E1 Rx Only Ports\)](#) webpage.



tScan16™ 16 T1 or E1 PCIe Analysis Board



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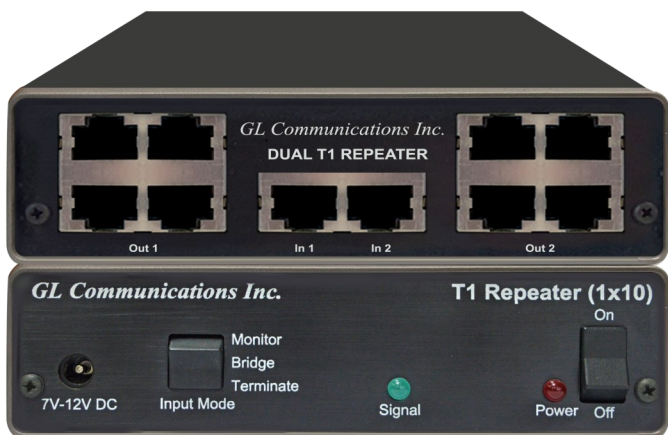


LinkTest™ Dual E1

LinkTest™ Dual E1 Datacom

The GL's robust **LinkTest™ Dual E1** is a handheld dual port tester for E1 & data communications (V.11 / X.24, V.24/RS232, V.35, V.36/RS449, EIA-530, EIA-530A) interfaces. Port A is full featured 2048 kb/s interface. On the other hand, Port B usage is configurable (2048 kb/s TX/RX, co-directional, clock input). The LinkTest™ Dual E1 has an external DC input but it also has internal batteries. Test results can be saved in a memory stick or transferred to a PC. This makes this tester suitable for field testing applications.

For more information, visit [LinkTest™ Dual E1](#) webpage.



Dual Multiport Repeater (RJ45 Version)

Multiport T1 E1 Repeaters (ISDN & CAS protocols)

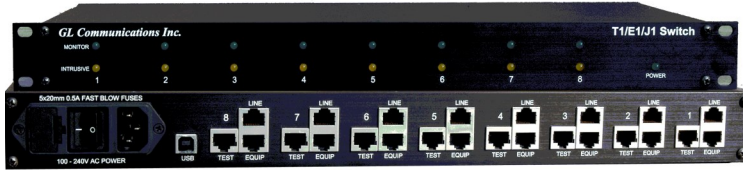
GL's **Multiport Repeaters** are used to generate multiple identical T1 or E1 outputs for each T1 or E1 input, thus increasing the range of transmission of T1 or E1 signals.

The single RJ45 version provides twelve identical outputs from a single T1 or E1 input. The dual version provides four outputs for each of the two inputs. T1 and E1 signals are terminated at 100Ω or 120Ω respectively. The output of one section can be fed to the input of the second section, thereby providing seven identical outputs consisting of seven (7) bantam or RJ45 outputs.

For more details, visit [T1 E1 Single or Dual Multiport and Optical Tap Repeaters \(OTR\)](#) webpage.



T1 E1 Platforms



T1 E1 J1 Switch

T1 E1 J1 USB Controlled Switch

The **T1 E1 J1 Switch** provides non-intrusive failsafe monitoring and intrusive test and diagnostic capability for up to 8 full duplex T1, E1, and J1 lines. The unit provides two RJ-48c connectors for a through connection for equipment and line connections and a Rj-48c monitor connector for monitoring both directions of a full duplex high speed line.

The switch can be remotely controlled via a USB connection. GUI and scripted control software is available for placing the switch in various modes for monitoring and diagnostic purposes. The T1 E1 J1 Switch can be configured/controlled from a local GUI or remotely using GL's [Windows Client Server](#) (WCS).

For more details, visit [T1 E1 J1 USB Controlled Switch](#) webpage.

VQuad™ in TDM Network (ISDN & CAS protocols)

GL's **VQuad™ with TDM option** provides the ability to perform manual or automated tests on the T1 or E1 networks (ISDN and CAS protocols) utilizing the T1 E1 hardware.

Using T1 E1 Analyzer, the VQuad™ can generate and receive up to 8 simultaneous CAS, PRI ISDN, or No Call Control (NOCC) calls on either T1 or E1 trunks. Included with the PRI ISDN are all variants associated with ANSI and ETSI specifications.

For more details, visit [VQT in TDM Network](#) webpage.



