



CAN/J1850 Test Services

Overview

DGE engineers have been involved in troubleshooting vehicle bus issues since the early days of vehicle multiplex communications. Our engineers have helped our customers define procedures for testing and verification of J1850 and CAN communications systems. We have performed a number of multiplex bus-related assignments from complete vehicle communications bus validations to comprehensive module tests.

Following the first J1850 vehicle validation, a test system to automate the capture and analysis of J1850 signals was developed to reduce the time required to complete vehicle validations. The CAN/J1850 Test Lab has recently been modified to add CAN bus testing functionality.

CAN/J1850 Test Lab Capabilities

The CAN/J1850 Test Lab allows DGE to characterize bus signals under a variety of conditions. The Test Lab provides:

- Signal capture data across multiple samples
- Statistical measurements of physical signal characteristics
- Bus logging and auditing
- Voltage ramping and dip functions

The above measurements can be repeated for comparison under various temperature, ground offset, and bus loading conditions.

The Test Lab also tests J1850 arbitration in a manner that doesn't require bus flooding, which can mask certain issues. Module arbitration retry behavior can be determined and compared to the specified error recovery action. The Test Lab automated system can collect and process J1850 data by stimulating modules on the bus in ways not possible by off-the-shelf test tools. The Test Lab has been used to complete many J1850 vehicle validations and two CAN vehicle validations.

Support and Troubleshooting

Following many bus validation efforts, we have worked with vehicle platform engineers and suppliers to provide retesting with our Test Lab to bring non-compliant electronic modules in line with the CAN/J1850 specifications. DGE can also provide hardware and software troubleshooting of non-compliant modules.

Final Reports

Typically, any issues discovered are reported to the customer as testing proceeds. At the end of testing the customer receives a final report detailing any problems found and documenting all test results. A CD-Rom is provided which contains all of the captured data, so that any findings may be reviewed.

Continuing Commitment

DGE Inc. maintains a complete array of CAN and J1850 development and troubleshooting tools that are used for internal product development and debugging customer modules and systems. Some of these tools are available for customer purchase.

We have also developed custom software applications and macros for parsing network data logs and analyzing J1850/CAN waveform data for signal characteristics.

As new in-vehicle multiplex communication systems are introduced, DGE will continue to develop expertise to support our customers. We recently have developed a number of tools for Bluetooth wireless system testing and are currently in the initial stages of supporting LIN bus applications.

We will continue to develop knowledge and experience in this area, as well as provide our services to our valued customers.

DGE Inc.

2870 Technology Dr.
Email: sales@dgeinc.net

Rochester Hills, MI 48309
Phone: 248.293.1300 Fax: 248.293.1309