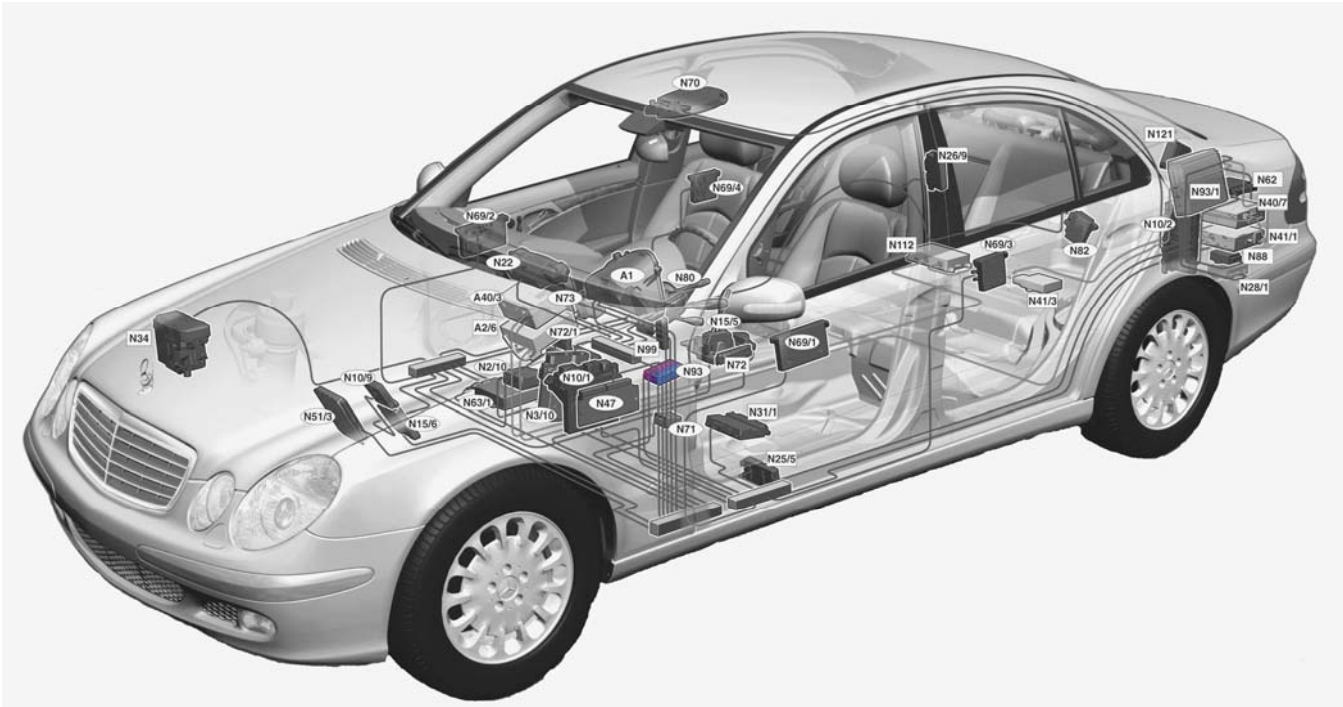
Mercedes-Benz

W211 Networking



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Communication Networks

The W211 uses many control modules that share information, control consumers and self diagnostics. There are 3 vehicle communication networks and 1 dedicated diagnostic network.

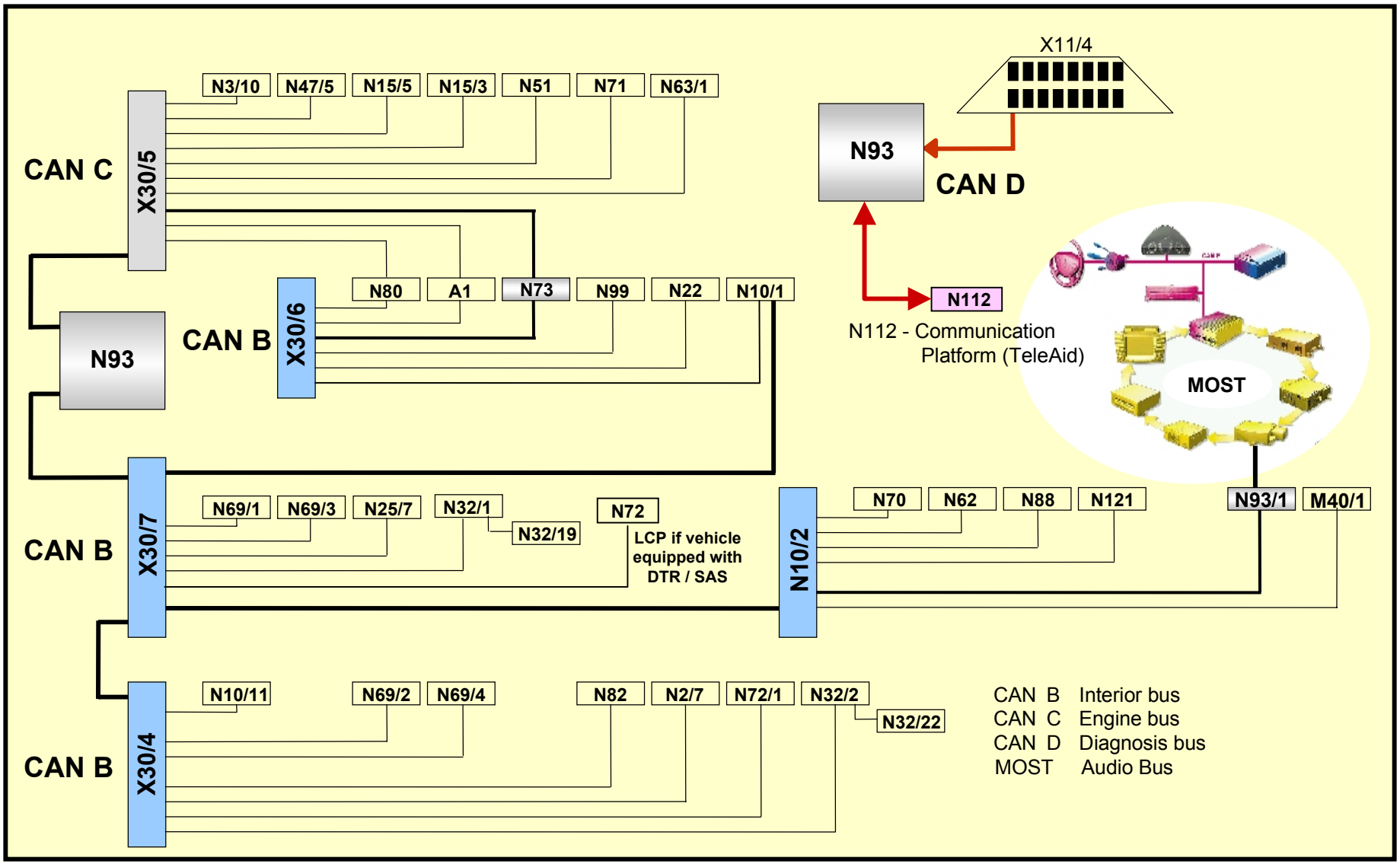
CAN B - Interior databus (sometimes called body CAN)

