BODY ELECTRICAL

MULTIPLEX COMMUNICATION

■ DESCRIPTION

The multiplex communication system uses the 3 communication protocols (CAN, LIN, and AVC-LAN) to achieve a streamlined wiring harness configuration.

Protocol	Outline
CAN (Controller Area Network)	CAN 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. • The HS-CAN consists of the V bus and the MS-CAN consists of the MS bus. The main body ECU (instrument panel junction block) with gateway function is used to transmit data between the buses.
LIN (Local Interconnect Network)	LIN is used for local area networking, in which the system has a respective bus for each body electrical system.
AVC-LAN (Audio Visual Communication - Local Area Network)	AVC-LAN is used for communication only between the AV (Audio Visual) system components.

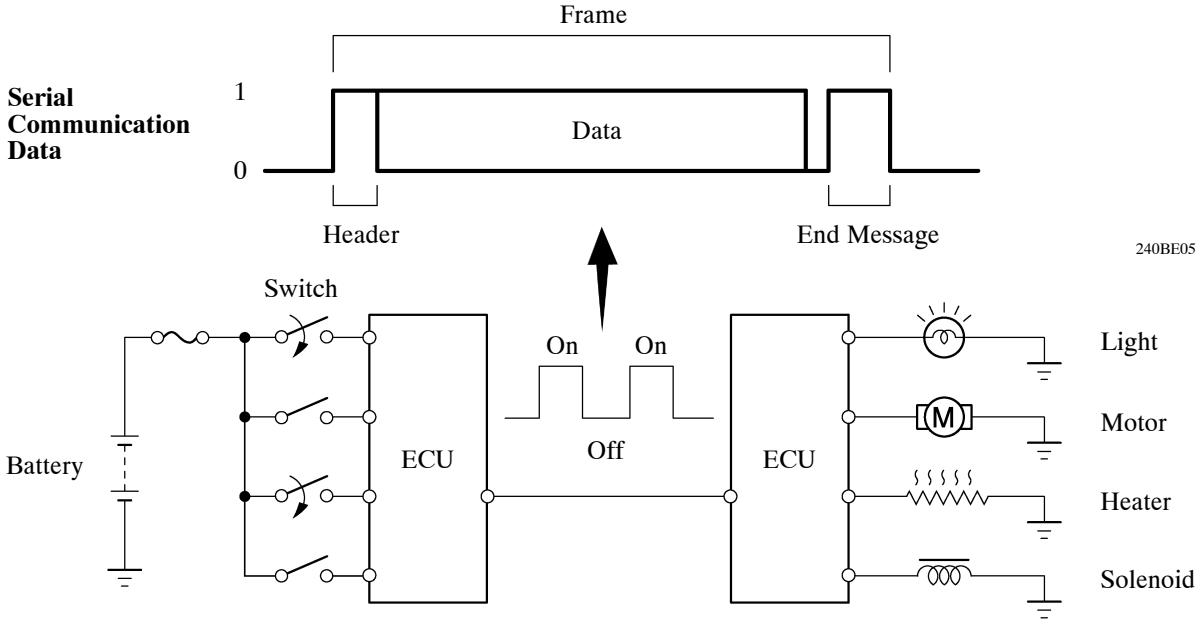
- Due to the introduction of the CAN communication system for the power train, chassis and body electrical systems, the BEAN (Body Electronics Area Network) that is used for the body electrical system on other vehicles is not used on this model.
- A customizable body electronic system is used, enabling some of the control functions of the ECUs to be set using Techstream. For details, see page BE-18.

— 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.

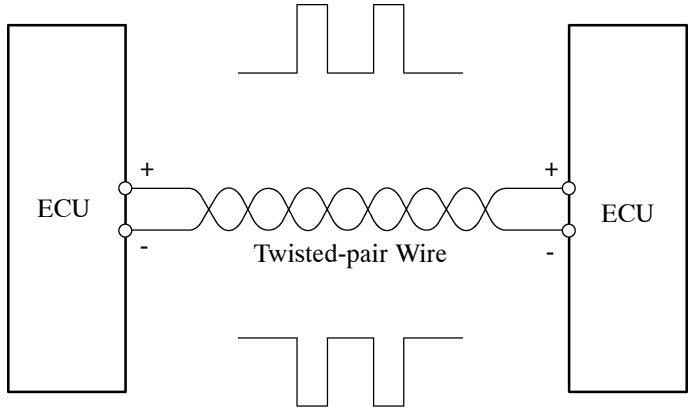
- A bit is the basic unit of communication that is used to represent the information. A bit is represented by binary values of “0” or “1”.
- For CAN communication, a differential voltage drive is used to represent the binary values of “0” or “1”. This “differential voltage drive” reduces the effects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

▶ Conceptual Drawing for Multiplex Communication ◀



Single Wire Voltage Drive 240BE03

▶ Conceptual Drawing for CAN or AVC-LAN Communication ◀



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Differential Voltage Drive

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