GR303 Protocol Analyzer

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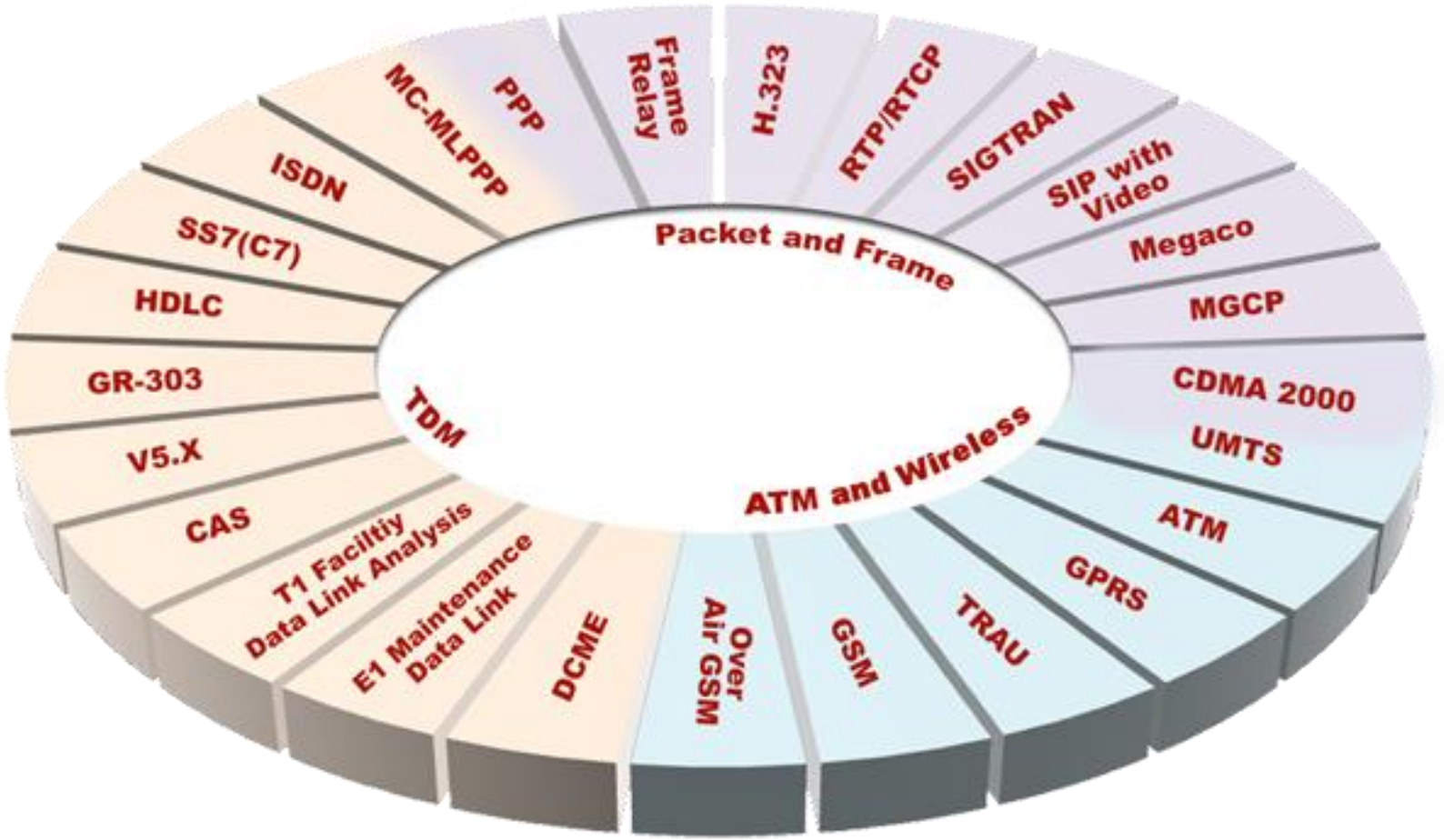
TDM, Wireless, and VoIP Protocol Analysis

- GL Communications provides a host of protocol analyzers for testing a variety of protocols
- Analysis may be done both in real-time and off-line



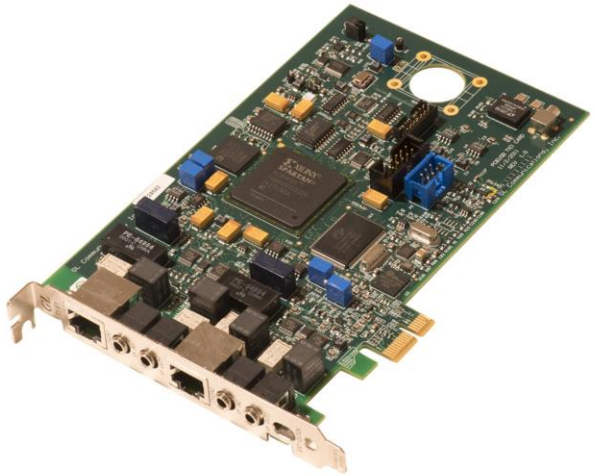
Supported Platforms

Back Panel

Front Panel

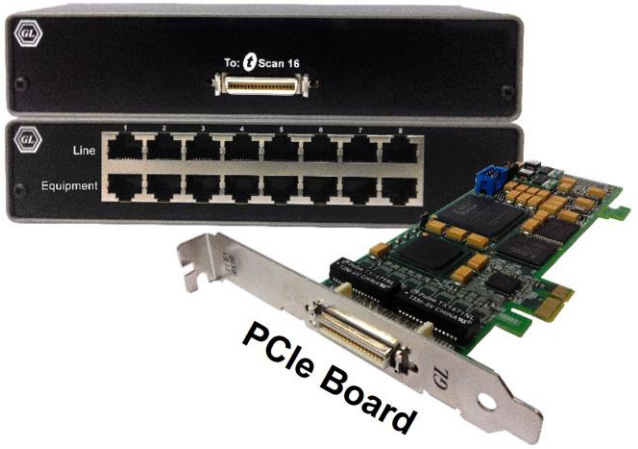
tProbe™ - Portable USB based T1 E1 VF FXO FXS and Serial Datacom Analyzer

