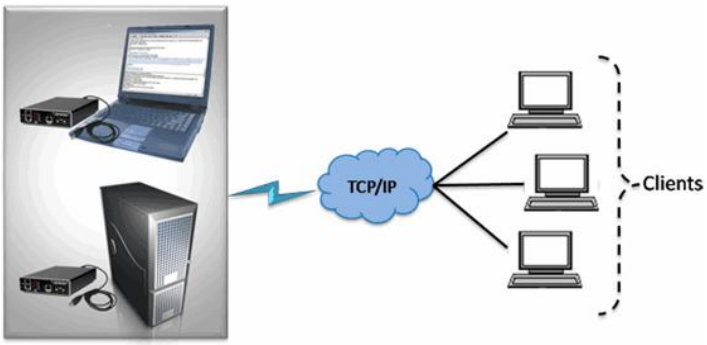
Windows Client/Server for T3/E3 Analysis



T3/E3 T1/E1 Ethernet Analyzer Server

Overview

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.

Server software runs multiple tasks simultaneously at the request of the client software. Server software runs under Windows 2000/XP and supports Portable USB T1/E1 Units platform.

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

Main Features

- Intrusive / Non-Intrusive T3/E3 Testing.
- Performance monitoring and testing of multiple site locations from a single client.
- Shared use of T3/E3 test equipment from multiple client locations.
- Ideal for automated testing on production lines.
- Uses the same intelligent parsing and messaging system used by GL's T1/E1 client-server.
- Simultaneous testing of high capacity T3/E3 systems through a single client.
- Integration of T3/E3 testing into more complex testing systems.
- Simple modifiable scripts to run various tests.
- Monitor, report, and record alarms locally or remotely.
- Wild card and sequential operators available in the command syntax, allows you to configure and control multiple elements of the test set using a fewer lines of commands.
- Free client software (with full source code) is available for download.
- Custom TCP/IP clients could be developed in any programming language to seamlessly integrate into your existing testing program.

Client applications that work with the Server are distributed freely and can be used as a template for more complex tasks. Currently clients are written in C++ scripting language. Clients can be run under any Windows® operating system.

Remote operation, Automation, & Multi-site Connectivity

Intrusive / Non-Intrusive T3/E3 Testing

Central Client Access of Multiple Server Sites

Process Complex and Automated Tasks

Multi-Tasking Server Architecture

Real-time Monitoring

Intelligent Parsing and Messaging

Customized TCP/IP clients

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GL Server Functions

The T3/E3 client program communicates with the T3/E3 server via TCP/IP-encapsulated commands and responses. The server performs 'actions' and 'tasks'.

- An 'action' is in response to a command' initiated by a client. The server performs the action immediately and notifies the client of the result.
- A 'task' is more complicated, and usually involves real time generation and processing of data. Multiple tasks can be initiated without completion of previous tasks.

The server informs the client on tasks: started, status, complete, and so on. Typical tasks are get software version, rx signal settings, loopback settings, alarm monitoring, tx rx framing formats, FEAC messages, line level and signal frequency and others.

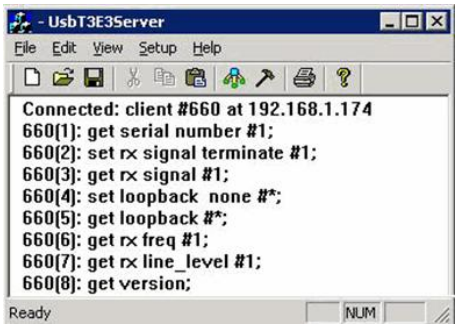

Figure: USB T3E3 Server

GL Client Functions

GL's client is distributed freely with server. Both commands and tasks are high-level functions, e.g. Rx signal settings, loopback settings, alarm monitoring, transmit receive framing formats, and so on

- A client can initiate multiple tasks simultaneously or sequentially (queue up tasks in succession).
- All exchanges between the client and server are displayed and can be logged to a file for later viewing.
- All commands are simple and self-explanatory.
- Values returned from the server can be easily accessed and stored as user-defined variables.

