Zed-BULL

FOR PROFESSIONALS

USER MANUAL

CONTENT

IMPORTANT NOTES 1

-This device is produced for assisting automotive locksmiths.
-Before using device, read the user manual carefully.
-Avoid strokes to device and accessories.
-Avoid device and accessories contacting with water and conductive liquids.
-Use only original accessories.
-After using device unplug power adapter.
-Do not use device under high electromagnetic field.
-Use the device in a sturdy, dust-free, well-ventilated place.
-Updated user manuals will be available at web.

MAINTENANCE AND CLEANING 2

-After using device, unplug all accessories and keep them in the package.
-Do not place heavy materials on the package.
-Keep package in room conditions.
-Clean the device with soft and dry piece of cloth.
-If a problem occurs do not disassemble the device. Contact your local distributor or device manufacturer.

ACCESSORRIES 3

Complete package

Zed-BULL security login card

PC Usb cable

Power Adapter

Lighter Adapter

Transponder box

SPECIFICATIONS 4

DIMENSIONS 4.1

Width	=	285 mm
Height	=	285 mm
Depth	=	105 mm
Weight	=	0,6 kg
External Power Supply		100/250 V – 50/60Hz AC
Current	=	117 mA
Power consumption	≅	1,05 Watt
Adapter Type		9-12 V DC

TECHNICAL DETAILS 4.2

Transponder Frequencies		125 -134 Khz
Communication Interface		USB and Serial Port
Temperature range	≅	-5 C to 40C

GENERAL INFORMATION 5

Zed-BULL is a friendly automotive locksmithing tool, it has been developed for all range of automotive locksmiths from beginners to advanced. It's ease in use, technical support and unique properties makes it a powerfull device in the market.

Let's take a look what Zed-BULL can do.

It can identify all transponders used in autmotive industry, copy all fixed coded transponders, copy some of 40, all 41, all 42, unlocked 44(VAG), all 45 and all 4D transponders.

Also it can copy all type of Texas 4C transponders to batteryless TPX1 transponder, all type of 4D transponders to batteryless TPX2 or Silca Electronic heads.

It can prepare transponder from EEPROM or MCU datas of car, which directly starts the car or ready to match with diagnostic devices.

It can calculate pin code from EEPROM, MCU, VIN number or key data of the car for some car models.

Device is supported with PC software, where user can find usefull informations about transponders and matching car models and remote programming procedures. Storing unlimited(limited with Pc harddrive capacity) customer information to database is another advantage of Zed-BULL PC Software.

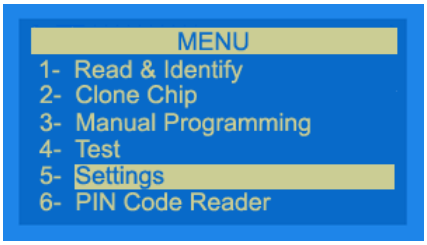
Zed-BULL PC Software also has all functionalities of the device itself such as reading, identifying and cloning transponder.

Zed-BULL PC Software is capable of reading and writing to new generation Philips Hitag 2 crypto transponders.

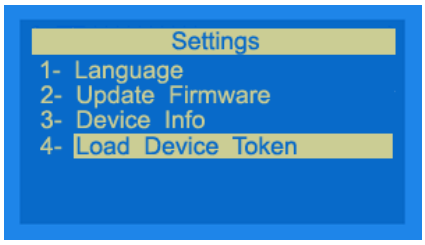
One of the most usefull feature of the PC Software is transponder production application. User can prepare their own transponders such as; 11, 12, 13, 4C, 33, 40, 41, 42, 44 VAG, 44 Mitsubishi, 45, 46, 61, 62, 65 and 73 for diagnostic devices.

Zed-BULL has got token system, which is free of charge .when device is turned on, before logging in, number of tokens, 16 digit device serial number, device software version, device applications information (ZB:refers to Zed-BULL which is consisted of transponder cloning functions, E refers to Eeprom application, T refers to Transponder production, 1 refers to TPX1 , D refers to 4D cloning, M refers to Multi crypto(41-44-45) application) are displayed on the Zed-BULL screen.

Tokens are loaded as in the steps below:
1.Choose 5th choice(settings) in the main menu.



2.Choose 4th choice(Load PC token) in the settings sub menu.

