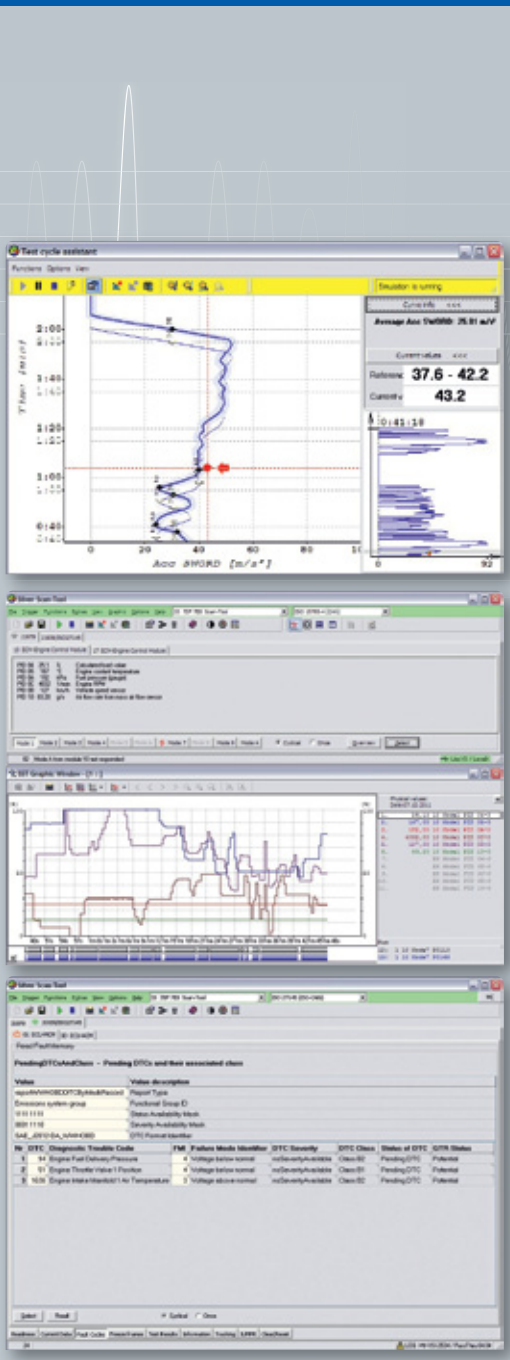


RA® Automotive Products



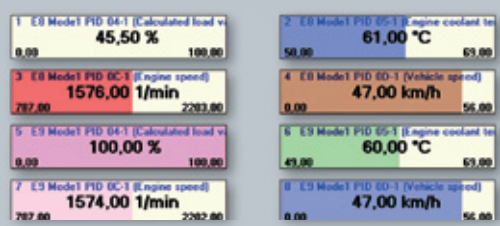
OBDII/EOBD/HD-OBd diagnostics on desktop or notebook computers

The Silver Scan-Tool™ is used to perform OBDII, EOBD and HD-OBd diagnostics. It supports all ten services defined by authorities, including sub-functions (SAE J1979 and ISO 15031-5) and diagnostic messages (SAE J1939). The support of WWH-OBd (World Wide Harmonized - Onboard Diagnostics) in accordance with ISO 27145 has been added as a new feature.

- Access of all data from all responding control units
- Self-configuration depending on supported modes and PIDs
- Graphical and numerical display of values
- Several options for data storage and recording available
- Graphical data display and analysis
- Data analysis with zoom, scroll, statistic and export functions
- Data display as curves, bit channels, bars or numerical values
- Integrated test cycle assistant
- Optional plug-ins for automation via web services as well as script programming and execution

Silver Scan-Tool™: easy to use, comprehensive functionality

- SAE J1979, SAE J1939 and ISO 27145 applications
- Support of SAE J2534 and RP1210 API
- Integrated SAE J1699-3 and SAE J1939-84 compliance test cases tools



www.rac.de

 **ASAM**
Member

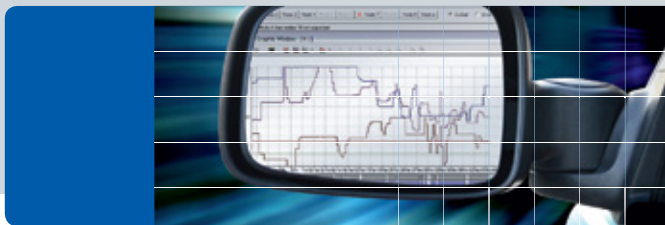
 **ORACLE**
Gold Partner

 **CarMedialab**
Technology Partner


DGTECH.COM
DG TECHNOLOGIES
Vehicle Networks
33604 West Eight Mile Road
Farmington Hills, MI 48335

RA CONSULTING GmbH
Automotive Products
Zeiloch 6a
76646 Bruchsal GERMANY
Tel. +49 (0) 7251 3862-0
Fax +49 (0) 7251 3862-11


RA CONSULTING



OBDD/EOBD/HD-OBDD/WWH-OBDD
diagnostics on Desktop-PCs or
Notebooks



The Silver Scan-Tool™ software provides onboard diagnostic functionalities according to SAE J1979, SAE J1939 and ISO 27145

Applications:

The Silver Scan-Tool™ has been developed for OBDD, EOBD and HD-OBDD diagnostics. It offers the comprehensive functionality required for testing and diagnosing any electronic control module supporting these standards.