Quad / Octal T1 E1 PCIe Card



Dual T1 E1 Express (PCIe) Board

tScan16™ with
16-port T1 E1 Breakout Box



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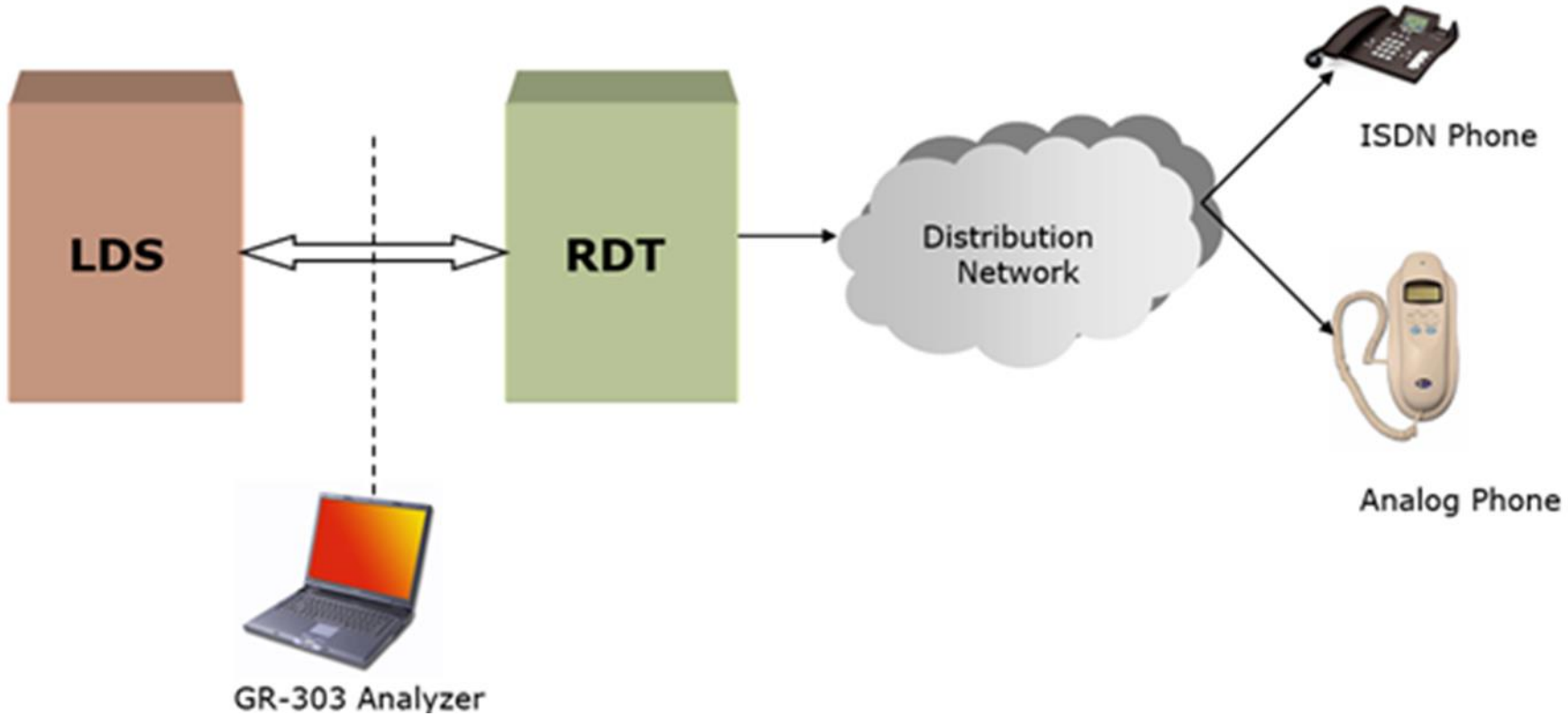
Overview

- GL's GR303 Analyzer offers testing for all aspects of GR-303 systems: monitoring T1 Line, monitoring the TMC/CSC control channel, monitoring EOC channel, viewing robbed ABCD signaling and dialed digits, listening to voice channels, and thorough tests for the physical layer
- The GR-303 option troubleshoots signaling problems between the switch and remote terminal to determine call status, monitor for any dropped calls, detect any abnormal conditions, and identify when service was unavailable



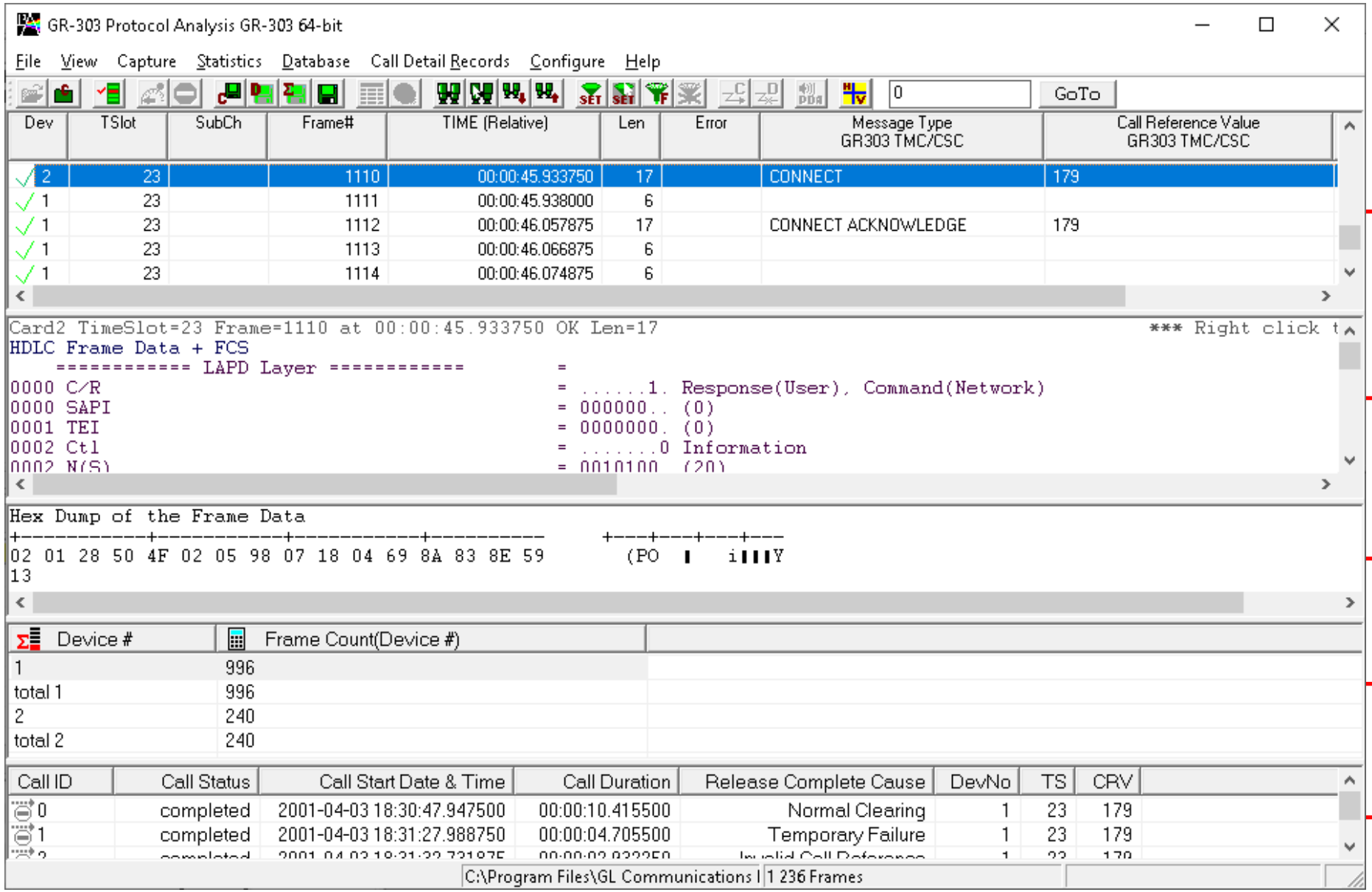
Supported Protocol Standards

Supported Protocols	Specification Used
LAPD	CCITT (Q.920/Q.921) Telcordia GR-303-IMD (formerly TR-TSY-000303)
TMC and CSC	GR-303-CORE Issue 3 December 1999 / GR-303-IMD Issue 1, December 1998
EOC	GR-303-CORE Issue 3 December 1999
Series X (Data networks and open system communication)	X.208, X.209, X.219, X.229, X.710, and X.711.

