

Automotive ECUs and tools

CAN is the dominating in-vehicle network in passenger cars. The number of CAN-connectable ECUs has been increased by each car generation. The Golf IV platform introduced in 1998 used 17 ECUs connected to two CAN networks. The Golf VI comprises 49 networked ECUs linked to five CAN networks and seven LIN bus-systems. PSA, the French carmaker, uses in its Peugeot 308 and Citroën C4 the same platform comprising 55 CAN-connected ECUs.



Besides the ECU integrated by the OEMs, there is an increasing demand on add-on modules for special-purposes. Some of them need to be linked to the in-vehicle networks. For these applications, CiA members develop the standardized CiA 447 gateway. Audi, Daimler, Opel, and Volkswagen participate in this development as well as many device suppliers and users like taxi-driver associations, police administrations, and organizations for handicapped drivers.

AIM (Germany) has launched the Solo DL GPS lab-timer module, which records via the CAN interface in-vehicle data. Designed to be used for racing cars, the dash-logger has on 8-MiB internal ring-memory and can record with a 2-kHz scan rate. The module understands about 300 ECUs from different manufacturers.

Equus (USA) develops and produces OBD-II tools. The 3040 hand-held scan-tool provides a CAN interface and supports all 1996 and newer passenger cars, light trucks, SUVs, and minivans. The tool automatically refreshes the data every 30 s. It features OBD-II live data and freeze frame data. It also decodes "check engine" light problems reported via CAN.

ESAcademy (Germany) provides a CiA 447 compliant gateway simulation software. It is based on the same software that is used in the gateways of various automotive manufacturers. The simulation software can also 're-play' tours, which are simulations of drives along a specific route. The tour data visible on the network includes engine and location (GPS) data.

Hale (Austria) has updated its SPT-02 mirror taximeter supporting the CiA 447 application profile. The MID approved (for all European countries) product features an automatic off-mode, when closing the central locking system. It also indicates the roof status in the display.

Kienzle Argo Taxi International (Germany) manufactures the T21 taximeter, which is prepared to support the CiA 447 application profile. The DIN shaft mountable device integrates a printer unit and is powered by a separate battery. The optional CiA 447 interface allows an easy adaptation to cars featuring an appropriate gateway to the in-vehicle networks.

Peak (Germany) has extended the functionality of its PCAN-GPRS link device. The ECU with two CAN interface supports OBD-II and CiA 447 connectivity. It is also suitable for FMS (fleet management) and DTCO applications. The "e1" certified product is able to record up to 2 GiB in-vehicle data.

TBJ Dynamische Messtechnik (Germany) has introduced an OBD-II (ISO 15765) compatible device reading the on-board diagnostics sensor values and makes them as CAN messages available. The CAN interface is realized by means of a 9-pin D-sub connector. The device is configurable via an USB interface. Optionally the OBD-to-CAN converter is equipped with a GPS receiver. The GPS data is also available at the CAN port.

Waeo (Germany) provides the Magicspeed CBI 150 interface module, which translates CAN in-vehicle messages in analog signals to be used by car add-on devices or retrofit accessories such as cruise controls, head-up displays, parking aids, and alarm systems. The module features an automatic vehicle type recognition system for some brands (e.g. Citroën, Fiat, Ford, Iveco, Mercedes-Benz, Nissan, Peugeot, Renault, and Volkswagen). All installation fittings are included in the delivery kit.