Basic functions:

The Silver Scan-Tool™ supports ISO 9141-2, ISO 14230-4, ISO 15765-4 (CAN) as well as SAE J1850 PWM (Ford) and SAE J1850 VPW (General Motors). The support for SAE J1939 HD-OBDD and ISO 27145 WWH-OBDD (World-Wide Harmonized OBDD) has been added as a new feature. Accordingly, all control units using these protocols can be diagnosed. These are generally emission-related control devices such

as engine and transmission controllers or battery control modules of hybrid vehicles. The OBDD/EOBD part supports all 10 diagnostic functions (Service \$01 to Service \$0A) defined by authorities as well as all sub-functions (PIDs). In addition to faults logged by the control unit, various other measurement values can be read and displayed. Users can also read out lists of all supported services and PIDs from all OBDD-compliant control units in the vehicle. HD-OBDD and WWH-OBDD data are arranged in functional groups such as: Readiness, Current Data, Fault Codes, Freeze Frames, Test Results, Tracking, IUMPR.

Extended functions:

The Silver Scan-Tool™ is enhanced by an option allowing

graphical data display and analysis. Measurement values are displayed graphically and can be recorded and reloaded for analysis. Data can be exported into several formats (e.g. CSV and MDF (DAT)) for use in other applications. The Test Cycle Assistant allows reference driving cycles to be read in from CSV files and to be traced back by an on-line speed signal (i.e. via Scan-Tool Service \$01, PID \$0D).

Hardware:

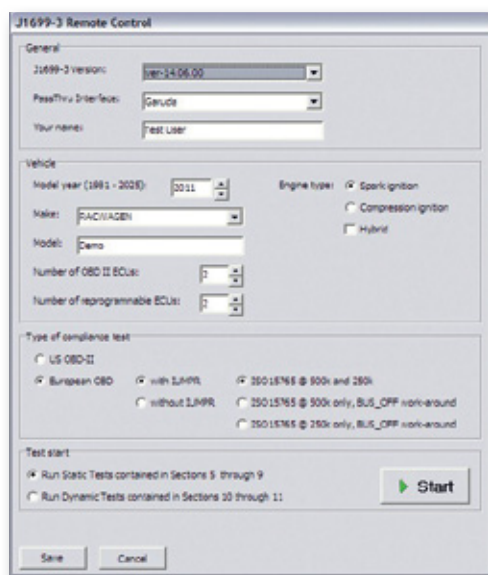
K-line connections can be made with a simple level-converter cable connected to the serial or USB port of the computer. CAN diagnostics require a special CAN interface. Suitable interfaces such as I+ME Actia's XS series and Kvaser's CAN adapters are available upon request.

The Silver Scan-Tool™ also supports all SAE J2534 PassThru devices with a v0202 or v0404 driver and all devices using RP1210 API. Once installed and registered, the Silver Scan-Tool™ is ready for use without any delay. It runs on most MS Windows desktop and notebook computers if one of the supported diagnostics hardware interfaces is used. If the tool is to be used on tablet PCs or other special devices, please contact RA Consulting first. A version with restricted functionality running on mobile devices is also available.

System Requirements:

Windows XP and Windows 7 (32-bit and 64-bit version)

Silver Scan-Tool™ – SAE J1699-3 OBDD Compliance Test Cases tool with log file data formatter



- MS Windows-based interface for SAE J1699-3 OBDD Compliance Test Cases DOS tool
- Log file data formatter with XML and PDF output
- XSL style sheet included for display of XML data in a browser
- PDF files contain the original log file content

List of tests		
Tests	Line	Description
Test vehicle with no malfunctions, no DTCs set		
Test 5.1 (No DTC set)	62	Perform MIL bulb check, engine off
✓ Test 5.1 PASSED	67	
Test 5.2	68	Establish communication (J1939 / ISO 15031-4), ignition on, engine off
✓ Test 5.2 PASSED	81	
Test 5.3	84	Clear DTCs (Service \$04), engine off
✓ Test 5.3 PASSED	84	
Test 5.4	84	Verify MIL status bit, engine off
✓ Test 5.4 PASSED	103	
Test 5.5	104	Verify that all Service \$06 - Request on-board monitoring test results, engine off

The Silver Scan-Tool™ allows the processing of the J1699-3 OBDD Compliance Test Cases tool which is based on open-source software. This software serves as the basis for the logfile data formatter and the J1699 logfile viewer we have developed. The corresponding OBDD II compliance test tool is a publicly available open-source software which is not part of the SST license. Its availability is subject to its open-source status and to any technical and economical constraints pertaining to its integration. However, we will maintain and adapt this module as long as it is economically and technically feasible. The Silver Scan-Tool™ is a standard software and intellectual property of RA Consulting GmbH. The functionality of the SST standard software is not based on open-source software, allowing it to be used without the J1699-3 OBDD Compliance Test Cases tool.

SAE J1939-84 OBDD Communications Compliance Test Cases tool

RA Consulting is currently developing a tool to execute the SAE J1939-84 OBDD Communications Compliance Test Cases for heavy-duty components and vehicles. It is delivered with the DiagRA D and Silver Scan-Tool™. We will replace the tool by the version officially approved by the EMA and SAE as soon as it becomes available and if economically reasonable, regardless of the tool originating from RA or not.

