NANOCOM EVOLUTION USER GUIDE

Rev 1.3

1. DESCRIPTION OF THE UNITS COMPONENTS

1 TOUCH SCREEN DISPLAY
2 OBD CABLE CONNECTOR
3 MINI USB CONNECTOR
4 SD CARD SLOT
5 12V DC SOCKET

IMPORTANT CONNECTION NOTICE

To avoid damaging your unit and the possibility of invalidating your warranty you must connect your Nanocom Evolution in the following way only:

- **Connect the OBD lead to the Nanocom Evolution**
- **Connect to the OBD socket in the vehicle.**
- **When finished with diagnostics remove the connector from the vehicle OBD socket first then the Nanocom Evolution**

OTHER IMPORTANT NOTES

- There are NO drivers at all for the Nanocom Evolution. If when using your USB update lead you receive an error message this is an issue with your Operating system and/or your laptop/PC not recognising the lead or the USB port is not configured to provide 500Ma and is not a fault with the Nanocom Evolution. Issues such as this should be researched using Google or other search engine.

- There is NO software pack to operate the Nanocom Evolution on a PC. When downloading any files from http://web.nanocom.it/default_i.cfm please ensure it is for the Nanocom Evolution and not any other version of Nanocom. These files are clearly marked as to which version of Nanocom they apply to (Nanocom Evolution or Nanocom One. (This is the first original Nanocom without touch screen and should not be confused with the Mk1 and Mk2 Evolution shown below).

- SD cards up to 8GB SDHC can be used with the Nanocom Evolution. Please ensure that the SD card is formatted correctly before use. Further information is available in the SD card section below.

- Apart from the web shop the Blackbox Solutions web site does not hold any information relevant to the Nanocom Evolution. The only sites applicable to the Nanocom Evolutions in respect of Downloads, Firmware updates or other information are http://web.nanocom.it/default_i.cfm (Firmware updates, unlock codes and support documents) or http://nanocom.blackbox-solutions.com/index.php/forum which is a free to join Nanocom forum. It is our intention to move all support to this forum eventually. To register for the forum simply click on this link
- http://nanocom.blackbox-solutions.com/index.php/contact-us/forum-membership-form

- There has been some confusion over the naming of the Nanocom Evolution as either Mk1 or Mk2. The difference between them is that the Mk1 (Pictured Left) is the bigger plastic case of pre BBS days and up to re launch in August 2011 (with Nanocom Evolution printed on the front the case) and the Mk2 (pictured Right) is the slim line Black Anodised Aluminium casing. They both use the same Firmware and software modules. If you own a Mk 1 model and have not yet upgraded the Firmware you should do so as without the upgrade of Firmware the P38 options will not be available to you.

Nanocom Evolution Mk1   Nanocom Evolution Mk 2

2. POWERING YOUR NANOCOM EVOLUTION

The Nanocom Evolution can be powered by means of the following methods which apply to either the Mk 1 Evolution or Mk 2 Evolution. Please note only the Mk2 model version is shown below but the connections are the same just a different location on the Mk 1 model.

- Connection via the supplied OBD lead on the Nanocom Evolution to the OBD plug in the vehicle (see correct connection method above)

- Connection to an external AC adaptor with a 12V DC continuous current of 500mA (up to 5A maximum) in the auxiliary DC power socket on the right hand side of the unit

- The Nanocom can also power via the MINI USB connector (shown by the arrow), but when used in this way it cannot be used for diagnostic functions or to test the Pins in the Setup section. When the unit is powered by the USB with an SD card it can only as external memory device for the PC.

The NANOCOM does not have an on/off switch. The unit will power on automatically when one of the above sources is used and it will then stay active until the source of the power is disconnected. You should close the application screens by using the icons in the screens bottom right corner until the final screen when you will see and this will put the Nanocom into standby mode until the power source is removed.

The unit will still stay actively powered but in standby mode but has a very low power consumption (only 6mA) while in this mode. You can repower the unit from this stage by placing a finger gently on the screen (**DO NOT** apply excessive pressure to the screen) for approx 8 seconds. This initiates the power back to the unit. Alternatively remove any power source from the unit and re-apply.

Some applications that give live data will automatically turn the unit to standby mode when the ECU stops communication, so this will happen a few seconds after the ignition is turned off.

Please note that by removing power to the unit while it is processing or going between ECU's can corrupt the system and require either a Firmware re-install or in worst case scenarios a return to BBS for reprogramming which would be classed as caused by user error and be outside of any warranty.

