

Vital Engineering Ltd is shortly to announce VitalScan, a vehicle diagnostic software program for the Windows computer.

This document describes the features of VitalScan and provides screen shot information of the capabilities of the program:

Software Features:

- 1) Fully automated engine management scrolling sensor display service
- 2) Connection via Bluetooth or serial (COM) port. Last good connection is recalled from memory for faster connection. COM1 to COM99 accessible.
- 3) Read and clear both stored and pending Diagnostic Trouble Codes (DTC)
- 4) Diagnostic Trouble Codes (DTC) description for P0 family of generic trouble codes
- 5) Sensor highlighting available to focus on a single sensor. Graphical trace shown in this mode with automatic Y-axis range adjustment to highlight the smallest of variations in data patterns
- 6) Interfaces to ELMScan family of controllers (Version 2.0 or better)
- 7) Interfaces to Ozen Elektronik 2600 family of controllers (for CAN, ISO, KWP and PWM)
- 8) Full freeze frame data displayed from ECU store
- 9) Oxygen sensors are displayed periodically using the Live Sensor service. Oxygen sensor monitoring test results are provided in a table for to detect lean and rich thresholds and test limits.
- 10) Continuous monitors results and status supported.
- 11) Logging to comma delimited file is supported for reading by Microsoft Excel or other data and spreadsheet packages.
- 12) Records VIN from the vehicle, when the vehicle supports it.
- 13) MIL light status reading and clearing
- 14) OBD compliance for the vehicle under test is displayed
- 15) Display sensor and freeze frame data in SI (metric), US (imperial) or UK (as SI, but with miles shown for distances) units.
- 16) Highlighted sensors show maximum, minimum, average and current values.
- 17) Sensors may be de-activated to improve the overall scan rate during the sensor service.
- 18) Fully automatic demonstration mode supported. Sit back and watch how the program works!

