

LAPV5, ISDN Call Signaling - Q.93, LCP, PP, BCC, & PSTN.

Real-time, Remote and Offline Analysis

Supports Inversion or Non-Inversion of Data

Multiple V5.x Link Monitoring

Filtering and Search Features

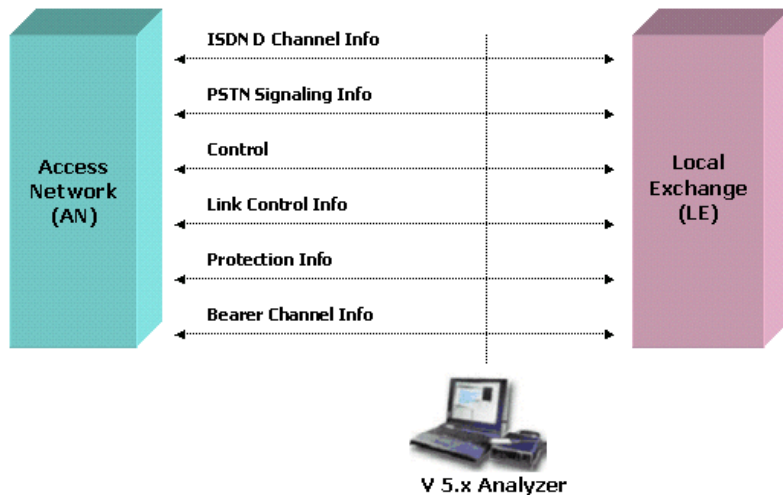
Summary, Detail, Hex Dump, Statistics, & Call Detail Views

Call Trace To Isolate call Specific Information

Export Summary and Detail View Information

Statistics Based on Frame-count, Byte-count, and more

V5.x Analyzer



Overview

V5.x is a switching and signaling telecommunication protocol between Access Network (AN) and Local Exchange (LE) and operates only on E1 circuits.

GL's V5.x analyzer can be used to capture and analyze a stream of frames from the link between LE and AN. The analyzer provides V5.x based on ETSI / ITU standard in order to decode according to the corresponding standards. Supports capturing and decoding of LAPV5, ISDN Call Signaling - Q.93 as layer 3, Link Control Protocol (LCP), Protection Protocol (PP), Bearer Channel Connection (BCC), and PSTN.

GL Communications supports the following types of V5.x analyzers:

- Real-time V5.x Analyzer (Pre-requisites: GL's E1 internal cards or E1 external units, required licenses and Windows XP (or higher) Operating System)
- Remote /Offline V5.x Analyzers (Pre-requisites: Hardware Dongle, and Windows XP (or higher) Operating System)

Main Features

- Provides Summary, Detail, Hex dump, Statistics, and Call Detail Views.
- Supports filtering and search based on LAPV5 parameters and Q.933 layer parameters such as C/R, SAPI, EF Address, CTL, P/F, Call Reference #, ISDN Message Type, Called Party Number, Channel Number, Progress Description.
- Call Detail Recording feature includes data link groups that help in defining the direction of the calls in a given network and form logical groups comprised of unidirectional (either 'Forward' or 'Backward') data links.
- Capability to export Summary View details to comma separated values (CSV) format for subsequent import into a database or spreadsheet.
- Capability to export detail decodes information to an ASCII file.
- Streams can be captured on the selected time slots (contiguous or non-contiguous), sub-channels or full bandwidth. Frames may also be contained in either one, n x 64 kbps, or n x 56 kbps data channels.
- The following variations are accommodated in the software: inverted or non-inverted data, byte reversal or non-reversal.
- Multiple streams of V5.x traffic on various T1/E1 channels can be simultaneously decoded with different GUI instances.
- Remote monitoring capability using GL's Network Surveillance System.
- Multiple remote clients may access a single T1/E1 server. Also, the T1/E1 server is fully functional while being accessed as a server. Thus, a user may perform T1/E1 operations on the server while a remote client is accessing the same server, in real time.

For more details, visit <http://www.gl.com/v5analyzer.html>



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Summary, Detail, and Hex dump Views

The analyzer displays Summary, Detail, and Hex dump view in different panes. The Summary View displays Frame Number, Time, Length, Error, C/R, SAPI, CTL, P/F, EF Address, FSM State, L3Addr FUNC, and more. User can select a frame in Summary View to analyze and decode in the Detail View. The Hex dump View displays the frame information in HEX and ASCII format.