Features

- Summary View displays the SAPI, TEI, C/R, Message type (for TMC/CSC) and ROSE APDU (for EOC) in a tabular format
- Summary view (Call Quality Matrix) displays complete summary of call information in graphical format, along with a summary of alerts
- Detail View displays packet by packet statistics for particular call information in tabular format
- Any protocol field can be added to the summary view, filtering, and search features providing users more flexibility to monitor required protocol fields
- Monitor both TMC/CSC and EOC simultaneously to correlate call-setup and OAM&P
- Option to combine data from multiple columns under one column
- Option to create multiple aggregate column groups and prioritize the groups as per the requirement to display the summary results efficiently
- Advanced filtering and search based on any user selected protocol fields
- Allows the user to create search/filter criteria automatically from the current screen selection
- Remote monitoring capability using GL's Network Surveillance System

Real-time Analysis



Summary View

Detail View

Hex Dump View

Statistics View

Call Trace View

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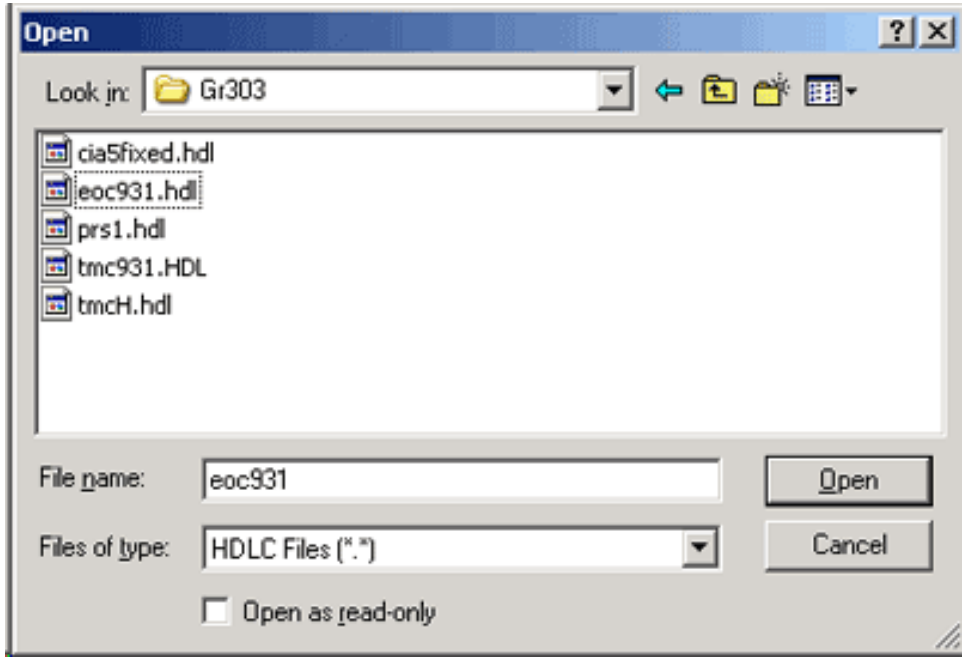
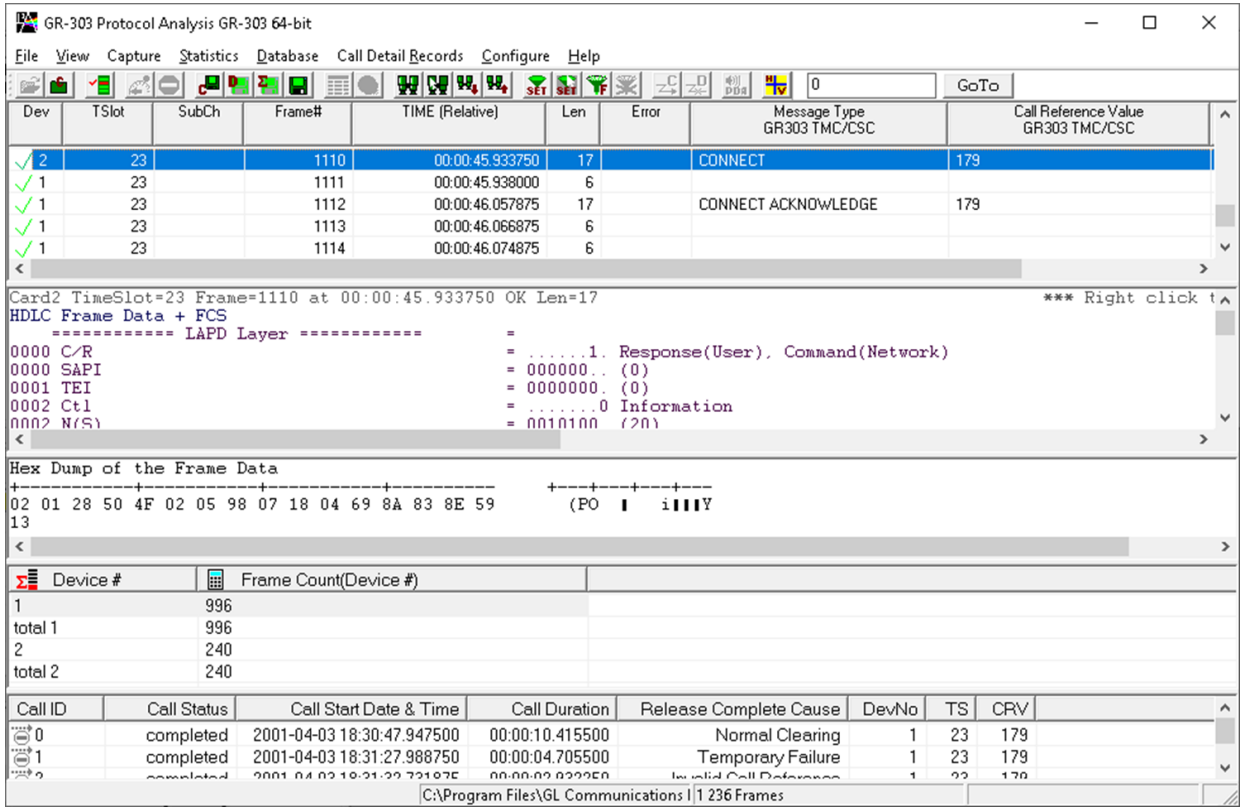
Different Views

