BODY ELECTRICAL

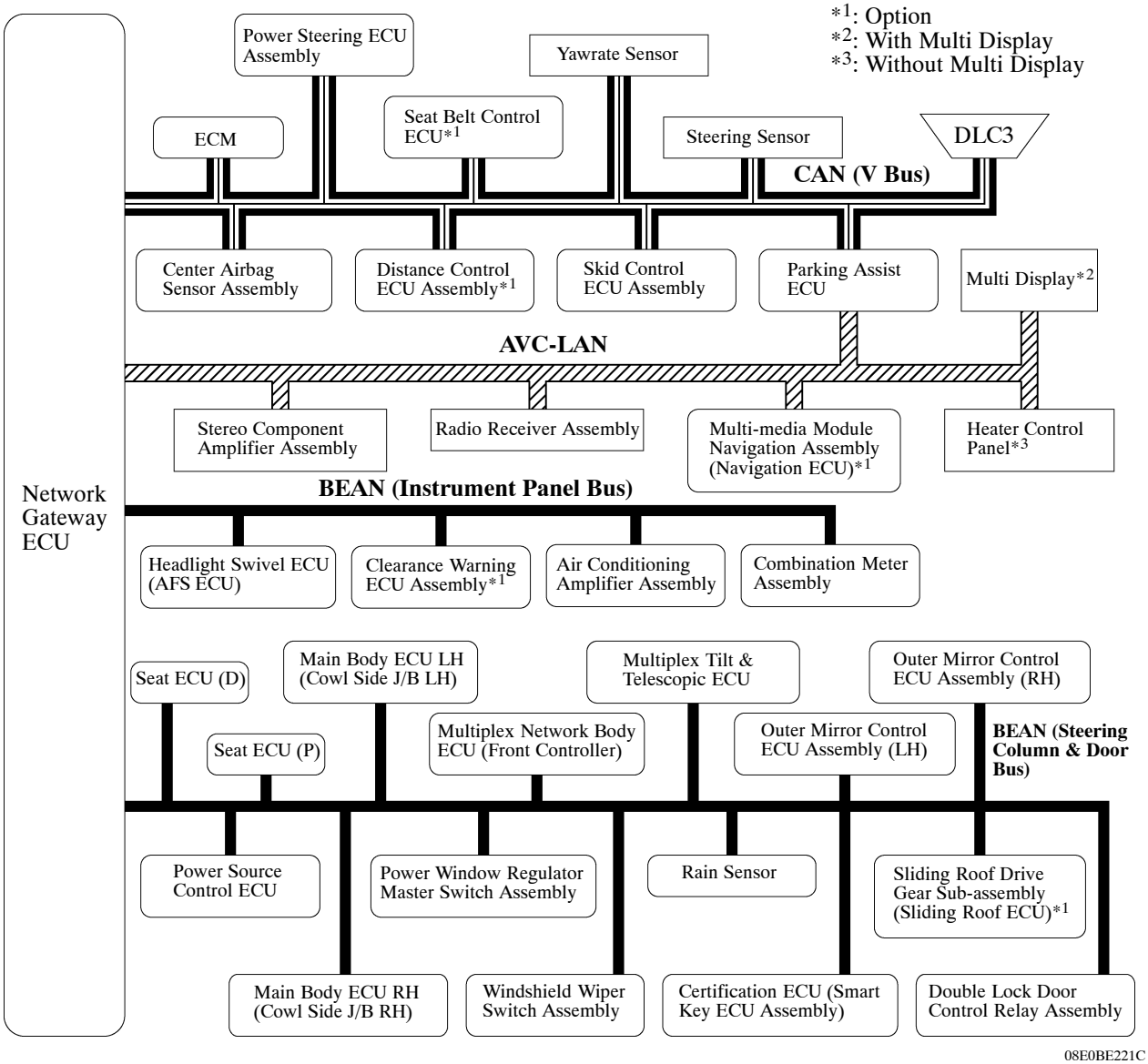
MULTIPLEX COMMUNICATION

■ DESCRIPTION

The multiplex communication system uses 3 communication protocols. This system is centered around the network gateway ECU and allows for use of a lightweight and less complex wire harness.
The three communication protocols are used on the CAN (Controller Area Network), BEAN (Body Electronics Area Network), and AVC-LAN (Audio Visual Communication - Local Area Network).