CAN C - Engine databus (sometimes called chassis CAN)

MOST - Digital fiber optic databus (replaces D2B)

CAN D - Diagnostic databus

W211 Networking Diagram



W211 Networking Legend

CAN C

N3/10 ME-SFI Control Module

N15/3 ETC - Electronic Transmission Control

N15/5 ESM - Electronic Selector Module

N47/5 ESP - Electronic Stability Program

N51 SAS - Semi-Active Air Suspension

N63/1 DTR - Distronic Control Module

N71 HRA - Headlamp Range Adjustment

N93 CGW - Central Gateway Module

CAN B

M40/1 Pneumatic Pump of Dynamic Seat

N2/7 Supplemental Restraint System

N10/1 SAM-D - Driver-side

N10/2 SAM-R - Rear

N10/11 SAM-P - Passenger-side

N22 AAC - Automatic Air Conditioning Control

N25/7 HS and Seat Ventilation Control Module

N32/1 ESA - Left Front Seat Adjustment

N32/2 ESA - Right Front Seat Adjustment

N32/19 Left Front Dynamic Seat Control

N32/22 Right Front Dynamic Seat Control

N62 PTS - Parktronic Control

N69/1 DCM - Left Front Door Control Module

N69/2 DCM - Right Front Door Control Module

N69/3 DCM - Left Rear Door Control Module

N69/4 DCM - Right Rear Door Control Module

N70 OCP - Overhead Control Panel

