

**Abritus 72 Ltd**

**Date: 06-July-2011**

**A · B · R · I · T · E · S**  
automotive solutions

## **Abrites Commander for BMW vehicles**



**User Manual**

**Beta Version**

**Version: 3.0**

**issued by:**

**Abritus 72 Ltd**

<b>List of Revisions</b>			
<b>Date</b>	<b>Chapter</b>	<b>Description</b>	<b>Revision</b>
30.11.2007		Release version of the document	1.0
10.03.2009		Release version of the document	2.0
12.05.2010		Updated according functionality of the latest SW version 5.6	2.1
06/07/11		Updated for version 8.0	3

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# 1 INTRODUCTION

“ABRITES Commander for BMW” is a PC - Windows based diagnostic software for BMW vehicles E38 E39 E46 E53 E83 E85, E6x, E7x, E8x, E9x. Initially with the latest SW release (version 5.6) is introduced diagnostic capabilities for latest BMW vehicles produced in 2010 year – new BMW series 5 – body F10, new series 7 – body F01.

With help of your tool you can perform unusual for remaining diagnostic tools operations with the electronic modules inside of the vehicle like coding of control units, programming vehicle order, reprogramming flash memory of the units, tuning of your engine control unit, programming keys, mileage recalibration.

Functionality of your software is depending of ordered functions for your interface.

Each interface produced by Abritus72 Ltd is with unique serial number printed on the interface.

## 2 INSTALLATION

Together with your interface you receiving windows based installation package.

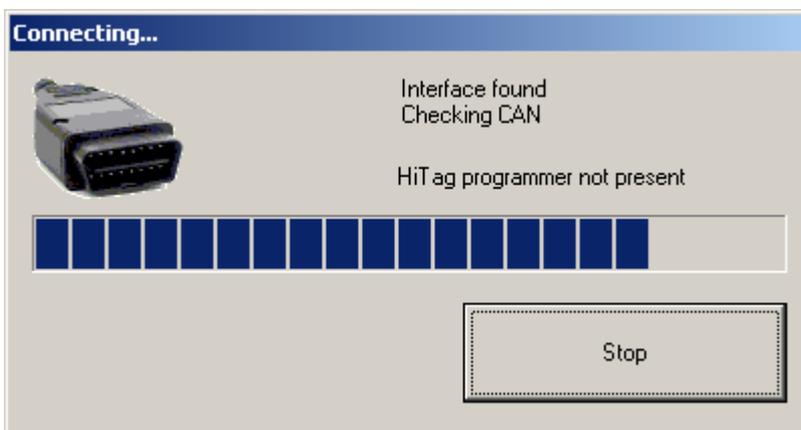
Installation package consist:

- Abrites software for BMW vehicles : Setupinterface\_XXXXX\_BMW.exe where XXXX is number of your interface.
- Database about DTCs, measured values of electronic control units and coding data: ecudata.exe. Start "install.bat" that will automatically find the data directory of the BMW installation and will extract the data there. If there are more than 1 installed interfaces, the program will ask for which interface it should copy the files.
- Database about flash memory updates of all electronic control units : E60-E70.EXE and E83-E89.EXE. You can execute the files and manually copy the extracted data into the data directory of the BMW commander. Or you can start "install.bat" that will automatically find the data directory of the BMW installation and will extract the data there. If there are more than 1 installed interfaces, the program will ask for which interface it should copy the files.

Installation steps should follows following order:

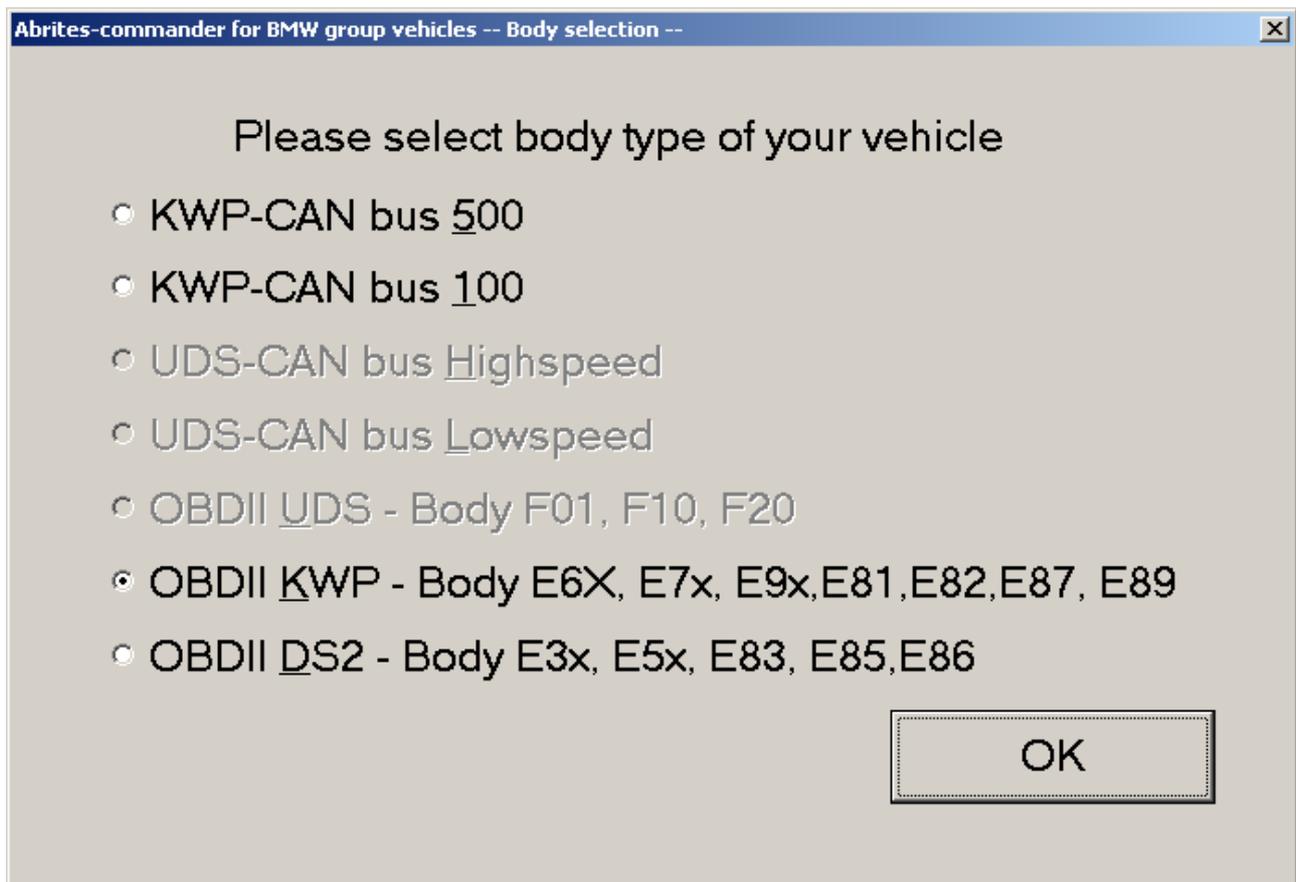
1. Start your main setup file - Setupinterface\_XXXXX\_BMW.exe
2. Start installation of all databases
3. Connect your interface to USB port of your PC and wait until operation system notify you that device is ready for usage
4. Connect diagnostic cable of your interface to diagnostic socket of the vehicle
5. Start application "Abrites Commander for BMW"

After starring of your software will appear following screen:



After successful detection of your interface software will check whether is connected also a transponder programmer and then will try automatically to detect vehicle body of your vehicle.

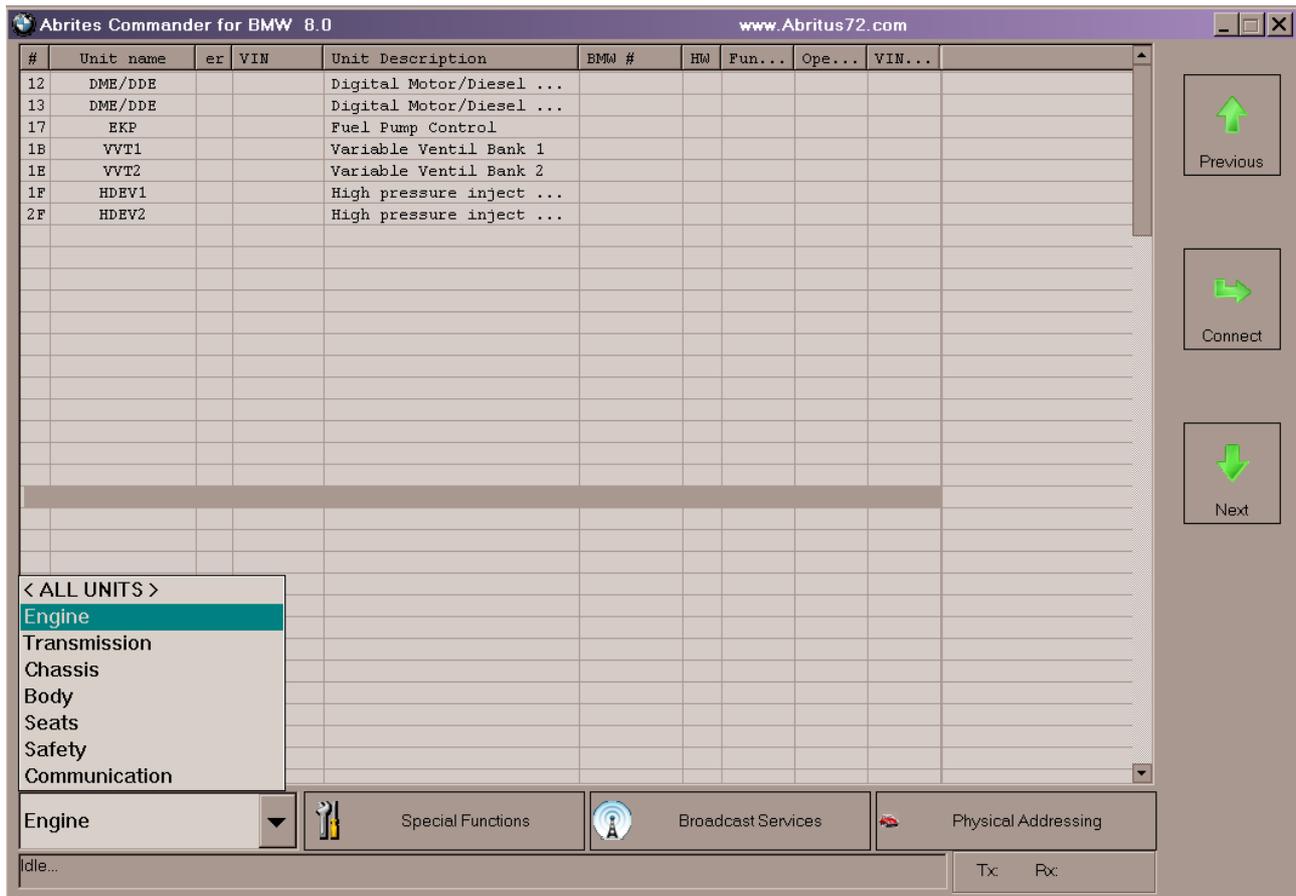
If interface is not connected to a vehicle will appear following screen:



From this screen you should select type of the connection between your diagnostic interface and electronic control units in the vehicle. Connection types can be:

- KWP-CAN bus 100 – this connection is intended when your interface is directly connected to K-CAN of the vehicle
- KWP-CAN bus 500 – this connection is intended when your interface is directly connected to PT-CAN of the vehicle
- OBDII KWP – this connection is intended when your interface is connected by OBDII to vehicle body E6x, E7x, E9x, E81, E82, E87, E89
- OBDII DS2 – this connection is intended when your interface is connected by OBDII to vehicle body E3x, E5x, E83, E85, E86

When is clarified connection type Abrites Commander will show you the main screen:



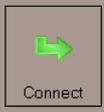
You can use the filter in the lower left portion of the screen to select which group of units is displayed. By default all units are displayed (in the example above we used filter to display just the units related to the engine).