- The analyzer displays Summary, Detail, and Hex dump View in different panes. The Summary View displays Frame Number, C/R, SAPI, CTL, P/F, FUNC, CRV message type (for TMC/CSC) and ROSE APDU (for EOC) and more
- Detail View: This pane displays in detail about a frame in order to analyze and decode by selecting it in the summary view
- Hex Dump View: This pane displays the frame information in HEX and ASCII format
- Statistics View: This pane displays various statistics that are calculated based on the protocol fields

Offline Analysis

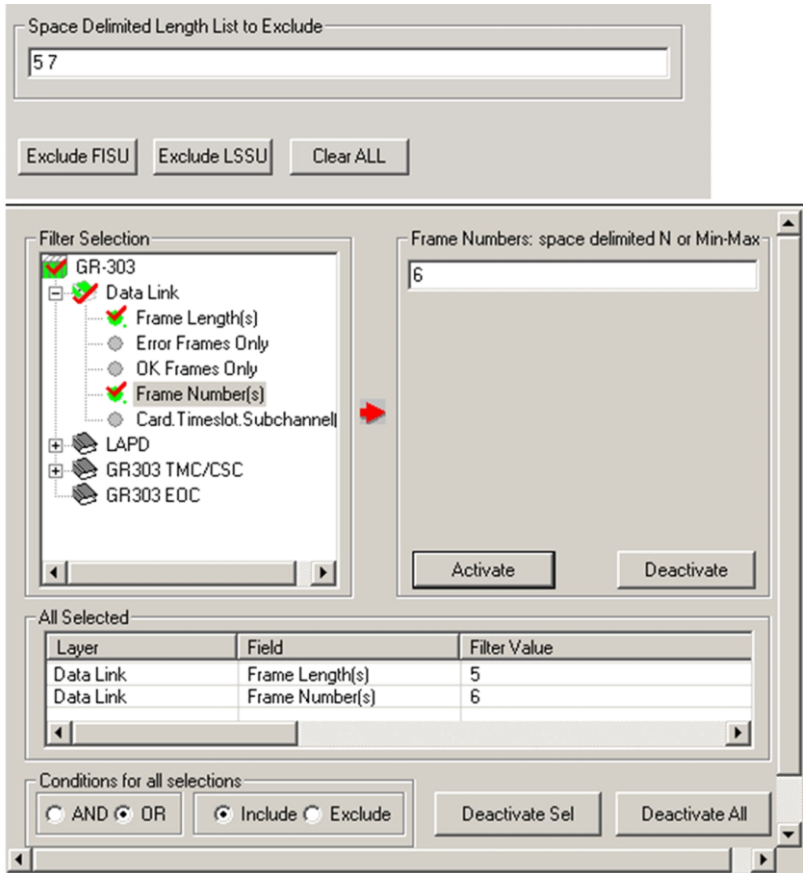
- Off-line analysis is equivalent to capturing a file in pre-defined timeslots
- Captured frames or only the filtered frames can be exported to *.HDL file for the further off-line analysis
- Trace file for offline analysis can be loaded either through analyzer GUI or through simple command-line arguments





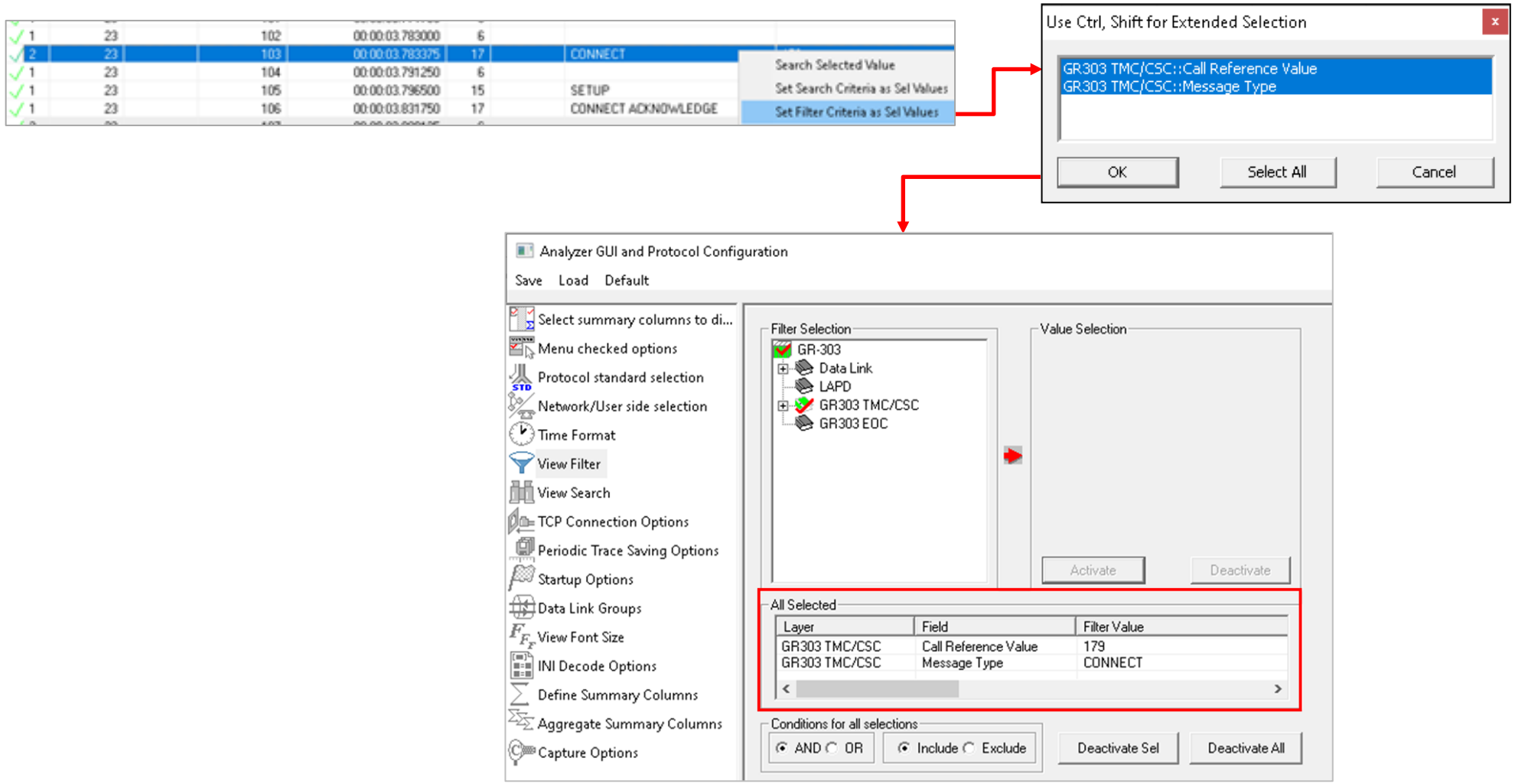
Filtering and Search

- Isolates required frames from all frames in real-time, as well as offline
- 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