N72/1 UCP - Upper Control Panel

N82 BCM - Battery Control Module

N88 TPC - Tire Pressure Monitor Control Module

N93/1 AGW - Audio Gateway Control Module

N99 SWH - Steering Wheel Heater

N121 RTL - Remote Trunk Locking Control Module

CAN C & B

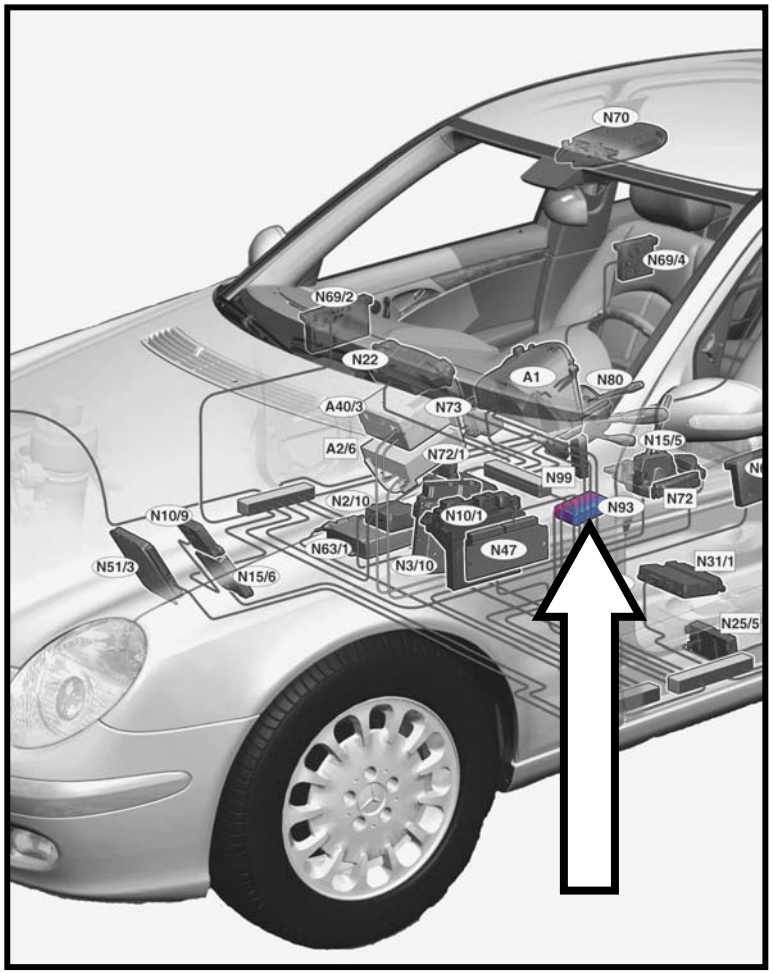
A1 ICM - Instrument Cluster

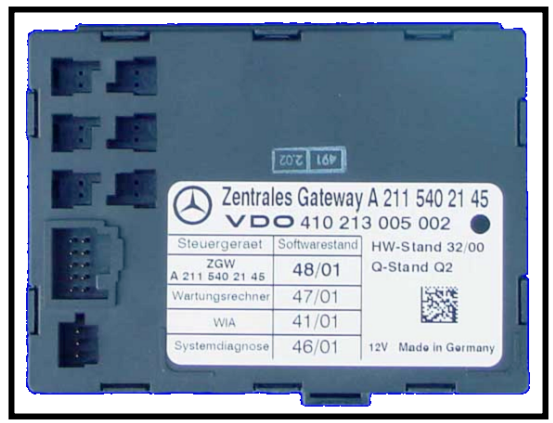
N73 EIS - Electronic Ignition Switch Control

N80 SCM - Steering Column Module

N93 CGM - Central Gateway Module

Central Gateway Module (N93)





Location: Drivers under dash panel

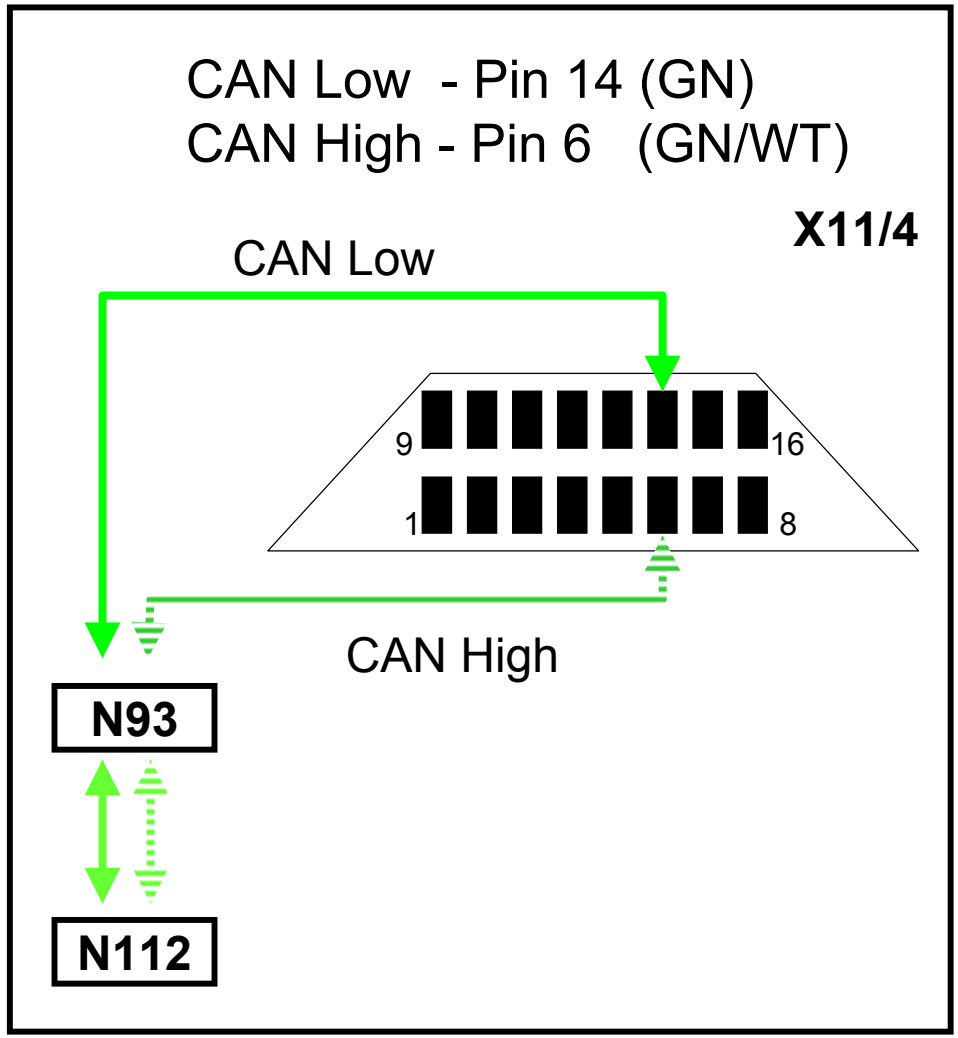
CGW (N93)

- CGW is the primary gateway between CAN C and CAN B
- Version coding known from EIS (N73) is now contained in CGW (N93)
- CGW contains FSS plus maintenance programs, no longer in ICM
- CGW module replacement
  - CGW module attempts to adapt to vehicle control modules
  - System diagnosis knowledge base updated by flashing
- Incorporates system diagnosis functions
  - CGW replaces system diagnosis module known from (R230)
  - Monitors, evaluates and performs logic assessments of CAN B related components (later production CAN C will be included)

