DiaGRA® MCD

DiaGRA MCD Toolset

- Service + Maintenance
- Production + Quality Assurance
- Research + Development
- Measurement Option (DiaGRA M)
- Calibration Option (DiaGRA C)
- Diagnostics Option (DiaGRA D)

Measurement · Calibration · Diagnostics

Simplified licensing model, incremental upgrade options for low initial costs, fair prices

Features:
- Superior tools in an integrated package
- Support of CAN, K-Line, FlexRay, SMB and Ethernet
- Mobile, easy to use
- Minimal hardware requirements
- Protocols and file formats: CCP, XCP, KWP2000, UDS, MCD-2 MC ASAP2/A2L, MCD-2 D ODX, MCD-2 FIBEX, CANdb, MDF, DCM and many more

DiaGRA® M
- Powerful measurement tool
- Measurement data acquisition from ECUs and devices on CAN, FlexRay, SMB and Ethernet
- Online measurement and visualization
- Offline data processing

DiaGRA® C
- ECU calibration on CAN and FlexRay
- Graphical and tabular display of characteristic curves and maps
- Ergonomic characteristic maps editor
- Editor for structured parameter adjustment of the diagnostic fault path manager

DiaGRA® D
- ECU diagnostics on K-Line, CAN, FlexRay and Ethernet
- Workshop tester
- OBDII/EOBD/HD-OBD scan tool in accordance with SAE J1979, SAE J1939 and ISO 27145 WWH-OBD
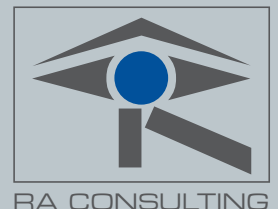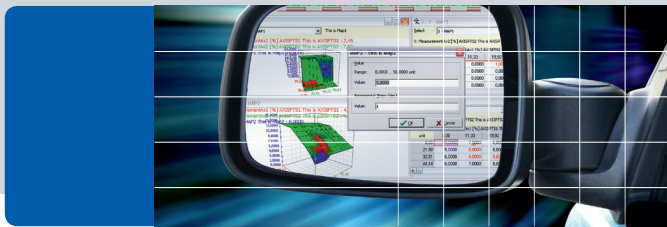- Advanced developer functionalities
- Flash programming
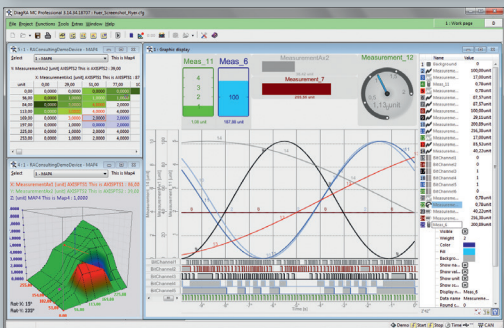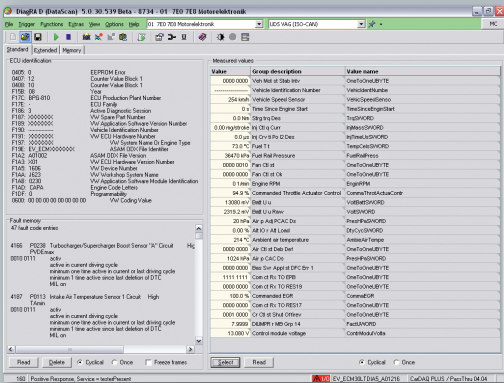
www.rac.de

RA CONSULTING GmbH
Automotive Products

Zeiloch 6a
76646 Bruchsal · GERMANY
Tel. +49 (0) 7251 3862-0
Fax +49 (0) 7251 3862-11

RA CONSULTING

DiagRA® MCD Toolset
Measurement - Calibration - Diagnostics

The DiagRA® MCD Toolset is an applications and diagnostics tool box for electronic control units used in automobiles. It comprises the three software options DiagRA® M, DiagRA® C and DiagRA® D. These three options can eitherbe used independently or can be combined into an integrated, optimized environment. This allows the acquisition and graphical display of diagnostic measurement values using DiagRA® M while simultaneously performing calibrations using DiagRA® C. The same hardware interface can be used wherever technically feasible.

DiagRA® M
Measurement option

DiagRA® M reads vehicle state variables from control units and measurement devices. The results are then displayed online in graphic and numeric form. Data acquisition options are CAN, the serial measuring bus (SMB), CCP and XCP on Ethernet and FlexRay. Values are defined using CAN DBC or equivalent A2L files. The support of XCP for measurements on FlexRay is included as a feature using signals defined in FIBEX data files. Diagnostic option DiagRA® D can facilitate the diagnostics measurement values to be displayed numerically and graphically, and to be recorded.