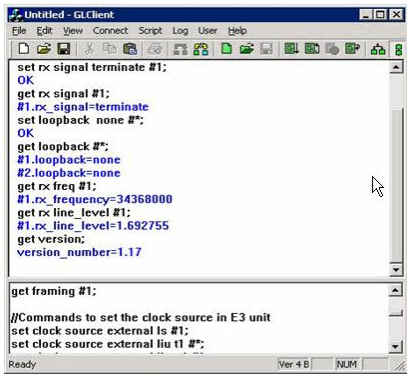

Figure: GL Client

Windows Client Server (WCS) Modules

WCS module XX610 - File Transmit & Receive

The Tx/Rx Files on unframed unchannelized T3/E3 (UsbT3E3FileXmit) is an optional WCS module that:

- Transmits data read from files
- Receives data to files
- Provides remote operation, automation, and multi-site connectivity

Sample Script for File and Reception:

```
run task "UsbT3E3FileXmit" using "QEND";
inform task * "rx #2 '\rx.dat' CONT";
inform task * "tx #1 'C:\Program Files\GL
Communications Inc\Laptop T3 Analyzer\Sample TxRx
Files\QRSS.BER' cont";
inform task * "start";
end task *;
```

```
run task "UsbT3E3FileXmit" using "QEND";
inform task 1 "tx #1 'c:\usb_t3e3.bit' EOF";
inform task 2 "rx #2 'c:\rx.dat' LIMIT 1000000";
inform task 1 "start";
inform task 2 "start";
```

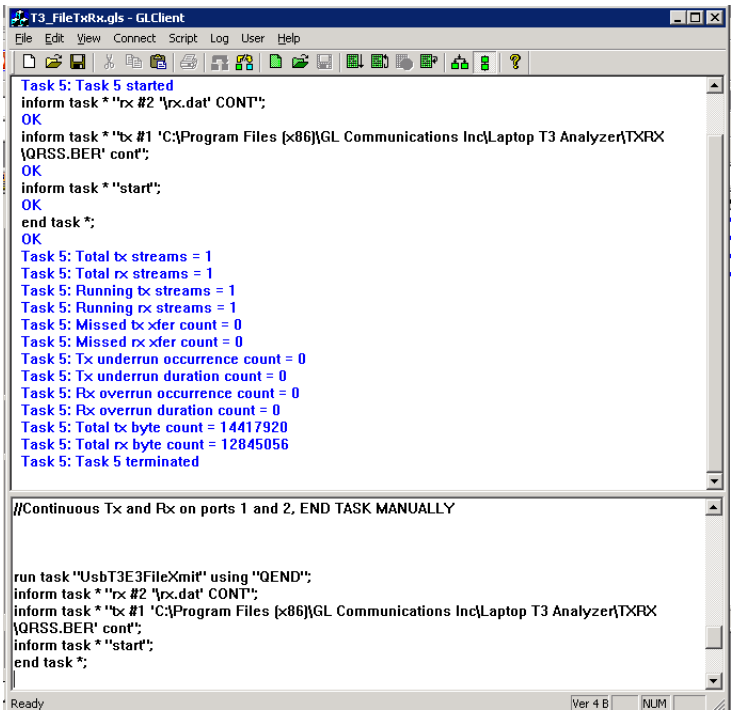

Figure: USB T3E3 File Transmission and Reception

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WCS module XX634 - HDLC Emulation and Analysis

The T3/E3 HDLC Tx/Rx Test (UsbT3E3HdlcTest) is an optional WCS module that:

- Sends HDLC frames with or without impairments
- Receives and verifies HDLC frames and optionally logs the errors
- Provides remote operation, automation, and multi-site connectivity

Sample Script for HDLC Emulation and Analysis :

```
//creates 2 streams on port 1 and 2, sequential
numbers of fixed length 8 byte long + 4 byte (crc
32 by default)  each consisting of 12000 frames
with 200 flags between frames

// insert some impairment ( corrupt 10
consecutive frames, skipping 9 frames, offs 3 XOR
5 ) on both the cards.

run task "UsbT3E3HdlcTest:tx";
inform task * "#1,2 SEQNUM FIXLEN 8 FRAMES 12000
FLAGS 200";
inform task * "error rep 10 skip 9 offs 3 xor
f5";
inform task * "start";
end task *;
```