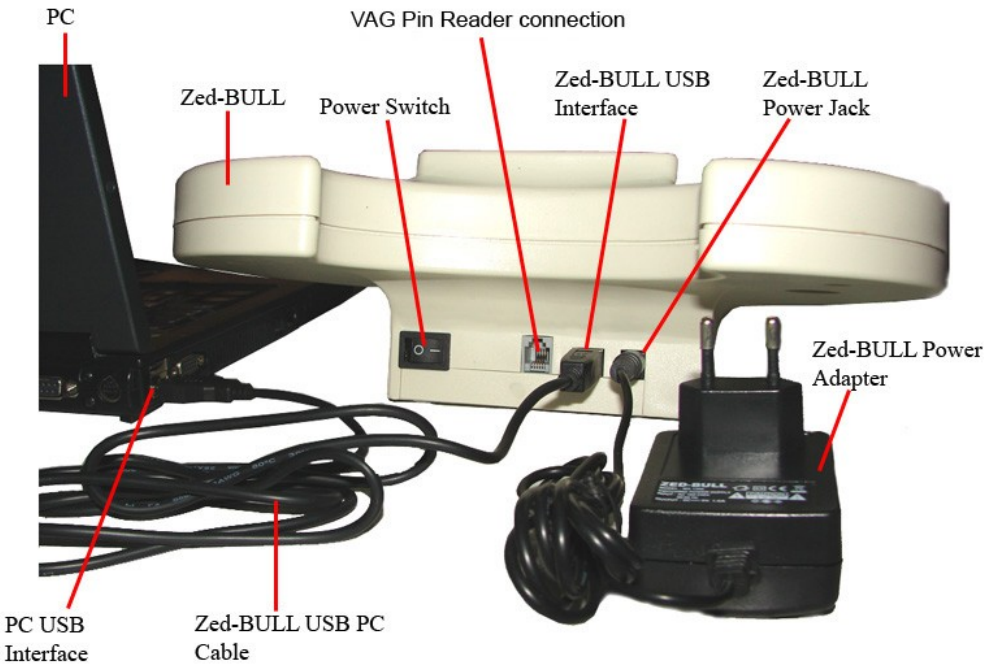


3.Device will give Outcode, outcode should be sent by e-mail to token@istanbulanahtar.com as a reply of this e-mail user will get In code, this In code should be entered carefully and correctly to the device, if In code is entered wrong repeatedly 5 times, device will want new In code. If In code is entered correctly, tokens will be loaded to the device.

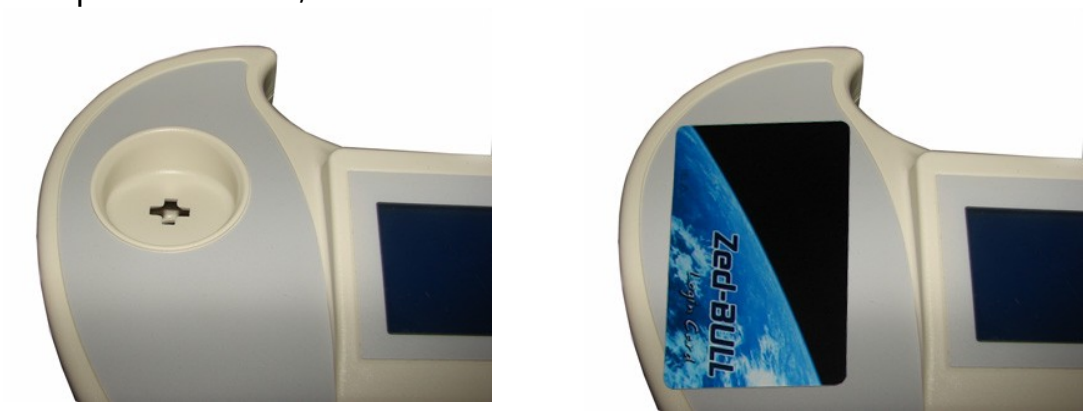
Or, tokens are loaded directly by PC software,
-Settings sub menu is selected.
-Request outcode button is clicked.
-E-mail adress of the user is entered.
-Send button is clicked.
-As a reply an Incode will be sent to the e-mail address entered

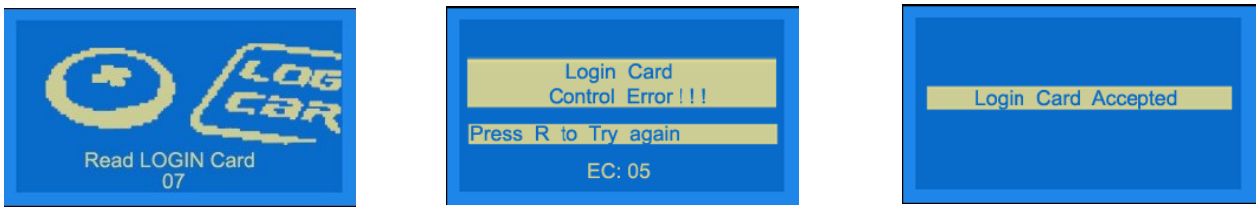
-In code should be entered carefully to the Incode box.
-Enter In code button is clicked. If successfull token will be loaded to the device. If not successfull, Pc software will give an error message “Invalid Incode”, then user should check and enter the Incode again.