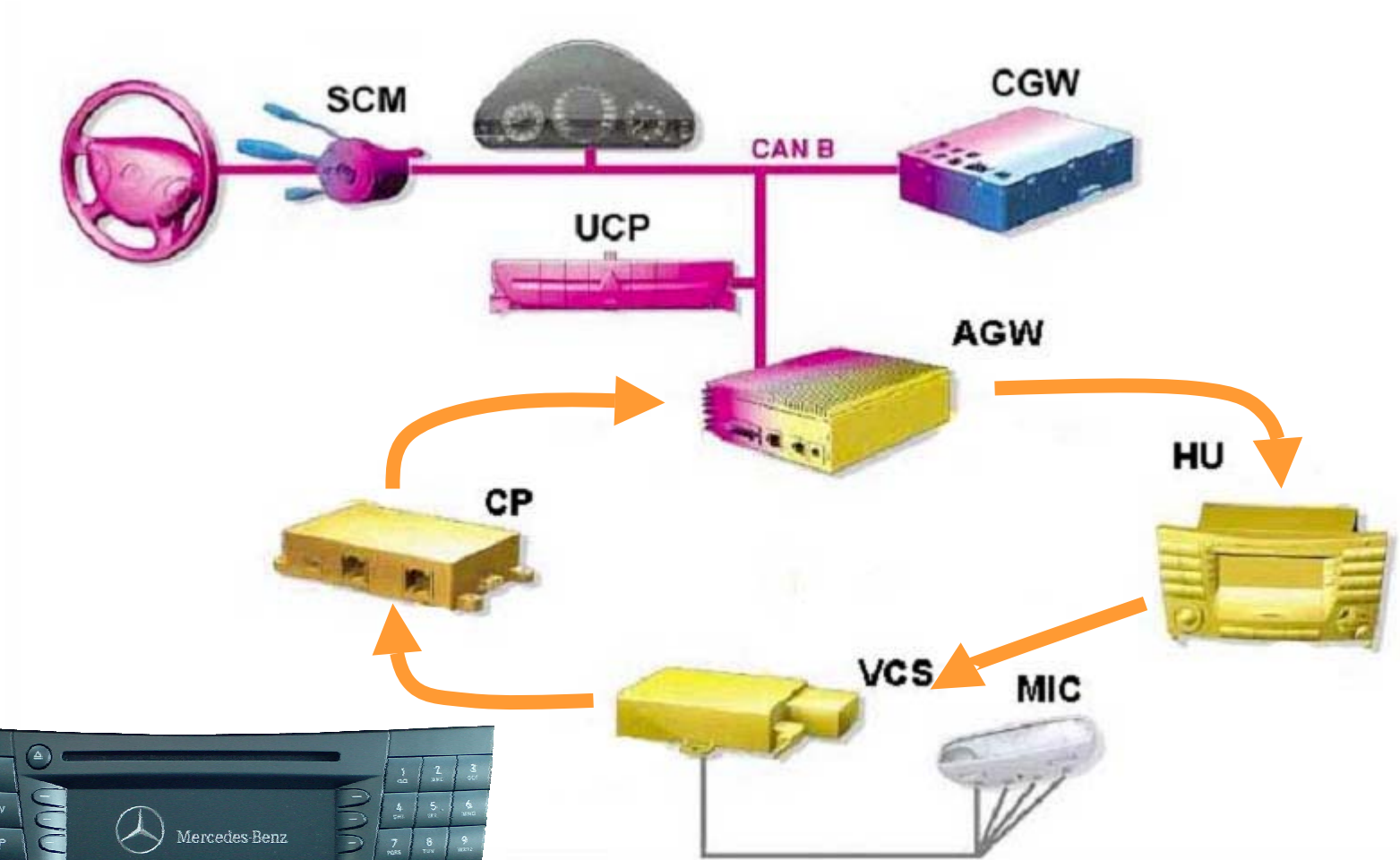
W211 CAN D

- Is the diagnostic link between Central Gateway Module (N93), Communications Platform (N112) and SDS / DAS

- All modules on CAN B are diagnosed by SDS / DAS through CAN D



Audio / Communication Network



What is MOST?

- The MOST acronym is derived from it's definition as a "Media Oriented System Transport"
- Fiber optics manufactured with greater durability than D2B
- Communication standard created by DCAG, Becker, and other corporations
- The configuration of the system is a combination of ring and star topology similar to D2B