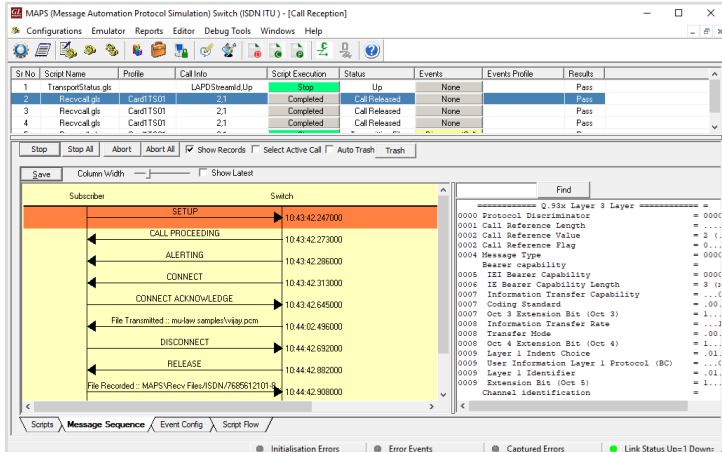
VQuad™ in TDM Network



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MAPS™ - Message Automation & Protocol Simulation

(Bulk Call Simulator with all Traffic Types - FAX, Modem, Digits, Tones, Voice)



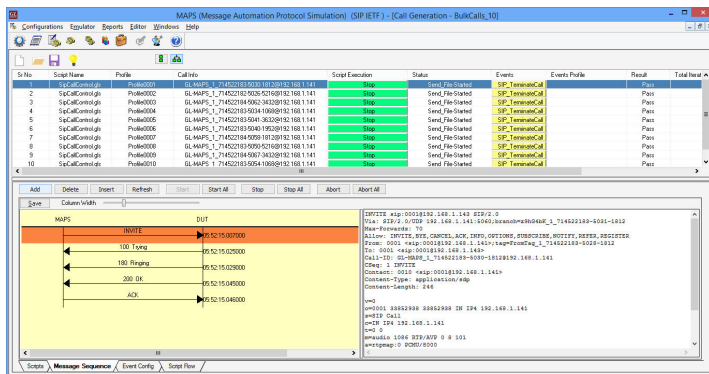
GL's Message Automation & Protocol Simulation (MAPS™) is a protocol simulation and conformance test tool that supports a variety of protocols. All the GL's T1 E1 Hardware platforms supports MAPS™.

MAPS™ is designed to work on TDM interfaces as well as on the IP/Ethernet interfaces. TDM signaling protocols such as SS7, ISDN, MLPPP, CAS, APS (FXO FXS), MAP, CAP, GSM, INAP, and BICC that operate over TDM networks. VoIP protocols include SIP, SIP-I, MEGACO, MGCP, SIGTRAN, Diameter, LTE, UMTS, GSM, GPRS, INAP, MAP, CAP, and BICC that operate over IP transport layer.

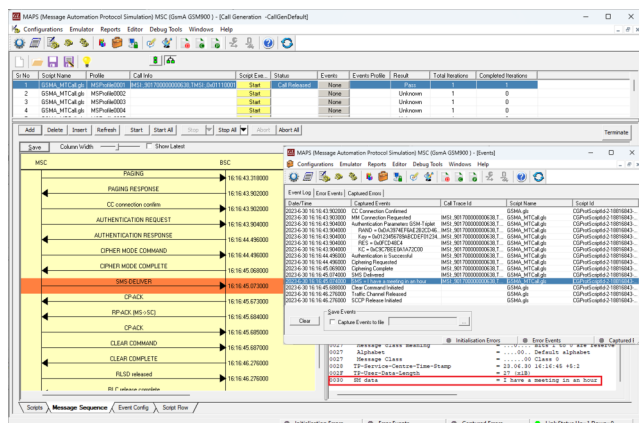
MAPS™ supports transmission and detection of various traffic types -

- TDM traffic simulation (XX610, XX620, XXFT0)
- TRAU GSM traffic (XX646) - over GSM (A and Abis) interfaces
- SMS (Short Message Service) services using signaling channel
- Automate the IVR testing process
- RTP traffic simulation (PKS102)
- Data traffic generation such as SMS, HTTP, Voice, Fax, Data, Video etc.
- Mobile traffic simulation (ETH101, ETH102) - over LTE and UMTS networks

TDM Traffic Events (MAPS™ Call Reception)



RTP Traffic Events (MAPS™ Bulk Call Generation)



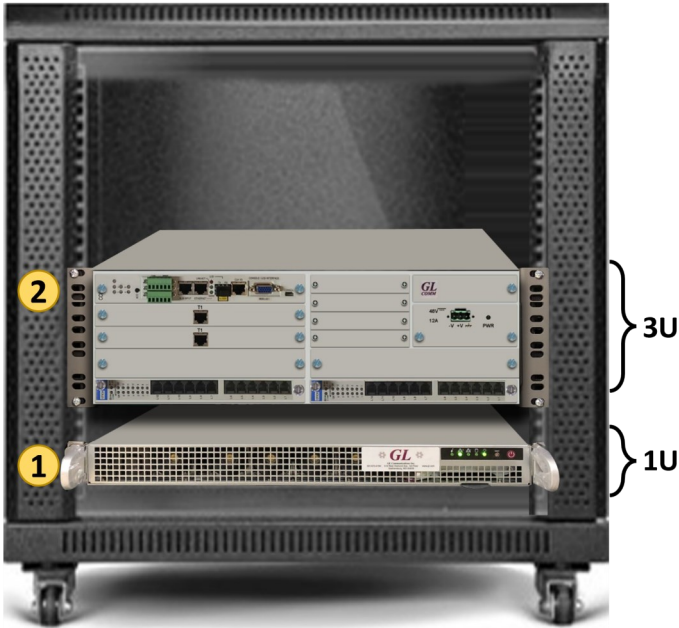
GSM SMS-MO/SMS-MT Procedure Events

For more information, visit [Message Automation & Protocol Simulation \(MAPS™\)](http://www.gl.com) webpage.