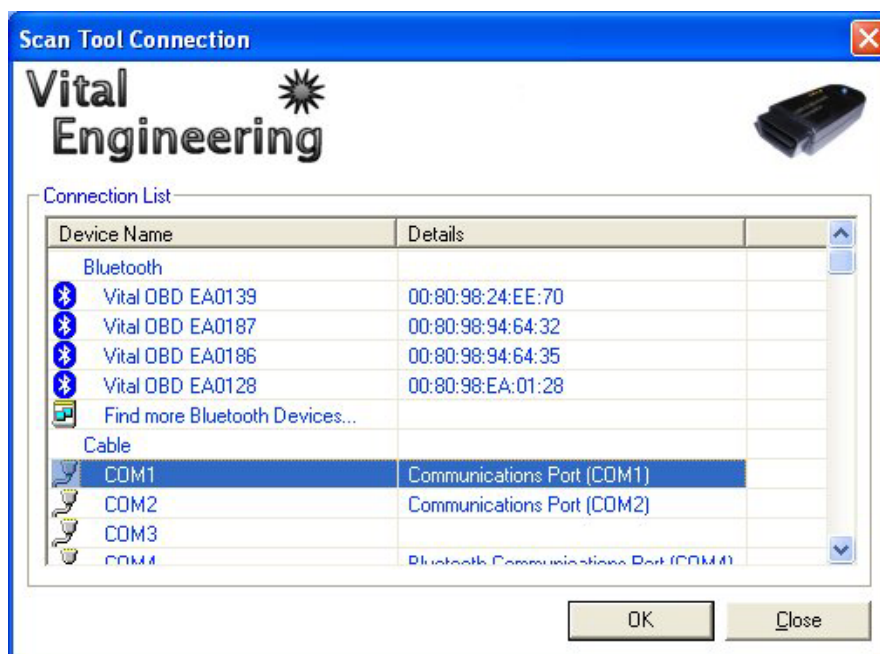


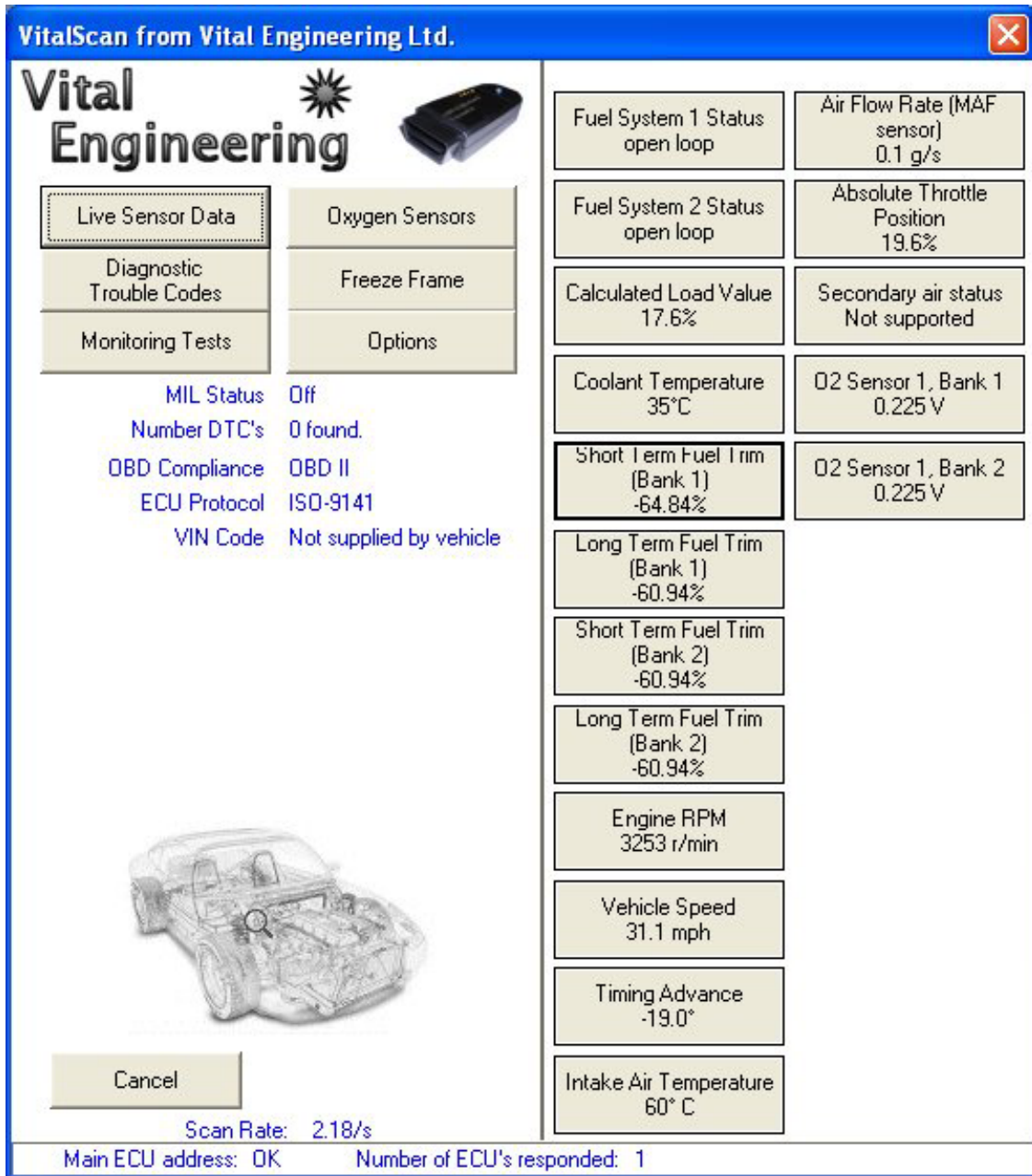
Figure 1 – Selecting your connection method.