All connections of Zed-BULL are shown in the picture below.



After Power switch of the Zed-BULL is turned on, user should put the Security login card on the antenna. Unless Security login card is put on the antenna at start up, the Zed-BULL functions won't work, Pressing button “R” allows to try logging in again. The Security login card is put on the antenna as in the picture below;

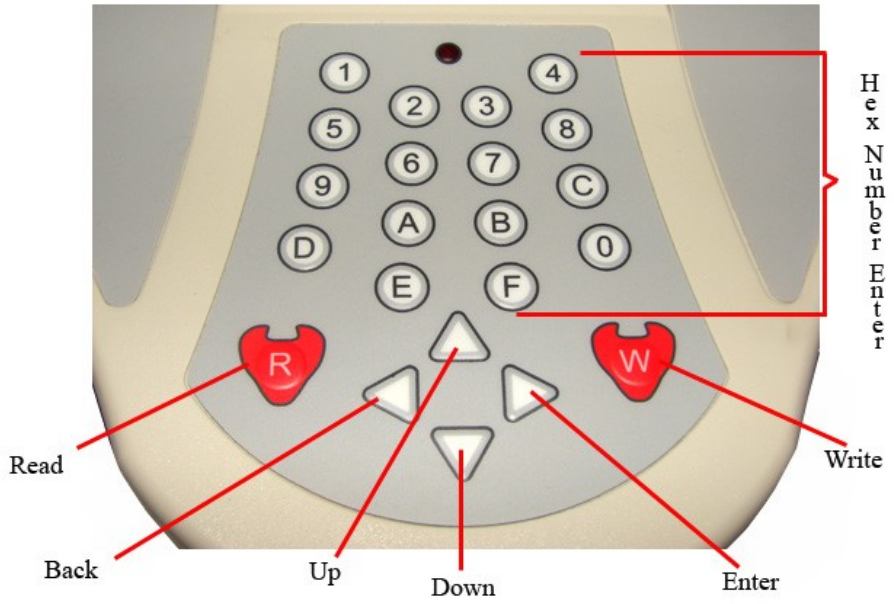




Screen at start up Screen at login card error Screen at successfull login

If user looses or has problem with security login card, local distributor should be contacted immediately.

Functions of the key pad buttons are described in the figure below.



All the functionalities of Zed-BULL such as, transponder identification, transponder cloning, transponder production, Eeprom and Mcu applications, Pc Software are upgradable, it is possible to improve fuctionalities of Zed-BULL with new developed technologies.

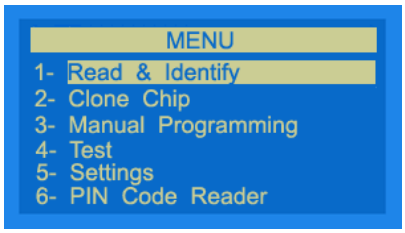
Zed-BULL MENU 6

TRANSPONDER IDENTIFICATION 6.1

This menu is used for reading and identifying transponder. Transponder ID, transponder logic, lock status and car type for some models are displayed on the Zed-BULL screen. Also for Renault 33 transponders, pin-code of the car is diplayed.

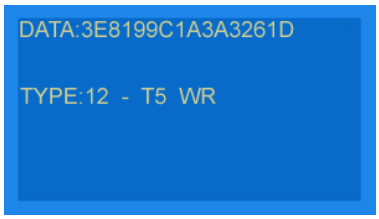
Usage:

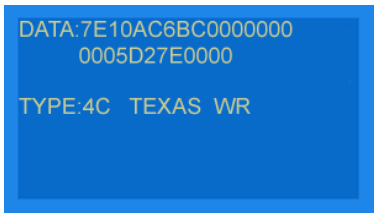
Insert customer key to the Zed-BULL antena and Press "R" button on Zed-BULL keypad or use up and down arrow to highlight choice 1 on main menu and press enter(right arrow).