3. ONLINE REGISTRATION AND OBTAINING YOUR UNLOCK CODES

The Nanocom is supplied without the unlock codes input for security reasons. To obtain your codes you will need to register the unit as detailed in the Quick Set up Guide which is included with every new unit sold by us. If you have misplaced your Guide or purchased your unit second hand and did not receive such a guide then this can be downloaded from here http://web.nanocom.it/download/Nanocom%20Quick%20set%20up%20guide.pdf

You will need to know the Unlock ID number of your Nanocom which you obtain from the Nanocom unit itself by going into NANOCOM – SETUP - NANOCOM ID menu.
The Nanocom ID code is the identifier code of each unit and has the licences pre coded to this ID. This code is composed of 6 alphanumeric characters, for example **559fN1.** The Nanocom ID code is case sensitive, so 559fN1 is different from 559FN1.

To register the unit with the above code please go to http://web.nanocom.it/registrazione_i.cfm and enter the information required (denoted by a *) and any additional information you wish to input. **Please note that the current registration database has problems with UK postal codes or any postal codes with letters which is due to an issue with the original website design. Should you receive an error when registering, simply omit the post code information and only input information denoted by the *.**

An automated email is then sent to your email account with your computer generated password. Once you receive your login details and password you can then log into the restricted area to obtain your unlock codes.
NOTE. Please ensure that you input a valid email address when registering or you will not receive your log in details. If you have not received an automated response within 24 hours of registration please check your Spam or Deleted items folders to check that the mail has not been classed as SPAM or JUNK. If you are sure that every detail provided is correct only then should you email support@blackbox-solutions.com as we will have received notification and the reason for the undelivered mail and can advise of the problem.

4. Restricted Area options

So you have now received your Username and password to the restricted area. The following shows what you will expect to see when you log into this area. Certain information has been removed for security. The first screen gives you the available options in this area. This is your personal area for any codes you may have purchased and cannot be seen by anyone else.
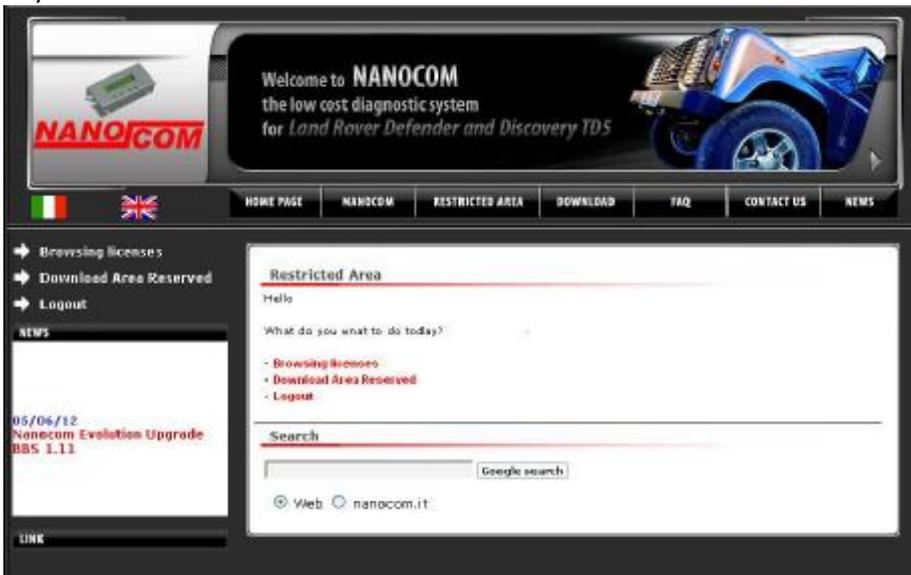
4.1. Unlock Codes (Browsing Licences)