DiagRA® M offers a powerful, flexible, adaptable and storable user interface configuration. Measurements can be automated using suitable trigger conditions that can be combined across multiple measurement channels. Acquired data can be saved and processed immediately via the integrated evaluation function. DiagRA® M supports cold-start measurements and the transmission of CAN messages for the targeted testing of specific units.

With the ASAP-3 support it is possible to connect an automation system (serial or via TCP/IP) to DiagRA® MC for automated testing.

Data is exchanged with other applications via MDF (DAT) import and export. As with the other tools, attention has been paid to realize very simple, intuitive operation, thereby achieving a particularly requirements-oriented functionality.

DiagRA® C
Calibration option

DiagRA® C is a calibration tool for CCP (CAN Calibration Protocol) and XCP on FlexRay and Ethernet (Universal Measurement and Calibration Protocol). Its functionality and operation is precisely tailored to the needs of calibration engineers and control unit developers. The user interface can be parameterized and configurations can be stored, making repeatable and comparable sequences possible.

Characteristic curves and maps can be displayed both graphically and numerically. The ergonomically designed characteristic maps editor offers a copy-and-paste function and a histogram function in text mode.

With DiagRA®C, adjustments can be made online. Adjustment data can be printed, compared and merged. The exchange of calibration data by DCM is supported. A calibration option that avoids the need of an emulator for application tasks is particularly worth mentioning. CCP support can be achieved with simple, low-cost CAN interfaces, allowing many application engineering tasks to be achieved at minimal costs. In particular, complex calibration environments can be set up by combining DiagRA® C with the other modules of the DiagRA® MCD Toolset.

DiagRA® C already includes RA®'s former standard software 'Codes' for the processing of control unit data, thereby providing a clearly laid-out editor for the structured paramaterizing of error path managers of different control unit manufacturers.

DiagRA® D
Diagnostics option

DiagRA® D is now used by more than 20,000 developers worldwide. It offers three essential components: OBD Scan-Tool, Workshop Tester and Extended Functions.

Using the Extended Functions of this easy-to-operate tool, developers can read out the full contents of the fault memory from control units via the descriptions from A2L files.

The Scan-Tool supports the 10 functions (service $01 to service $0A) according to SAE J1979 and diagnostic messages according to SAE J1939 (HD-OBD). The support of WWH-OBD (World-Wide Harmonized OBD, ISO 27145) is an additional feature.

DiagRA® D also includes support for the original Open Source tools to run the SAE J1699-3 OBDII Compliance Test Cases and the SAE J1939-84 OBD Communications Compliance test Cases for heavy-duty components and vehicles. In addition, the software comprises a results viewer tool for J1699-3 log-files. Results are saved in XML or PDF files.

DiagRA® D supports various diagnostic protocols on K-Line, CAN, FlexRay and Ethernet such as ISO14230 (KWP2000), ISO15765, ISO14229 (UDS), ISO 13400 (DoIP) and SAE J1939 as well as as some OEM specific protocols. Diagnostic descriptions according to ODX specifications are supported.

Data access can be initiated either manually or by preconfigured sequences. The data can be saved in TXT or structured XML, recordings in CSV format. Structured storage simplifies data transfer into a database or other application for data processing purposes.

A user-friendly test cycle assistant for standard (e.g. FTP75, MVEGA, MVEGH…) or self-defined driving cycles is included. Reference values can be freely selected from acquired diagnostic values.

Automation options are available using DDE and ASAP-3 interfaces or so-called Web services (in accordance with ASAM HIL API definitions) for connecting to a test bench or simulator.

CAN messages can be acquired with or without diagnostic communication, with DBC descriptive files being all that's required. Transmission of CAN messages is also feasible.

Flash programming using KWP2000 (K-Line, CAN TP2.0 and ISO-CAN), UDS (ISO-CAN, FlexRay, DoIP) is available as an optional plugin. SGM, SGO and ODX containers as well as HEX/S19/BIN/MOT files are suitable data sources, and partial flash programming as well as data set download is possible. Two optional plug-ins for script programming and execution as well as for logfile data analysis and value replay open additional fields of application.

Note: The use of the DiagRA® MCD Toolset requires a software license key generated by RA Consulting. Specific program parts such as the Workshop Tester, the Extended Functions and the flash programming option are available to defined user groups only.
Due to the J1699-3 as well as the J1939-84 functions being based on Open Source tools, we cannot guarantee permanent availability. We take every effort to support and adapt this function as long as this is economically and technically feasible.

© www.artbox.de