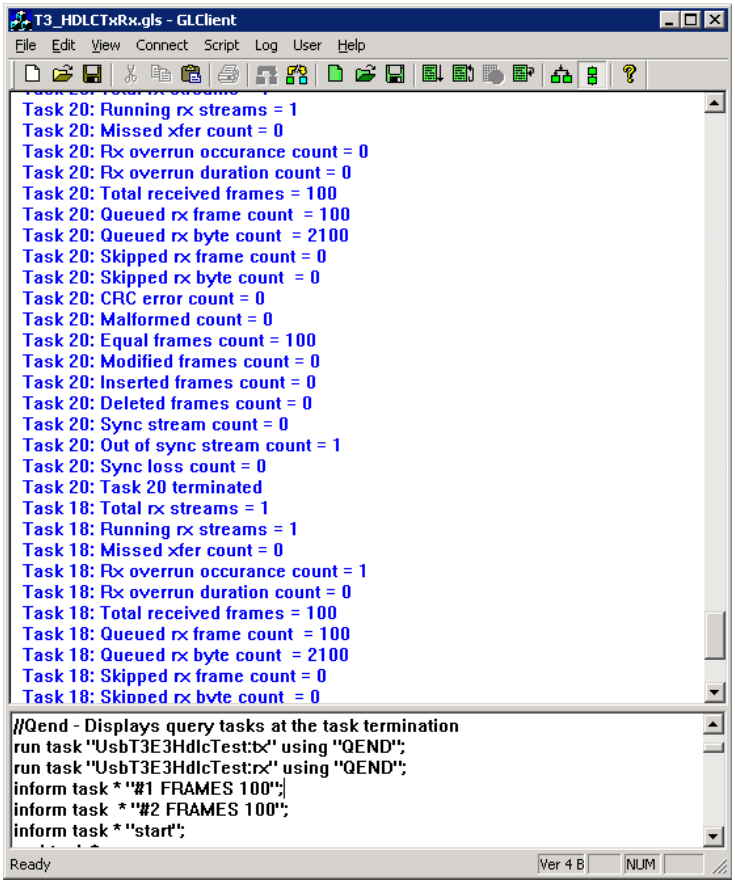

Figure: USB T3E3 HDLC Tx / Rx Test

WCS module XX635 - PPP Emulation and Analysis

The T3/E3 PPP Tx/Rx Test (UsbT3E3HdlcTest) is an optional WCS module that:

- Sends PPP frames with or without impairments
- Receives and verifies PPP frames and optionally logs the errors
- Provides remote operation, automation, and multi-site connectivity

Sample Script for PPP Emulation and Analysis:

```
//Transmit HDL File for a sample PPP trace

run task "UsbT3E3HdlcTest:tx" using "QEND";
run task "UsbT3E3HdlcTest:rx" using "QEND";
inform task  * "#2 EOF FLAGS 1 HDLFILE
'C:\Temp.HDL' ";
inform task  * "#1 EOF FLAGS 1 HDLFILE
'C:\Program Files\GL Communications Inc\Laptop T3
Analyzer\PPP\PPPBridged.HDL' ";
inform task * "start";
end task *;
```

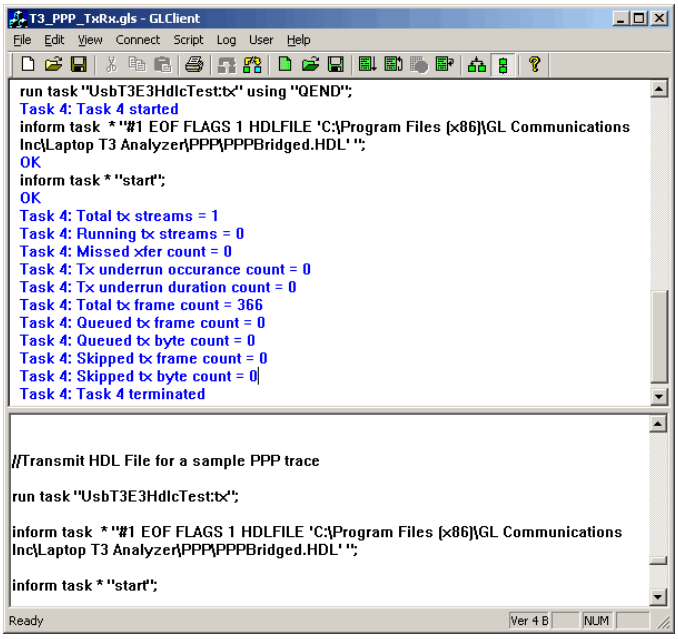

Figure: GL Client

Buyer's guide

TT3600/EE3600 – T3/E3 Basic Client Server Scripted Control Software

TT3610/EE3610 – T3/E3 Client Server Tx/Rx File

TT3634/EE3634 – T3/E3 Client Server High Throughput HDLC Tx/Rx Test

TT3635/EE3635 – T3/E3 Client Server High Throughput PPP Tx/Rx Test

For complete list, refer to http://www.gl.com/t3-e3-windows-client-server.html

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