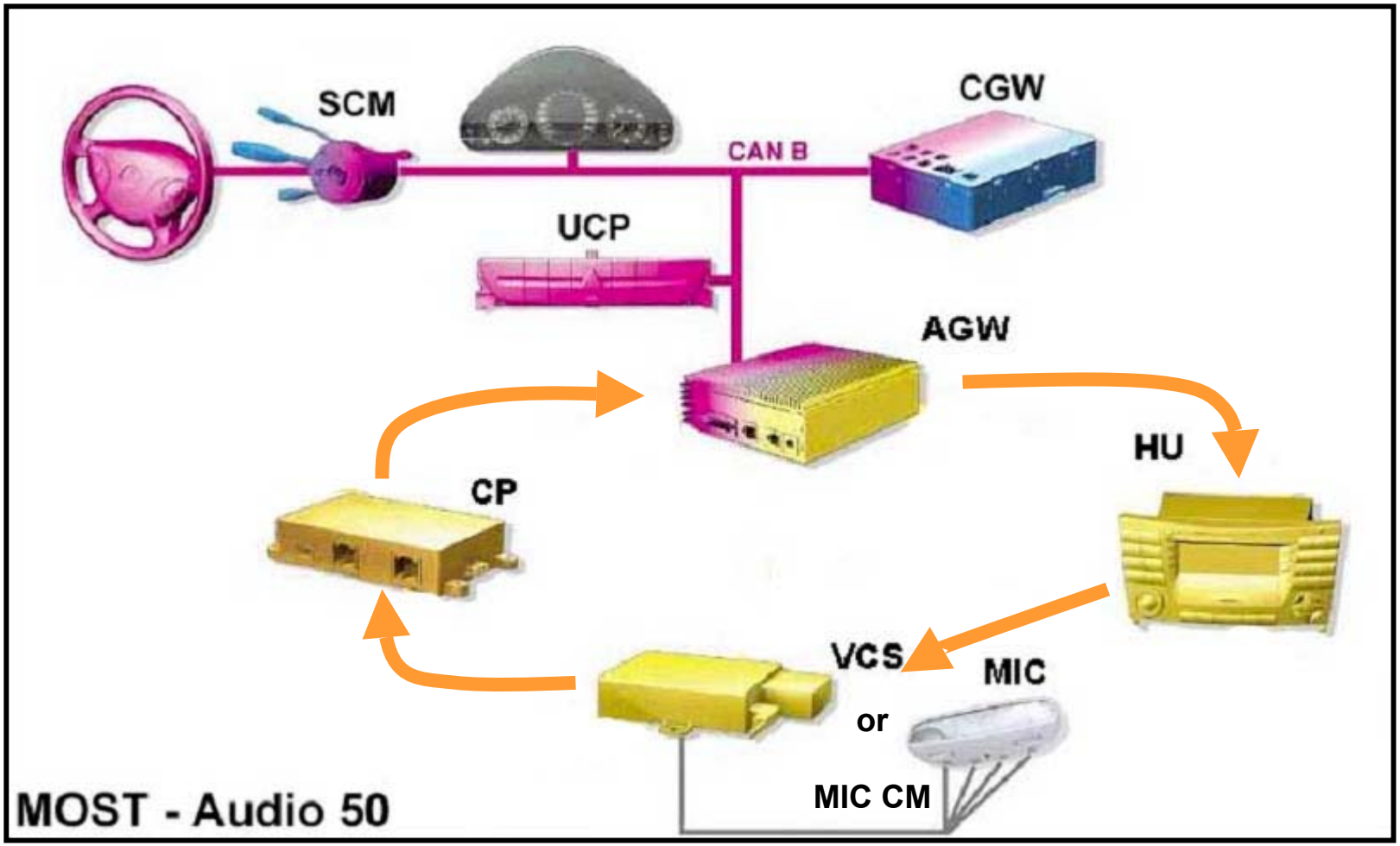
MOST Component Functions

- AGW, audio gateway (N93/1) *Harman-Becker*:
  - MOST master
  - Tuner
  - Amplifier
  - CAN B to MOST gateway
- CP, communication platform (N112) *Motorola*:
  - HSE
  - TeleAid
  - GPS (location of car for TeleAid)
- VR, voice recognition (A35/11) *Temic/Motorola*

  or

  MIC CM, Microphone in mirror module (A35/1) *AKG*
- CDC compact disc changer (A2/6) *Alpine*
- HU head unit (A2/56) or later COMAND *Harman-Becker*

MOST Ring Network



MOST Bus Legend

MOST

A2/56 - Audio 50 head unit (HU)

A35/1 - Microphone Module (MIC CM)

A35/11 - Voice recognition module (VR)

B25 - Microphones in mirror (MIC)

N93/1 - Audio gateway module (AGW)

N112 - Communication platform (CP)

CAN B

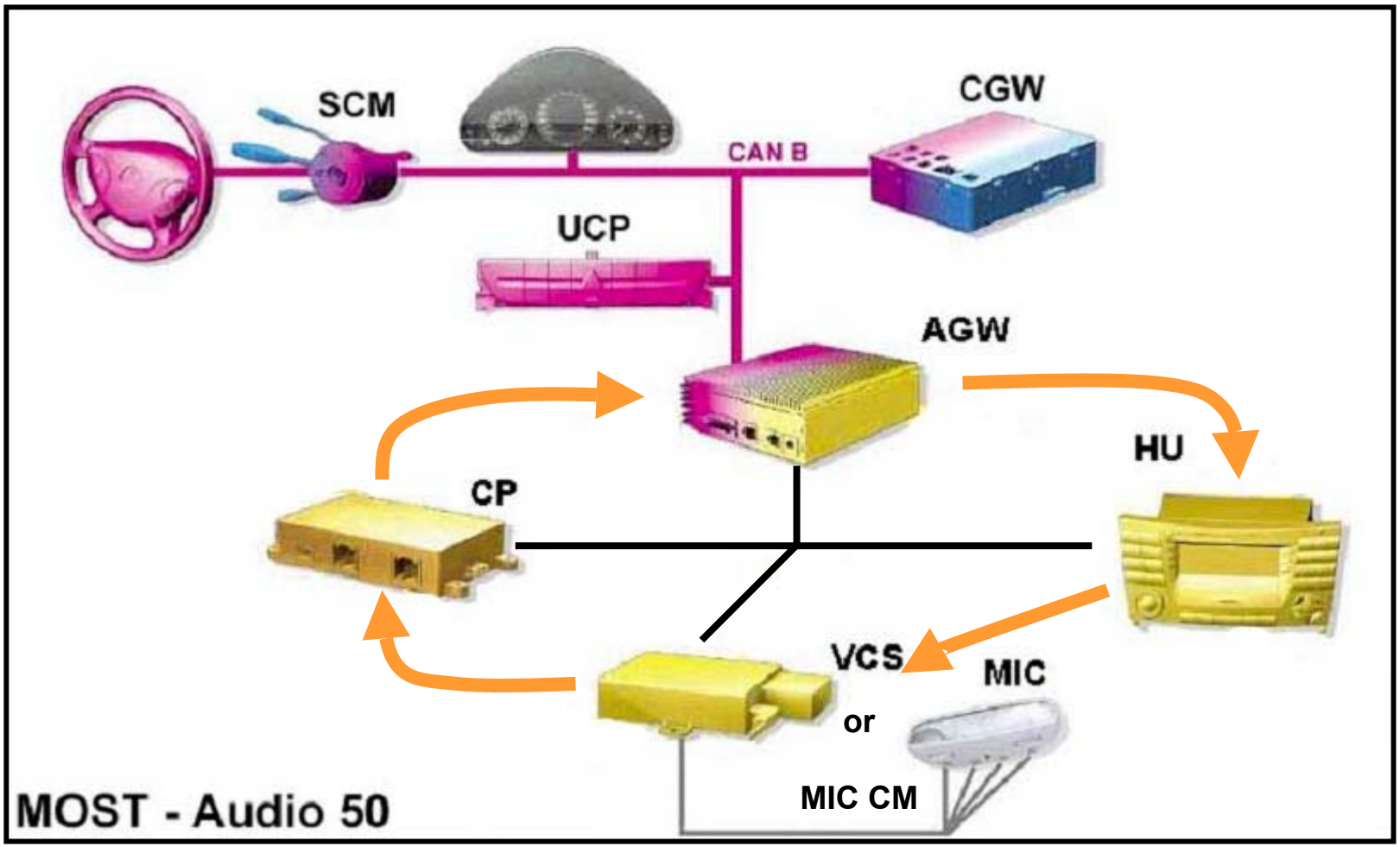
A1 - Instrument cluster (ICM)

