Literature Release: A Comprehensible Guide to J1939

By Copperhill Media Corporation
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A Comprehensible Guide to J1939 is the first work on J1939 besides the SAE J1939 standards collection. It provides profound information on the J1939 message format and network management combined with a high level of readability.

SAE J1939 has become the accepted industry standard and the vehicle network technology of choice for off-highway machines in applications such as construction, material handling, and forestry machines. J1939 is a higher-layer protocol based on Controller Area Network (CAN). It provides serial data communications between microprocessor systems (also called Electronic Control Units - ECU) in any kind of heavy duty vehicles. The messages exchanged between these units can be data such as vehicle road speed, torque control message from the transmission to the engine, oil temperature, and many more.

The main advantages of using CAN as a field-bus technology are reduced wiring (CAN requires only two wires between nodes), extremely reliable communication, easy implementation and improved maintenance and service capabilities, which consequently not only produce better vehicle performance, but also help to reduce production costs.

The standard CAN message frame uses an 11-bit message identifier (CAN 2.0A), which is sufficient for the use in regular automobiles and any industrial application, however, not necessarily for off-road vehicles.

The Society of Automotive Engineers (SAE) Truck and Bus Control and Communications Subcommittee had developed a family of standards concerning the design and use of devices that transmit electronic signals and control information among vehicle components. As a result, the higher layer protocol SAE J1939, based on CAN, was born, which was required to provide some backward-compatible functionality to older RS485-based communication protocols (J1708/J1587).

Besides the SAE J1939 Standards Collection, which comprises of a large set of individual documents, no other literature was available until June of 2008. A Comprehensible Guide to J1939 is the first work on J1939 besides the SAE J1939 standards collection. It provides profound information on the J1939 message format and network management combined with a high level of readability.

The information in this book is based on two documents of the SAE J1939 Standards Collection:
J1939/21 - Data Link Layer
J1939/81 - Network Management

The author, Wilfried Voss, is the President of esd electronics, Inc., a company specializing in CAN technology. The company is located in Greenfield, Massachusetts. Mr. Voss has worked in the CAN industry since 1997 and before that was a specialist in the paper industry. He has a master's degree in electrical engineering from the University of Wuppertal in Germany.

Mr. Voss has conducted numerous seminars on CAN and CANopen during various Real Time Embedded And Computing Conferences (RTECC), ISA (Instrumentation, Systems, and Automation Society) conferences and various other events all over the United States and Canada. He has traveled the world extensively, settling in New England in 1989. He presently lives in an old farmhouse in Greenfield, Massachusetts with his Irish-American wife, their son Patrick and their Rhodesian Ridgeback.

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Copperhill Media Corporation is a publisher of technical literature with special interest in Controller Area Network, CANopen and SAE J1939.

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