

BLACKBOX SOLUTIONS

Faultmate MSV-2

The ultimate in diagnostic equipment for all Land Rover owner's and specialists.



The FAULTMATE MSV-2 NANO (Bottom) and the FAULTMATE MSV-2 EXTREME (Centre & Top), showing both upper surface and lower surface with built in LCD display / keypad, usually covered with a matching aluminium slide in-transit protection cover.

Just who are Blackbox Solutions?

Blackbox Solutions Ltd. is a company that has been at the very forefront of development and design of diagnostic equipment, especially for use on all Land Rover vehicles for more than 15 years. We are not a large company, however we specialise very much in what we do and we are very experienced, capable and innovative. It was, in fact, our company owner that originally designed and developed the very first diagnostic system for Land Rovers to be made available to independent dealers. Right from the very outset our ROVACOM equipment has always vastly outclassed dealership equipment in terms of design, functionality, capability, ease of use.

We constantly strive to provide not only, the most capable and feature rich diagnostic system for use on Land Rovers, but to also make it the most affordable as well. FAULTMATE MSV-2 is our ultimate achievement and without doubt represents probably the finest diagnostic system ever.

Isn't it just another scan tool?

You are probably aware of the plethora of very cheap scan tools (OBDII EOBD) that are around. Promising compatibility with hundreds of vehicles, including Land Rover models, you may even have seen some before coming here. However, as anyone who has tried one can tell you; these promises are very carefully worded and in some cases misleading. The reality is, that due to forced government legislation, all vehicle manufacturers have since 1996, had to provide some basic information from their vehicles that affect emissions in a standardised diagnostic communication format. Accordingly, it is really easy and cheap to make a piece of equipment that uses this format to access the data. However the amount of data is always ridiculously small and is only accessed from the engine management and automatic gearboxes. Many companies provide cheap scan tool equipment that access only OBDII data but allows buyers to believe it will do much more without saying so. Our equipment is not a scan tool; in fact it won't even read other OBDII compliant vehicles. It does however access every single vehicle system ever used in any Land Rover model and it will access each of those vehicle systems to their absolute ultimate capability with few exceptions.

Truly complete diagnostic equipment.

The difference between good and bad diagnostic equipment can be divided into two main areas that anyone thinking of investing should research very closely.

- 1) The degree of coverage, access and capability a system can provide its user, in respect of the data / information obtainable from vehicles and their systems.
- 2) In the ease of use and the features provided to view, store, manipulate and analyse that data / information obtained in the above.

We appreciate that many people would not know what is actually available from their vehicle systems. This is what unscrupulous companies rely on to sell systems that are not as complete as they are purported to be.

However our equipment is refreshingly different in this respect, accordingly it will cover;

