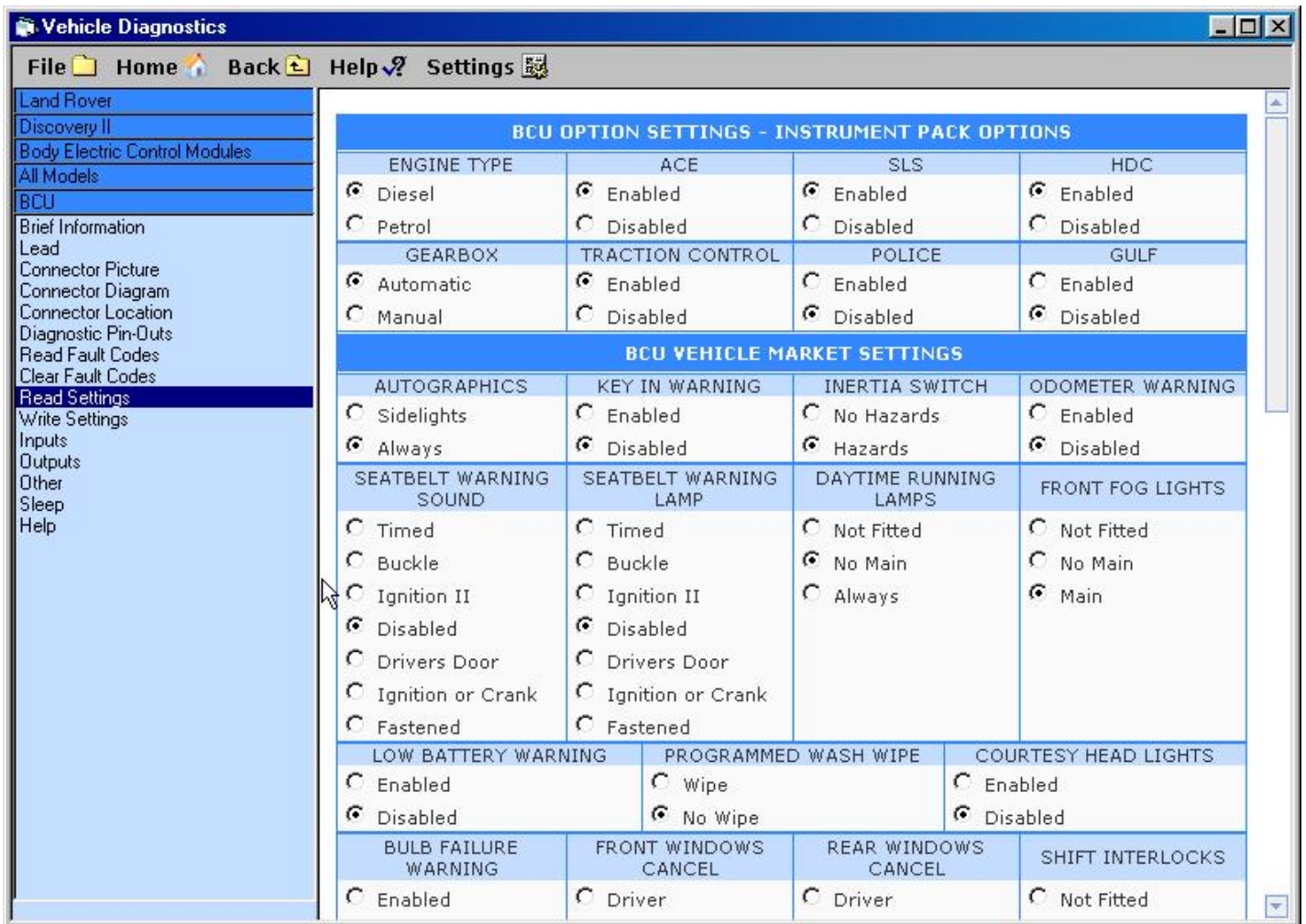


INTRODUCING VEHICLE EXPLORER

Included Free with all Vehicle Server based diagnostic systems produced by Blackbox Solutions Ltd, Vehicle Explorer is the easiest to use, and most feature rich, user interface of any vehicle diagnostic system ever produced.



Typical screen shot of the Vehicle Explorer user interface software for windows.

VEHICLE EXPLORER

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VEHICLE EXPLORER SPECIFICATIONS

General Introduction

In order to complement all variations of our advanced Vehicle Server hardware, we have taken every possible measure to ensure that our Vehicle Explorer user interface software is of only the highest standard. We have tried to add as many additional features and functionality as we can think of, that make it way ahead of other diagnostic systems.

When the Vehicle Explorer starts, a standard HTML page (web page) is loaded into the large viewer window. Initially, regardless of the diagnostic system, it bears the respective systems logo, however because we have made the logo an external file it can very easily be replaced with a page showing the customers own details and logo.

To change the overall look and feel of the system, any one of a set of pre defined skins can be selected to alter the foreground and background colours, the font colour, type, style, size and boldness, as well as the selection button sizes and area division boundaries. These can easily be altered individually.