Figure 2 – Making the connection and loading the databases.



Figure 3 – Graphical display showing access of the ECU data




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Live Sensor Data	Oxygen Sensors
Diagnostic Trouble Codes	Freeze Frame
Monitoring Tests	Options

MIL Status Off
 Number DTC's 0 found.
 OBD Compliance OBD II
 ECU Protocol ISO-9141
 VIN Code Not supplied by vehicle



Cancel

Scan Rate: 2.18/s
 Main ECU address: OK Number of ECU's responded: 1

Fuel System 1 Status open loop	Air Flow Rate (MAF sensor) 0.1 g/s
Fuel System 2 Status open loop	Absolute Throttle Position 19.6%
Calculated Load Value 17.6%	Secondary air status Not supported
Coolant Temperature 35°C	O2 Sensor 1, Bank 1 0.225 V
Short Term Fuel Trim (Bank 1) -64.84%	O2 Sensor 1, Bank 2 0.225 V
Long Term Fuel Trim (Bank 1) -60.94%	
Short Term Fuel Trim (Bank 2) -60.94%	
Long Term Fuel Trim (Bank 2) -60.94%	
Engine RPM 3253 r/min	
Vehicle Speed 31.1 mph	
Timing Advance -19.0°	
Intake Air Temperature 60° C	

Figure 3 – Main sensor scrolling service. The sensors are represented by buttons on the right hand side. To focus on a sensor simply click on the appropriate button

