GSM Analyzer

Analyze multiple GSM links across Gs, Abis, A, Ls, Lb, Lp, Up, B, C, D, and more

Supports MTP2, MTP3, SCCP, BSSMAP, MM, CC, SMS, BTSM, RR etc.

Supports National and International Variants

Decodes RR Layer Non-transparent Messages

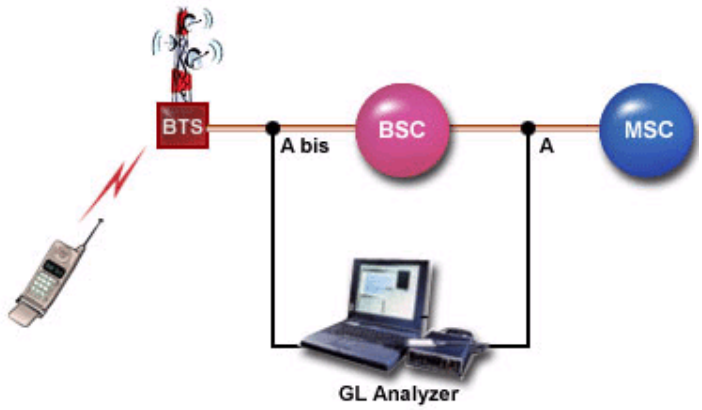
Transmit Recorded Trace Files

Summary, Detail, Hex-dump, Statistic and Call-trace views

Search & Filtering capabilities

Real-time & Offline analysis

Statistics Based on Frame-count, Byte-count etc



The Global System for Mobile communications is a digital cellular communications system. GSM standards are used to provide the interface between the various entities in GSM network.

GSM networks presently operates in three different frequency ranges:

- GSM 900 (operates in the 900 MHz frequency range and is the most common in Europe and rest of the world),
- GSM 1800 or DCS 1800 (operates in the 1800 MHz frequency range and is found in a rapidly-increasing number of countries including France, Germany, Switzerland, the UK, and Russia)
- PCS 1900 or DCS 1900 - the only frequency used in the United States and Canada for GSM).

Between these the only differences, so far seem to be the power levels, frequency & some small changes in signaling

GL's GSM Analyzer is used to analyze GSM protocols, a switching and signaling telecommunication protocol between MSC & BSC, BSC & BTS, MSC & HLR, MSC & VLR, etc. and operates on T1 & E1 channels. GL Communications supports the following types of GSM analyzers:

- Real-time GSM Analyzer (Pre-requisites: GL's field proven E1 or T1 internal cards or USB Laptop E1 or T1 external units, required licenses and Windows 2000/XP Operating System).
- Offline GSM Analyzers (Pre-requisites: Hardware Dongles and Windows 2000/XP Operating System).

Main Features

- Interfaces supported - A, A-bis, B, C, D, E, F, H, J, Gs, Up, Ls, Lb, and Lp.
- Summary View displays MTP2, MTP3 information, GSM Message types, information about various channels used during the call, frequency hopping etc.
- Detailed View displays easy to understand decodes of user-selected frame.
- Decoding of many RR layer non-transparent messages such as "System Information", "Measurement Result", "Immediate Assignment" etc.
- Statistics view displays statistics based on frame count, byte count, frames/sec, bytes/sec etc for the entire captured data.
- Call trace view displays call statistics such as number of active/completed calls, duration of completed calls, Type of Call (e.g. SMS/Location), IMSI/TMSI associated with each call.
- Call Detail Recording feature includes data link groups that help in defining the direction of the calls in a given network.
- Recorded trace files can be played back using HDLC playback option.
- Simultaneous decoding of multiple GSM Links on the different T1/E1 channels.
- Exports detailed and summary information to a comma delimited file for subsequent import into a database or spreadsheet.
- Remote monitoring capability using GL's Network Surveillance System.

For more details, please visit our web page http://www.gl.com/gsmanalyzer.html.

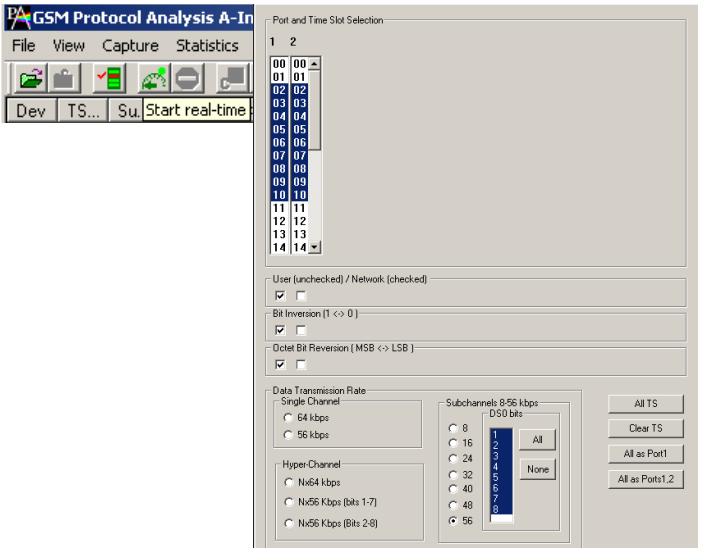
GL Communications Inc.