From this main screen you have following choices:

- establish diagnostic session with some electronic control unit in the vehicle
- send broadcast diagnostic requests to electronic control units in the vehicle. Broadcast diagnostic requests are requests addressed to all units assembled in the vehicle.
- diagnostic requests addressed to all units in the vehicle using physical addressing. Physical addressing means that request is intended to only one electronic control unit in the vehicle.
- using special functions of BMW Commander

In order to display the Special Functions, Broadcast Services or Physical Address, you have to click on the corresponding button in at the bottom of the screen. In the example bellow, we have clicked and expanded Special Functions menu:

#	Unit name	er	VIN	Unit Description	BMW #	HW	Fun...	Ope...	VIN...
00	ZGM/SGM/JBBF			Central Gateway/Safet...					
01	SIM/SGM/ACSM			Safety And Informatio...					
02	SZL			Switch Center steerin...					
03	SASL/FGS			Satellite A Pillar Left					
04	SASR/VOCS FA			Satellite A Pillar Ri...					
05	STVL/TEFA/...			Satellite door front ...					
06	STVR/TEBF/...			Satellite door front ...					
07	SSFA			Satellite Driver Seat					
08	SSBF			Satellite Passenger S...					
09	SBSL			Satellite B Pillar Le...					
0A	SBSR			Satellite B Pillar Ri...					
0B	SST			Tire System					
0C	SFSP			Seat System					
0D	SSH			Satellite Rear Seat					
0E	SPZ			Satellite vehicle cen...					
0F	ICM			Integrated Chassis Ma...					
10	ZGW			Central Gateway Fx					
12	DME/DDE			Digital Motor/Diesel ...					
13	DME/DDE			Digital Motor/Diesel ...					
14	CEM			=					
15	TC			Telecommander					
16	APS			Active Front Steering					



Special Functions  Broadcast services  Physical addressing

Synch  
DME-CAS

Dump tool

Service  
intervals reset

Odometer

CAS Keys

Vehicle Order

Unit Coding

Synchro  
Codes

Sensors  
Calibration

ECU Flasher

Flash  
Programmer



Idle...

Tx: Rx:

### 3 BROADCAST DIAGNOSTIC SERVICES

Broad cast diagnostic request is request which is processed from all electronic control modules which are connected to the bus where is sent. Usually in BMW vehicles diagnostic link connector is connected to the gateway module which after reception of a broadcast request will resend it to all internal networks of the vehicle so we will receive response from all electronic control modules in the vehicle.

Available broadcast diagnostic services are:

- Reading of identification, error memory. You can use this function by pressing button “Scan all units”. This is useful function for quick overview of assembled units in the vehicle.
- Clearing of error memory of all units in the vehicle – using of this function is by pressing button “Clear DTCs” or “Clear Shadow” or “Clear History” depending which error memory you want to be cleared.
- Entering in logistic mode of the vehicle – use the button “Logistic ON”
- Leaving from logistic mode – use the button “Logistic OFF”

Logistic mode of the vehicle this is are special mode where electronic control units in the vehicle becomes in low power consumption mode with limited functionality. This is mode is useful when the vehicle will stay long time at parking.

Button “Show all units” will display all possible units without check whether is available in the vehicle so with double pressing on the name of the unit we can become in other window where can perform other specific action with this unit.

By double pressing on the name of the unit we can become in other window where can be performed single electronic control unit diagnostic (refer chapter 5).

Screenshot of available broadcast services:

The screenshot displays the 'Abrites Commander for BMW 5.6' software interface. At the top, the title bar shows the application name and the website 'www.Abritus72.com'. Below the title bar is a table listing available broadcast services. The table has columns for '#', 'Unit name', 'er', 'VIN', 'Unit Description', 'BMW #', 'HW', 'Fun...', and 'Ope...'. The services listed include Central Gateway/Safet..., Safety And Informatio..., Switch Center steerin..., Satellite A Pillar Left, Satellite A Pillar Ri..., Satellite door front ..., Satellite door front ..., Satellite Driver Seat, Satellite Passenger Seat, Satellite B Pillar Left, Satellite B Pillar Right, Tire System, Seat System, Satellite Rear Seat, Satellite vehicle center, and Integrated Chassis Ma... Below the table, there are three tabs: 'Special Functions', 'Broadcast services' (which is selected), and 'Physical addressing'. Under the 'Broadcast services' tab, there are several buttons: 'Scan All Units', 'Show All Units', 'Logistic ON', 'Clear Shadow', 'Clear DTCs', 'Clear History', 'Logistic OFF', and 'Stop Process'. At the bottom of the interface, there is a status bar with 'Idle...' on the left and 'Tx: Rx:' on the right. On the right side of the main window, there are three large green arrow buttons labeled 'Previous', 'Connect', and 'Next'.

#	Unit name	er	VIN	Unit Description	BMW #	HW	Fun...	Ope...
00	ZGM/SGM/JBBF			Central Gateway/Safet...				
01	SIM/SGM/ACSM			Safety And Informatio...				
02	SZL			Switch Center steerin...				
03	SASL/FGS			Satellite A Pillar Left				
04	SASR/VOCS_FA			Satellite A Pillar Ri...				
05	STVL/TEFA/...			Satellite door front ...				
06	STVR/TEBF/...			Satellite door front ...				
07	SSFA			Satellite Driver Seat				
08	SSBF			Satellite Passenger Seat				
09	SBSL			Satellite B Pillar Left				
0A	SBSR			Satellite B Pillar Right				
0B	SST			Tire System				
0C	SFSP			Seat System				
0D	SSH			Satellite Rear Seat				
0E	SFZ			Satellite vehicle center				
0F	ICM			Integrated Chassis Ma...				
10	ZGM			Central Gateway Ex...				

## **4 PHYSICAL ADDRESSING DIAGNOSTIC SERVICES**

Services with physical addressing to all units in the vehicle are:

- Reading of identification, error memory. You can use this function by pressing button “Scan all units”.
- Clearing of error memory of all units in the vehicle – using of this function is by pressing button “Clear DTCs”.

Using one of these functions “Abrates Commander” will send corresponding requests separate to all possible electronic control modules in the vehicle (starting from electronic module with diagnostic address 0 to module with diagnostic address 253).

Please take into account that because of module by module sending requests to all possible units these requests are little bit slow and take a lot of time. Generally we strongly needed from these functions because in some cases can be missed responses of the broadcast requests only possible way to reach similar electronic control module is physical addressing.

Button “Show all units” will display all possible units without check whether is available in the vehicle.

By double pressing on the name of the unit we can become in other window where can be performed single electronic control unit diagnostic (refer chapter 5).

Screenshot of available physical addressed services intended for all units in the vehicle:

The screenshot shows the 'Abrites Commander for BMW 5.6' software interface. The main window displays a table of physical addressed services. The table has columns for Unit #, Unit name, er, VIN, Unit Description, BMW #, HW, Fun..., and Ope... The services listed include Central Gateway/Safet..., Safety And Informatio..., Switch Center steerin..., Satellite A Pillar Left, Satellite A Pillar Ri..., Satellite door front ..., Tire System, Seat System, and Satellite Rear Seat.

#	Unit name	er	VIN	Unit Description	BMW #	HW	Fun...	Ope...
00	ZGM/SGM/JBBF			Central Gateway/Safet...				
01	SIM/SGM/ACSM			Safety And Informatio...				
02	SZL			Switch Center steerin...				
03	SASL/FGS			Satellite A Pillar Left				
04	SASR/VOCS_FA			Satellite A Pillar Ri...				
05	STVL/TEFA/...			Satellite door front ...				
06	STVR/TEBF/...			Satellite door front ...				
07	SSFA			Satellite Driver Seat				
08	SSBF			Satellite Passenger Seat				
09	SBSL			Satellite B Pillar Left				
0A	SBSR			Satellite B Pillar Right				
0B	SST			Tire System				
0C	SFSP			Seat System				
0D	SSH			Satellite Rear Seat				
0E	SFZ			Satellite vehicle center				
0F	ICM			Integrated Chassis Ma...				
10	ZGM			Central Gateway Ex...				

Below the table, there are three tabs: 'Special Functions', 'Broadcast services', and 'Physical addressing'. The 'Physical addressing' tab is selected. Below the tabs are four buttons: 'Scan all units', 'Show all units', 'Clear DTCs', and 'Stop'. The 'Stop' button is a red octagon with the word 'STOP' and 'Stop' below it. At the bottom of the window, there is a status bar with 'Idle...' on the left and 'Tx: Rx:' on the right.

## 5 SINGLE ELECTRONIC CONTROL UNIT DIAGNOSTIC

As was described above after double pressing on the name of the unit we can become in other window where can be performed other specific actions with this unit.

From the screen above we have possibility to perform different actions with the unit like to read DTCs, clear DTCs, Reset of electronic control unit, R/W memory of the unit and so on. Available functions in this screen depend on each electronic control unit.

12 - DME/DDE - Digital Motor/Diesel Electronic

Device identification

BMW Part Number  Producer

VIN  VIN UIF  Long VIN  Mileage  Date

Function software  Operating software  Hardware  Errors  History errors  Shadow errors

Err	P	Description
3F30	C...	DDE: Rail-pressure sensor
4302	4...	DDE: Delivery control valve
3F11	4...	Accelerator-pedal module, sensor 1, signal
3F21	4...	Accelerator-pedal module, sensor 2, signal
484A	4...	DDE: Accelerator-pedal module, potentiometer, signal
3E...	4...	Coolant temperature sensor, signal
4390	4...	Charge-air temperature sensor, signal
41E2	C...	DDE: Exhaust-gas recirculation controller
41A2	4...	Charge-air pressure controller, activation
4152	4...	DDE: Swirl flaps
3F01	4...	Boost-pressure sensor, signal
4B...	D...	Air-mass flow sensor
4B...	5...	DDE: Intake-air temperature sensor 1
4207	4...	DDE: Oxygen sensor, bank 1, activation, heating

Scroll up

Save In File

Scroll down

Read DTCs Clear errors Disable DTCs Program ID R/W Memory

Read shadow Clear shadow Enable DTCs Measured Values Session

Read history Clear history Reset Synchr. IMMO ECU Coding Program UIF Exit

B1 Standard

Retrieving data. Please wait...

