

Transmit , Record, and Analyze HDLC Frames

Supports LAPF, LAPD, LAPD+IP, LAPX+IP Protocols

Summary, Detail, Hex-dump, and Statistic Views

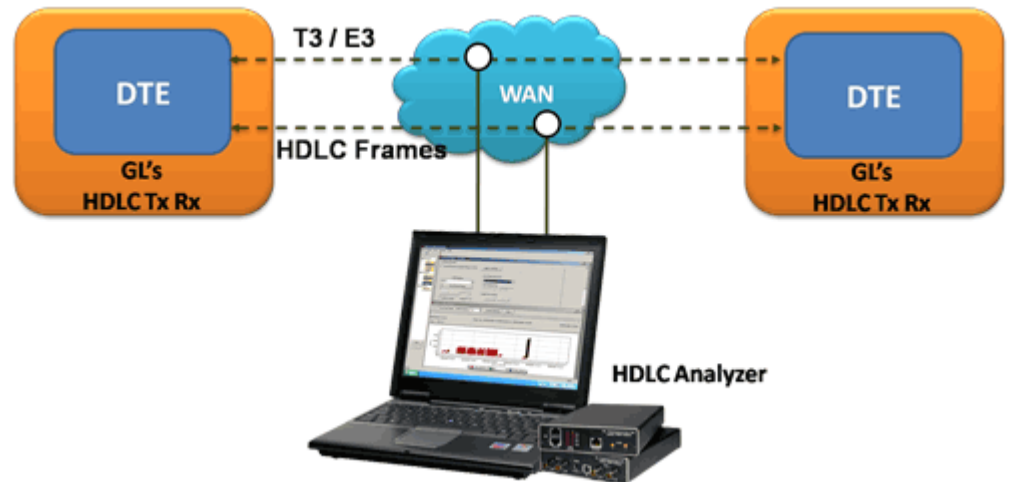
Search and Filtering Capabilities

Real-time and Offline Analysis

Export Summary and Detail Decode Information

Statistics Based on various Protocol Fields

## T3/E3 HDLC Test and Analysis



### Overview

GL's T3/E3 HDLC protocol analyzer provides the capability to capture and analyze HDLC data on T3/E3 lines. There may be a single data channel per T3/E3 line. After setting the T3/E3 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 analyzer supports HDLC Tx Rx Test application that further helps in transmitting and capturing pre-defined HDLC frames over unstructured T3/E3.

It generates frames in memory and fills them with 64 bit sequential integer numbers. At the end of each frame a Frame Check Sequence (FCS) is generated to verify the data integrity on the receive side.

### Main Features

- Displays summary, detail, hex-dump, and statistics views.
- Summary view displays device#, frame#, LAPD, LAPF specific information and IP information like source/destination IP address, TCP source port, TCP destination port etc., in a tabular format.
- Detail view displays decodes of a user-selected frame from the summary view.
- Statistics view displays statistics based on frame count, byte count, frames/sec, bytes/sec, etc., for the entire captured data
- Hex dump view displays the frame information in HEX and ASCII format of a user-selected frame from the summary view.
- Supports filtering and search features based on C/R, SAPI, TEI, CTL, P/F, N(S), N(R) and FUNC
- Capability to export summary to the comma separated values (CSV) format for subsequent import into a database or spreadsheet.
- Capability to export detailed decode information to an ASCII file.
- Real-time capture filter can be set for filtering frames based on the frame length.
- Multiple streams of HDLC traffic on various T3/E3 ports can be simultaneously decoded with single GUI instance.
- Trace files for offline analysis can be loaded in different GUI instances simultaneously

For more details, visit our web page <http://www.gl.com/t3-e3-hdlc-analysis.html>.



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## Analyzer Interfaces

The analyzer displays summary, detail, hex dump, and statistics views in different panes. The summary pane displays Frame Number, Time, Length, Error, C/R, SAPI, TEI, CTL, P/F, N(S), N(R), FUNC, etc. User can select a frame in the summary view to decode all fields in the detail view. The selected frame is analyzed and decoded according to protocol specifications. The Hex dump view displays the frame information in HEX and ASCII.