The wording in the restricted area of the Nanocom site also seems to cause some confusion as the menu item lists "Browsing Licences" and not Unlock Codes. Please note that these are one and the same item. When you click on the Browsing Licences link as shown here you will see your Nanocom ID number and any codes purchased. In the section below it lists which ECU/s each code in the Nanocom Evolution unlocks.
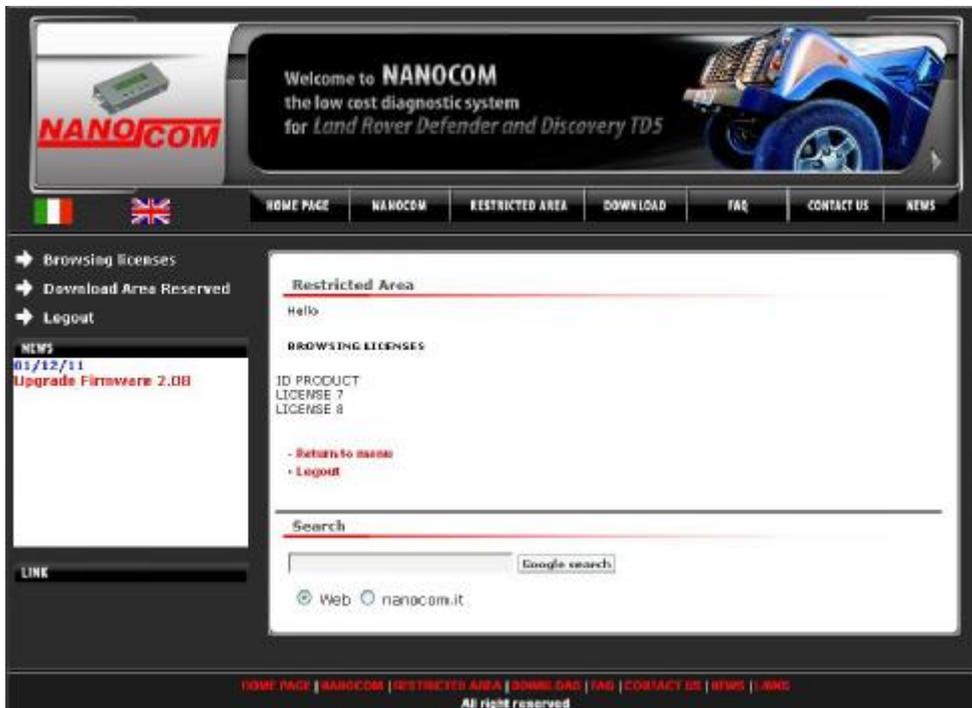
Each Unlock code is designated a numbered box and must be entered into the corresponding numbered box in the Nanocom Evolution Licence section. Failure to do this will result in a non functioning unit for the ECU coverage purchased. Currently only boxes 1 to 8 are used. Once the codes have been input into the Nanocom Evolutions Licence screen you need to use the Green Arrows to scroll to the last page and click on Save Unlock Codes. Once you receive the message Value saved, click Ok. You need to power down the unit by using the in the bottom right corner until you get to this button and then use this one to power off completely. Restarting the Nanocom will unlock the sections you have purchased licences for.
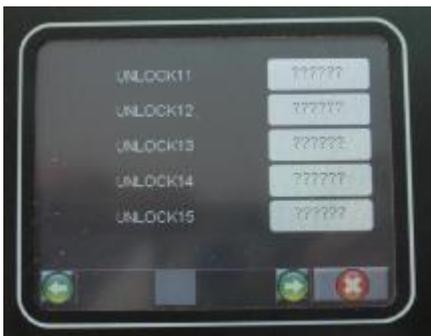
You will note that in each box at purchase there are 6 ? marks. These need to be deleted from the code box for which you have been issued a licence. To do this touch the screen at the end of the last ? mark and then use the on screen keyboard back space to delete them. The codes cannot be overwritten so if you make a mistake delete the code and start again.

While we appreciate that the codes may sometimes be confusing due to the actual font they are computer generated in we have created an FAQ here http://web.nanocom.it/faq_i.cfm?articolo=418 which answers the questions regarding the codes and also gives useful advice on checking what the code should read if you are unsure.

There has also been some discussions and questions relating to the unlock codes and what they unlock with some customers relating the web shop product code with where they should enter the actual code. EG NCOM16 (product code) in the web shop is to unlock all the P38 systems but the actual unlock code generated goes in box 8.

In the above link it does show what each unlock codes function is but for quick reference the Unlock codes and what they are relevant to are shown here.

Unlock Codes and what they unlock.

- Code 1 - TD5 Engine Management (Defender and Discovery 2)
- Code 2 - Wabco ABS and Lucas 10AS Alarm (Defender)
- Code 3 - Valeo Body Control, ACE, SLABS, Auto box and SRS Airbag (Discovery 2)
- Code 4 - Puma Engine and Instrument pack (Puma Defender 2007 onward)
- Code 5 - Motronic V8 Engine (Discovery 2 and from 1999 onwards on P38)
- Code 6 - GEMS Engine P38 up to 1999
- Code 7 - EDC Engine (P38)
- Code 8 - All other P38 ECU's

4.2. Download Area Reserved

In this section you will find the latest Firmware version which can be downloaded and any relevant documentation.
Please note that the instructions to install the new Firmware are included in the program or can be downloaded from the normal Downloads section here http://web.nanocom.it/download/evo_upgrade_manual.rar
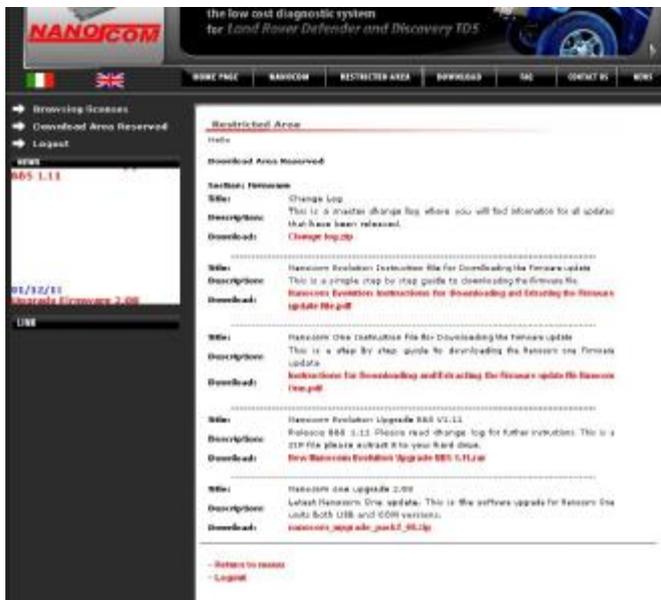
4.3. Logout

This simply logs you out of the restricted area and returns you to the Nanocom site. To re-enter the Restricted area you would need to go back to the log in screen and re-enter your details.