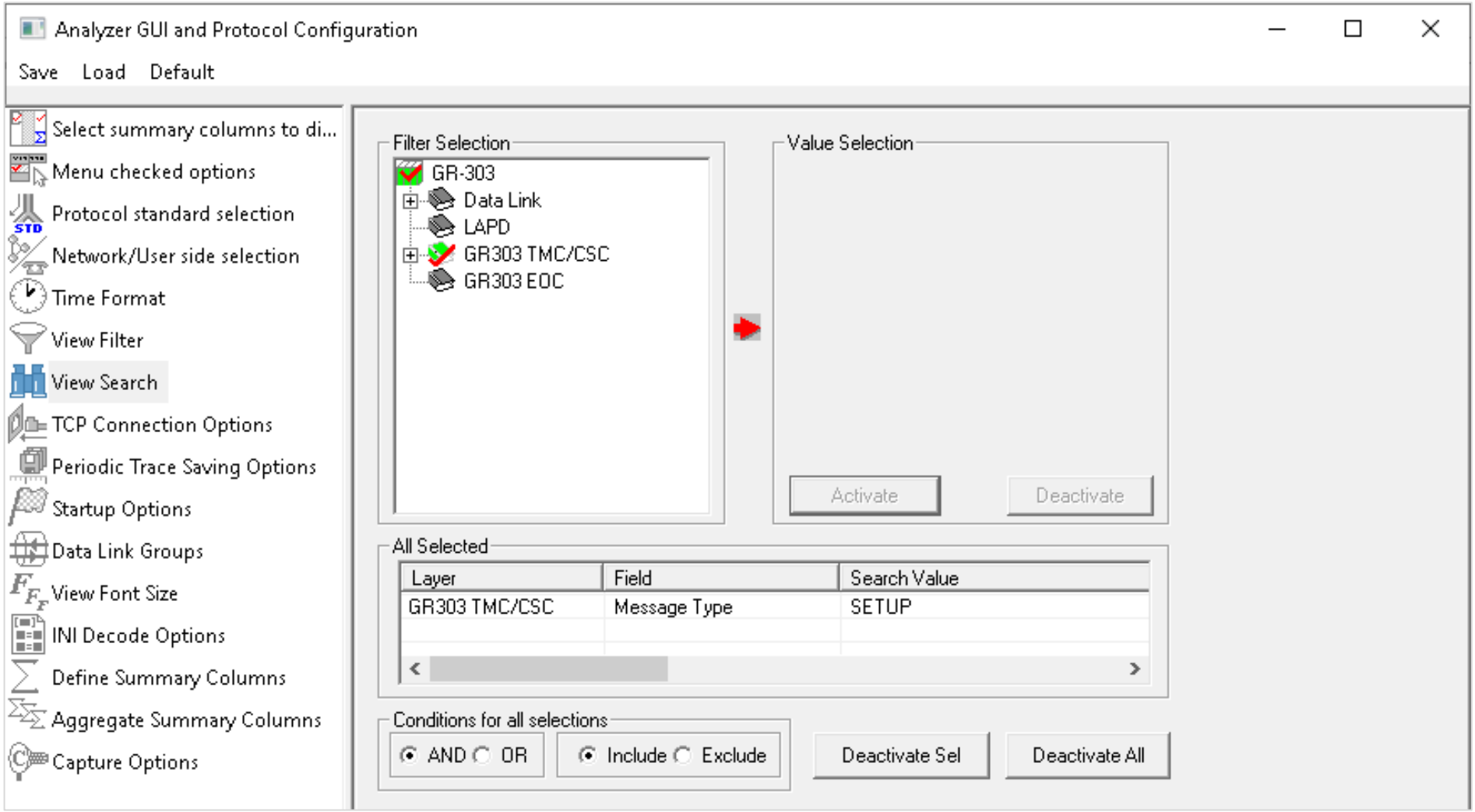
Filtering Criteria From Screen Selection

- Allows the user to create filter criteria automatically from the current screen selection



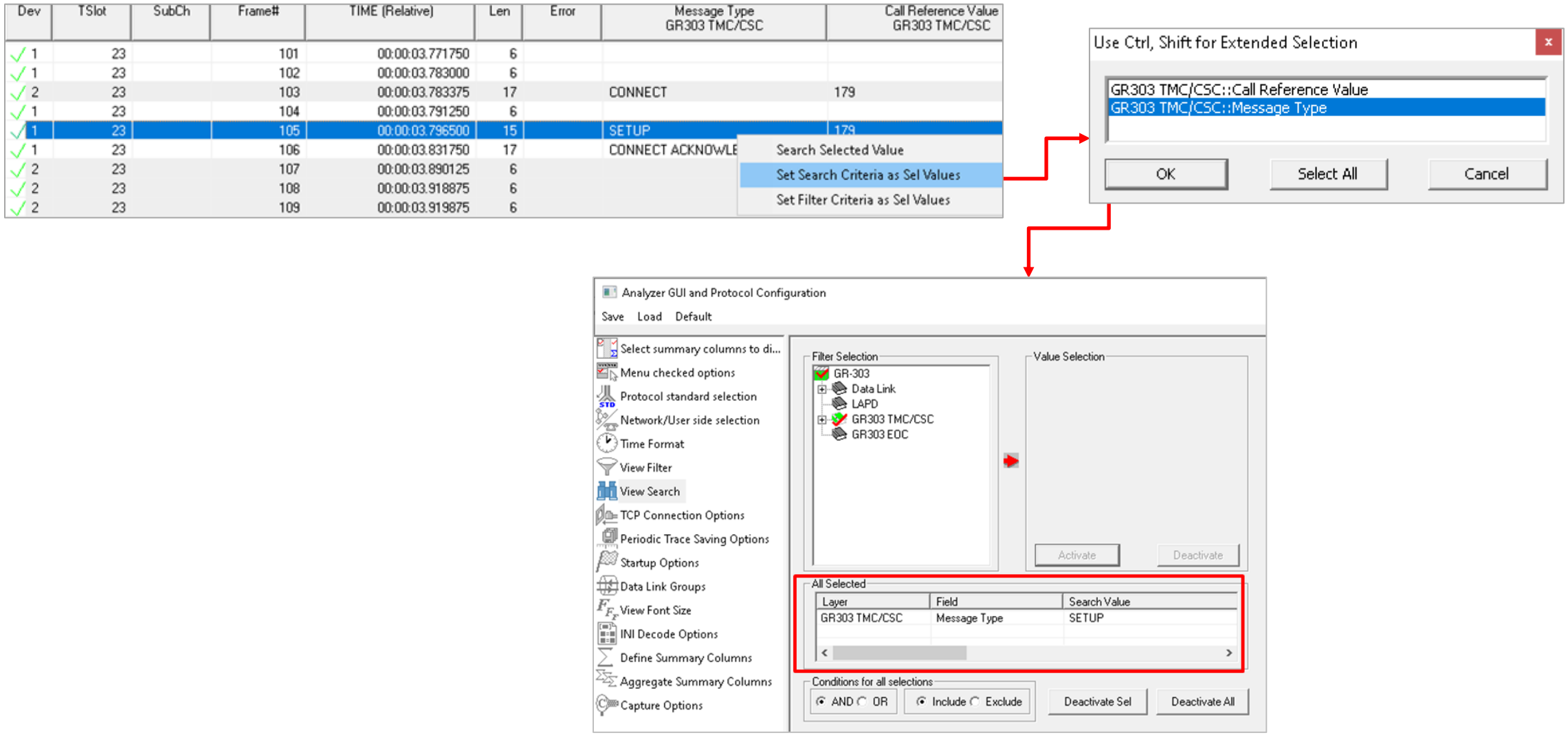
Search Options

- Search features helps users to search for a particular frame based on specific search criteria