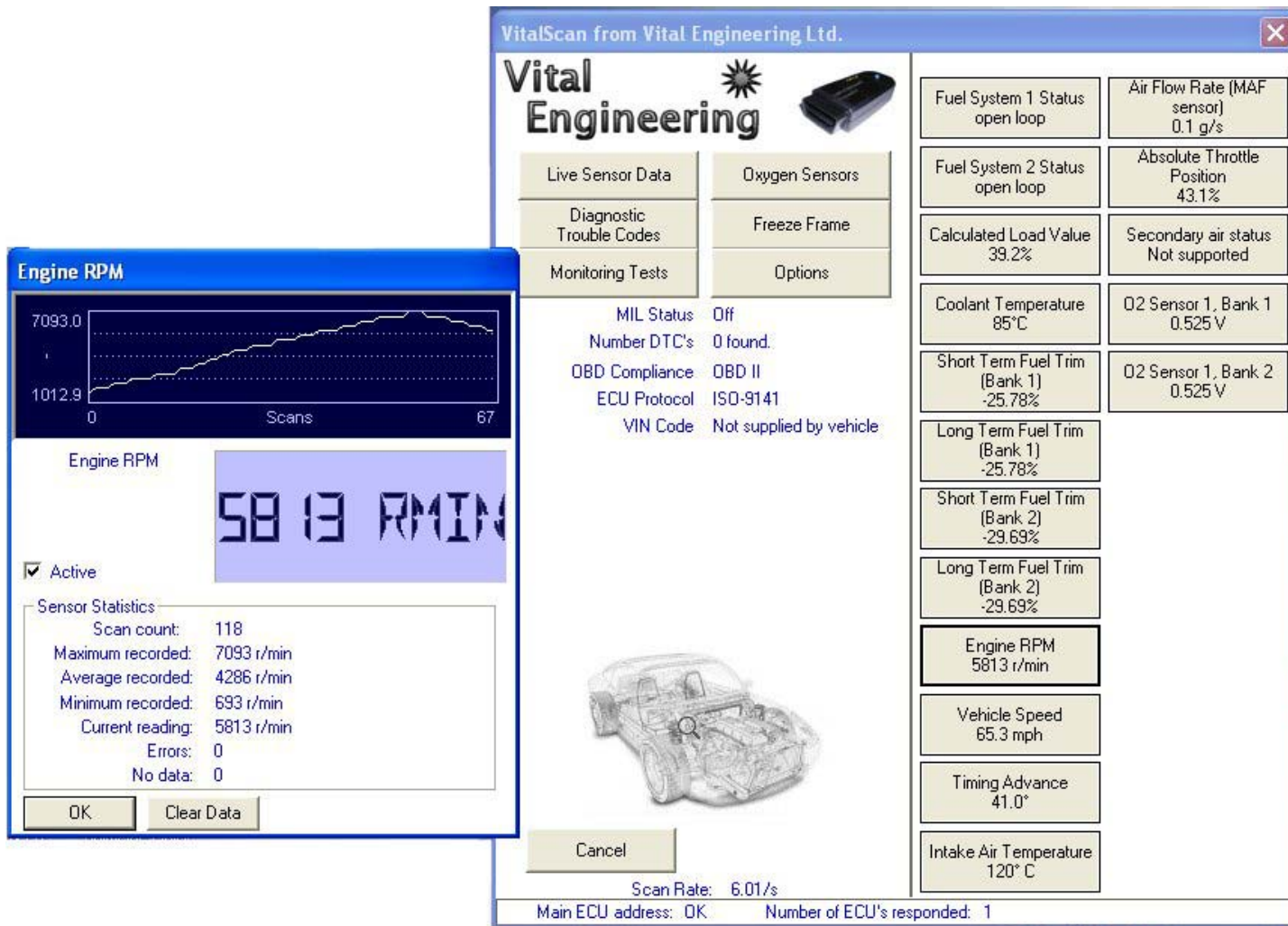



Figure 4 – Highlighted sensor information, showing Engine RPM here.

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Live Sensor Data	Oxygen Sensors
Diagnostic Trouble Codes	Freeze Frame
Monitoring Tests	Options

MIL Status Off
 Number DTC's 0 found.
 OBD Compliance OBD II
 ECU Protocol ISO-9141
 VIN Code Not supplied by vehicle

Continuously Monitored Test Results

Test	Type	Status
Misfire	Continuous	Completed
Fuel system	Continuous	Completed
Components	Continuous	Completed
Catalyst	Continuous	Not supported
Heated catalyst	Continuous	Not supported
Evaporative system	Continuous	Not supported
Secondary air system	Continuous	Not supported
A/C System Refridgerant	Continuous	Not supported
Oxygen sensors	Continuous	Not completed
Oxygen sensor heaters	Continuous	Completed
EGR System	Continuous	Not supported