The software is set to start at the very beginning where there are choices of selecting the vehicle system, by vehicle model and type, or by the ECU name. The system can also be set to start where you left it the last time you used it, or you can define the exact starting position you want. This means that experienced users can quickly get to the vehicle system page they want, with making only the very minimal of choices whilst still being able to select by model type. There is a menu bar at the top of the system which holds a number of selections such as "HOME" which instantly takes the user to the very start, "BOOKMARK" which takes the user to his defined start location and "BACK" which goes back one level from the current menu location. It is also possible to enable a selection history list which details all the selections made to arrive at the current menu location. By selecting any point in the history the user will be taken back to the point where he chose that selection, so he may make another choice from that point on.

Vehicle Explorers built in help pages are fully indexed and can be opened from the top menu. It contains many pages dedicated to the features and functions of the system itself, as well as pages dedicated to each vehicle system. The page for each vehicle system can also be opened directly from within each systems function selection page. The help page is opened as a separate floating window so that it can be viewed at the same time as any page of information from a vehicle system, giving you a side by side reference to the actual information it is telling you about.

Printing is available directly from the top menu. Selecting this at any point will provide a graphical print out of everything in the viewer window at that time. The system uses the standard windows printer drivers.

Although there are only so many things that can be done according to the limitations of each ECU itself, we have also ensured that the functions provided for each vehicle system provides much more capability, functionality, flexibility, and usability than could ever possibly be expected.

Information
Brief info
Lead
DLC Picture
DLC Diagram
DLC Location
DLC Pin Outs
Help
Fault Codes
Read Faults
Clear Faults
Settings
Read Settings
Write Settings
Store Settings
Load Settings
Inputs
Capture Data
Record AVI
Save HTML
Outputs
Other
Sleep

Diagnostic Functions

After using the menu on the left hand side to select the correct vehicle system either by going through it by vehicle model selection or directly by ECU name (for speed), you are presented with a menu of diagnostic functions. When selected, these may open out to offer further options (tabbed in). When some functions are in use such as having a page of settings open, other relevant options such as write or save settings are automatically added. This keeps choices simple, and makes the system very fast to use. Although it is easy to read about the many fantastic ways in which accessed information can be handled by our Vehicle server based equipment, you may well never get to appreciate the great care and supreme effort that has been used to ensure that our systems uniquely provide the ultimate capability and depth of access in all systems. Recently, a customer directly compared the number of individual settings for a single system on the New Generation Range Rover between us and our main competitors, Testbook and Auto Logic. The Testbook provided nine "read only" pieces of information, but did program a new (not used) ECU fully, according to information taken from other ECU's in the vehicle. Auto Logic stated by phone that they had approximately 50 settings and could code a new ECU. In comparison our systems provide 160 individual settings, which constitutes the entire contents of memory and therefore full coding.

Read Fault Codes

This is a normal function for most diagnostic systems. However, our systems differ from most in that they read all stored fault codes, even those where text definitions are not released by the ECU manufacturers. It does not mask out any which are caused by the non fitment of additional components to a system, or those that do not cause a fault lamp to illuminate. It shows all stored codes in a list together with any standardised translations and their exact derived textural meaning.

Where additional data such as the number of occurrences, freeze frame data and exact occurrence specifics are available, this information is also displayed. The list can be printed or saved exactly as it is seen as a standard HTML page. This can be anywhere you choose and with any name you choose using long file names. It can then be archived, e-mailed and viewed using any standard HTML browser such as Internet Explorer, which is included with all versions of Windows. It can even be printed at a later stage.

Clear Fault Codes

There is not much that can be done to enhance this function over that normally found on most diagnostic systems but many systems do not give you the option to clear the codes until they have been read. We allow this option to be selected at any time. Also the speeds of this function, at typically much less than one second, can be used to give an indication of just how fast our systems are.

Read Settings

Nearly all vehicle system ECUs contain some memory which is used to hold information specific to the vehicle or ECU, such as VIN and serial numbers. It also contains some configuration data that controls exactly how the ECU works. Indeed, most new and therefore more sophisticated ECUs are often supplied completely blank and have to have their entire memories coded with large amounts of data before they will operate. Most diagnostic system manufacturers simply read and show only a handful of the most basic information from an ECU, and offer no way to code new ECUs with even the manufacturer's own equipment (i.e. Testbook). One exception may be that it can also recognise a blank ECU and then program the entire contents with a pre set data map that it chooses based either on the vehicle market description or configuration codes read from other ECUs in the vehicle.

Our Vehicle Server based systems are unique in respect of how they handle this information and settings memory. They read not just a few values, which would represent only a small part of the memory, but every single value and setting that each ECU contains. This obviously represents the entire contents. Vehicle Explorer then gives you all of the resultant information in the form of a graphical HTML page showing how the ECU is currently set together with all alternate possibilities. Depending on the sophistication of the ECU this can literally run into hundreds. This page can also be printed or saved as a standard HTML document and handled just like the fault code list.

