

CANoe/CANalyzer.J1587, Version 7.1

Simulation and Analysis of SAE J1587/J1708 Systems

SAE J1708 defines a serial, bidirectional network for use in the commercial vehicle industry. The SAE J1587 Standard regulates communication and standardized data exchange between different ECUs based on SAE J1708 networks.

Features and Advantages

The seamless integration of J1587 in CANoe/CANalyzer lets the user interact with these networks in a very simple, quick and reliable way. This includes protocol-specific representation in the Trace Window. Moreover, by combining this option with other options, such as J1939 or LIN, entire systems can be analyzed or simulated with a single tool. This allows chronologically interrelated processes to be acquired and evaluated beyond bus boundaries. The use of CANoe/CANalyzer.J1587 as a comprehensive tool for all networks in the vehicle leads to a reduction in training time and at the same time increases in efficiency and safety, especially since it is quite easy to exchange configurations and measurement data.

Functions

CANoe/CANalyzer.J1587 expands the functionality of CANoe/CANalyzer to include:

- > Protocol-specific representation in the Trace Window
- > Parameter Monitor for displaying all sent PIDs (Parameter Identification) of a MID (Message Identification)

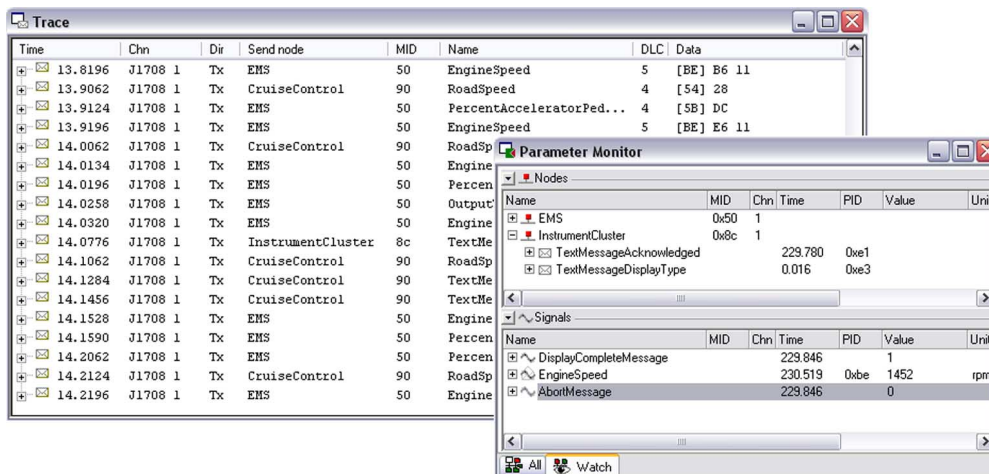
- > Watch view in the parameter monitor for displaying a selection of PIDs configured by the user
- > Interpretation of OEM-specific protocol extensions (Volvo Truck)
- > Diagnostic Code Monitor for clear display and evaluation of ECU diagnostic codes
- > Clear flagging of incorrectly received MIDs and display of raw data for troubleshooting purposes
- > Support of Transport Protocol PIDs 197 and 198 for messages with more than 21 bytes
- > Expanded capabilities of the integrated CAPL programming language for convenient handling of MIDs and PIDs
- > Database for definition of symbolic names for MIDs and PIDs

New functions in Version 7.1:

Extended display options and analysis of bus statistics signals

- > The use of bus statistics signals of a J1708 network is supported in Graphic and Data Windows. Extensive display options are offered, such as bar graphs in Data Windows or signal curves in Graphic Windows. Efficient analysis is also facilitated by synchronization between Graphic and Trace Windows.

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Protocol-specific representation in the Trace Window, the Parameter Monitor displays all sent PIDs of a MID

Application Areas

CANoe/CANalyzer.J1587 is especially well-suited to design, diagnostics and testing of J1587-based networks. Since, in practice, several networks are generally used in the vehicle, including J1939, the tool is an ideal supplement and facilitates the observation of system-wide communications.

Hardware Interfaces

CANcardXL, CANboardXL, CANcaseXL and CANcaseXL log with associated J1708cab 65176opto respectively J1708piggy 65176opto can be implemented as interface card. When other bus drivers are used, e.g. CANcab 251 or LINcab 6259opto, it is also possible to implement complex gateways.

Protocol-specific Display

CANoe/CANalyzer.J1587 supports the user thoroughly in working with the protocol. For example, signals can be displayed in the Data or Graphic Window organized by source, and if applicable by destination. The Trace Window interprets the received messages and extracts the MID as well as the individual PIDs. This gives the user a quick and reliable overview. The Trace Window also displays the raw data. If the checksum is invalid due to a transmission error, this makes it possible to trace the source of the error. Besides the protocol described in the standard, OEM-specific protocol extensions are also supported. Currently, the PPIDs and PCommands for Volvo Truck are covered.

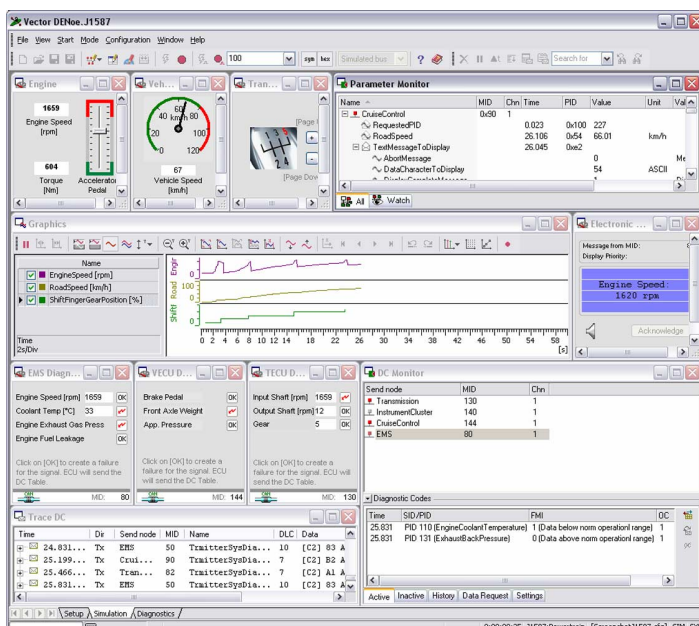
The Parameter Monitor provides a compact overview of all PIDs of a MID that were transmitted during a measurement. The integrated Diagnostic Code Monitor simplifies work with the J1587 diagnostic protocol. Diagnostic codes from ECUs can be displayed, and if necessary queried, without any programming effort. Supported by symbolic representation of the PIDs/SIDs (Parameter Identifier/Subsystem Identifier) and FMIs (Failure Mode Identifier), the diagnostic data can be acquired and evaluated quickly and reliably.

Database Support

CANoe/CANalyzer.J1587 also offers database support, whereby it is possible to describe signals with a specific resolution, value range, physical conversion formula and symbolic values. This simplifies the operation and configuration of CANoe/CANalyzer. To provide a quick introduction to J1587 communication, a sample J1587 database with standard signals is included with the product.

CAPL Expansion

New functions in the integrated CAPL programming language simplify programming and program structure. Furthermore, “on J1587Param” and “on J1587Message” was added to the event interfaces. Programming is supported by symbolic definitions from the database as well.



CANoe.J1587 configuration with Parameter Monitor, Diagnostic Monitor and panels