Clear



Cancel

Scan Rate: 5.70/s
 Main ECU address: OK Number of ECU's responded: 1

Figure 5 – Continuous Monitors Test Results and Statuses

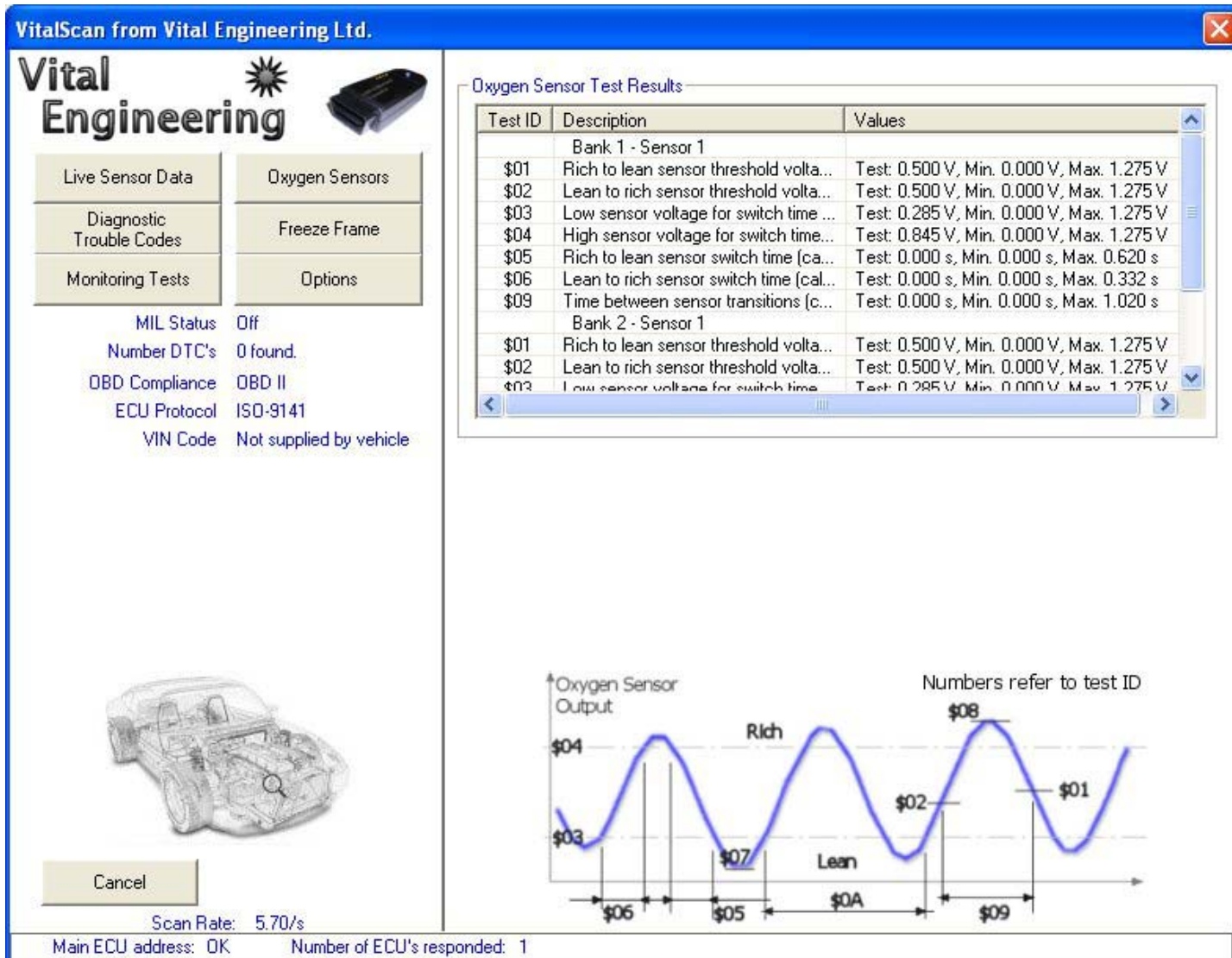
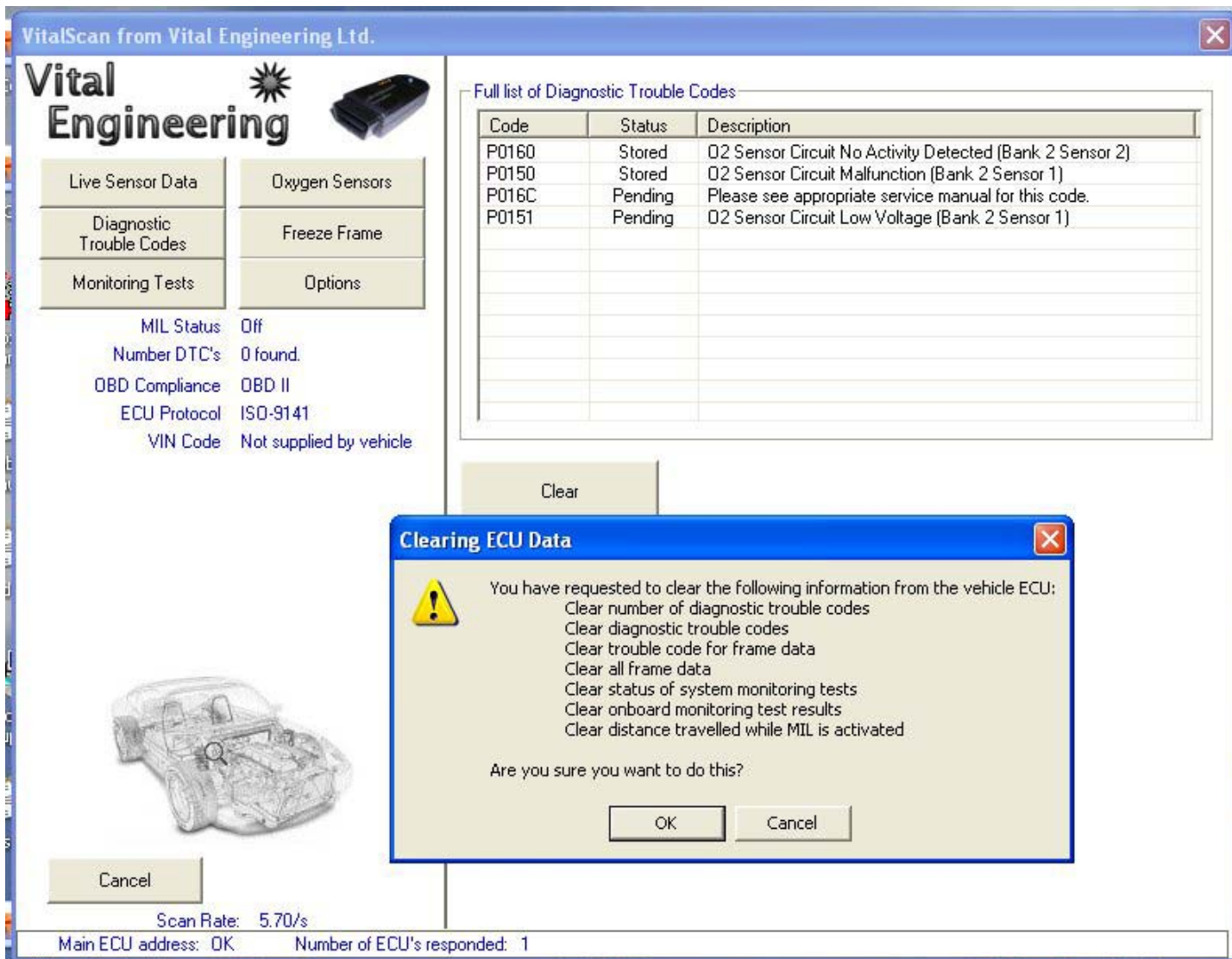