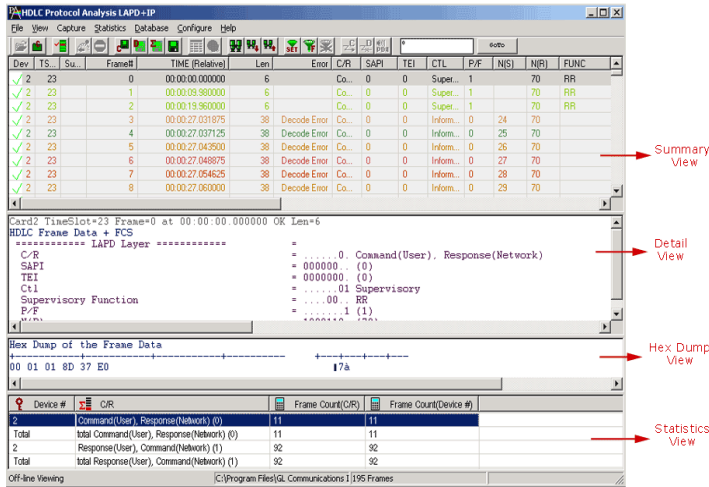


Figure: Analyzer Views

## Filtering and Search

There are two types of filters: capturing filter and view filter. The capturing filter is used to limit frames captured to a trace file. The view filter applies to the trace file before it is displayed. Filtering and search capability is a powerful feature of the HDLC Analyzer that isolates frames of interest from all frames in real-time, as well as offline. Users can specify length, offset, mask, and value to filter frames for real-time capture. The view filter applies to the captured frames and is based on the data link and decoded LAPD, LAPF and other application layers. Similarly, search capability helps user to search for a particular frame based on a specific search criteria.

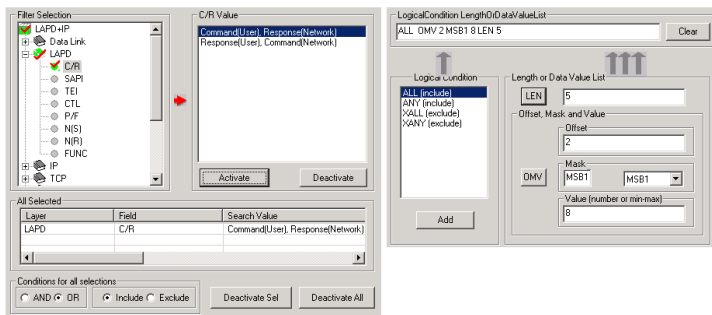


Figure: View Filter and Real-time Capture Filter Options

## Buyers Guide:

**TE3001** - Portable (USB) Dual T3 E3 / T1 E1 Hardware Unit—requires TT3001 or EE3001  
**TT3090 / EE3090** - T3 / E3 HDLC Tx/Rx Test + Analyzer (GUI) Send Receive Analyze HDLC over T3.

## Real-time and Offline Analysis

Multiple ports can be selected in a single instance of the analyzer to capture frames simultaneously. The recorded trace file can be analyzed offline and exported to an ASCII file or printed. Real-time capturing requires user to specify ports, and Frame Check Sequence (FCS) type.

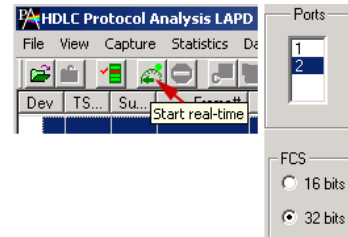


Figure: Port Selection

## Statistics View

Statistics is an important feature available in the HDLC Analyzer and can be obtained for all frames both in real-time as well as in the offline mode. Numerous statistics based on protocol fields can be obtained to study the performance and trend in an HDLC network.

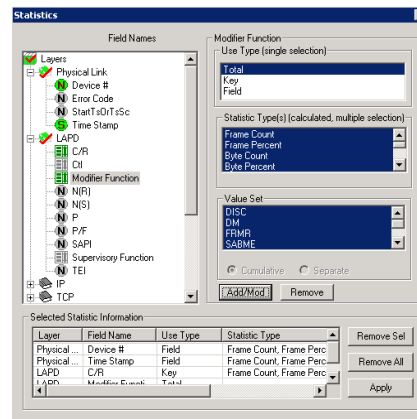


Figure: Define Statistics View

## HDLC Tx/Rx Test

The HDLC Tx Rx Test application is designed to transmit and receive HDLC frames over unstructured T3/E3. It generates frames in memory and fills them with 64 bit sequential integer numbers. The number is either truncated if the frame length is less than 8 bytes, or the same 8 bytes bytes are concatenated to make up a complete frame. Fixed, Variable, and Random frame length are supported.

The receiving part receives the frames and verifies if the received frames conform to the specified pattern, data sequence, and frame length. Frame, Length, CRC, Sequence errors are counted.

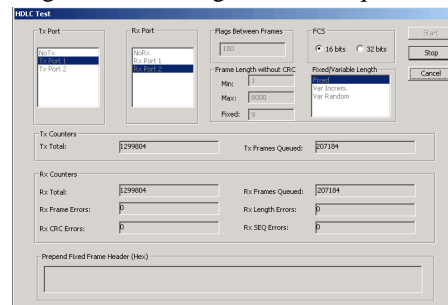


Figure: HDLC Tx and Rx Test options