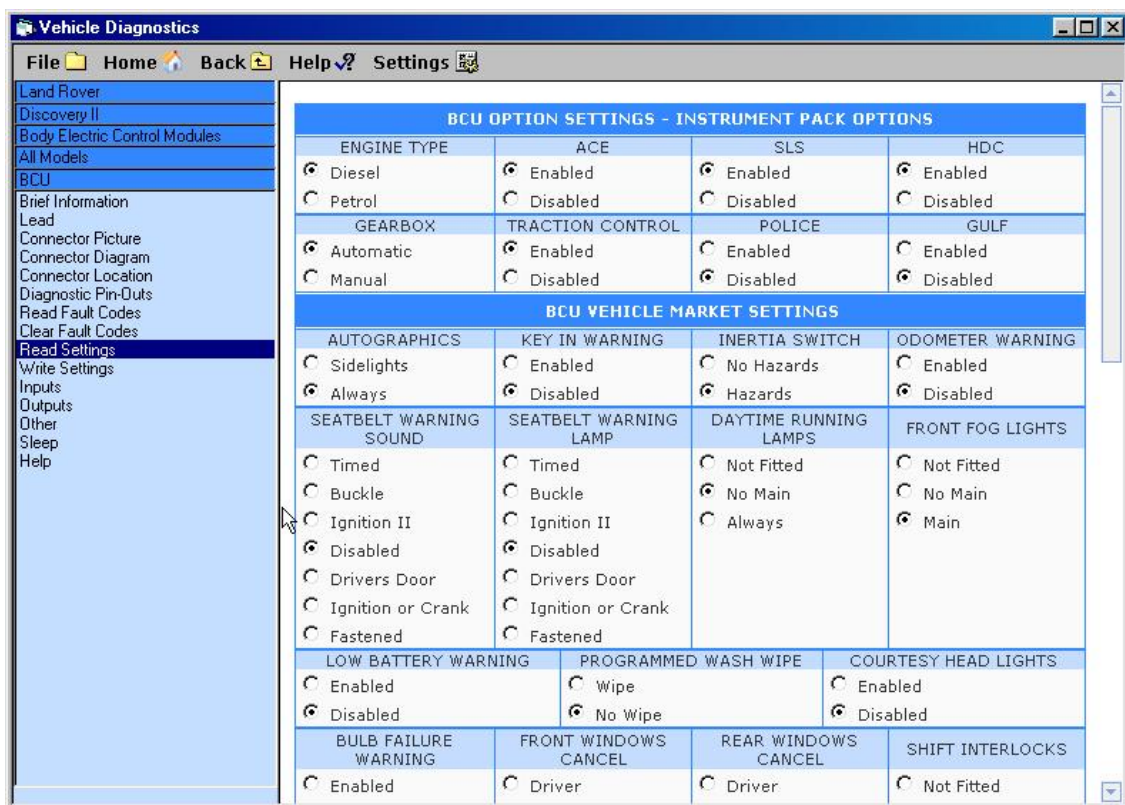
- 1) Every Land Rover model with diagnostic technology on board from the very first to the very latest (on going development).
- 2) Every vehicle system that has an on board diagnostic capability.
That includes not only all the major equipment like ABS, Airbags, Petrol Engine Management, Diesel Engine Management, Cruise Control, Air Suspension system, Auto Gearboxes, Transfer Boxes, Heating & Ventilations, Body Controls etc, but also all the driver aid and entertainment equipment like Radios, CD's, Telephones, DVD, Sat Nav, TV, Touch screens, Tyre Pressure Sensors, Rain Sensors, Park distance and so on.
- 3) Every fault code possible, with all their meanings and causes displayed in plain readable text for every vehicle system we cover that has fault code storage capability.
- 4) Every piece of settings or configuration information and if it is possible to be changed, it can be.
- 5) Every live data value (parameter) that each vehicle system can provide. This is displayed in a constantly updating real time display (Live data)
- 6) Every output that each vehicle system we cover that can possibly be driven is able to be turned on or off.
- 7) Every other type of diagnostic feature or routine that is often unique to particular vehicles systems, such as self tests, odometer synchronisation, security immobilisation synchronisation, key fob programming, adaptive value resetting, self calibration and so on and on and on.

Innovative technology helps vehicle exploration.

All diagnostic equipment has some form of an interface box which connects between the PC and the vehicle, and in this respect, **Faultmate MSV-2** is no exception. However, with **FAULTMATE MSV-2** the box in question is something much more special. It is based on embedded PC technology, which means that it is actually a super miniature PC; with a 300 MHz Pentium class processor, 128 MB of Ram and gigabytes of program storage. If it had the correct sockets you could plug a Keyboard, mouse and monitor in and even run MS Windows. We call our interface box a Vehicle Server.

Residing on the Vehicle Server are the main elements of all of our diagnostic systems, which are called Software Modules. These modules act as intelligent technical communications interpreters to each Electronic Control Unit (ECU). These perform the wide variety of functions and tasks previously detailed above. There is a separate software module for each vehicle system.

Each Software Module is remotely accessed and controlled by software we supply with our systems and run on your PC or Laptop. We call this software "Vehicle Explorer" because it presents vehicle type menu choices and resultant information pages very similar to Microsoft's "Internet Explorer" that you use to browse the internet.



Screen Shot of Vehicle Explorer, menu options on the left (can be switched to right) and a settings page

Vehicle Explorer has it all.

Although Vehicle Explorer provides the very deepest levels of access to all vehicle systems, it is extremely user friendly. It is able to be personally customised for your use. This makes it easier for you to view the information that is accessed and to then manipulate the information, record it and store it.

Here are just a few highlights:

- 1) Customised user interface feels like common Windows or similar web browser software for instant familiarity and maximum ease of use.
- 2) Entire graphical user interface can be customised: How it starts, colours, fonts, text sizes, logos, left / right hand menu location schemes can all be adjusted and saved.
- 3) All pages of information are presented using the internet standard of HTML, which makes them well laid out, easy to read.
- 4) All pages can be saved wherever and as whatever you wish. Being HTML, they can be shared swapped viewed or edited by anyone you wish to give access to. You can create entire reference libraries of settings or real time data snap shots.
- 5) Original settings pages taken from vehicle systems and saved can at any time be reloaded and rewritten back. Settings can therefore easily be saved, backed up, restored or moved / cloned from one vehicle system controller to another.
- 6) Live real time parameter displays can be recorded just as they appear on screen using a built in video capture facility. The format is again the industries biggest standard of .AVI.
- 7) Values obtained during real time can be saved as raw Comma Separated Variable (CSV) files. These can be imported into programs such as Excel and displayed as a spread sheet. They can of course then be manipulated infinitely and turned into line or bar chart type pages.

