Car Radio Adapter short operation and installation description.

The Radio Adapter is designed to convert the internal Mercedes Sprinter CAN Bus commands to the Delphi Sirius Radio CAN Bus commands. The main groups of commands are:

1) Steering wheel Channel Up/Down.
2) Steering wheel Volume Up/Down.
3) Vehicle display information such as current radio frequency, band, CD status and so on.
4) Dimmer commands.
5) Vehicle accessory on radio supply simulation circuit.

The Radio Adapter consists of the following modules:

1) CAN Bus speeds converters from 83.3 KBit/s (Sprinter CAN Bus) to 250 KBit/s (Delphi Radio CAN Bus)
2) State of the art Freescale Microcontroller 9S12XDG128 in low power consumption mode.
3) On-board LED for installation test and troubleshooting purposes.
4) The Infineon LDO voltage regulator approved for the automotive applications.
5) Ignition simulation circuit.

Based on these commands the Radio Adapter simulates the accessory supply voltage to turn on/off the radio. Also the sleep mode is implemented into the Radio Adapter so the board consumes less than 1mA in sleep mode.

The installation of the Radio Adapter is simple because there are no changes needed in the vehicle. The adapter uses the vehicle power +12V and CAN bus (low, high) wires (Please see Figure 1).

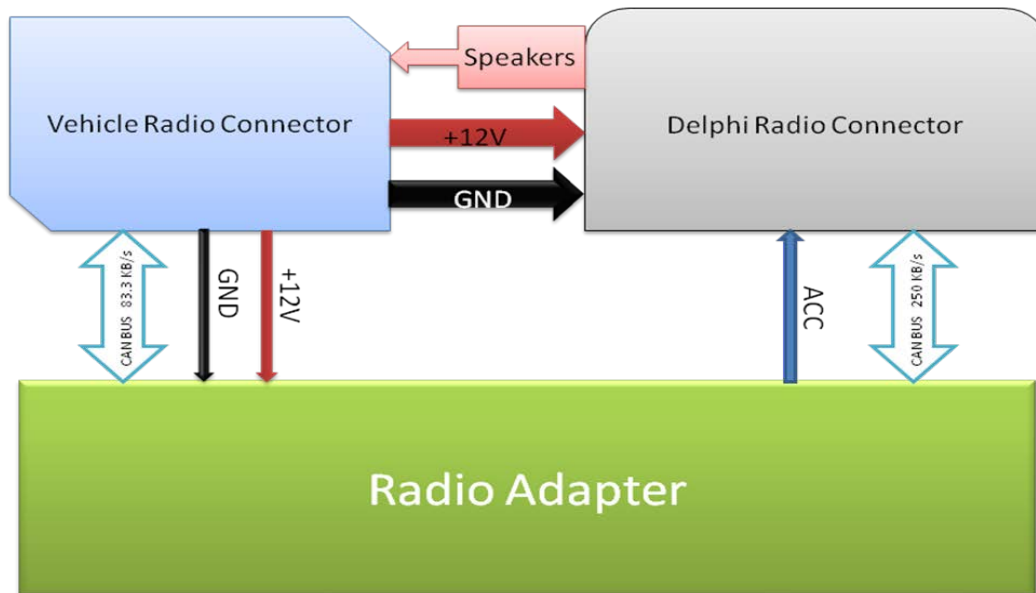The in vehicle connection simplified diagram shows the main idea of the installation and operation of the Radio adapter.

Figure 1. Connection simplified diagram