5. MENUS

When the NANOCOM Evolution is initially powered on, it will display the main menu on the screen. This screen displays the 3 main vehicle classifications, Defender, Discovery II and Range Rover P38 and at the bottom a Nanocom menu.
Below are listed the vehicle menus and sub menus. There is a separate section following that for the actual Nanocom Menus

These menus are as follows:

Defender
- Defender TD5
- Defender Puma
- Instruments

Discovery II
- Discovery TD5 (Diesel)
- Discovery (Petrol) V8 Motronic
- Instruments

R-Rover P38
- GEMS (Petrol) 94 – 99
- Motronic V8 (Petrol) 99 onwards
- EDC (Diesel) all years
- Instruments

If you are unsure of your P38 engine type please see this link to make a visual check
http://www.blackbox-solutions.com/Basic-Bits/P38engines.html

Under each vehicle menu you will see an INSTRUMENTS option which saves having to go into the individual Vehicle menus to reach this function. The Instruments option allows the Nanocom Evolution to be used as an onboard instrument screen. This information shows details such as Engine Speed, Road Speed, Coolant temp, Engine Load etc which updates live information as the vehicle is moving.

The above **VEHICLE** menus then break down further into the actual ECU's for each model and functions available. Please see each individual ECU Help file for the various functions available here http://web.nanocom.it/download_i.cfm

Defender

TD5
- TD5 Engine
- TD5 Map
- AS10 (Alarm)
- Wabco ABS

Puma
- Puma Engine
- Puma Instrument pack
- AS10 (Alarm)
- Wabco ABS

Instruments
- TD5 Board Instrument
- Puma Instrument

Discovery II

TD5
- TD5 Engine
- TD5 Map
- SLABS
- Valeo BCU
- ACE
- D2 AUTOGEARBOX
- D2 AIRBAG

Motronic
- Motronic
- SLABS
- Valeo BCU
- ACE
- D2 AUTOGEARBOX
- D2 AIRBAG

Instruments
- TD5 Board Instruments
- Motronic Instruments

R-Rover P38

GEMS
- GEMS
- WABCO C (94-99)
- GS2.38.1 (Petrol up to 99)
- Airbag MPS1 (up to 96) or up to 99 on NAS only)
- Airbag SPS1 (96 to 99 non NAS only)
- Airbag SPS2 (99 onwards)
- EAS
- HEVAC
- BECM

Motronic
- Motronic
- Wabco D (99 onwards)
- GS8.87.1 (99 onwards)
- Airbag SPS2 (99 onwards)
- EAS
- HEVAC
- Hella Cruise Control (Only fitted as separate ECU from 99 onwards in Motronic Petrol V8 model)
- BECM

EDC
- EDC
- Wabco C
- Wabco D (99 onwards)
- GS2.38.1 (Diesel up to 2002)
- Airbag MPS1 (up to 96) or up to 99 on NAS only)
- Airbag SPS1 (96 to 99 non NAS only)
- Airbag SPS2 (99 onwards)
- EAS
- HEVAC
- BECM

Instruments
- Motronic Instruments
- GEMS Instruments
- EDC Instruments

The Nanocom menu

When the Nanocom main menu item is selected you will find sub menus which then give access to different functions. The following is a break down of each function and what can be done with each one.

File Manager - This option which requires an SD card to be present in the unit, allows you to view and make changes to the files stored on the card.
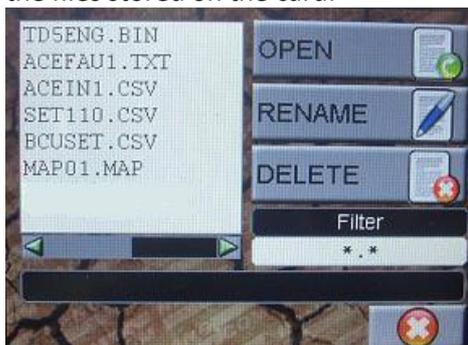
The list box on the left of the screen shows all of the files present on the SD card. Please note that this is just an example. If you select an item from the list, it will highlight it in yellow so you know which file you are working on.
It is possible to filter the results shown if there are many files on the card by entering some details in the Filter box shown. *.* will show all files on the card whereas *.csv would only list the files with that extension.

If you know the full file name this can also be entered, e.g. MAP01 would only display a file of that name and no other.

The RENAME button allows you to rename the selected file.
The DELETE button allows you to delete the selected file.
The OPEN button allows you to directly run the application or file selected and automatically loads the data in it.