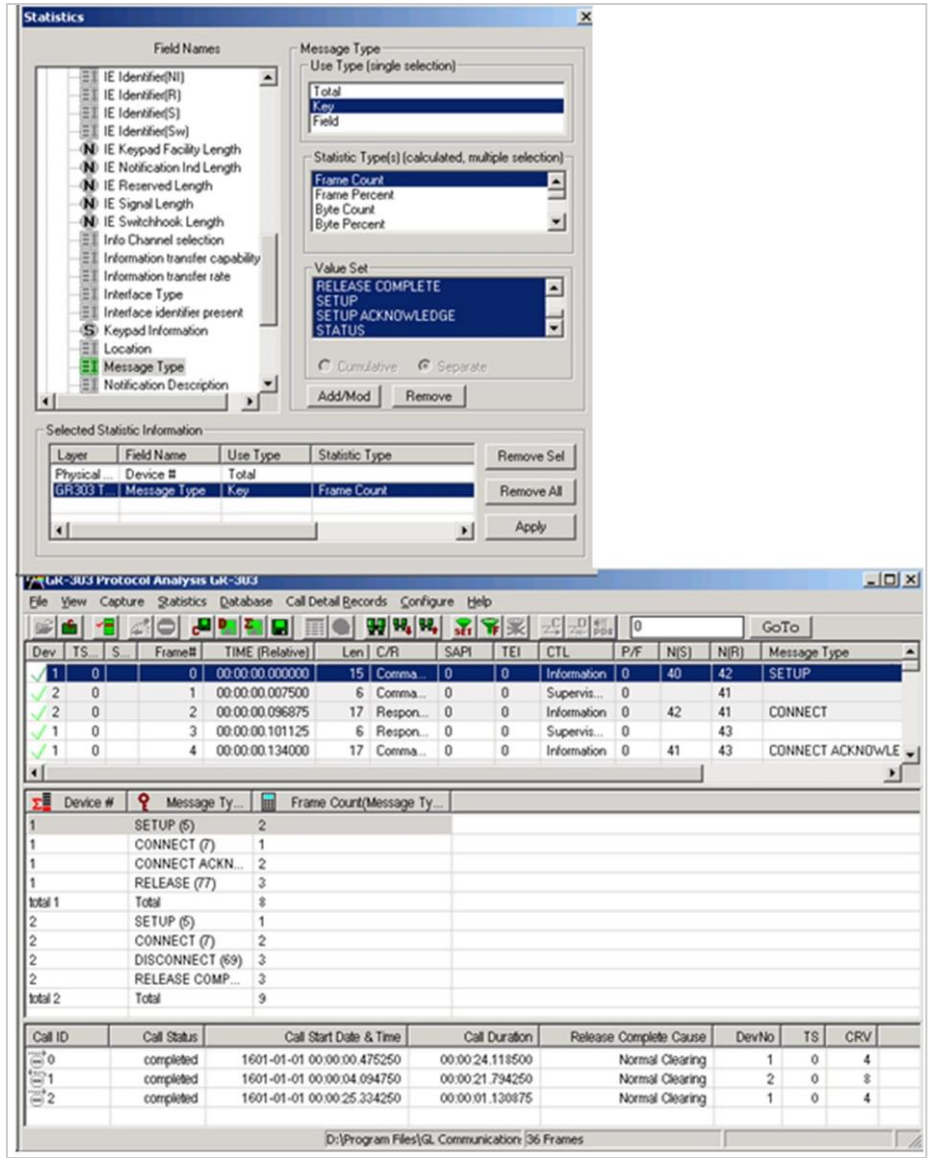
Search Criteria From Screen Selection

- Allows the user to create search criteria automatically from the current screen selection