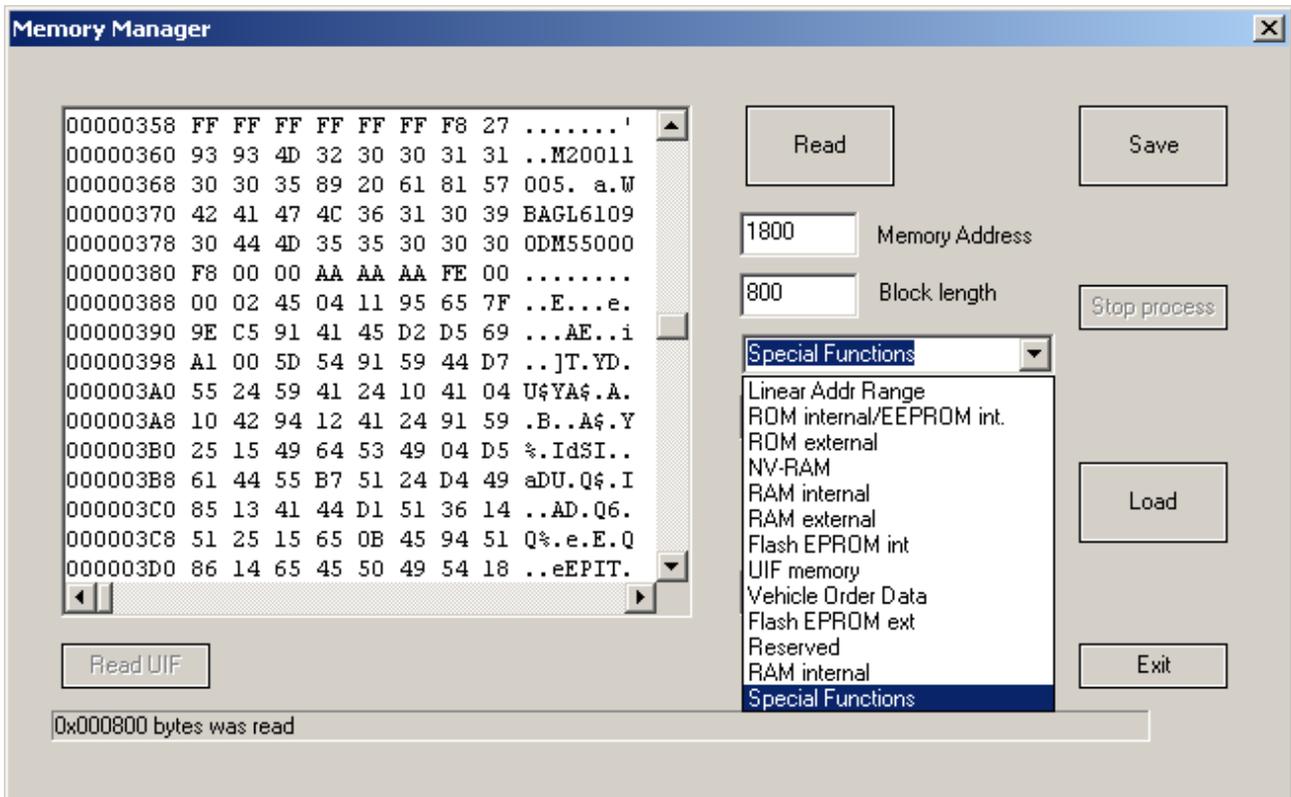
In the example above is displayed information about some specific motor unit (EDC16). Some of the options are related to device trouble codes (DTC). You can read the trouble codes from the device and save them in file, clear them, enable/disable. The Coding button allows reading and modification of device coding – this is a set of configurable parameters for the specific unit. Measured Values is available only for EDC16 – displays live data from the motor unit.

From this screen we can reach functions for programming identification of the unit – needed when we are replacing some unit from one vehicle to another (“Program ID” button):

The screenshot shows a software dialog box titled "Vehicle Identification Number Editor". The dialog has a blue title bar with a close button (X) in the top right corner. The main area is light gray and contains several input fields and labels. At the top, there is a "Long VIN" section with a sub-section containing four input boxes labeled "WMI", "VDS", "?", and "Y". To the right of these is a "Short VIN" section with six blue input boxes. Below these are labels for "Country:", "Producer:", "Year", "Chassis", "Description", "Restraint:", and "Plant:". On the right side of the dialog, there are two buttons: "Done" (top) and "Cancel" (bottom).

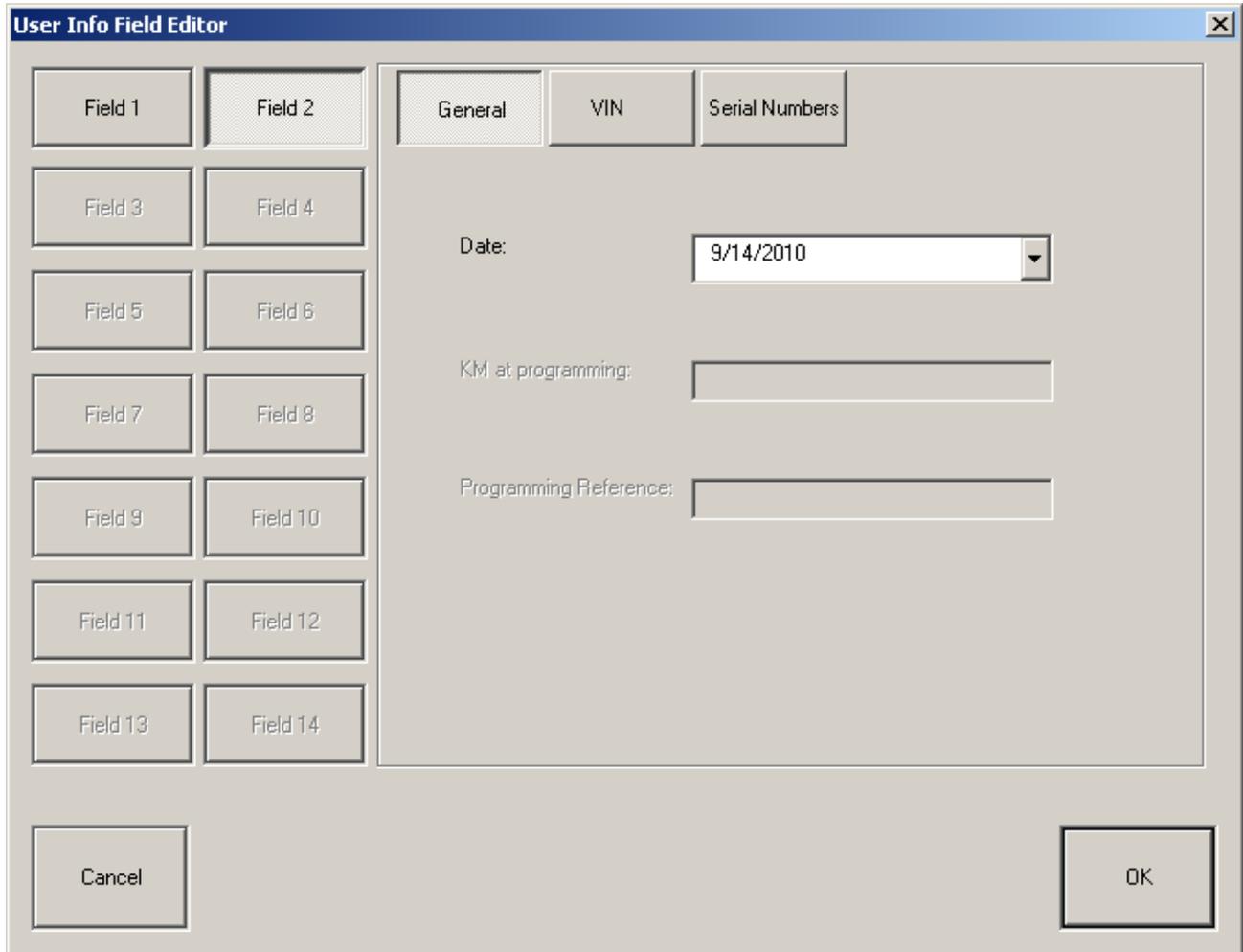
Concerning some functions like mileage recalibration, program ID, and EEPROM memory functions for CAS units refer restrictions and requirements described in chapter 6.5 – CAS Odometer.

Bellow is screen where we can access memory of electronic control units:



Also here we can access User Info Fields editor:

UIF-general:



The image shows a software dialog box titled "User Info Field Editor". On the left side, there is a grid of 14 buttons labeled "Field 1" through "Field 14", arranged in two columns and seven rows. The "Field 2" button is highlighted with a grey background. To the right of this grid are three tabs: "General", "VIN", and "Serial Numbers". The "General" tab is currently selected. Below the tabs, there are three input fields: "Date:" with a dropdown menu showing "9/14/2010", "KM at programming:" with an empty text box, and "Programming Reference:" with an empty text box. At the bottom left is a "Cancel" button, and at the bottom right is an "OK" button.

UIF-VIN:

The dialog box, titled "User Info Field Editor", contains a grid of 14 fields on the left and a configuration panel on the right. The configuration panel has three tabs: "General", "VIN", and "Serial Numbers". The "VIN" tab is active, showing a "Long VIN" section with a sequence of 11 boxes: three labeled "WMI", five labeled "VDS", and three labeled "?-Y". The "Short VIN" section has six boxes. Below these are labels for "Country:", "Producer:", "Year", "Chassis", "Description", "Restraint:", and "Plant:". At the bottom are "Cancel" and "OK" buttons.

Field 1	Field 2
Field 3	Field 4
Field 5	Field 6
Field 7	Field 8
Field 9	Field 10
Field 11	Field 12
Field 13	Field 14

General | **VIN** | Serial Numbers

Long VIN

WMI	WMI	WMI	VDS	VDS	VDS	VDS	VDS	?-Y	?-Y	?-Y	Short VIN					
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Country:  
Producer:  
Year:  
Chassis:  
Description:  
Restraint:  
Plant:

Cancel OK

UIF-Serial numbers:

The image shows a software dialog box titled "User Info Field Editor" with a close button (X) in the top right corner. On the left side, there is a grid of 14 buttons labeled "Field 1" through "Field 14", arranged in two columns and seven rows. The "Field 2" button is highlighted with a dotted pattern. To the right of this grid is a tabbed interface with three tabs: "General", "VIN", and "Serial Numbers". The "Serial Numbers" tab is currently selected. Below the tabs, there are five input fields with labels: "DiagTool Nr:", "Approved Nr:", "Part Number:", "Calibration Nr:", and "Dealer Number:". The "Part Number" field contains the text "9134479". At the bottom of the dialog box, there are two buttons: "Cancel" on the left and "OK" on the right.

Field	Value
Field 1	
Field 2	
Field 3	
Field 4	
Field 5	
Field 6	
Field 7	
Field 8	
Field 9	
Field 10	
Field 11	
Field 12	
Field 13	
Field 14	

Tab	Field	Value
Serial Numbers	DiagTool Nr:	
	Approved Nr:	
	Part Number:	9134479
	Calibration Nr:	
	Dealer Number:	

## 6 SPECIAL FUNCTIONS

### 6.1 Synchronization Engine Control Unit and Immobilizer

By help of this function you can synchronize immobilizer system of the vehicle and engine control unit.