Text Editor – As the title suggests, this is a feature that allows you to edit any text files saved on the SD card. This should be used with caution as edited results may make the file unusable. The Nanocom Evolution cannot support file names longer than 8 characters and it automatically assigns the relevant extension to the file name. If you copy a file to the SD card that has a longer file name than 8 characters the Nanocom Evolution will show the file name as cut and the data may then not be readable with the content being of an invalid format.

Applications

The Applications option gives the user access (where the relevant unlock code have been purchased) to all ECU's from all models plus the File Manager, Text Editor and even the Setup Menu and sub menus. Use the Green scroll buttons to move between screens.

Setup - There are a number of sub menus under the Set up main menu and are dealt with in turn below.

Note. Where an item has a * next to it please see the corresponding section below.

Nanocom ID - This is the units programmed ID which correlates to the Unlock codes issued to this ID. This ID is required for registration here http://web.nanocom.it/registrazione_i.cfm See the section above on obtaining this ID for registration.

Unlock Codes - In the Unlock codes section found in the Nanocom – Setup section detailed above are a possible 20 unlock codes. This amount of spaces allows BBS further expansion in the future for other models to be added. The Unlock Codes shown above explain which unlock code cover which ECUS.

If you receive the Function Locked message, this is either because you are trying to access a system that you have not yet purchased a license for that you have input one of the codes incorrectly. Despite customer's assurances that they have input the code many times correctly, in every case it has turned out to be a letter in the wrong case, a space where there should not be one or the code input in the wrong box. These codes are set to unlock the ECU as listed above. If you do not place the code in the correct corresponding box then the ECU/s will not be unlocked. If you are unsure of a code we recommend that you try the following:

Copy and paste the code from the Restricted area into a program such as MS Word. Expand the size of the text and even change the font if necessary to one more readable to you. Then type underneath what you think the code reads as. It should soon become clear if you are inputting one of the characters incorrectly. Most common ones are lower case L being input as a 1 or capital I, or the number Zero being input as capital O. Please do note that these codes are computer generated and in a set database assigned to each of the Nanocom ID's that we cannot amend. We are however in the process of designing a new Nanocom site and will do every thing we can to make the new database codes more easily readable to avoid such issues in the future.

*Startup Settings - Selecting this option allows the end user to select an application that will open when the unit is powered on. See the relevant section below for further information on the options.

User Test - When selected this option it gives you sets of Pins to test. Select each test in turn and wait for the result in the opposite box. If you have any that Fail, power the Nanocom Evolution off and back on and test again. If you get a continuous Fail message and you find the unit is not working correctly then contact support@blackbox-solutions.com and be sure to give your unit number and which Pins it is failing on. Please note that if powered by the USB lead the tests will fail each time. This is also just an internal test and is not one to test the lead itself.

Factory Test - Only used by Blackbox Solutions during production and not open to the customer.

Info - This section holds the Firmware versions and more importantly the Global Upgrade Level which is the information you need to know when checking to see if you have the latest Firmware installed. This information will be available in the Change Log which is located in the restricted area of the Nanocom site. Note! The screen below is for information only and the correct version is show on the Change Log in the restricted area.

**Display - Please see the separate Display section below for all available options and tests.

Kernel Upgrade - This option is no longer used as the new Firmware installation guide shows the required method of entering the upgrade process.

Restoring File - As with the kernel Upgrade this section is no longer used on the new systems as the Restore file is created during the Firmware upgrade process if required. We recommend only using a re-install of Firmware to restore your unit in the event of corruption or other issues.

(iii) *Startup Settings (see screenshot below)

When you select this option you will be presented with a list of possible .apps (use the up and down scroll arrows for the full listings). The following are examples of the start up options you have:

Selecting Normal means that the unit will start with its main menus as listed above.

If for example you select TD5INST.APP and save the settings, the next time you restart the unit it will automatically load the TD5 Instrument panel. To exit this mode you simply press the [icon] in the bottom right corner of the screen and the unit will exit and restart in normal mode. Remember by selecting something other than Normal in this section will result in the Nanocom always starting in that mode until changed.

When the ignition is switched off again the unit will automatically end the application (with the exception of normal mode) and go into power save mode. This is a normal situation and should not be confused with the unit behaving in an incorrect manner.

(vii) **Display Settings

Nanocom Brightness - The brightness of the Nanocom Evolution display can be altered in one of 2 ways.