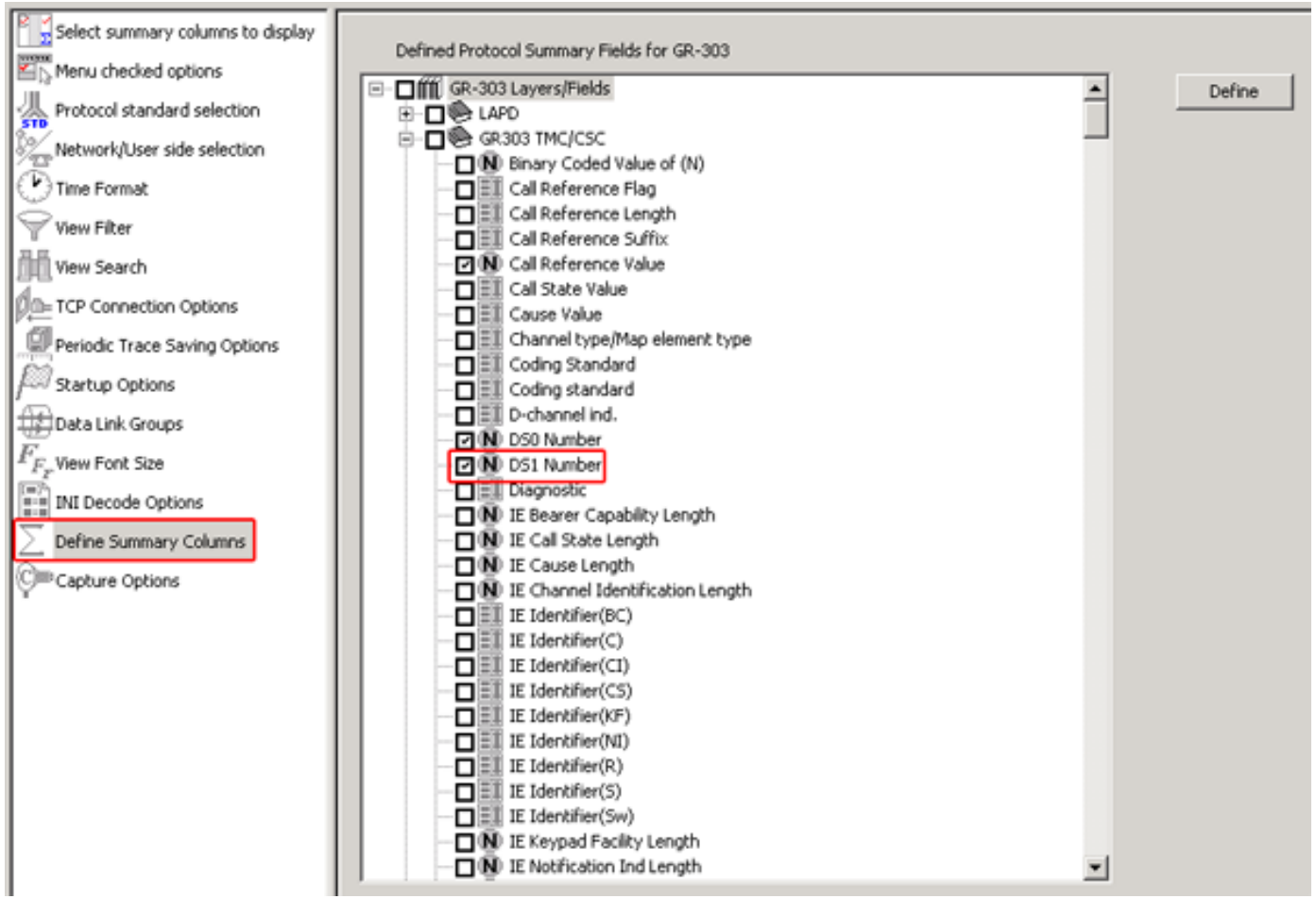
Statistics

- Important call specific parameters such as Call ID, Call Status, Call duration, CRV, Release Cause etc. are calculated and displayed in the Call Detail View. Additionally, users are provided with the option to search a particular call detail record from the captured traces



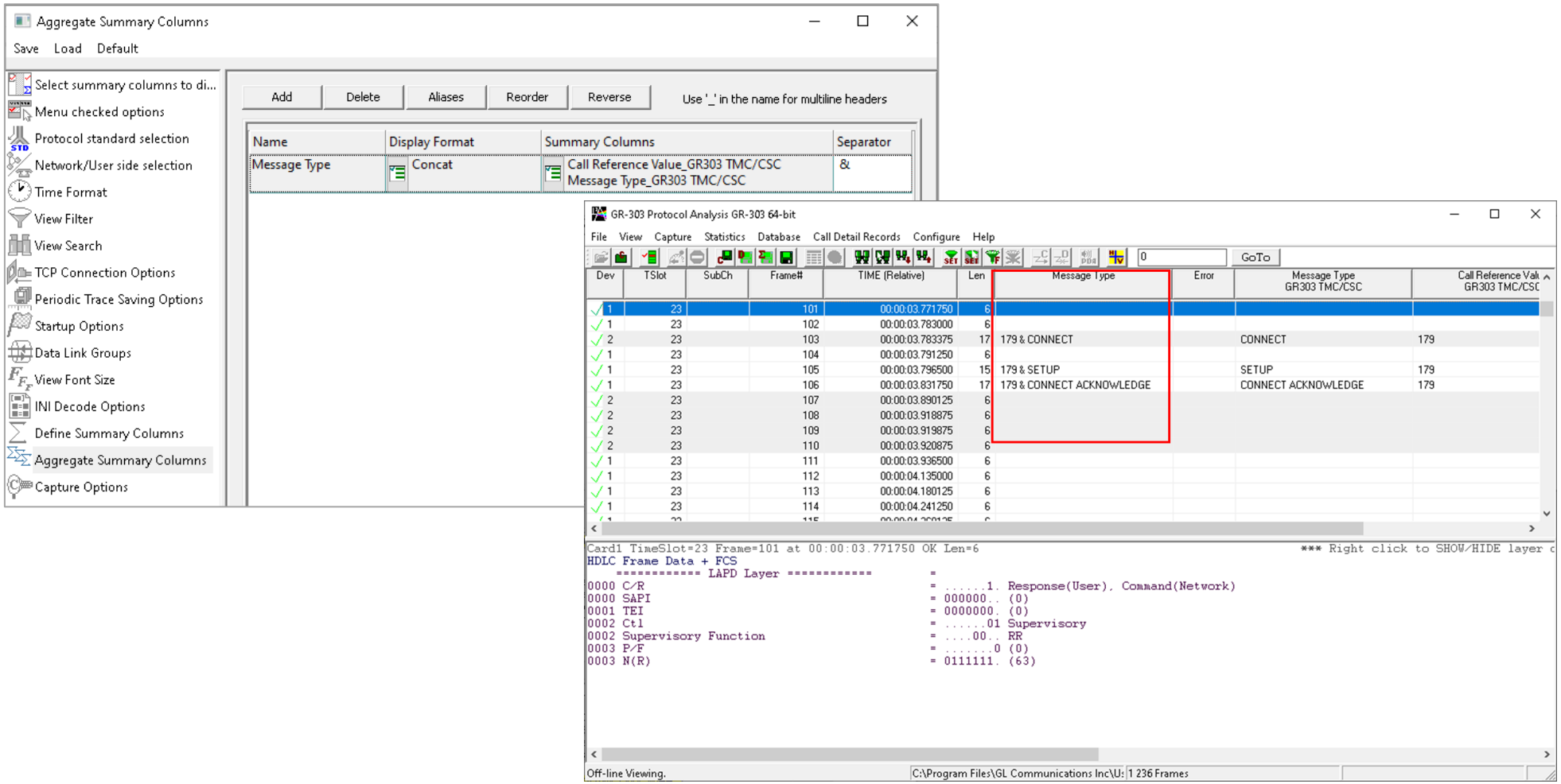
Define Summary Columns

- Required protocol fields can be added through Define summary column option
- User can remove the protocol field which is not required