This function is accessible by selection special function named "Synch DME-CAS"

### 6.2 TV Activation

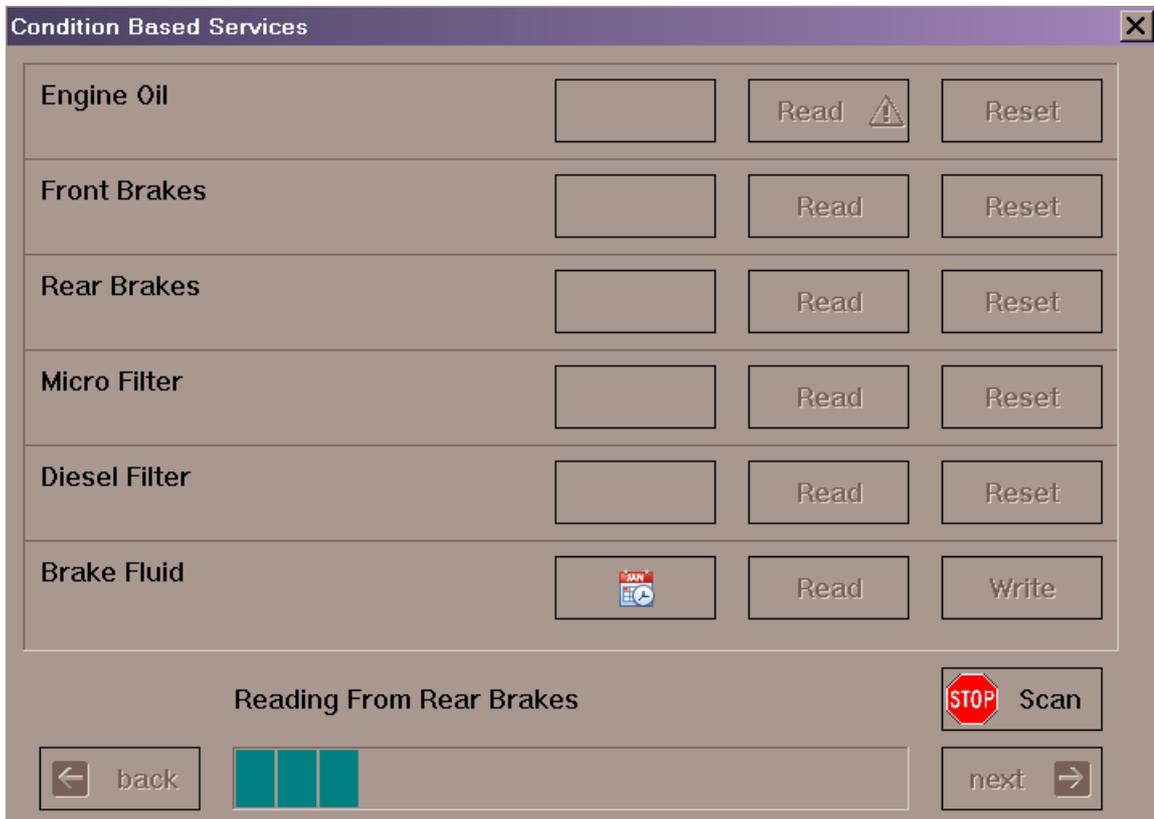
For some vehicle bodies is available function to enable or disable TV functions while vehicle movement.

This function is accessible by selection special function named "TV Activation"

### 6.3 Dump Tool

Using this application you can change odometer inside Engine Control Unit – EDC16. This application needs the EEPROM dump from the corresponding unit. After the dump is loaded some modification will be made and you need to store the dump as a new file, which you can program into the device.

### 6.4 Service Interval Reset



From this dialog you can check and reset the maintenance intervals. Some of the options are distance based, other are time based. Distance based intervals show how many kilometers remain until some action is needed (replacement or repair workshop visit). Time based intervals show at what date the action should be taken. There are options that have both time based and distance based values – whichever option expires first will trigger replacement event.

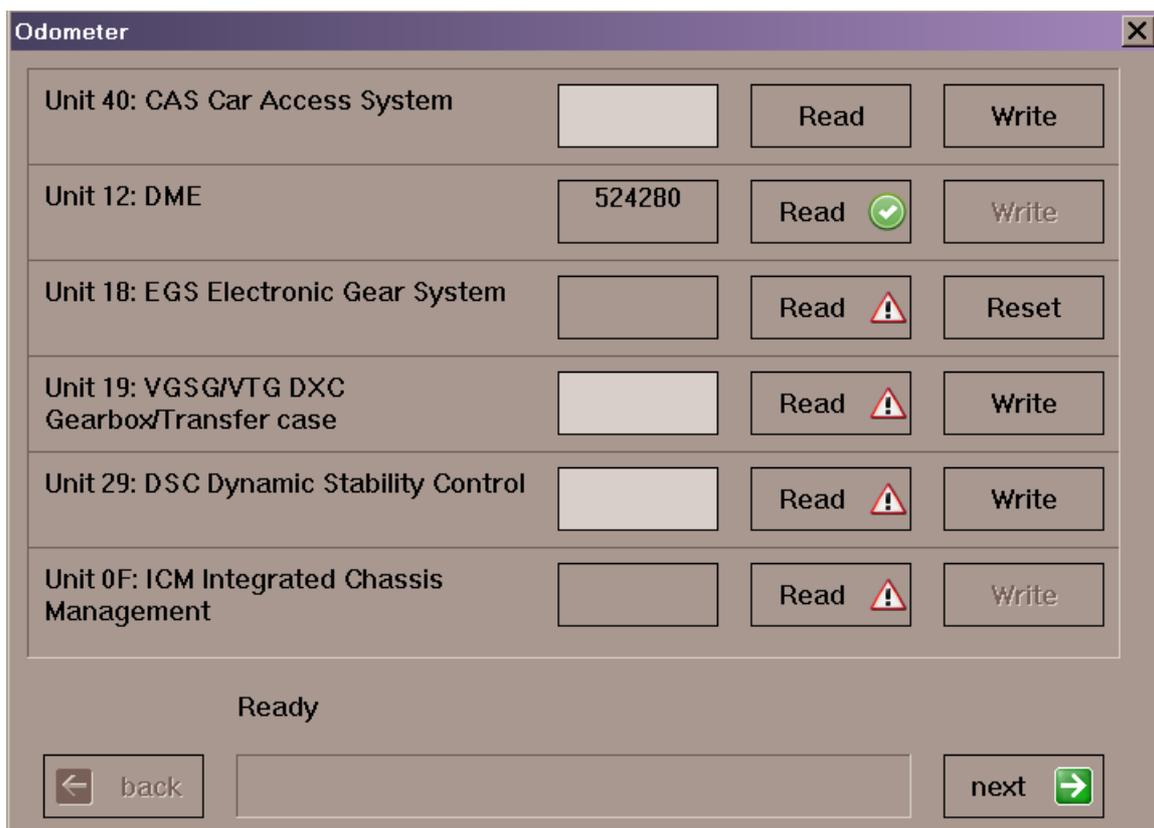
The format of the distance based options is like follows:

85% (3) 10000

- The first number shows percent of availability. 100% means that the item has been just replaced and fully available, 0% means that the item has expired – it should be replaced immediately.
- The second number in brackets shows how many times the item has been replaced. In the above example – 3 times
- The third number displays how many km remain until change is required.

Distance based intervals can be reset to 100% only. Time based intervals can be configured to whatever date is needed for the next change.

## 6.5 Odometer



When you open the dialog, it starts automatic retrieval for some of the values. You can interrupt the scanning by pressing the "Stop" button (visible during scanning) and then click on "Read" for specific modules. Some units take more time to read their mileage and they are skipped during the auto scanning – you have to explicitly click "Read" for them.

- If a value is read successfully, it is marked with green check
- If value reading has failed, it is marked with exclamation mark
- If the value is not read at all – there is no mark

In the above example, CAS mileage is not read by auto scanning – it takes more time and the user has to click “Read” explicitly.

### **6.5.1 CAS Odometer**

Currently this special function allowing us to recalibrate mileage by following way:

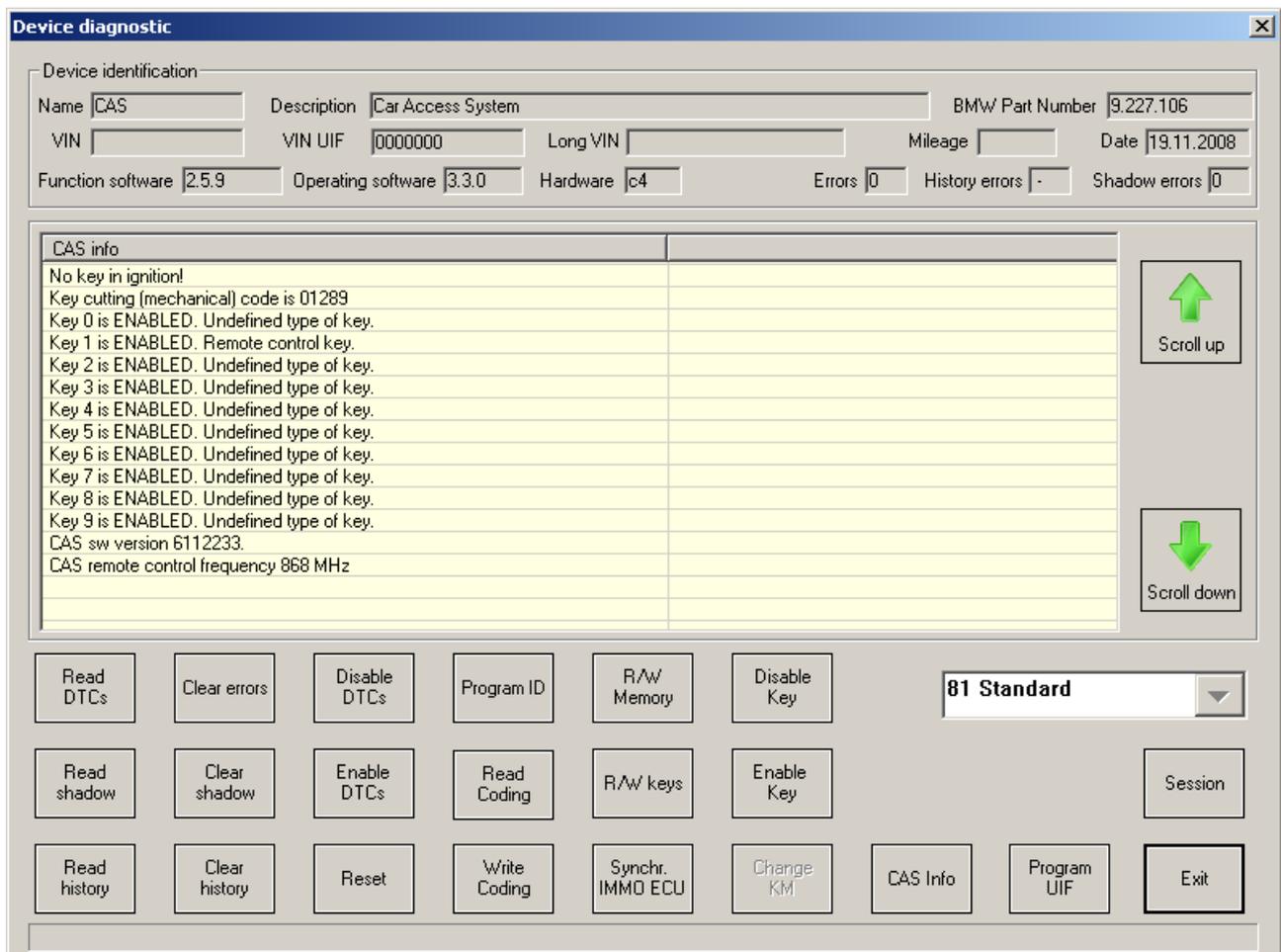
- For CAS3 – we can recalibrate odometer by OBDII plug. For some older models it can be done through CAN100 connection, but OBD2 is should be preferred.
- For CAS2 based vehicles depending vehicle body we have two options:
  - Body E6x – we can recalibrate odometer by OBDII plug or by direct connection to CAN bus 100
  - Body E8x,E9x – we can recalibrate odometer by CAN bus 100 connection
- For CAS1 based vehicles – by diagnostic plug of the vehicle. Vehicles equipped with CAS1 are BMW series 7 – E65. Please be careful that when you performing mileage recalibration key should be OUT FROM IGNITION and battery voltage of the vehicle should be 13V minimum.