- · The first is a permanent method and to do this you need to go into the Menu option under Setup - Display and change the settings as shown above using [−] or [+] keys. Once adjusted to your personal setting you then use the [SAVE] button. These settings will then be applied each time you use the Nanocom Evolution.
- · The second method is during use if you feel the screen is too bright or too dark, simply touch the screen lightly anywhere there is no writing or buttons and hold the finger pressure for a few seconds. The Back light adjust will then appear and you can amend it using [+] or [−] buttons and then click Ok. Note that once the unit is powered off and back on any changes will be lost.
- · Touch test
- · This test will produce a blank screen. You simply touch the screen anywhere and a white dot will appear. This verifies that the screen is responding in the correct manner to the touch. To exit the screen, simply leave the screen without touching it and a few seconds later it will revert to the main Display menu.
- · Touch Calibration
- · With this menu option you will be asked to confirm that you want to calibrate the Touch screen. Select Ok to start the test. Follow the 4 step on screen instructions. It is advisable to use a non sharp object to touch the screen where indicated on the 4 steps to gain a more accurate calibration. **NOTE**. This process should only be used if you are experiencing severe touch screen issues. It is advisable to first use the Touch test to see if the screen is recognizing the touch points.
- · Backgrounds
- · The Nanocom has 4 built in graphical backgrounds. Use the green arrow button [icon] to select the one you wish to have displayed on your unit. Once you have the one you require press the Save Background button. The selected background is the one that will now be used until you change it again. At this time no other backgrounds can be added to the unit.

Connecting your Nanocom Evolution to a Laptop/PC via the USB lead with no SD card inserted.

There are 3 occasions when you would see the 4 icons (as shown in the picture) on the Nanocom Screen.

The first is when running the Firmware update procedure as detailed in the Firmware updater guide. When running the Firmware update mode you would see the 4 icons and you would only need to press the kernel button and the screen will say Kernel Bootloader Activated. After a few seconds the screen will go black. This indicates that the unit has entered the update mode and is ready for the update process to start.

The second occasion is with a Nanocom Evolution that has Firmware above 1.00 and the SD card has not been recognised when connected with the USB lead.

The 3rd and final occasion is if you simply connect the Nanocom Evolution to a laptop/PC with the USB update lead NO SD card inserted). On this occasion the 4 icons can be used as follows:

Kernel – This is used during the Firmware upgrade process to put the Nanocom Evolution into Kernel upgrade mode.

Firmware –This is an internal process only used in the production of the units and has no functionality for the end user. If you enter this mode you will be presented with a small number pad but will have no functionality. Press Ok to exit this screen.

Graphics – As with the Firmware is not used by the end user, it is used only by Blackbox Solutions production staff during the build process. Pressing this will result in the same number pad as Firmware with no functionality. On either of these options if you do happen to go into them simply pressing the OK button returns you to the 4 icons screen.

Nanocom Diagnostics – Selecting this option will start the Nanocom in normal start up mode and give the main menus as listed above. However it is not possible to actually carry out any diagnostics when connected in this mode and could only be used to scroll through menus to see the options of any ECU you have unlock codes for. As an example, you have the GEMS P38 unlock codes. So selecting R-Rover P38 – GEMS – BECM will bring up the various menus available but would also report "Unable to start communications with the ECU" but by clicking OK allows you to then enter the sub menus and view the options which are available under normal diagnostic use. It could be thought of as a Demo mode which allows you to go through the various options and view them without making any changes until you are sure of what you are doing.

Other Functions of the Nanocom Evolution

- **SD CARD** – The first point we would make is that we ONLY provide the facility within the Nanocom Evolution to use an SD card for the purposes of storing data from the vehicles or transferring maps to the Evolution. We DO NOT produce the cards; we DO NOT support the cards. Use of these in any capacity is entirely at the users own risk. Many comments have been made and questions asked regarding the formatting of these cards. From experience while testing the Nanocom Evolution functions we can advise that the maps will transfer on either FAT or FAT 32 formats when tested. Again, any use of either of these formats and any map functions is entirely at the users own risk. We **CANNOT** and **WILL NOT** advise as to what size is best for your purposes.

  The Nanocom Evolution supports SD or SDHC cards UP TO 8GB for storing diagnostic files or maps for the TD5. The use of a High Quality SD or SDHC card has been noted from various forums especially when storing MAP files for the TD5 with the intention of remapping the ECU. Issues have been highlighted on several occasions now which have been down to the SD card not storing the information correctly.

  In the Important Notes section of this guide it refers to ways of formatting the SD card when using it for mapping an ECU. While we have not used this method ourselves we do rely on other customers with working knowledge of to offer information. No liability claims can be made against either Blackbox Solutions or any other customer offering possible solutions to issues with 3rd party equipment. All work is undertaken at the owners own risk.

This information from one of our beta testers may prove useful in the process:

i. Low level reformat of SD Card.
   Using HDD-LLF software (HDDGURU: HDD LLF Low Level Format Tool) to do this. It leaves the card unpartitioned and is pretty slow.

ii. Format SD Card with SDFormatter software (https://www.sdcard.org/downloads/formatter_3/)

The above are especially important before attempting to use the SD card for Reading and Writing map files.