Write Settings

Although this allows you to simply program back into the ECU any settings that you have read from the ECU and changed, an additional and valuable feature is the capability to re-load any HTML page of settings you have previously saved, or one you may have downloaded from our web site, and then write these saved values to the vehicle ECU. It is very important to appreciate that because Faultmate MSV-2 reads and saves every single piece of stored information from the vehicle system ECUs, this not only provides the ability to fully program (code) a brand new and therefore blank ECU, but also provides the ability to change the entire configuration of a used ECU to suit a new application, even if the replacement ECU was programmed to suit a different make of vehicle.



It also provides the ability to repair an ECU which is not functioning properly due to corrupted memory contents, or to transfer specific contents taken from a faulty ECU to its replacement (ECU cloning). This is of particular importance for engine management ECU's, which may well have had their original memory contents specially modified for increased performance.

Of course, if the saved settings from a used ECU from another vehicle are going to be used, then vehicle specific information such as VIN numbers will be incorrect, but can of course be corrected directly in the settings page before writing all of the settings to the replacement ECU.

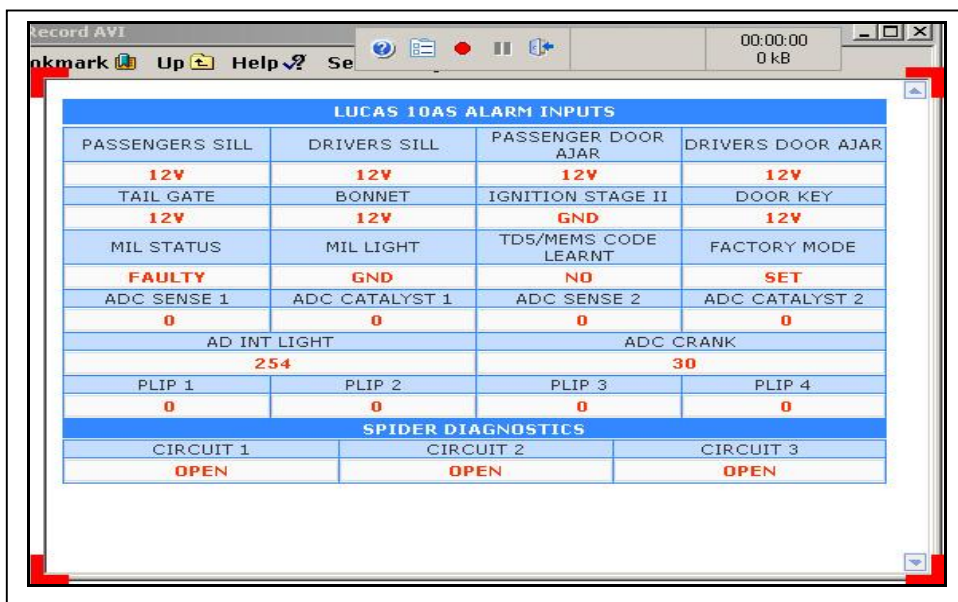
When writing, the vehicle server first checks all of the data and settings provided to ensure that all of the values are valid, and immediately after writing to an ECU it automatically re reads the memory of the ECU to provide verification to the user that the contents have indeed changed.

Inputs

This provides a live real time display of data values and status from the systems sensors and inputs, as measured and calculated by the vehicle system ECU.

While in this case we are not able to say that our systems have any significant increase in the amount of values shown over that of any other diagnostic system, it does however show every possible value that is available from the ECU and also puts as many values on the same page as possible, so that their interaction with each other can more easily be seen and compared.

Given that most systems does not even offer a print facility as a way to capture any important and possibly momentary events of this valuable source of information, Vehicle Explorer provides the capability to capture this data in no less than four different ways. First, you can print the whole page full of information shown at any point in time. Second, you can save single snapshots at any time as standard HTML documents just the same as fault code lists and read settings. Third, you can save the page shown over any period of time you wish as a standard windows media video file (AVI) which can then be edited, played and reviewed at any time you wish and of course it can be e-mailed to anyone you wish.



AVI being recorded (above)

Fourth, you can save the data over any period of time in a standard CSV (Comma Separated Values) format. This can then be imported directly into a wide variety of spreadsheet programs such as Excel for analysis or converting to a time graph display.

CSV file in Excel (below)

The screenshot shows a Microsoft Excel spreadsheet with the following columns: A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y. The rows contain data for various vehicle components, including:

- ADIC ANALYST 1
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- ADIC ANALYST 8
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Outputs

This allows any output under the control of the ECU to be directly driven. Depending upon the sophistication of the vehicle ECU, our systems have the advanced capability of being able to control multiple outputs simultaneously.

Other

This is where any ECU specific functions can be found such as key fob (Plip) reprogramming, immobiliser synchronisation, odometer equalisation, ECU self test and ECU self calibration.

Sleep

This allows the user to manually end diagnostic communications to the vehicle ECU should they need to test anything while the ECU is not in diagnostic mode.