Figure 6 -Oxygen sensor test results



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Live Sensor Data	Oxygen Sensors
Diagnostic Trouble Codes	Freeze Frame
Monitoring Tests	Options


MIL Status: Off
 Number DTC's: 0 found.
 OBD Compliance: OBD II
 ECU Protocol: ISO-9141
 VIN Code: Not supplied by vehicle

Full list of Diagnostic Trouble Codes:

Code	Status	Description
P0160	Stored	O2 Sensor Circuit No Activity Detected (Bank 2 Sensor 2)
P0150	Stored	O2 Sensor Circuit Malfunction (Bank 2 Sensor 1)
P016C	Pending	Please see appropriate service manual for this code.
P0151	Pending	O2 Sensor Circuit Low Voltage (Bank 2 Sensor 1)

Clear

Clearing ECU Data 

 You have requested to clear the following information from the vehicle ECU:

- Clear number of diagnostic trouble codes
- Clear diagnostic trouble codes
- Clear trouble code for frame data
- Clear all frame data
- Clear status of system monitoring tests
- Clear onboard monitoring test results
- Clear distance travelled while MIL is activated

Are you sure you want to do this?



OK Cancel

Cancel

Scan Rate: 5.70/s
 Main ECU address: OK Number of ECU's responded: 1

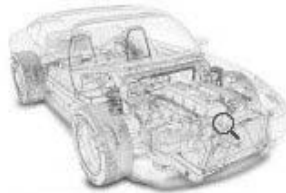
Figure 7 – Reading and Clearing both Stored and Pending Trouble Codes

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Live Sensor Data	Oxygen Sensors
Diagnostic Trouble Codes	Freeze Frame
Monitoring Tests	Options

MIL Status Off
 Number DTC's 0 found.
 OBD Compliance OBD II
 ECU Protocol ISO-9141
 VIN Code Not supplied by vehicle



Cancel

Freeze frame data for DTC P0130.

PID	Sensor	Value
1	Fuel System 1 Status	open loop
2	Calculated Load Value	12.5%
3	Coolant Temperature	-8°C
4	Short Term Fuel Trim (Bank 1)	-75.00%
5	Long Term Fuel Trim (Bank 1)	-75.00%
6	Short Term Fuel Trim (Bank 2)	-75.00%
7	Long Term Fuel Trim (Bank 2)	-75.00%
10	Engine RPM	1036 r/min
11	Vehicle Speed	39.8 mph

Clear

Scan Rate: 5.70/s
 Main ECU address: OK Number of ECU's responded: 1

Figure 8 – Reading and Displaying Trouble Codes

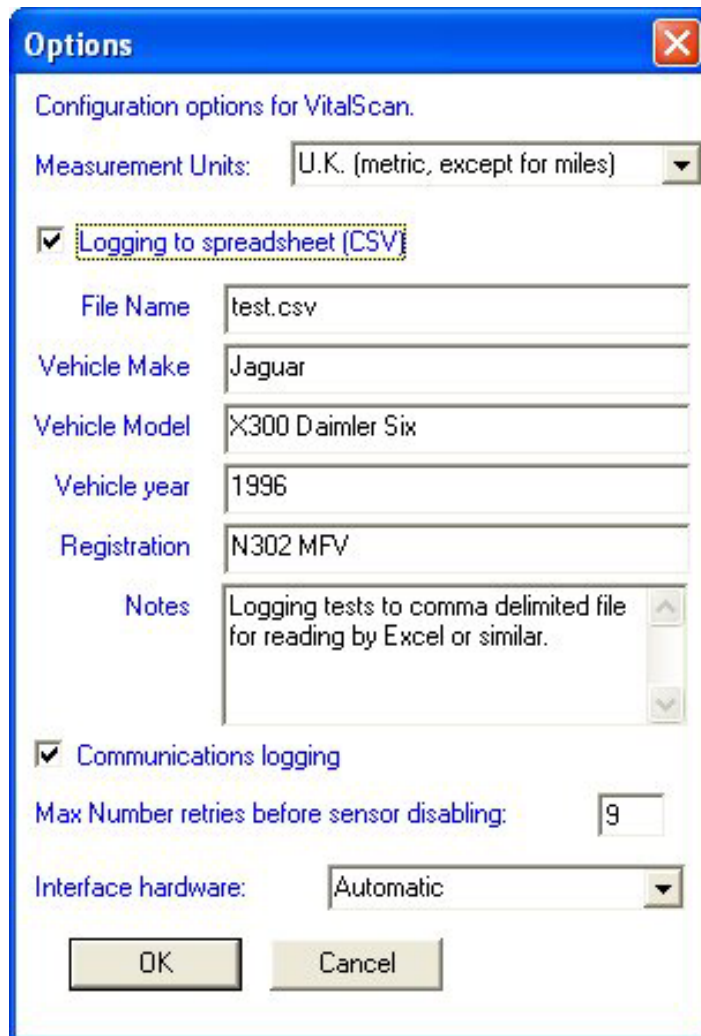


Figure 9 – Program Options. Logging to a Comma Delimited File, Measurement Units and setting the Hardware Interface

Note: Some screen shots shown here may have simulated data.

More information to be obtained from info@vitalengineering.co.uk