NOTE. IN BBS V1.12 Firmware available in the Restricted area of the nanocom site the function for mapping has now had a safeguard built in to try and eliminate issues with the SD card. When using the MAP function the .map or .tun file are now copied to the Nanocom Evolutions Flash memory from the SD card and written from there to the ECU which should eliminate issues with corruption of the file being read directly from the SD card.

Connecting your Nanocom Evolution to a Laptop/PC with the USB lead while using an SD card inserted in the unit.

When you connect the Nanocom to the laptop by the USB lead and you have an SD card inserted then you will get the following screens on your Nanocom Evolution unit and your laptop/PC screen provided you do not have any of the issues listed below. Obviously the icons showing on the computer screen will be different depending on what you have on your SD card.

This screen will show on your laptop/PC   This screen will be displayed on the Nanocom Evolution.
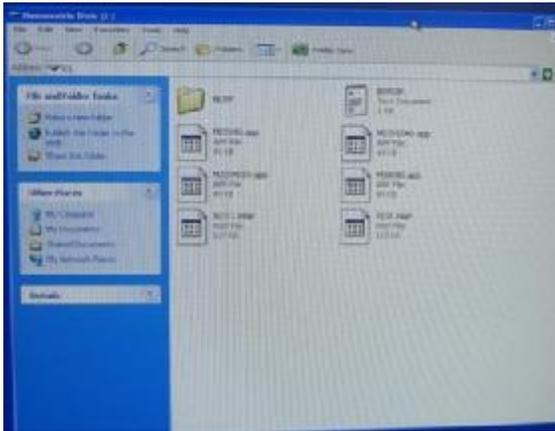
SD Card issues and the Nanocom Evolution

FOR UNITS WITH FIRMWARE 1.00 (never been upgraded) – When the Nanocom Evolution is connected to the laptop/PC via the USB update lead, if the SD card has not been recognised you will see the Nanocom Evolution reported on the laptop/PC as a flash memory device only. This means that you cannot transfer files to the SD card as shown in the File Import and Export section below.

FOR UNITS THAT HAVE BEEN UPGRADED FROM ORIGINAL FIRMWARE (any above 1.00). If the SD card in the unit is not recognised then the Nanocom screen will show 4 icons.

Ensure that you do not overload the SD card with files as this can cause delays in reading the info from the card. Also see the information below regarding the naming convention of the files and also the length of the names.

- **FILE IMPORT AND EXPORT**

When using an SD card in the Nanocom Evolution you can transfer file to and from your laptop/PC to the card by simply connecting the Nanocom Evolution to the laptop/PC via the USB cable supplied. As long as the card is recognised you will see the Card on your screen as a Removable Disk. You can then transfer files to and from your laptop/PC to the SD card. If you are transferring maps from your laptop/PC to the SD card, please refer to the Formatting section above.

- **DIAGNOSTIC FILES**

During any diagnostic session provided you have an SD card in the Nanocom Evolution, you can record the data on the screen when this icon is displayed in the bottom right corner. Pressing the icon once gives you a box where you need to give the file a name. To do this touch the screen in the white name box and it will bring up the on screen keypad. Type in the required name and click Ok. You will receive a message to say Data recording started. When you have sufficient data press the icon again to stop the recording process.

- The File is saved as a CSV which can then be opened in Excel. You can then view the data in columns and also create graphic lines with valid data. Please note that you do need to have some knowledge of Excel in order to manipulate the data in this way and this is not something we can teach you. We simply offer the option with this equipment.
- Settings pages are also stored in CSV format but can easily be copied and pasted into any text program for easier reading.
- Faults are stored as a Txt file and can be read in any text editor program.

- Map files that are not protected are stored in a .map format
- Maps files that have protection on them to prevent them from being copied are stored as .TUN files.

- **DYNAMIC INPUT CSV FILES VIEWING**

As well as viewing the data in Excel you can also view it with the File Manager on the Nanocom Evolution. To do this you need to ensure you have the SD card with the data inserted into the Nanocom Evolution and power on either from the car or from the DC socket. Use the following menu options – Nanocom – File Manager this then opens up a list of available files on the SD card. Select the file you require and it will be highlighted in Yellow, then click Open.
This then opens the file as if it is connected to the ECU the recording was made from. Using the buttons shown below you can scroll through the data page by page.

Automatic backward
One line Backward
Stop
One line forward
Automatic forward
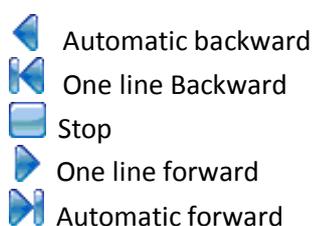
The text box on the lower left corner shows the number of the line being viewed. You can edit this by touching the white box and it will open up the on screen keypad. Edit the first number and click OK. As an example if it displayed 1/4 you could amend that to read 3/4 and it will jump to page 3 of the 4 available.

When you see this icon on an application page it means that you can directly import data from an SD card file into the ECU.

