



DA-ST512
(EOBD Scan Tool Application)
User's Manual

EOBD Scan Tool Application

This application is intended to satisfy the emission related diagnostic data reporting requirements of European On-Board Diagnostic (EOBD) regulations.

Note: It is assumed that appropriate service actions have been performed on any known vehicle DTCs prior to any DTCs being cleared on the vehicle.

EOBD Scan Tool Process

On entering the application the vehicle is scanned to check if it supports EOBD, then the results are displayed on the first screen. The following communication protocols are checked in turn -

CAN (ISO 15765)

SCP (SAE J1850) (NOTE: Supports the Ford PWM variant only not GM VPW)

5-Baud Wakeup (ISO 9141)

Key Word 2000 (ISO 14230)

If no EOBD support was found ensure the ignition is switched on then press OK to re-try connecting to the vehicle, or press X to exit the application.

If the vehicle supports EOBD press OK to display a list of one or more ECUs, or press X to exit the application.

Next select an ECU then press OK to display the main menu of available EOBD diagnostic service modes as shown below (NOTE: the prefix number is the EOBD service mode number) -

1 - Readiness Checks

1 - Powertrain Data

2 - Freeze Frame Data

3 - Read Emission DTCs

4 - Clear Emission DTCs

5 - Oxygen Sensor Tests

6 - On Board Monitoring

7 - Read Current DTCs

8 - On Board Control

9 - Vehicle Information

A - Read Permanent DTCs

Select the required EOBD diagnostic service from the main menu and press OK to perform the action on the selected ECU. Further details of each EOBD service option are given below.

1 - Readiness Checks

This service allows the completion status of continuously and non-continuously monitored tests to be displayed. If the ECU supports this service a sub-menu will be displayed as shown below -

Continuous Tests

Non-Continuous Tests

Select an option to display a list of any continuous or non-continuous tests that have not been completed since DTCs were last cleared. Alternatively if all tests have been completed a confirmation message will be displayed to indicate this.

1 - Powertrain Data

Select this option to display real time emission related data values, including analogue inputs and outputs, digital inputs and outputs, and system status information. Use the arrow keys to navigate the list of PID items (i.e. UP and DOWN to move one item, LEFT and RIGHT to page).

2 - Freeze Frame Data

Where supported this service allows the data values associated with a stored DTC freeze frame to be displayed. If freeze frame data was found a list of populated frame numbers is shown allowing the user to select one, then the stored values can be displayed (in a similar way to the "Powertrain Data" option above).

3 - Read Emission DTCs

This option allows any "confirmed" emission related DTCs to be displayed along with their descriptions, or if no DTCs were found a confirmation screen will be displayed to indicate this.

4 - Clear Emission DTCs

Selecting this option will attempt to clear all emission related diagnostic information from all EOBD compliant ECUs on the vehicle. (NOTE: This includes DTCs but also freeze frame data, Oxygen sensor data etc.)

5 - Oxygen Sensor Tests

This service allows display of the on-board oxygen sensor monitoring test results. If supported a list of oxygen sensor locations is first displayed. Select one to display a list of the pass/fail test results for that particular sensor. Scrolling through the list will display additional information on the currently selected test result in the footer text, including the description and min/max limits. (NOTE: This option is only supported for SCP or ISO so isn't displayed when connected on CAN).

6 - On Board Monitoring

This service allows display of the on-board diagnostic monitoring test results. If supported a list of on-board monitors is first displayed. Select one to display a list of the pass/fail test results for that particular monitor. Scroll through the list to display additional information on the currently selected monitor test result in the footer text, including the description and min/max limits.

(NOTE: This option is currently only supported for CAN as the same information can be read using mode 5 when connected on SCP or ISO, so this option isn't displayed for those protocols).

7 - Read Current DTCs

This option allows any "pending" emission related DTCs to be displayed along with their descriptions, or if no DTCs were found a confirmation screen will be displayed to indicate this.

8 - On Board Control

This service allows control of an on-board system, test or component (e.g. activating a solenoid). If supported a list of on-board tests that can be run is displayed. Select one to run the on-board test, then when the test finishes a screen will display if the procedure completed successfully or failed for some reason.

9 - Vehicle Information

This service reads and displays vehicle specific information such as VIN numbers and Calibration IDs (in a similar way to the "Powertrain Data" option above).

A - Read Permanent DTCs

This option allows any "permanent" emission related DTCs to be displayed along with their descriptions, or if no DTCs were found a confirmation screen will be displayed to indicate this.

Saving Snapshots to an SD Card

From software version V9 onwards it is possible to save the results from the mode being viewed to a log file on an SD card if one is fitted. The SD card first needs to be formatted as FAT32 then inserted into the SD card slot (see ST512 Service Tool Manual for details).

To save a snapshot press OK when viewing PID or test results, then a progress message "Saving snapshot data" will be displayed. The data will be saved to a "<VIN>.log" file if the VIN can be read from the selected module, or a "<Timestamp>.log" file otherwise.

NOTE - This feature is only currently supported for CAN protocol vehicles).

EOBD Scan Tool Model Year Updates

The software associated with the EOBD Scan Tool application is updated periodically to increase it's coverage for new vehicles and model year updates. You can check for these updates by connecting your device to a PC via the supplied USB cable, and launching the DA App Hub. This tool will connect to the Diagnostic Associates file server and check to see if a newer version of the EOBD Scan Tool application is available to download.

EOBD Scan Tool Supported Vehicles

This application covers Petrol vehicles from 2001 onwards and Diesel vehicles from 2004 onwards.