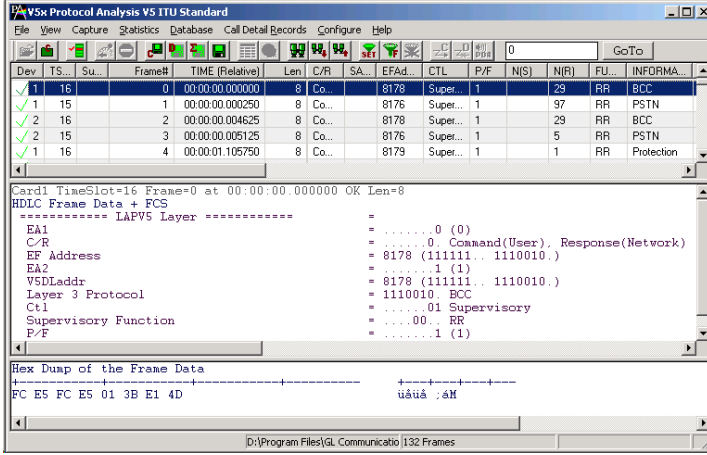


Figure: Summary, Detail, & Hex dump Views

Real-time, Remote, and Offline Analysis

Users can capture and analyze V5.x frames using either real-time or remote analyzers, and record all or filtered traffic into a trace file.

The recorded trace file can be used for offline analysis or exported to a comma-delimited file, or ASCII file. Real-time capturing requires user to specify timeslots, bit inversion, octet bit reversion, user/network side, FCS, and data transmission rate.

Recorded trace file can be played back on E1 using the file HDLC Playback application.

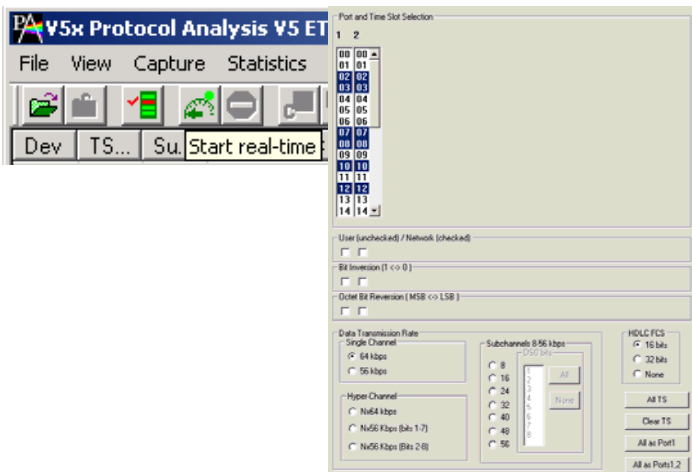


Figure: Stream / Interface Selection

Filtering and Search

Users can record all or filtered traffic into a trace file. Filter and search capabilities adds a powerful dimension to the V5.x analyzer. These features isolate required frames from all frames in real-time/remote/offline.

Users can specify custom values for frame length to filter frames during real-time capture. The frames can also be filtered after completion of capture based on Frame Number, Time, Length, Error C/R, SAPI, and more.

Similarly, Search capability helps user to search for a particular frame based on specific search criteria.

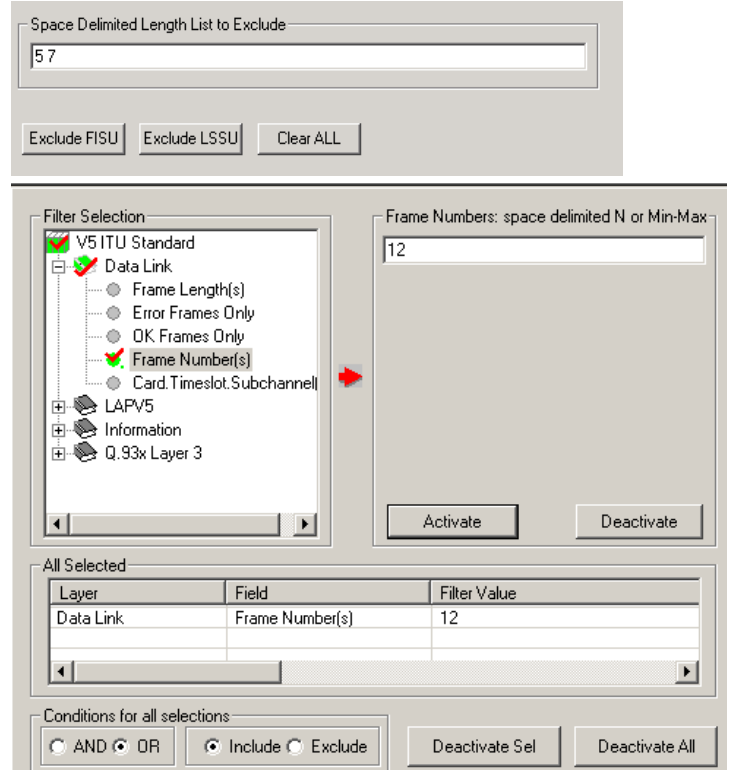


Figure: Real-time and Offline Filter

Call Detail Record & Statistics View

Important call specific parameters like Call ID, Call Status, Call duration, CRV, Release Cause, EF address, Type of Call and more are displayed in Call Detail View. Additionally, users are provided with the option to search a particular call detail record from the captured traces.

Various statistics can be obtained to study the performance and trend in the V5.x network based on protocol fields and parameters.