For those wishing to learn more about the wealth of usability features provided by Vehicle Explorer, look at the downloads section of our Website as it has Vehicle Explorer specific literature.

Built in Help

Naturally Vehicle Explorer has a massive built in "Help" system included. It has pages describing every aspect of using the system itself in great detail with many illustrations and pictures. There is also a separate section for every vehicle system which describes all aspects of its usage, features and functions also with pictures, tables and diagrams.

Multiple Vehicles or Single Vehicles (MV & SV)

Each Vehicle Server Software Module can be purchased individually and will run in what we call Multi Vehicle (MV) mode. This means each Module will operate on any vehicle fitted with that system, whether it is your own vehicle, a friend's or indeed a paying customer's.

However, for the benefit of the private enthusiast who wants a tool to cover all of the vehicle systems on just their own vehicle, we can configure the Vehicle Server to run the Software Modules in Single Vehicle (SV) Mode. So instead of purchasing individual MV Software Modules for each vehicle system on a person's own vehicle, it is now possible to just purchase an SV Module for any particular model, which will be locked into the VIN of the vehicle and electronically verified by reading and comparing the VINS read from various ECU's which of course must be original or correctly programmed replacements and must match.

This obviously costs a lot less.

In addition we have introduced a range of SV Kits. These include all the required Software Modules and hardware for almost all Land Rover model at the lowest possible cost. In this way, private owners and enthusiasts can now afford diagnostic equipment with the maximum capability, for just a few hundred pounds. Should an owner sell his vehicle and buy another, we have a special SV Software Module trade-in scheme.

Click http://www.blackbox-solutions.com/docs/SV_LICENSE_EXCHANGE_GROUPINGS.pdf for full details. This allows SV Software Modules to be re-registered to another vehicle of the same type for a small Admin fee or even traded in for 50% discount against software for a later vehicle.

There is a minimum specification for a PC to run any of our FAULTMATE MSV-2 products. To view this spec, see this link http://www.blackbox-solutions.com/downloads/terms_&_conditions/PC_Spec.pdf

How about Multiple Single Vehicles (MSV)

For those wanting to mix our original MV Software Modules with SV ones, or for those having more than one vehicle that they wish to have diagnostics for, we have implemented a special three in one feature in our MSV Vehicle Servers. This means that each Vehicle Server can assume one of three separate identities as far as Software Modules are concerned. Each one of these three identities can be used for purchasing either MV Software Modules or SV Software Modules. This allows up to 3 separate vehicles to be registered to one Vehicle Server in SV mode at any one point in time.

No PC - No problem

The Faultmate MSV-2 Vehicle Server comes in two distinct types. The most inexpensive and the smallest ever at just 10 Cm long, 6 Cm wide and just over 2 Cm deep is the **FAULTMATE MSV-2 NANO**. This connects to your own PC or laptop. A little more expensive and somewhat longer is the **FAULTMATE MSV-2 EXTREME**.

The **EXTREME** is so called because it is longer and on its underside, protected by a slide off metal cover, sits a massive Liquid Crystal display capable of displaying 4 lines of 40 characters at the same time. On the left side of the display sits four specialist function buttons and to the right a cluster of navigation buttons. Combined, these provide sufficient capability to allow the unit to not only operate as a Vehicle Server like the NANO, but in many cases also to operate in a stand alone mode without the need of a PC.

Click http://www.blackbox-solutions.com/docs/Standalone_Mode_Vehicle_ECU_Coverage.pdf for details of Vehicle and ECU standalone coverage. This will be of great advantage if you break down miles from anywhere.

The functionality of each Software Module currently supported by the Extreme in the Stand Alone mode is limited to **Reading** and **Clearing** fault codes only. However having such a capable tool as the **EXTREME** opens all sorts of possibilities for future development. Please note that not all Software Modules can currently be controlled in respect of reading and clearing fault codes by the **EXTREME**'s Stand Alone capability. However we are updating the Modules to add this support all the time. Please check the Link above for full coverage details.

There is a minimum specification for a PC to run any of our **FAULTMATE MSV-2** products. To view this spec, visit the Downloads section of our website and go to Terms and Conditions.

Integral options

The Vehicle Server, being a package of sophisticated computerized electronics, cannot be connected directly to a vehicle as the raw voltages involved would be harmful to it. It therefore has to be connected through the appropriate **V**ehicle **C**ommunications **I**nterface module. These intelligent microprocessor based units translate the Vehicle Server's standard communication data stream into differing protocols, voltages, logic levels and then route the communications to and from the correct destination pins for each vehicle system type. There are two types available, with the second one (VCI 2) being employed with the later 2005 onwards CAN BUS based vehicles, and the first (VCI 1) for everything else.