N72/1 - Upper control panel (UCP)

N80 - Steering column module (SCM)

N93 - Central gateway module (CGW)

MOST Wake-Up



- 12 volt electrical wakeup
- Components will still wake up using optical ring

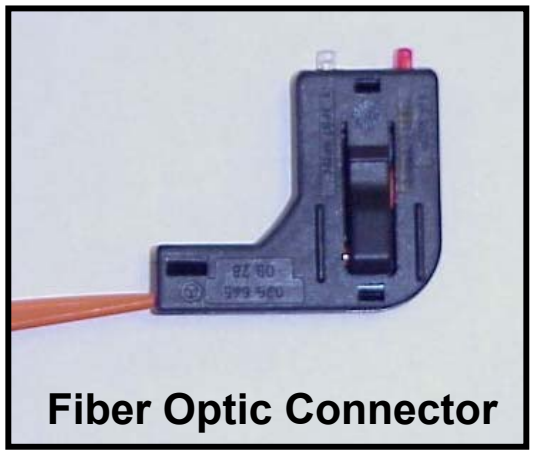
MOST Wake-Up Bus Connector

Location: Drivers rocker panel wiring trough

Connector cover incorporates bridges connecting all the individual wake-up wires

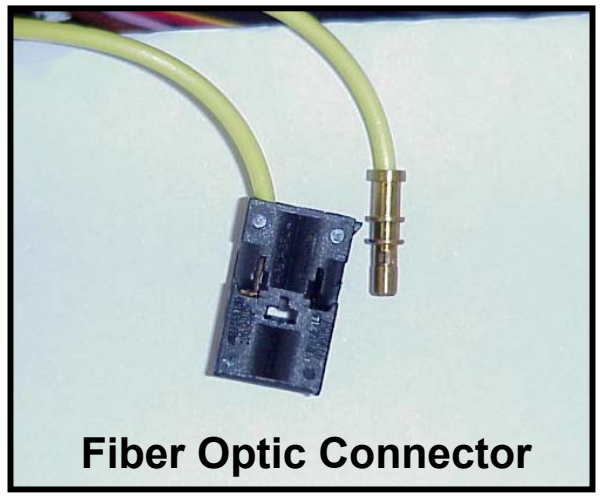
MOST vs. D2B Connector

D2B

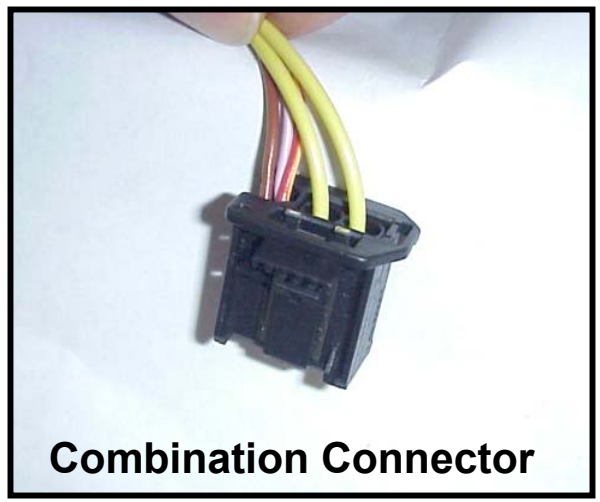


Fiber Optic Connector

MOST



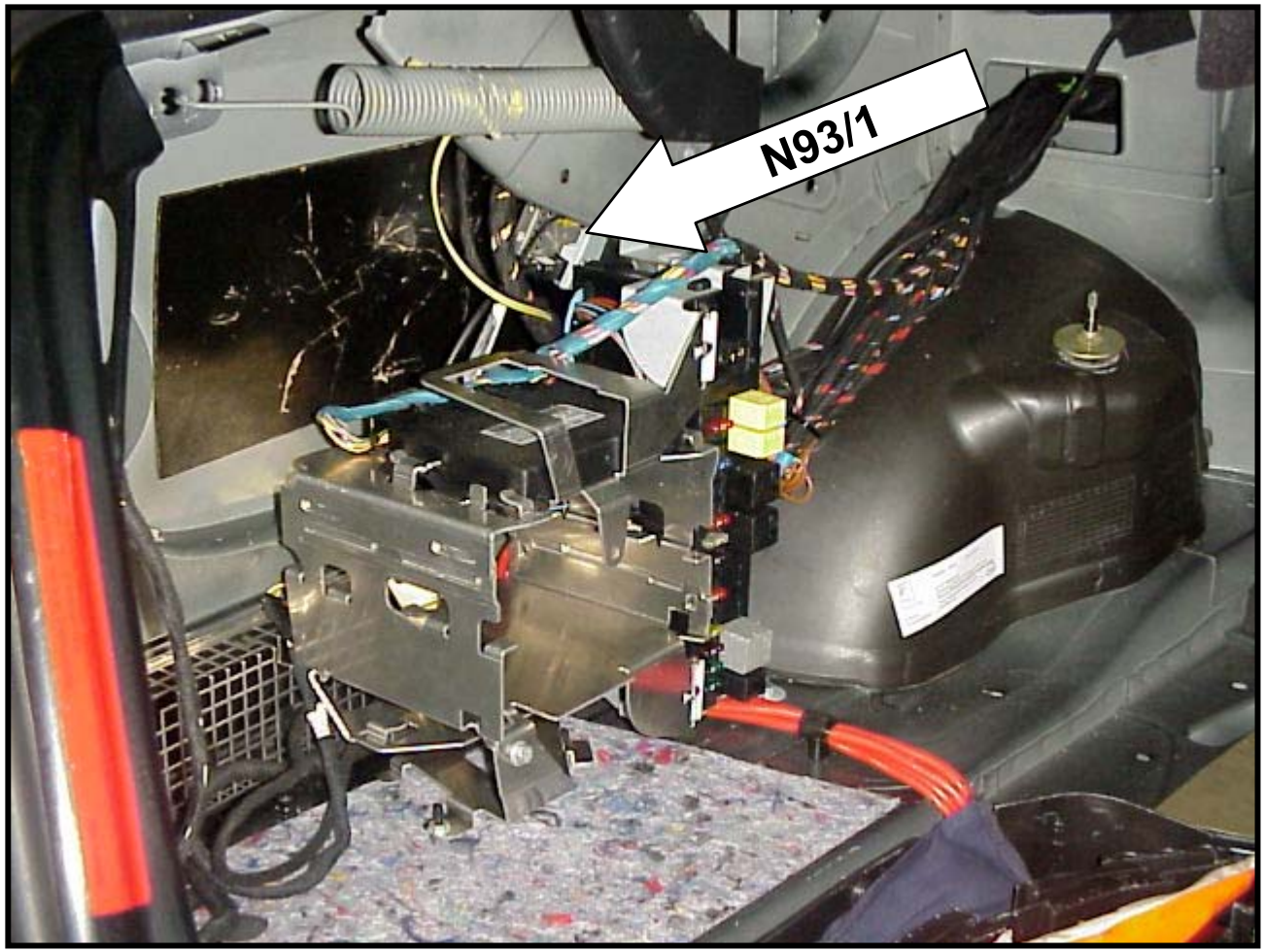
Fiber Optic Connector



Combination Connector

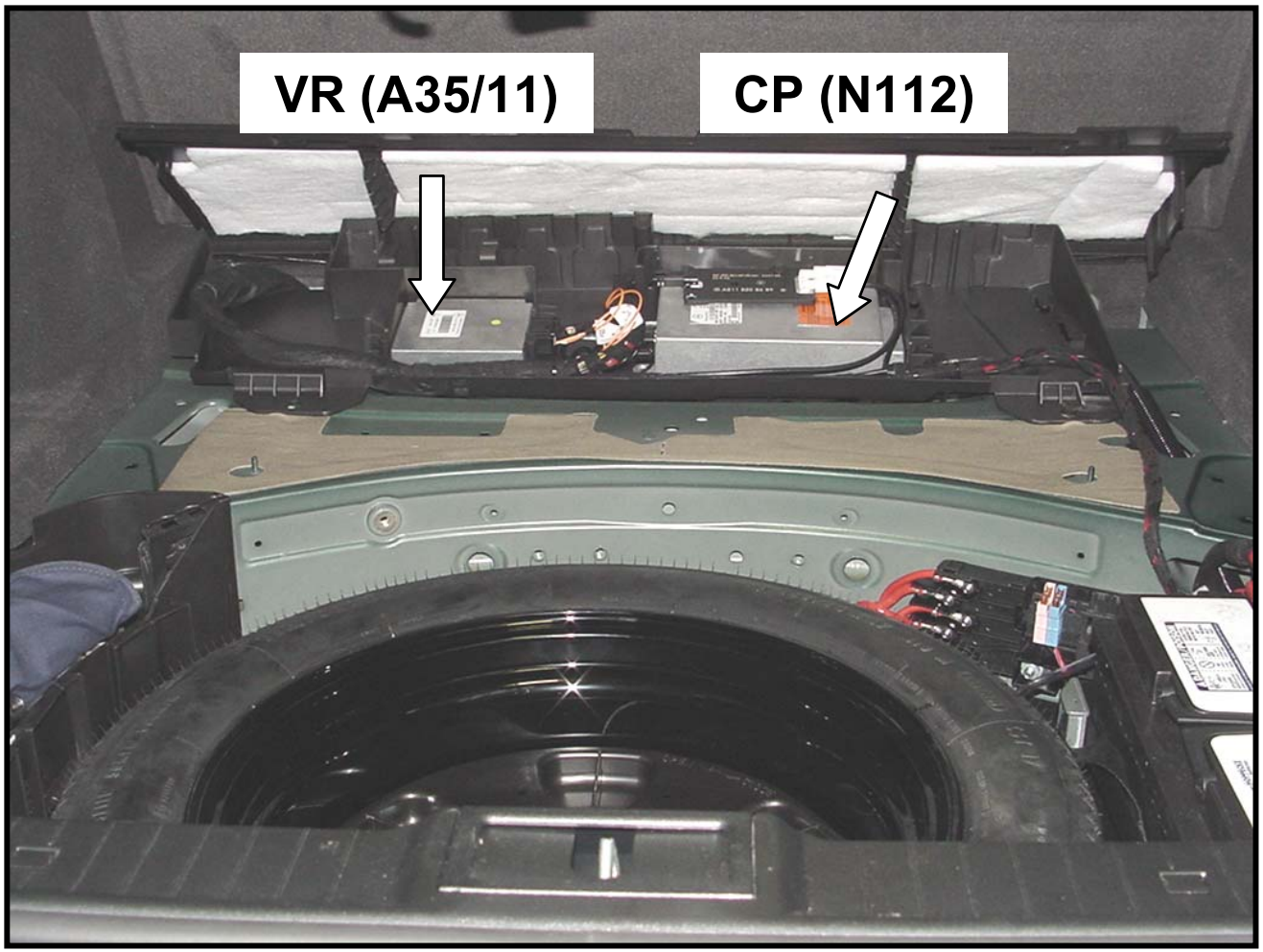
Note: MOST fiber optic ends same color

Audio Gateway Module (N93/1)



Location: Left side trunk - “buried”

