BODY ELECTRICAL

MULTIPLEX COMMUNICATION

■ DESCRIPTION

The multiplex communication system uses the 2 communication protocols (CAN and AVC-LAN) to achieve a streamlined wiring harness configuration.

- CAN (Controller Area Network) is classified into two types according to communication speed, the HS-CAN (High Speed CAN) is used for the power train, chassis and body electrical systems, and the MS-CAN (Medium Speed CAN) is used for the body electrical system.
- AVC-LAN (Audio Visual Communication - Local Area Network) used for communication only between the AV (Audio Visual) system components.
- The HS-CAN consists of the V bus and the MS-CAN consists of the MS bus. The Main Body ECU (Driver Side Junction Block) with gateway function is used to transmit data between the buses.
- Due to the introduction of the CAN communication system for the power train, chassis and body electrical systems, the BEAN (Body Electronics Area Network) that is used for the body electrical system on other vehicles is not used on this model.
- A customizable body electronic system is used, enabling some of the control functions of the ECUs comprising the CAN to be set using a hand-held tester or Techstream*. For details, see page BE-11.

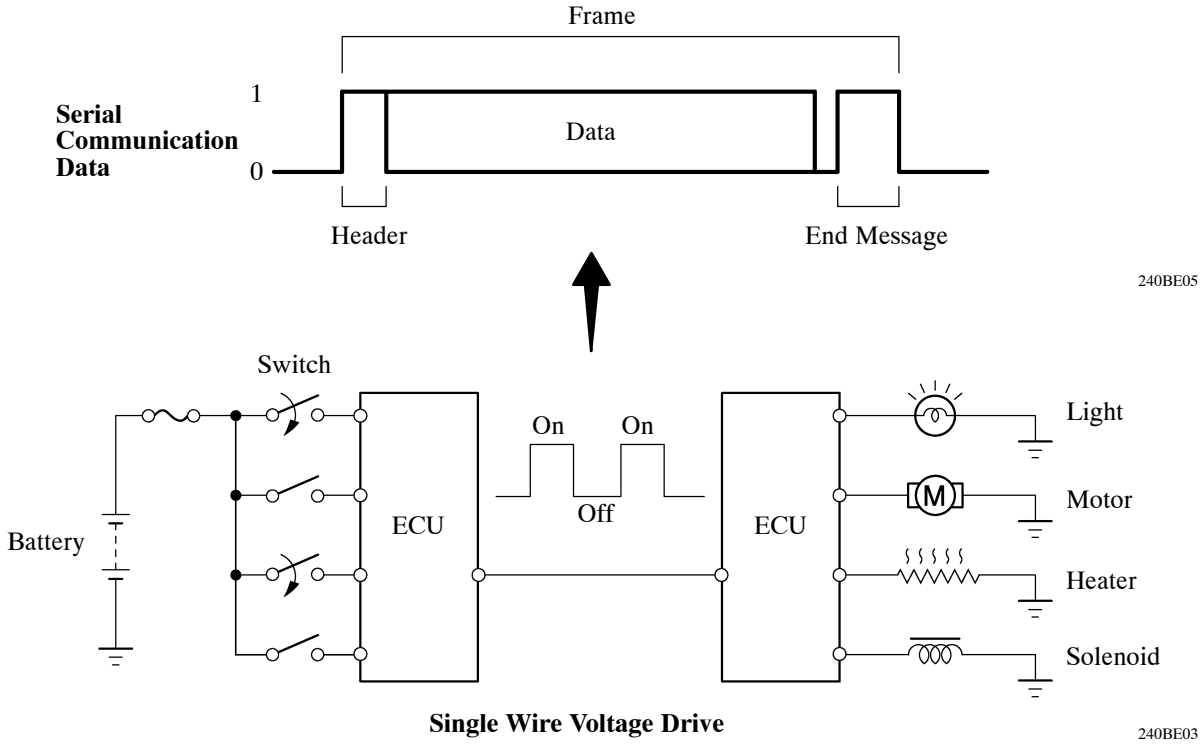
  *: Techstream is the name for the diagnostic tester in North America, but other countries will continue to use the hand-held tester.

— REFERENCE —

Generally speaking, multiplex communication refers to the use of serial communication data that consists of bits and frames in order to exchange information among various ECUs. This allows for a reduction of the amount of wiring on the vehicle.

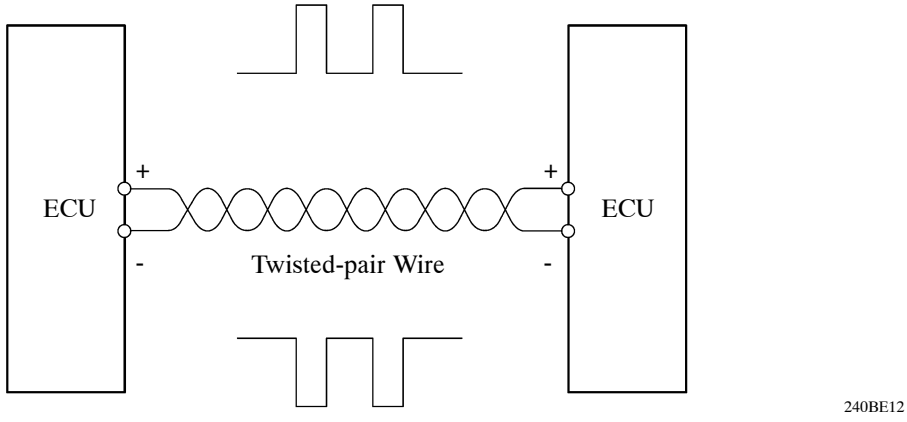
- A bit is the basic unit of communication that is used to represent the information. A bit is represented by binary values of “0” or “1”.
- For CAN communication, a differential voltage drive is used to represent the binary values of “0” or “1”. This “differential voltage drive” reduces the effects of electrical interference.

▶ Conceptual Drawing for Multiplex Communication ◀



Single Wire Voltage Drive

▶ Conceptual Drawing for CAN or AVC-LAN Communication ◀



Differential Voltage Drive

BE