## **6.6 Programming of KEYS**

If you have connected a transponder programmer to your PC you have ability to program keys for the vehicle. This function is available by selecting special function “CAS keys”.

You can program any kind of keys – transponder keys, remote keys, keyless keys.

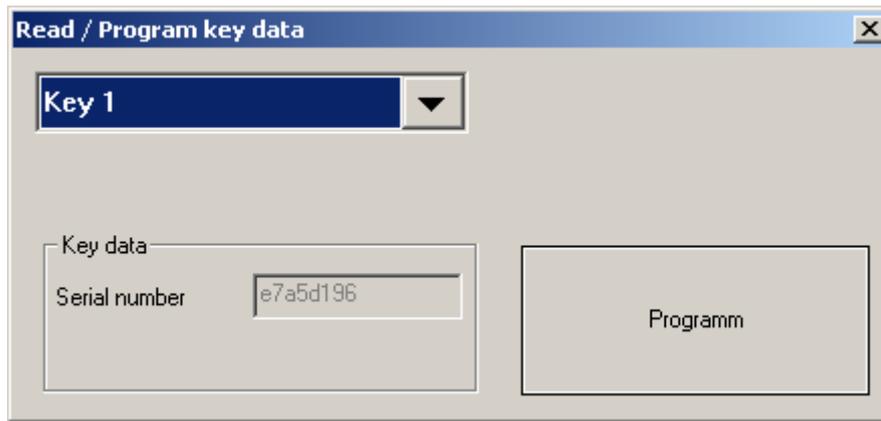
While single diagnostic session with CAS you have information about currently used keys in the vehicle, keys frequency and key cutting code:



Depending CAS systems we can program keys by following way:

- CAS1 systems – bmw series 7 body E65. We can program keys by OBDII connection. Please be careful while key programming key should be OUT from ignition and battery should be at least 13V.
- CAS2 systems – body E6x – we can program keys by OBDII connection or by CAN bus 100.
- CAS2 systems – body E8x,E9x – we can program keys by CAN bus 100
- CAS3 systems – we can program keys by OBDII plug and CAN bus 100

After selection of special function CAS keys will be displayed following screen:



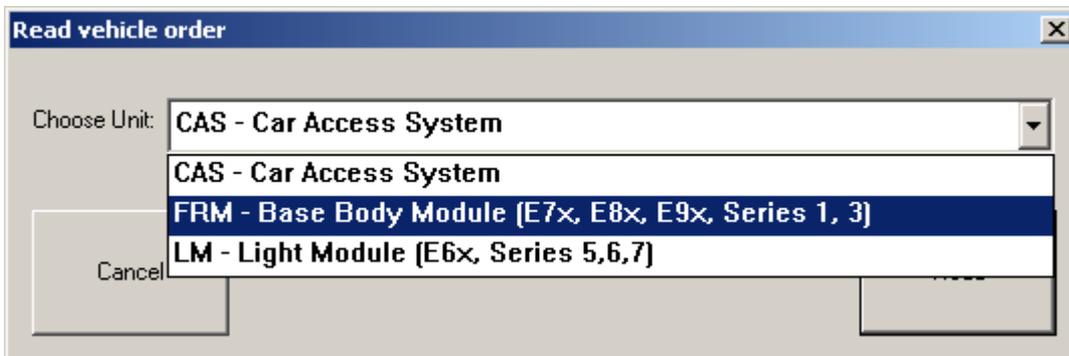
Now you can simply select which key number want to program. Then you should place your new key in the programmer and to press button “Programm”.

**Note:**

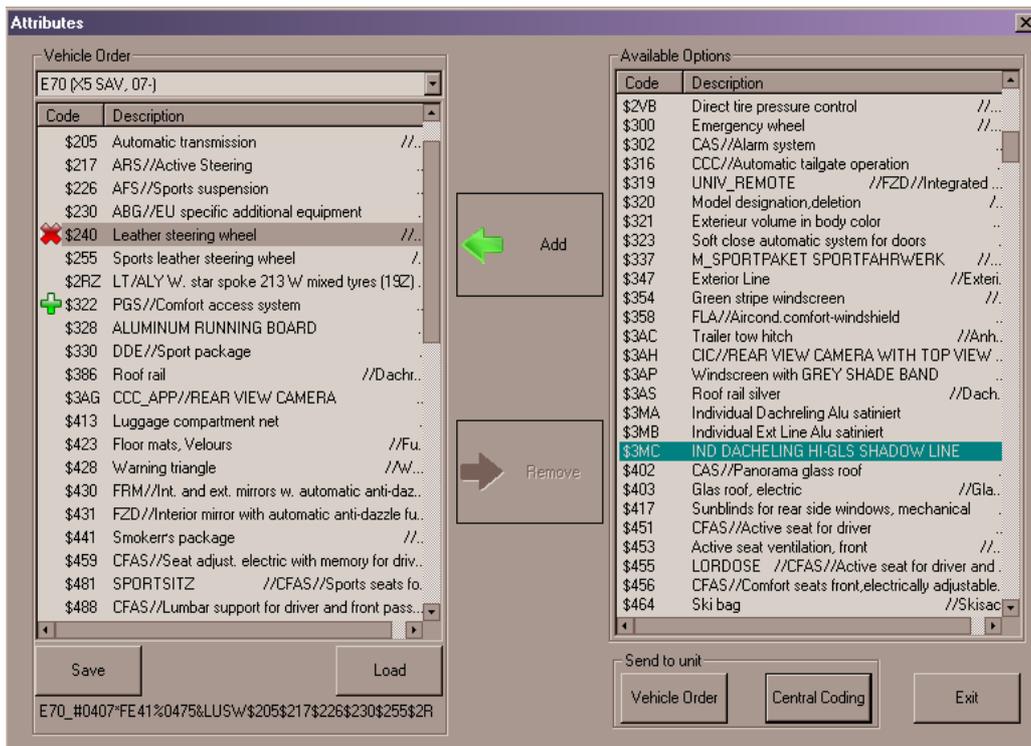
- If you have working keyless key, it should be outside the car, at least 2-3 meters away.
- Before starting the key programming, turn on the radio or the car lights (this awakens all units).

### 6.7 Coding/Vehicle Order

This is a mechanism for personalization and configuration for some of the components of the car. The vehicle order is stored in two units (for backup reasons) and the user have to choose from which unit it has to be read:



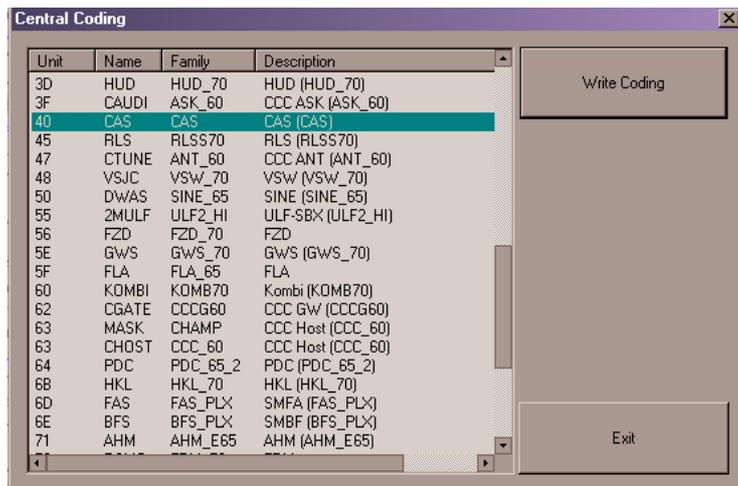
Normally both copies of the vehicle order should be the same. After successful reading, you will see the following dialog:



The left list describes components that are currently included in the vehicle order, the right list shows all options available for the specific chassis. To remove a component from the vehicle, point it in the "Vehicle Order" list and click "Remove". It will stay in the list but marked with red cross so that the change is easily visible. The removed item is added in the right list "Available options". Addition of new component in the vehicle is done by selecting it in the "Available options" list and clicking on "Add". The new item is inserted with green cross marker so that the change is easily visible. You can backup/restore vehicle order to/from files using the "Load" and "Save" buttons. *Note: The original vehicle order is automatically backed up on the disk. The automatically generated file is in BMW Commander directory. Its name consists of the date & time of the vehicle order reading, unit from which it is read and .vo extension. You will need this file only in case of lost vehicle order.*

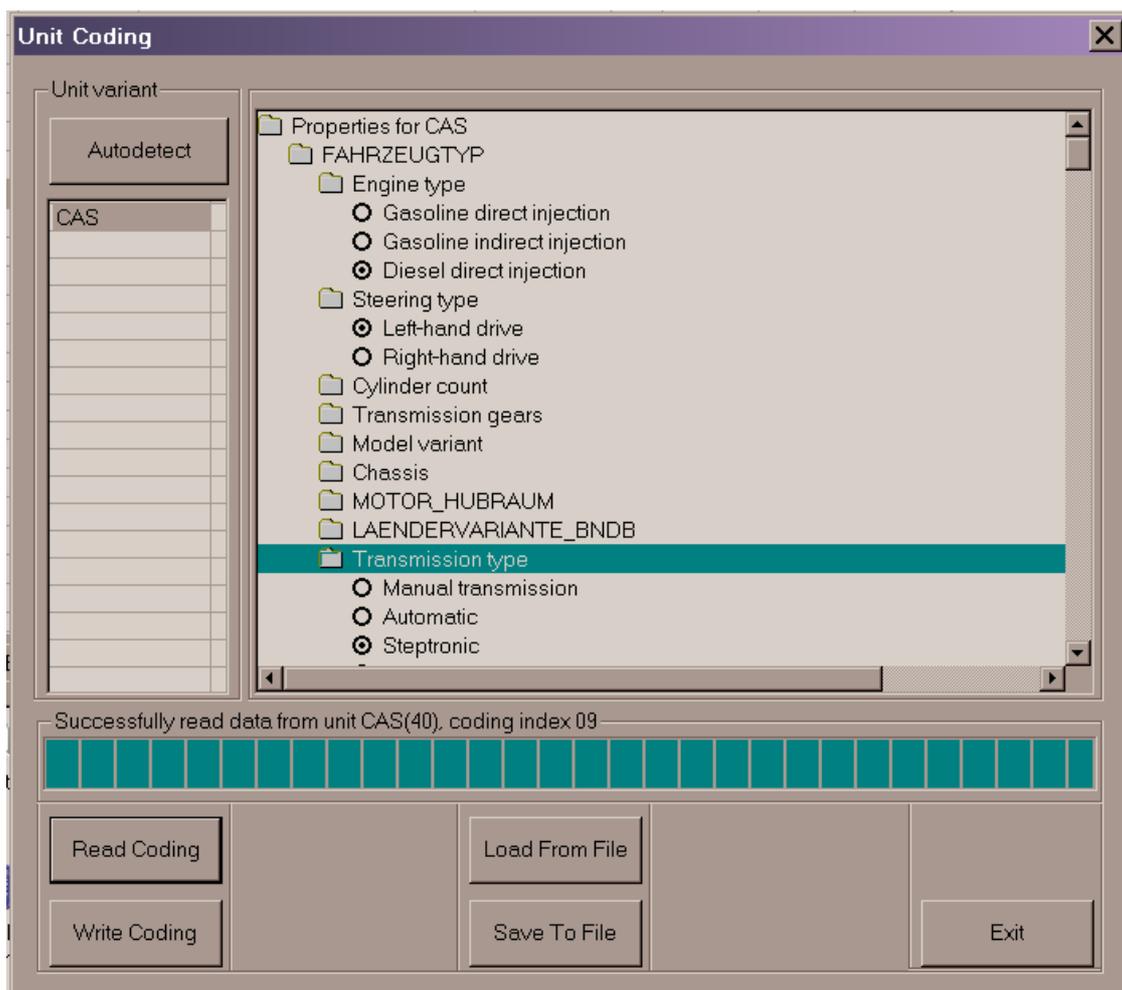
If you modify the vehicle order, you have to follow these steps to store it in ECUs:

1. Click on "Vehicle Order" button in the "Send to Unit" group. Save it in the unit from which it was read.
2. Click again on "Vehicle Order" to save it in the backup unit (both CAS & FRM or CAS & LM are supposed to have one and the same vehicle order).
3. Click on the "Central Coding" button to send the change in all related units of the car:



From the “Central Coding” dialog you choose which units of the car should be encoded with data, corresponding to the active vehicle order. You can choose more than one unit by pressing the “Control” button on the keyboard and clicking on the units in the list. Click on “Write Coding” to start the encoding process.

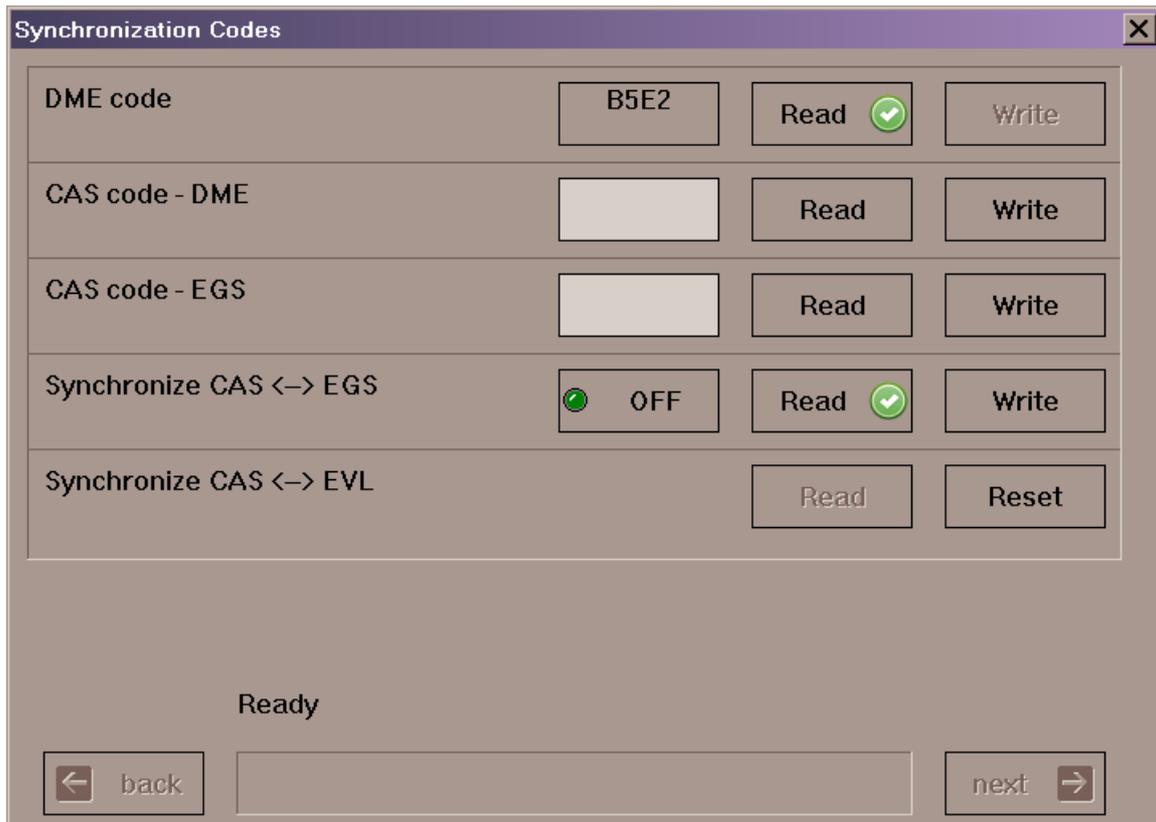
## 6.8 Unit Coding



Unit coding allows tuning of each configurable option of the module. While the central coding defines the defaults (based on the Vehicle Order), unit coding allows manual adjustment of each of the options allowed for configuration. Before reading the unit coding, you have to specify Unit Variant. Click on “Autodetect” button to automatically select the variant. If the autodetection fails, try each of the suggested variants by selecting it and then clicking on “Read Coding”. Only one of the suggested variants will work for the selected module.

It is advisable to save the current coding in file before writing a new one into the module.

## 6.9 Synchronization Codes

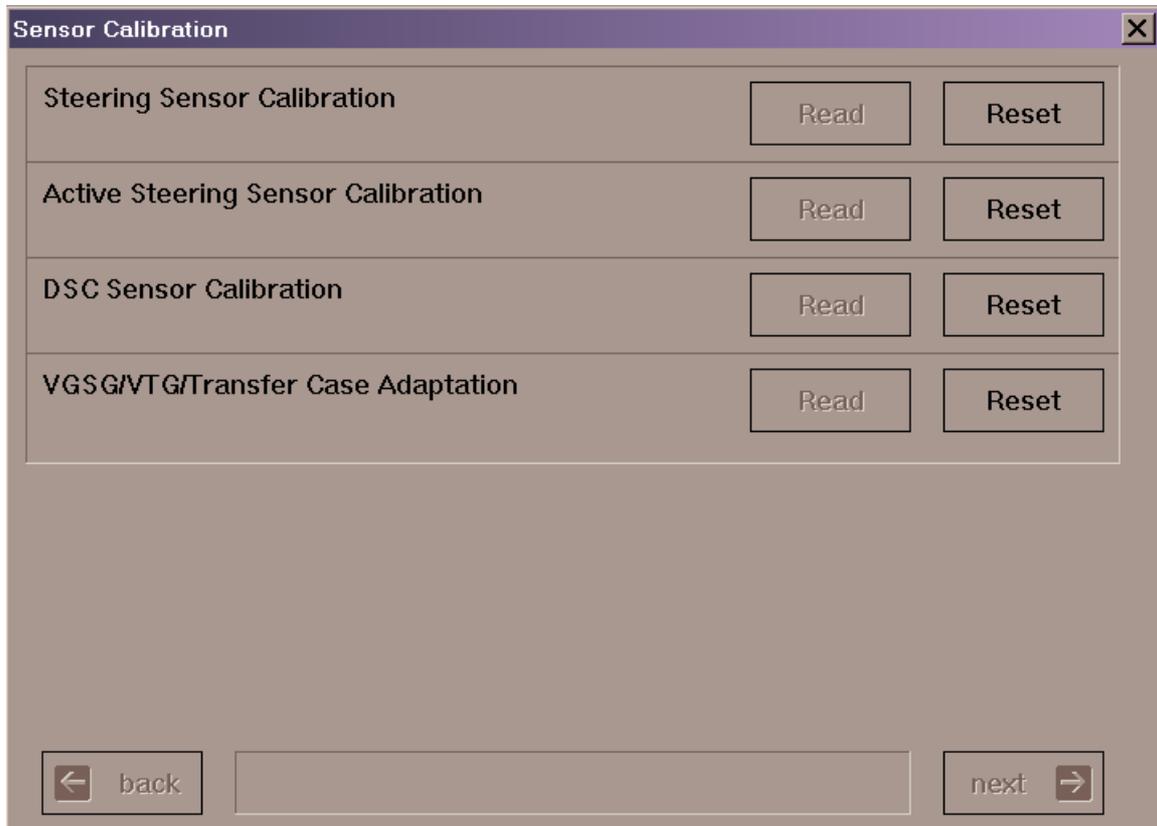


This function allows reading of static synchronization codes stored in modules. When you open the dialog, it starts automatic retrieval for some of the values. Some units take more time to read their values and they are skipped during the auto scanning – you have to explicitly click “Read” for them.

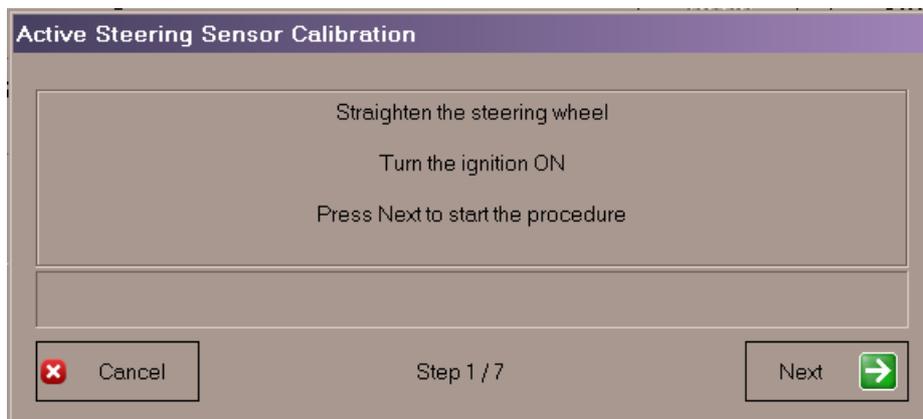
- If a value is read successfully, it is marked with green check 
- If value reading has failed, it is marked with exclamation mark 
- If the value is not read at all – there is no mark

In the example above, CAS codes are not read at all – these take more time to retrieve and the user has to click explicitly on the read button.