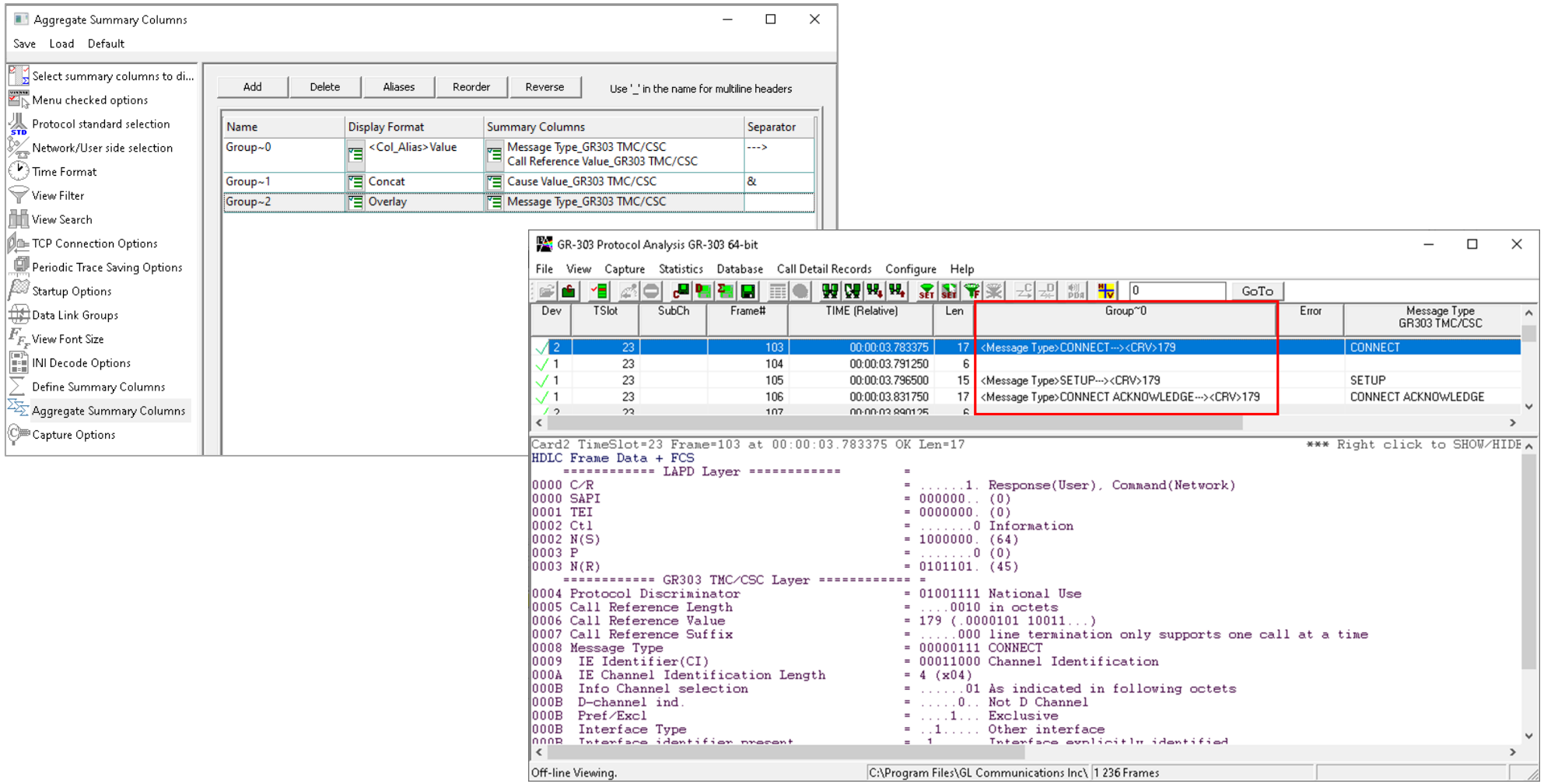
Aggregate Summary Column

- The user can use this option to combine the two or more summary columns and remove unnecessary empty columns into a single Aggregate Summary Column



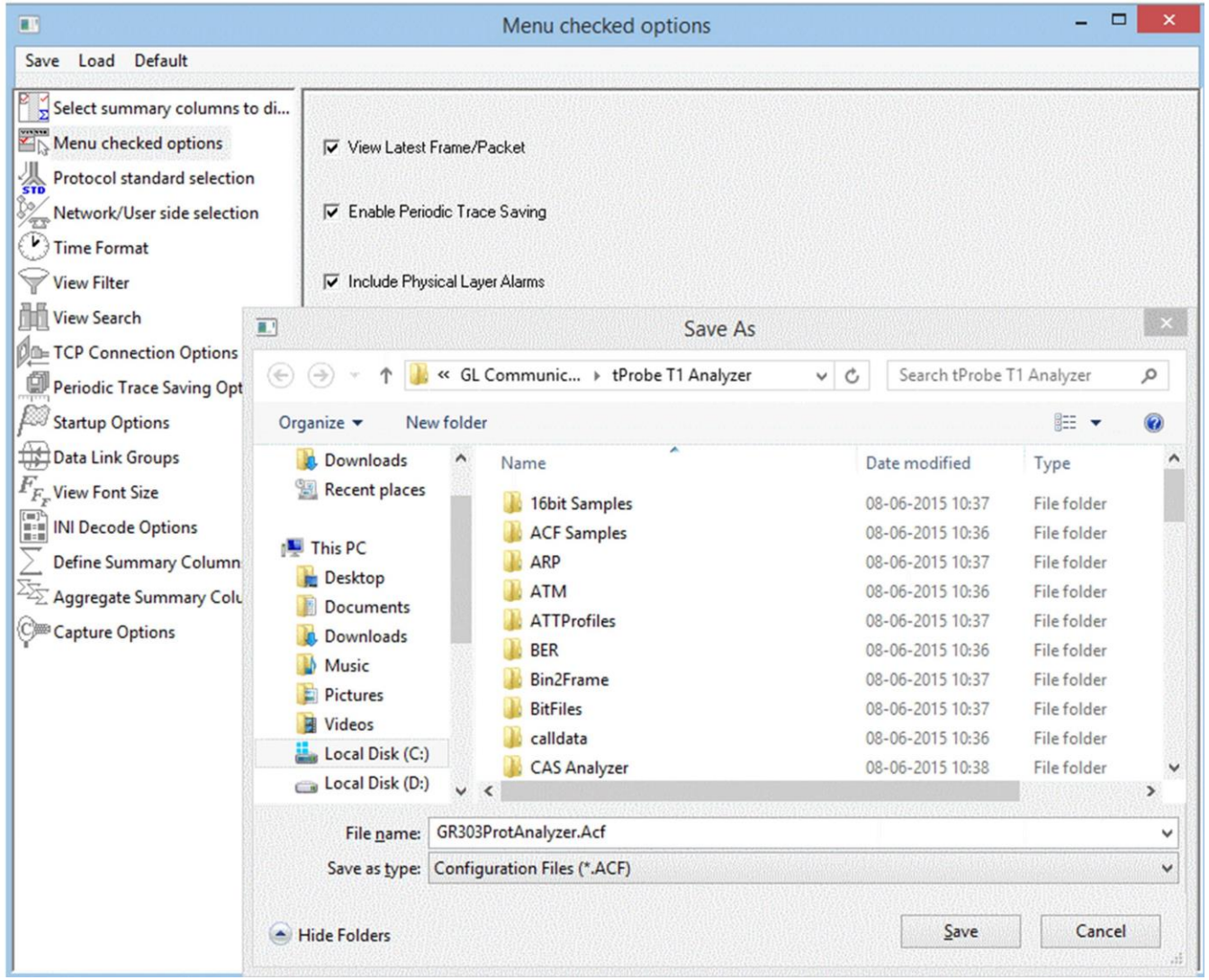
Aggregate Summary Column Group

- The user can create multiple aggregate column groups and prioritize the groups as per the requirement to display the summary results efficiently



Save/Load All Configuration Settings

- Protocol Configuration window provides a consolidated interface for all the settings required in the analyzer such as protocol selection, filter criteria, search criteria, and so on
- Configuration settings can be saved to a file, loaded from a configuration file, or user may just revert to the default values using the default option



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Thank You!