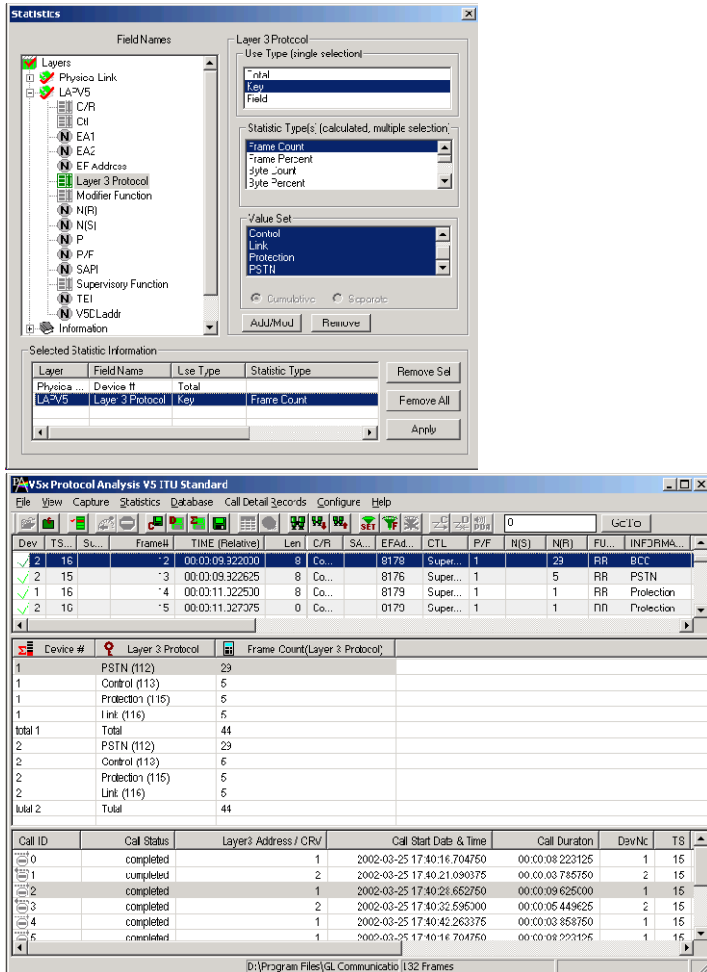


Figure: Statistics & Call Detail Record View

Buyers Guide:

- XX110 - E1 Real-time V 5.x Analyzer Software
- OLV110 – Offline/Remote V5.x Protocol Analyzer

Related Software

- XX090 - HDLC Capture and Playback Software (T1/E1)

Related Hardware

- UTE001 - USB based Dual T1/E1 Laptop Analyzer
- UTA001/UEA001 – Basic USB based Dual T1/E1 Laptop Analyzer Software
- HTE001 - Universal HD T1/E1 PCI Cards
- HUT001/HUE001 – Basic Universal HD T1/E1 Software

*Specifications and features subject to change without notice.

Save/Load All Configuration Settings

Protocol Configuration window provides a consolidated interface for all the important settings required in the analyzer. This includes various options such as protocol selection, startup options, stream/interface selection, filter/search criteria and so on. All the configuration settings can be saved to a file and then loaded for future operations, or user may just revert to the default values using the default option.

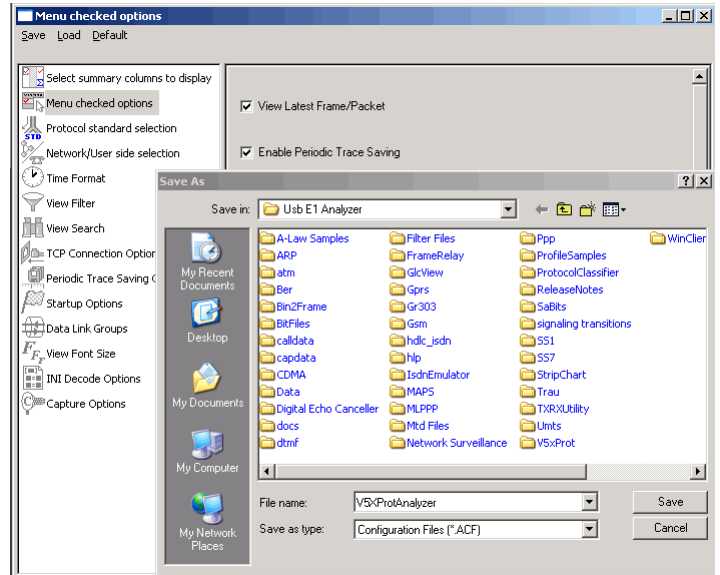


Figure: Save / Load Configuration

Supported Protocols Standards & Specifications

Available Standards	Supported Protocols	Standard / Specification Used
V5 ITU Standard	LAPV5	
	PSTN	
	BCC	
	PP	ITU-T Q921, G.964 & G.965
V5 ETSI Standard	ISDN Q.931	ITU-T Q.931