The VCI 2 actually comes built into an OBDII connector because all later vehicles only use that connector. On all our previous Vehicle Server based systems, the VCI 1 was an external in-line design. While that type of VCI 1 is still able to be used with the **FAULTMATE MSV-2** we would however advise to purchase the **Faultmate MSV-2** system (both the **EXTREME** and the **NANO**) with a VCI 1 built inside the Vehicle Server if you intend to use the system on a pre 2005 model vehicle. This option actually costs less than half of an external VCI and is another way in which we have trimmed down the cost of this system. The VCI 2 can still be connected to the Vehicle Server regardless of whether it has an internal VCI 1 fitted or not.

Illuminating stuff

On the upper surface of the **FAULTMATE MSV-2 NANO** and **EXTREME** Vehicle Servers are name plates covered with a transparent plastic. This plastic is illuminated by a Blue LED light at each end.

The LED at the end of the Vehicle Server that connects to the PC is labeled PC and the LED at the end connected to the vehicle is labeled "Car"

Normally when the system is plugged in to a vehicle, these LED's are lit so they indicate that the unit is actually powered, however these LED's also perform another most useful function. Whenever data is received by the Vehicle Server from the PC, the LED labeled "PC" visibly flickers to indicate this fact, and whenever data is sent to a vehicle, the LED labeled "CAR" flickers. In this way, correct operation can be visually confirmed and data flow in and out of the Vehicle Server monitored.

Technical Support

To provide technical support with any of our main line systems that may be required after purchase, we have formed a special Owner's Only Technical Support Forum area on our web site (See the relevant list of servers for which this applies). Once an owner's account has been activated by using the passwords supplied, specific or general questions can be posted here to be read and answered by other owners, distributors and most notably all the staff at Blackbox Solutions Ltd including the system's entire development team.

All help and information about our systems, how to optimize its usage, what we are currently working on, hints, tips and software upgrades etc. can all be accessed here and the collective knowledge of like minded, friendly system owners can also be a huge benefit to the unsure or those seeking advice.

It is important to appreciate that with absolutely no exception, the Blackbox Solutions Technical Support Forum is the sole source of help and technical support from the company for all its FULL Diagnostic products (Not including the Nanocom Evolution). No support is provided by e-mail or telephone with the sole exception of problems related to forum access/registration and for the submission of documentation. The reason for this is because although many may not be familiar with such modern methods of support, we find the Owner's Forum to be a vastly more advanced and effective method of providing the highest degree of technical support, to the maximum number of customers, from all over the world, at the same time. In most cases anyone with a problem or a lack of understanding will be able to read posts made previously from other customers who had exactly the same problem or question. The Forum also have advantage in providing a reduction of technical man hours used, which not only lowers the cost of the system significantly but the saved time can then be better spent on growing and improving the system and thus benefiting everyone.

For More Information

For more detailed information, prices or to download our demonstration software and example files please visit www.Blackbox-solutions.com or mail us with any requirements, questions or comments to info@blackbox-solutions.com.

How and Where to Purchase

Orders for systems can be placed on our secure web site www.Blackbox-solutions.com or by telephone to 00357 25384427. Although our equipment is priced in Euros, payments can currently be made in Sterling, Euros, US, Canadian or Australian Dollars, by PayPal or by Credit Card. There is a small surcharge for PayPal and Credit Card transactions. You can also pay by Bank Transfer in GBP to our UK Bank of Scotland account. You can view the relevant currency price by selecting Change Currently Display under the Site preferences tab on the main shop page. You will also find a list of [Distributors](#) on our website . If you have any queries regarding payment methods please email admin@blackbox-solutions.com with the subject line "Payment Query"

Important Notes

This is a computer based diagnostic system; it is an amazingly powerful and capable tool. It will give the ability to manipulate and adjust the entire electronic system in a vehicle. When used correctly it gives massive amounts of benefit and provides previously unseen levels of professional capability for a very affordable price.

It is certainly not a "plug and play" system and it will require some setting up and configuration before it can be operated. Please note that the systems, for your security as well as ours, are sent unlicensed and you must register in order to obtain the licence codes.

It has been made as easy as it possibly to install, configure and use. However a certain degree of competency and understanding of computers is required to set it up, along with a commitment to fully and completely read and understand the built in help pages which describe each and every aspect of the systems operation in great detail.

It also requires a degree of competency and understanding of any vehicle electronic systems you wish to work on and must be used only in conjunction with the relevant documentation such as workshop manuals and electrical libraries, diagrams and trouble shooting manuals.

Blackbox Solutions Ltd will not be held responsible for those purchasing the system who do not possess the necessary skills, understanding and knowledge or who do not read and follow the instructions and guidance we have included. Please also see the minimum PC specification regarding computer requirements

http://www.blackbox-solutions.com/downloads/terms_&_conditions/PC_Spec.pdf