- Engine and chassis electrical systems use CAN (Controller Area Network) protocol.
- Body electrical system uses BEAN (Body Electronics Area Network) protocol.
- The audio visual system uses AVC-LAN (Audio Visual Communication - Local Area Network) protocol.
- The network gateway ECU converts the different types of data, enabling the exchange of information between the different networks.

■ SYSTEM DIAGRAM



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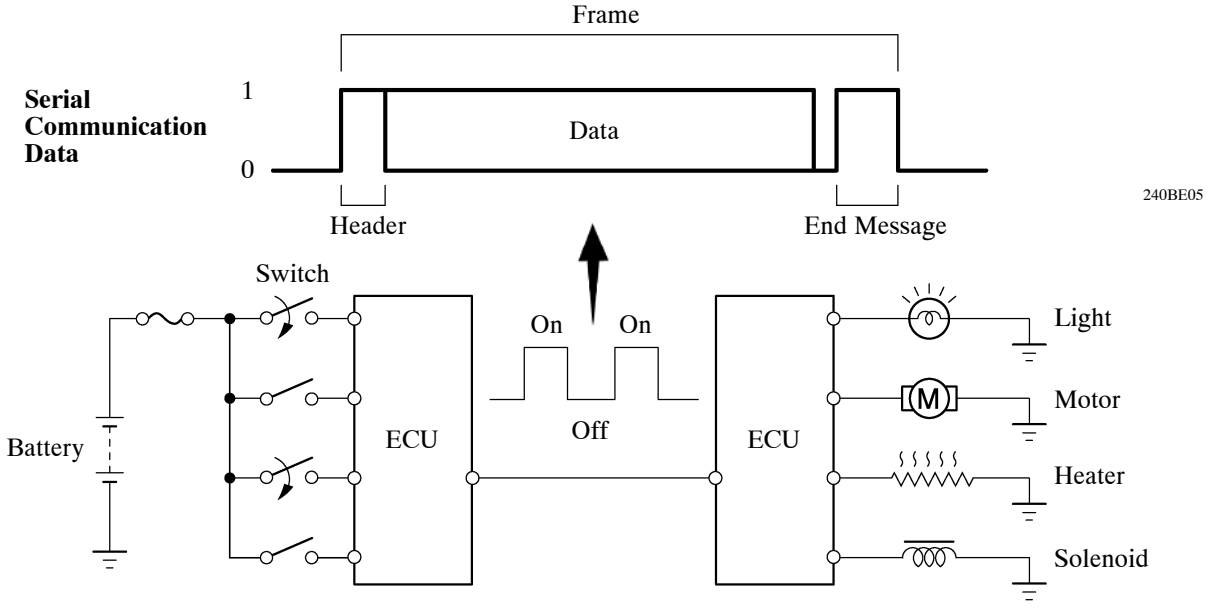
— REFERENCE —

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.

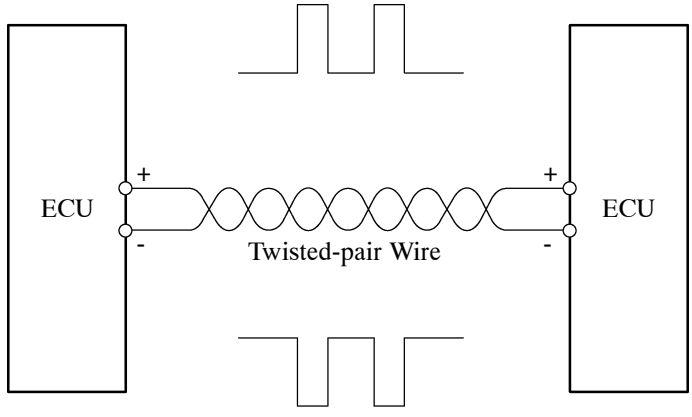
- A bit is the basic unit of communication that is used to represent the information. A bit is represented by binary values of “0” or “1”.
- For CAN communication, a differential voltage drive is used to represent the binary values of “0” or “1”. This “differential voltage drive” reduces the effects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