For example, if you have saved injector codes from a Defender TD5 engine and need to re-input them you can import these directly back to the ECU at any time without having to go in and edit the values manually each time. To do this you need to ensure that an SD card is inserted into your Nanocom Evolution before powering up the unit. Navigate through the menus to the relevant ECU, in this scenario it would be Defender – TD5 – TD5 Engine – Settings – Injectors – Throttle then click on the yellow folder icon as shown
And you wil be presented with an Open File box. Select the file required and click OK. This will then input the saved SD card data into the relevant boxes. Locate the Write Settings button (on the Defender it is on the 2nd page) and press to save.

- **THE PEAK DETECTION FUNCTION**
During the dynamic reading these buttons are available at the bottom of the screen.

This button shows the maximum peak of the time the data is being read.

This button will show the minimum peak of thetime the data is being read.

This button resets the Peak reading back to standard input.

- **FILE NAMES**

The Nanocom Evolution cannot support file names longer than 8 characters and it automatically assigns the relevant extension to the file name. If you copy a file to the SD card that has a longer file name than 8 characters the Nanocom Evolution will show the file name as cut and the data may then not be readable with the content being of an invalid format.

- **FORCED RESET**

If the software freezes and you can no longer interact with the touch screen, you can restart the NANOCOM without removing the power source. To do this you have to touch the touch screen anywhere and keep light pressure on for more than 8 seconds, until you see the NANOCOM restart. This is the same method used to bring the Nanocom Evolution out of its power save mode.

IMPORTANT NOTE, as constantly mentioned in this document, this is a "TOUCH SCREEN". This means the screen is designed to react to touch and it will react to the slightest of pressure. As the touch screen is small and made of Glass, It will not withstand any excessive pressure being applied which will cause it to crack.
This is especially important if using the mounting kit NCOM30 for the web shop. No pressure should be applied to the screen when fitting and should only be handled by the external edges.

If you find it difficult to execute finer tasks with your finger, then we recommend the use of a non sharp object such as a plastic toothpick or a pencil. Anything sharp will mark the screen and make it difficult to view or even crack it if too much pressure is applied.

Here are some suggestions for using the unit and gaining the most benefit from it.

- Depending on the module, it may require the ignition to be on stage II or even the engine running before diagnostics can be performed.
- When switching from one ECU to another please allow the Nanocom Evolution time to close its connection to the previous ECU before trying to communicate with another one. Some ECU's may require being put into Sleep mode before they allow communication with another ECU.
- If for any reason you lose communication with an ECU during diagnostics, turn off the ignition for between 15 seconds and 1 minute to allow the ECU to reset before retrying the communication.
- When working on the Alarm or Body Control ECU's these can generally communicate with the ignition switched off. It is recommended that you keep a working remote/fob near the vehicle so that you can retrigger the alarm in communication fails and saves time having to wait for the Alarm to reset. Please refer to the individual ECU documents for further information.
- With the P38 it is not possible to communicate with any other ECU following communication with the ABS ECU. This is a feature of the ECU and not an issue with the Nanocom Evolution.
- With the ABS and especially the SLABS ECU, diagnostics will cease once the road speed reaches between 8 and 20 mph as a general rule. Again this is a design feature of the ECU itself. With Land Rovers Testbook system the user has to jack each wheel in turn and rotate by hand to check sensors.

- The Nanocom Evolution like every other diagnostic tool is only there to assist the end user in locating issues where this is possible and will not repair the vehicle. The use of Workshop manuals, wiring diagrams and other such materials are essential to the use of this and any other equipment. If you cannot connect to an ECU and have a communication or other such error message then try tracing the wiring cleaning plugs etc before blaming the tool.

- If you find that the Nanocom Evolution will no longer power from the OBD socket (especially in the P38 Range Rover) you should check the fuse for the OBD socket in the vehicle. The locations are as follows:

- In the P38 this is Fuse 33 (5amp) located in the Engine fuse box.
- In the Discovery II it is Fuse 20 (15amp) in the passenger Fuse box
- In the Defender you need Fuse 8 (5amp) in the Passenger Fuse box

- Remember that the Nanocom Evolution is not some expensive I-phone, filled with super fast processors and some slick multi tasking operating system. It is a very low cost, microcontroller based system. This means it needs to be given due time and patience in respect of allowing the unit to change between its various functions. This is because when a function has been selected, the unit has to then disconnect from that ECU function and end it, before picking up on the next requested function. If you attempt to switch between the functions too quickly, this can cause the unit to look like it has frozen and repeated pressing of buttons will likely result in the system crashing and rebooting. In severe cases this can also corrupt the files in the unit and require a complete Firmware re-install using the Overwrite Original Config option in the Kernel manager upgrade software to bring the unit back to factory settings. It should be noted that after using the Overwrite feature on the Firmware install that you would need to re-input your licence codes.

- There are NO support features on the Blackbox Solutions web site and no registration function there. All registrations are done via the http://web.nanocom.it site only