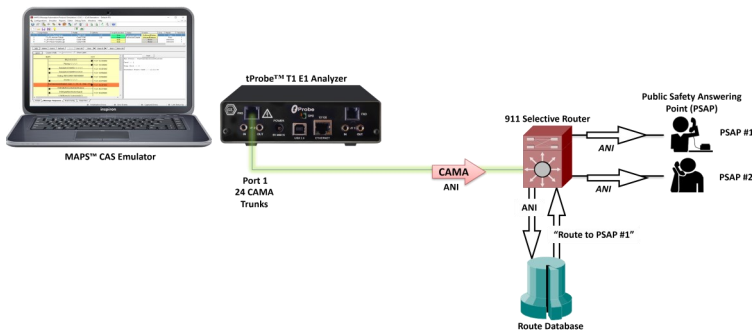
T1 E1 Platforms

MAPS™ APS 24 Ports



- 1 MAPS™ APS Server (Optional VQT Analysis)
- 2 APSCB-24 x 1

MAPS™ APS 24 Ports



CAMA Signaling Simulation

MAPS™ APS (MAPS™ CAS)

MAPS™ APS is a high capacity Analog 2-Wire FXO/FXS or 4-Wire E&M Bulk Call Generator that performs test on Central Office, PBX, Telephone Adapter, Gateway or other telecommunications equipment. It includes server hardware, GL MAPS™ software, channel bank(s), along with optional modules (Fax Emulation and Voice Quality Testing Analysis) in a compact rackmount system. MAPS™ APS system supports up to 96 independent FXO ports or FXS ports per 1U MAPS™ APS/ALS Server. More can be achieved by simply scaling the system with a 4U MAPS™ APS Server sporting 2 Octal T1 E1 Cards which can then support up to 384 analog ports.

For more information, visit [MAPS™ Analog Phone Simulator](#) webpage.

911 Call Simulator (CAMA Signaling Simulation)

CAMA - Centralized Automatic Message Accounting is a special analog trunk originally developed for long-distance billing but is now mainly used for emergency call services: 911 and Enhanced 911 (E-911). CAMA trunk connects a carrier switch directly to the Selective Router (SR), a special 911 Switch that in turn connects to many PSAPs.

CAMA Signaling Simulation and Monitoring is accomplished using GL's MAPS™ CAS Emulator and MAPS™ FXO FXS Emulator hardware and software applications. Similarly, MAPS™ ISDN Emulator and MAPS™ SS7 Emulator can perform 911 messaging and analysis over ISDN/PRI and SS7.

For more information, visit [Testing Emergency Call Services: 911, Enhanced 911 \(E-911\) & NG-911](#) webpage



T1 E1 Platforms



mTOP™ T1 E1 FXO FXS Tester



**mTOP™ T1 E1 FXO FXS Probe
(Front Panel View)**



mTOP™ tProbe™ T1 E1 w/Datacom Tester

mTOP™ T1 E1 FXO FXS Tester

mTOP™ FXO FXS rack enclosure is a sleek 1U appliance housing GL's USB based T1 E1 and FXO FXS hardware units for unified testing experience of TDM and Analog technologies.

The FXO port on the mTOP™ Tester rack unit permits non-intrusive capture and analysis of voice-band signals from a two-wire telephone line.

mTOP™ T1 E1 FXO FXS Probe unit includes GL's USB based **tProbe™** hardware unit with T1 E1 and FXO FXS interfaces for unified testing experience of TDM and Analog technologies.

For more information, visit [Multi-Interface TDM, Optical, and Packet/IP Rackmount & Probe Test Platforms](#) webpage.

mTOP™ T1 E1 Datacom Tester

mTOP™ tProbe™ w/Datacom rack enclosure is designed for the test and verification of data communications equipment and circuits – specifically serial interfaces that provide clock, data, and control signals. Software selectable modes are provided to emulate DTE, DCE and non-intrusive monitoring for both synchronous (sync), and asynchronous (async) modes.

Supports interface standards such as X.21, V.24, V.35, RS-449, RS-485, EIA-530 and EIA-530A. Various cables are provided for these interfaces to make testing convenient.

For more information, visit [Multi-Interface TDM, Optical, and Packet/IP Rackmount & Probe Test Platforms](#)

webpage.