818 West Diamond Avenue - Third Floor. Gaithersburg, MD 20878 ● (V) 301-670-4784 (F) 301-670-9187

Web Page Address: http://www.gl.com/ ● E-Mail Address: gl-info@gl.com

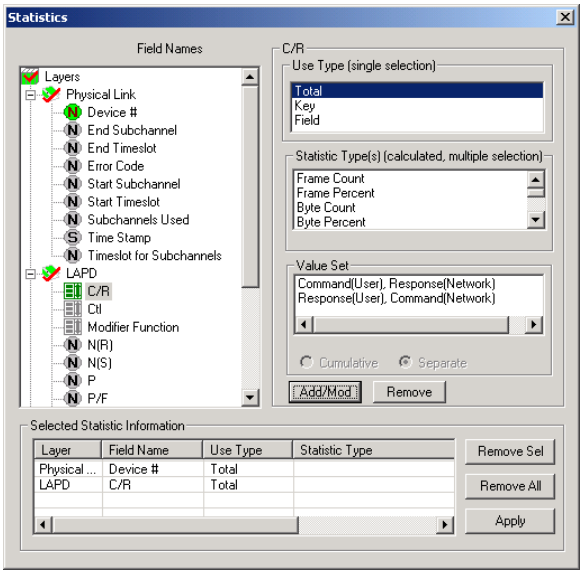
Summary, Detail and Hexdump Views

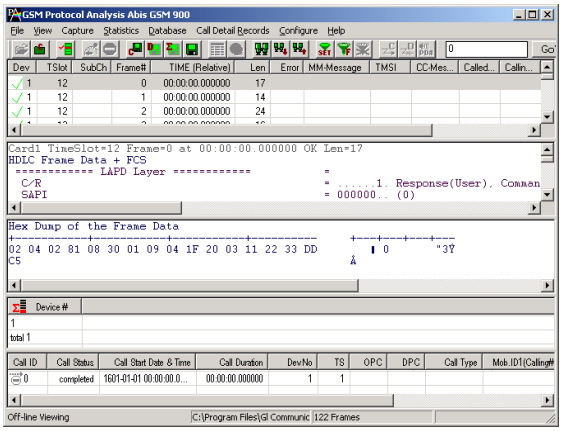
The analyzer displays summary, detail, call trace, statistics, and hex dump views in different panes. The summary pane displays Dev#, Time Slot, Frame#, Time, Length, Error, Summary view displays Dev#, Time Slot, Frame #, Time, Length, Error, BSN, BIB, FSN, FIB, Status Field, SLC, DPC, OPC, SCCP Message, and so on. User can select a frame in summary view to analyze and decode each frame in the detail view. The Hex dump view displays the frame information in HEX and ASCII format.



Filtering and Search

Users can record all or filtered traffic into a trace file. Filtering and search capability adds a powerful feature to the GSM analyzer. This feature can isolate required frames from captured frames in real-time, as well as 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 according to Data Link, MTP2, MTP3, SCCP, LAPD, BTSM, RR, MM and more. Similarly, search capability helps user to search for a particular frame based on specific search criteria.

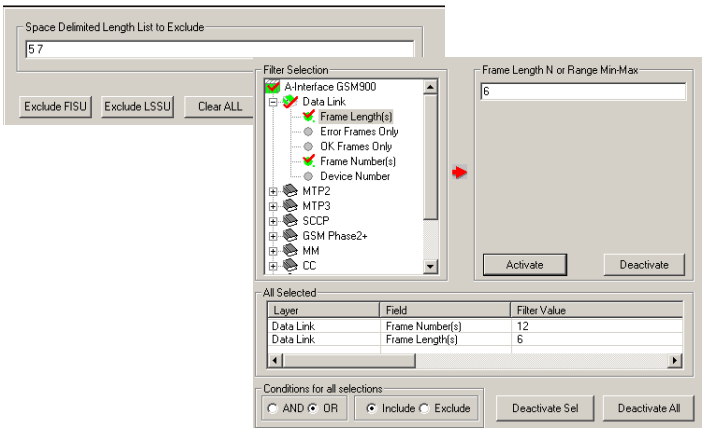




Real-time and Offline Analysis

Users can capture and analyze GSM frames in real-time and record all or filtered traffic into a trace file.

The recorded trace file can then be analyzed offline and exported to ASCII file, or printed. Real-time capturing requires user to specify timeslots, bit inversion, octet bit reversion, user/network side, and data transmission rate. Recorded trace file can be opened later for offline analysis. and can then transmit using the HDLC File Playback application.



Call Trace & Statistics View

Call trace defining important call specific parameters like Call ID, Call disposition, Call duration, OPC/DPC, Call type (point-to-point/point-to-multipoint etc) calculated based on signaling messages, are displayed in Call Trace view. Various statistics can be obtained in statistics view to study the performance and trend in the GSM network based on different parameters e.g. Use Type, Statistic type and various patterns.

Buyers Guide:

XX150 - Real-time GSM Protocol Analyzer (T1 or E1)
OLV150 - Offline GSM Analyzer

Related Software

XX090 - HDLC Capture and Playback Software (T1 or E1)
XX120 - Real time SS7 Analysis Software (T1 or E1)
XX153 - TRAU Analysis & Emulation Software
XX155 - GPRS Analysis Software

Related Hardware

UTE001 - Portable USB based Dual T1 or E1 Laptop Analyzer
HDT001/HDE001 - HD T1 or E1 PCI Cards

*Specifications and features subject to change without notice.

GL Communications Inc.
818 West Diamond Avenue - Third Floor. Gaithersburg, MD 20878 ● (V) 301-670-4784 (F) 301-670-9187
Web Page Address: http://www.gl.com/ ● E-Mail Address: gl-info@gl.com