## 6.10 Sensor Calibration

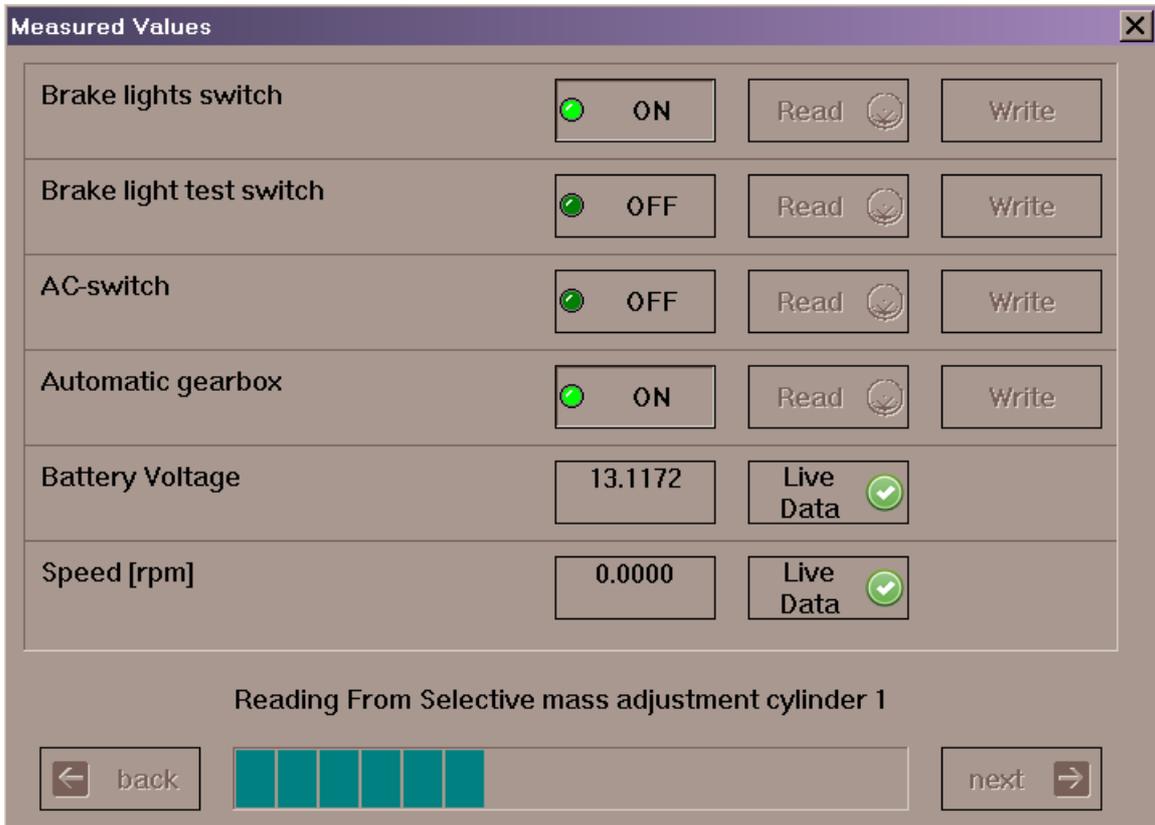


This set of functions allows sensors calibration. Some calibration procedures take several steps to complete – these are guided by wizard giving description for what should be done on each step:



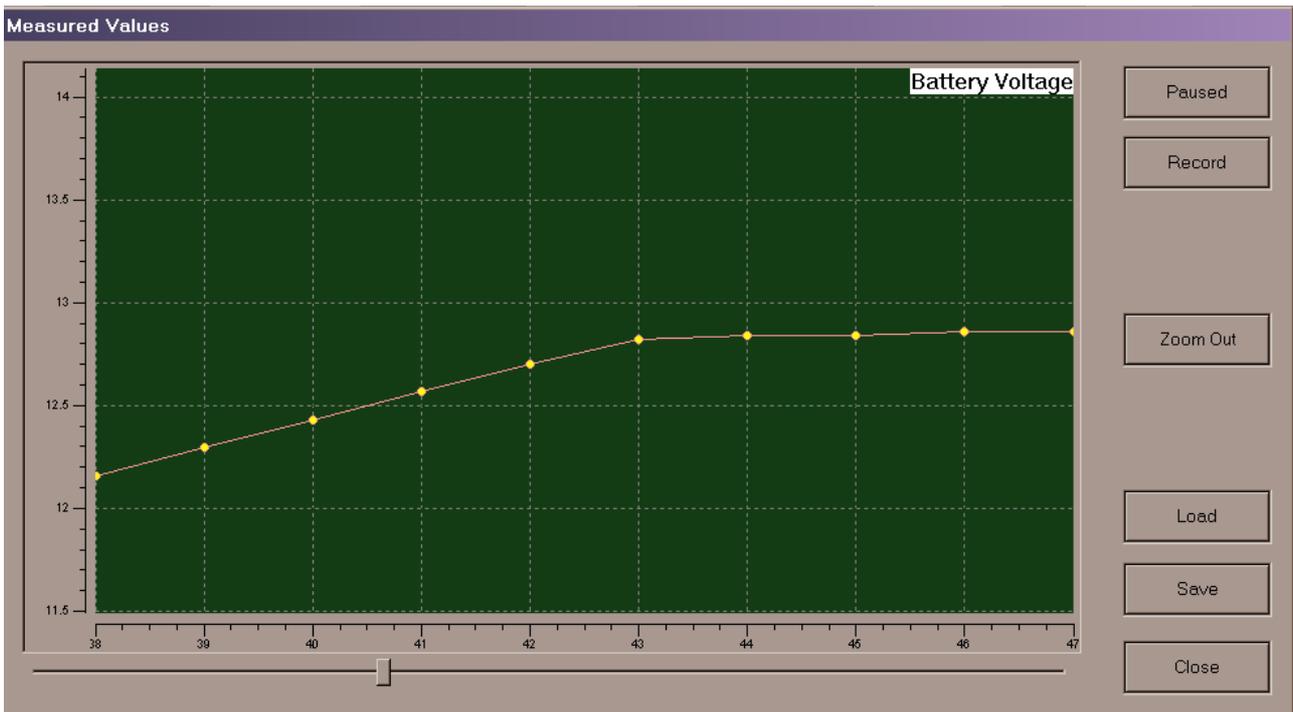
### 6.11 Measured Values

In the current version, it is supported retrieval of measured values from EDC16 only.



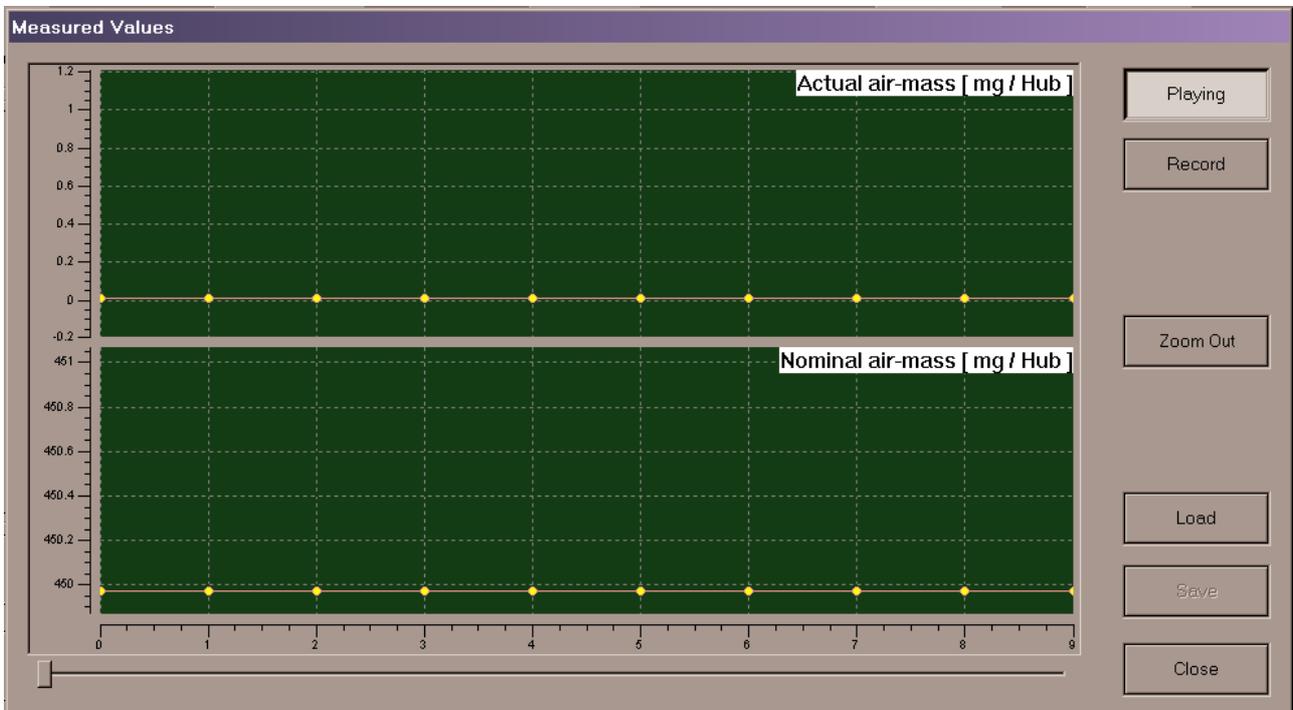
At this screen the data is refreshed in 2 sec.

You can click on the "Live Data" button to observe graphically the change of the value:



At this screen the data is refreshed at 50ms interval. When you push the “Playing” button, it will display graphically the change of the values, but will not record them. Click on “Record” to start collecting data which can be browsed back and forward with the scroll, saved in file (plain text file for easier offline analysis).

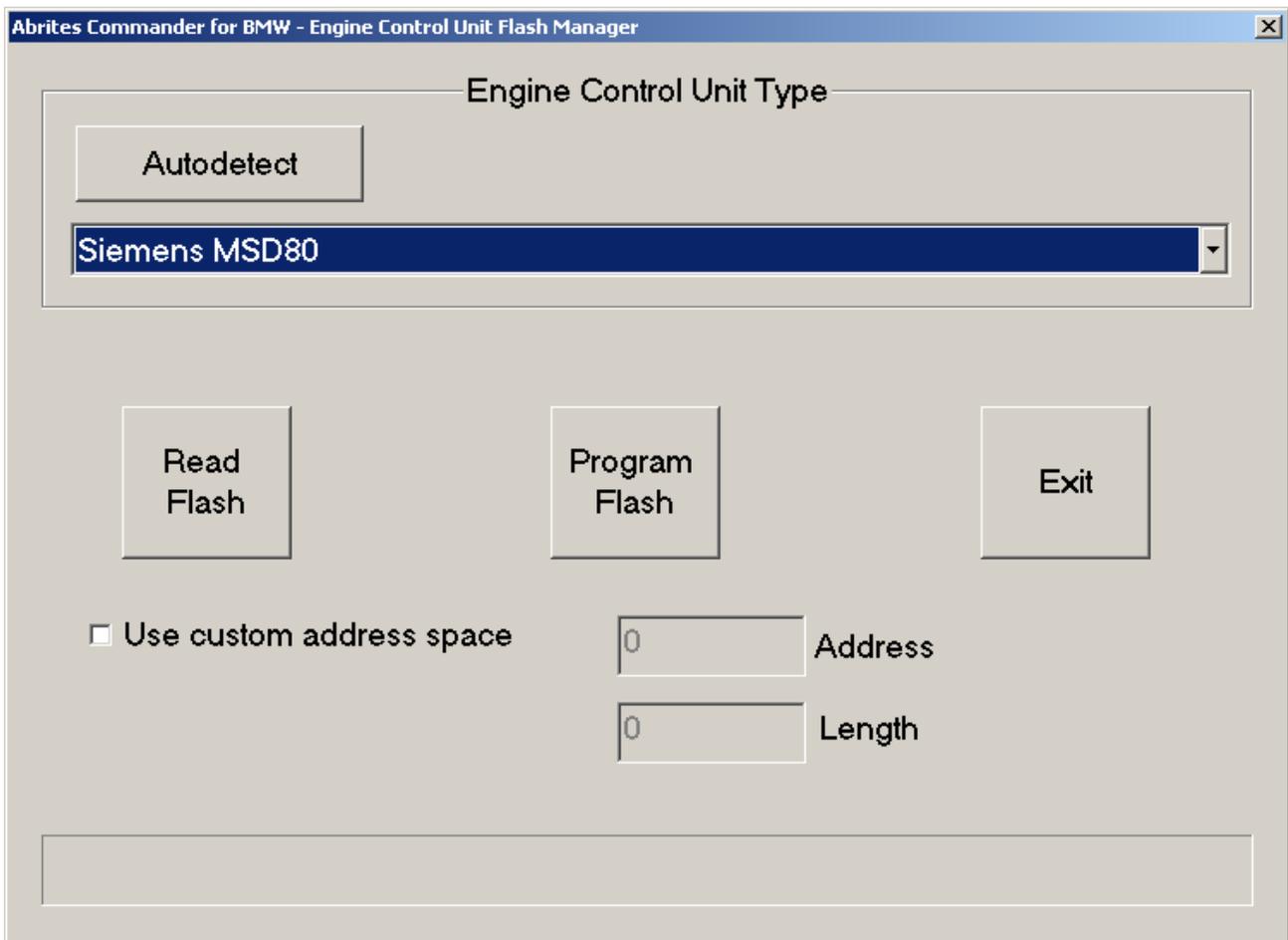
Some of the data values are related – they are visualized on one and the same display:



## 6.12 ECU Flasher

If you need to tuning some vehicle you can read engine control unit maps using function ECU flasher. After remapping you can program back maps in the ECU.

Please if you are not sure about type of your engine control unit use function autodetect.



### 6.13 Flash Programmer

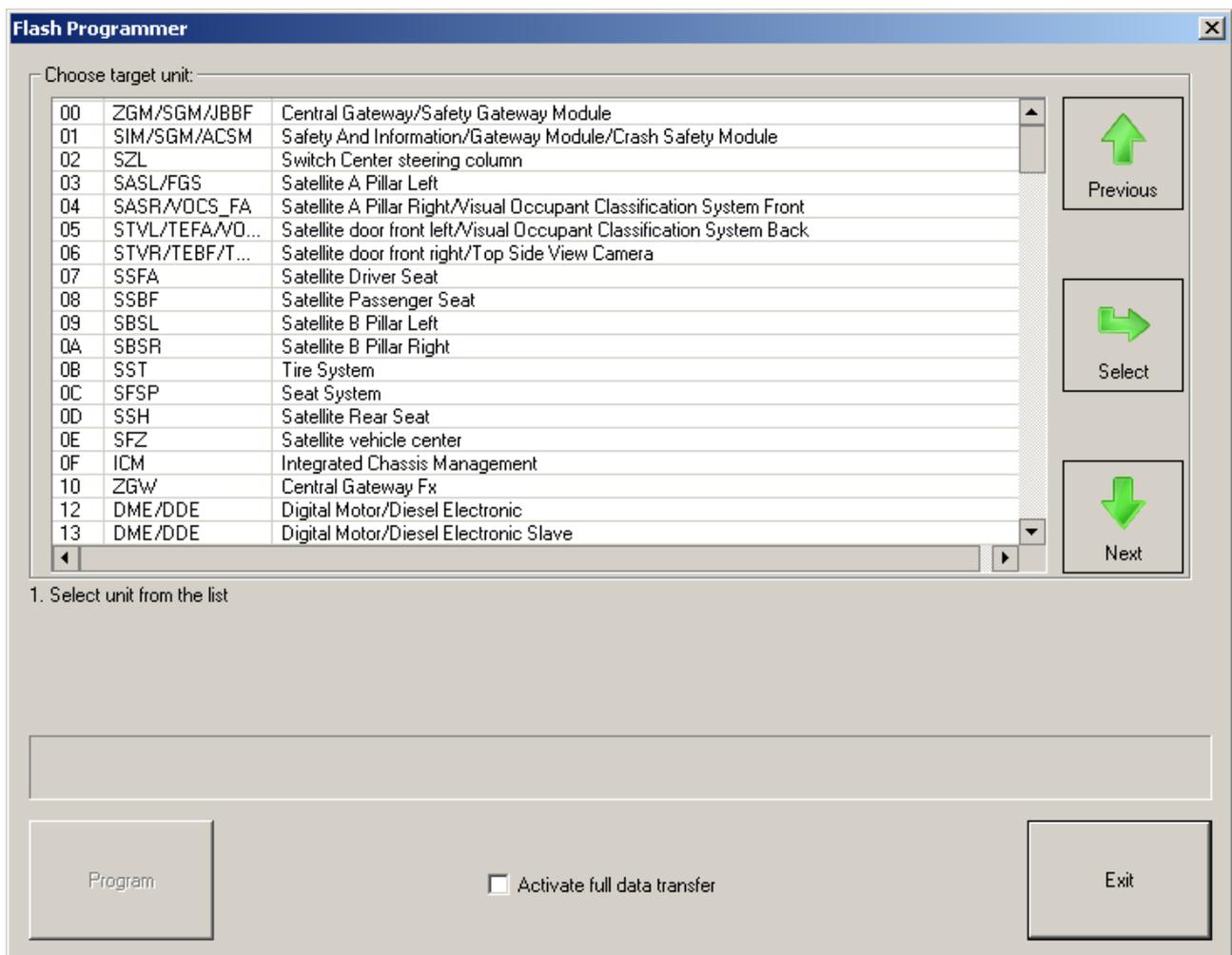
In many cases you need to update flash memory of electronic control units in the vehicle. This can be done by special function flash programmer.

You can reprogram flash memory of an electronic control units using database provided with installation package of Abrites Commander.

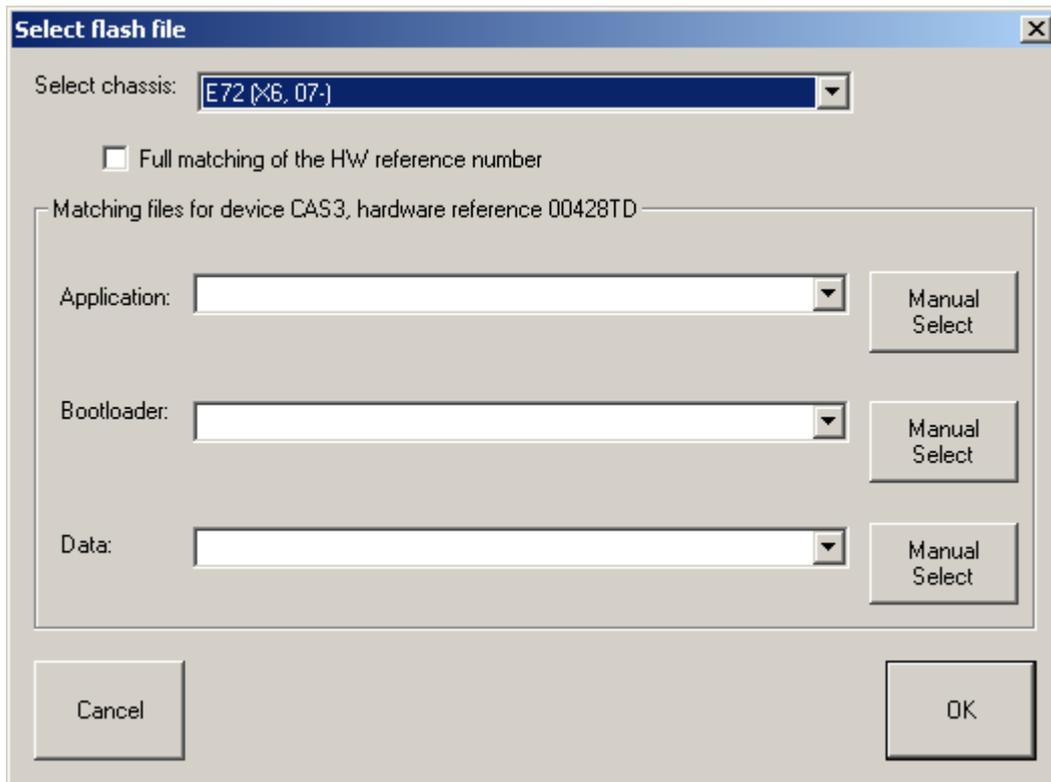
Due to the many different versions of electronic control units programming can failed. In this case you need to try second programming with activated option “Activate full data transfer”.

Some times before second programming of an unit you should disconnect and connect battery.

Please be careful that while programming battery voltage should be at least 13V!



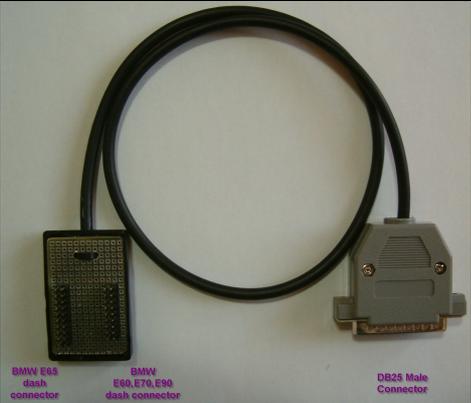
Once selected unit for reprogramming you can choose which file you want to be programmed. Generally HW reference number displayed on the screen defines flash which can be used. You have option about listed files – whether you want full matching of HW reference number or not.



Before each reprogramming you will be asked about new data for UIF and ID stored in the unit. In some cases exchange data in UIF or ID is possible after reprogramming flash memory of the unit.

## 7 ADDITIONAL ADAPTERS AND CABLES

BC1		OBDII (Male)	DB25 (Male)	Description
	4	5	Signal Ground	
	5	6	Chassis Ground	
	6	7	CAN high	
	7	8	K-Line	
	8	9	K-Line	
	14	15	CAN Low	
	16	17	+12V	

BC2		E65 dash connector (20 pins)	DB25 (Male)	Description
	6	7	CAN High 100	
	7	15	CAN low 100	
	9	17	+12V	
	20	5	GND	
	<b>E60 dash connector (18 pins)</b>		<b>DB25 (Male)</b>	
	6	7	CAN High 100	
	7	15	CAN low 100	
	9	17	+12V	
	18	5	GND	

NOTE : You should give an external power supply. Pin17 of DB25 +12V, Pin5 of DB25 – GND.

<b>BC3</b>	<b>20 pin circle connector</b>	<b>DB25 (Male)</b>	<b>Description</b>
	19	5	GND
	17&20	8	K – Line
	15	16	L – Line
	14	17	+12V

<b>BC4</b>	<b>CAS Connector</b>	<b>DB25 (Male)</b>	<b>Description</b>
	35	7	CAN High 100
	26	15	CAN Low 100
	1&21&19	17	+12V
	25&12	5	GND

NOTE: You should give an external power supply. Pin17 of DB25 +12V, Pin5 of DB25 – GND.