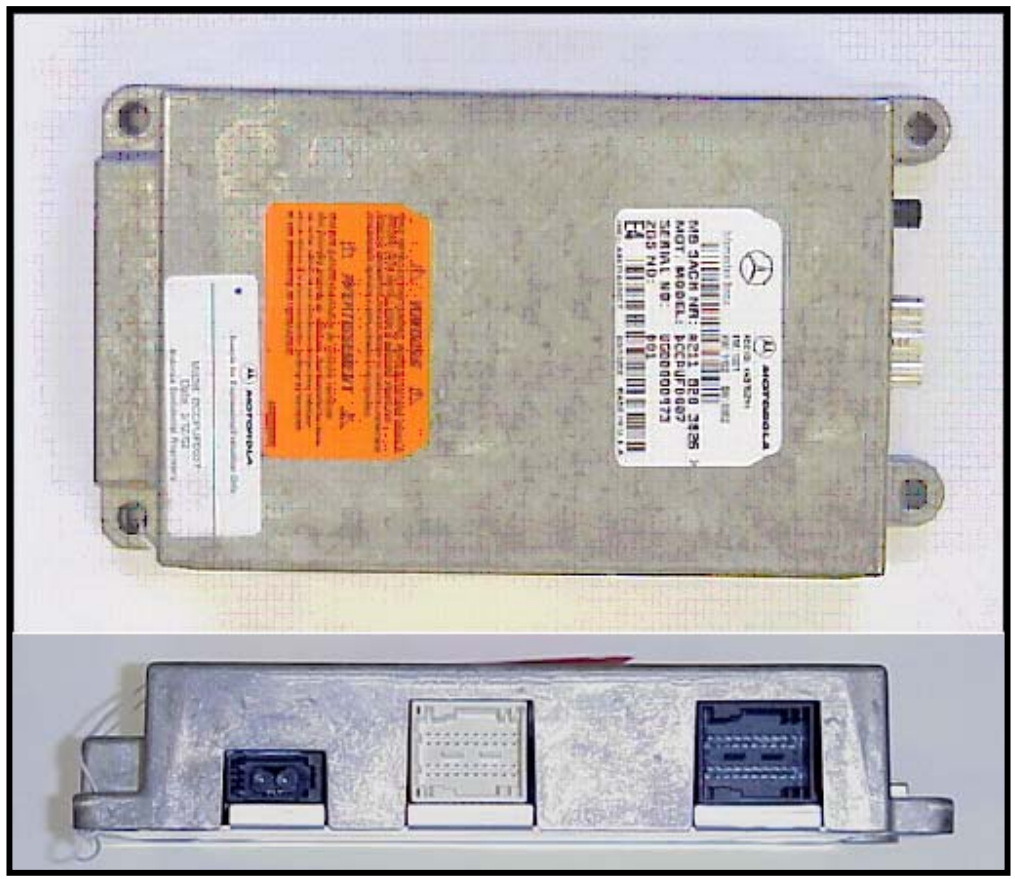
VR and CP Component Location



Communication Platform (N112)

Integrates the following systems:

- HSE
- TeleAid
- GPS (location of car for TeleAid)



MIC CM (A35/1) / VR (A35/11)

- Microphone in mirror control module (A35/1)
  - installed with basic equipment
  - TeleAid only
  - Manufactured by *AKG*

- Voice recognition module (A35/11) (optional)
  - control of audio voice commands
  - Manufactured by *Temic / Motorola*

Note: Both control modules have same physical appearance

Head Unit Audio 50 (A2/56)

CD Changer (A2/6)

- Controlled by HU or multifunction steering wheel
- Single slot disc loading - no magazine (1)
- Six numbered buttons eject each disc (2)
- Only plays music CD’s - No Mini Disc, DVD or Navi function

D2B vs. MOST Comparison

D2B

- Speed up to 5.65Mbps
- Maximum of 6 devices
- Orange fiber cable
- Light wavelength = 650 nm (red)
- Max. bend radius of fiber is 25 mm
- 12 volt electrical wake-up
- Created specifically for DCAG $$$
- Limited fiber optic length
  10m w / no inline connectors
  3m w / 3 inline connectors

MOST

- Speed up to 24.8Mbps (future up to 50 Mbps)
- Maximum of 64 devices
- Yellow / orange fiber cable
- Light wavelength = 650 nm (red)
- Not critical, but do not kink
- 12 volt electrical and optical wake-up
- Shared communication standard
- Limited fiber optic length
  up to 100m w / unlimited inline connectors
- CP replaces HSE, TeleAid
- Head Unit does not contain radio receiver or amplifier (no radio codes).
- Special MOST connectors