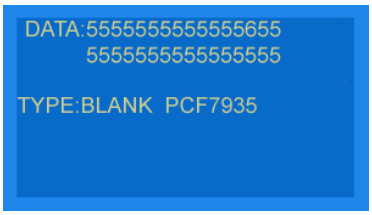


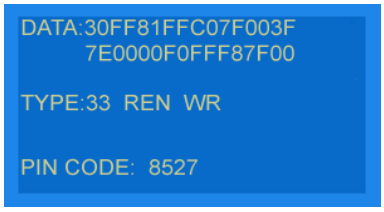
An important point is; while reading the transponder, It should be put on the antenna perpendicular. See pictures below.

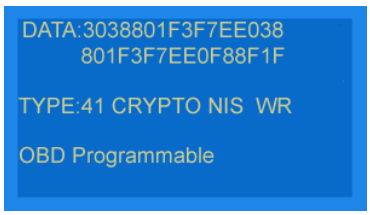
Zed-Bull screen displays of some of identified transponders are as below.

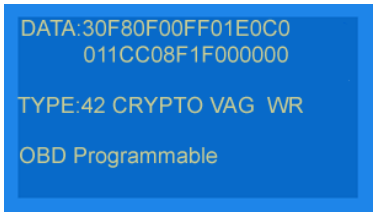


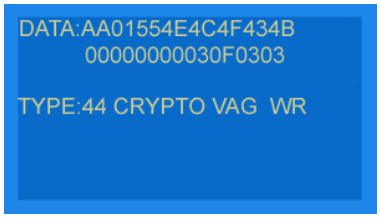


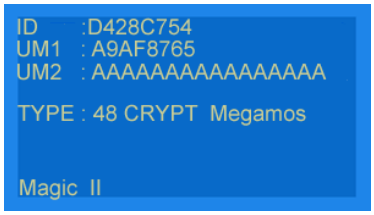


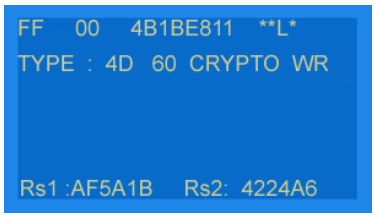










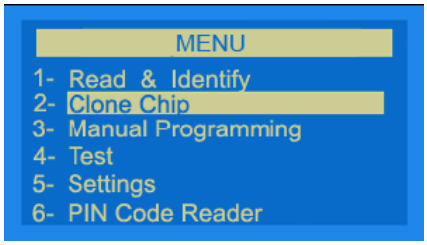


TRANSPONDER CLONING 6.2

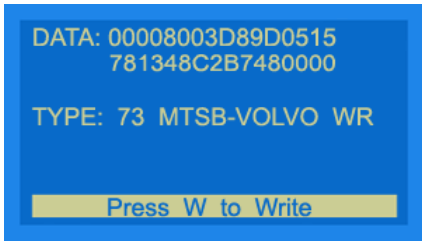
This menu is used for duplicating transponders.

Usage:

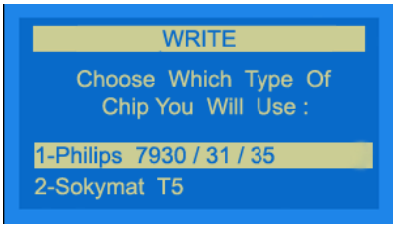
Insert customer key to the Zed-BULL antenna and highlight choice 2(Clone chip) on main menu and press enter(right arrow).



press “R” button on Zed-BULL keypad, transponder details will be displayed on the screen,

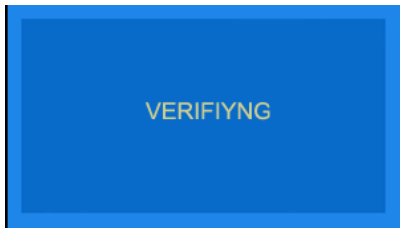


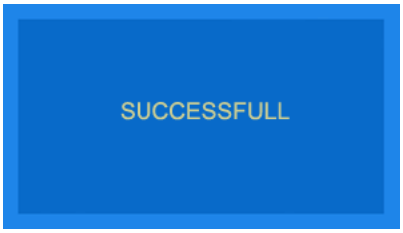
The details of the chip will be displayed on the screen. Next, you will press the “W” button. Suitable transponders to write onto will be displayed on the Zed-BULL screen remove customer key from antenna and insert suitable transponder. Select



the transponder type by pressing the listed numbers on the display.

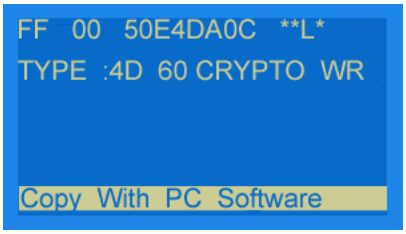
After transponder type is selected and enter button is pressed the following expressions will be seen on Zed-BULL screen.





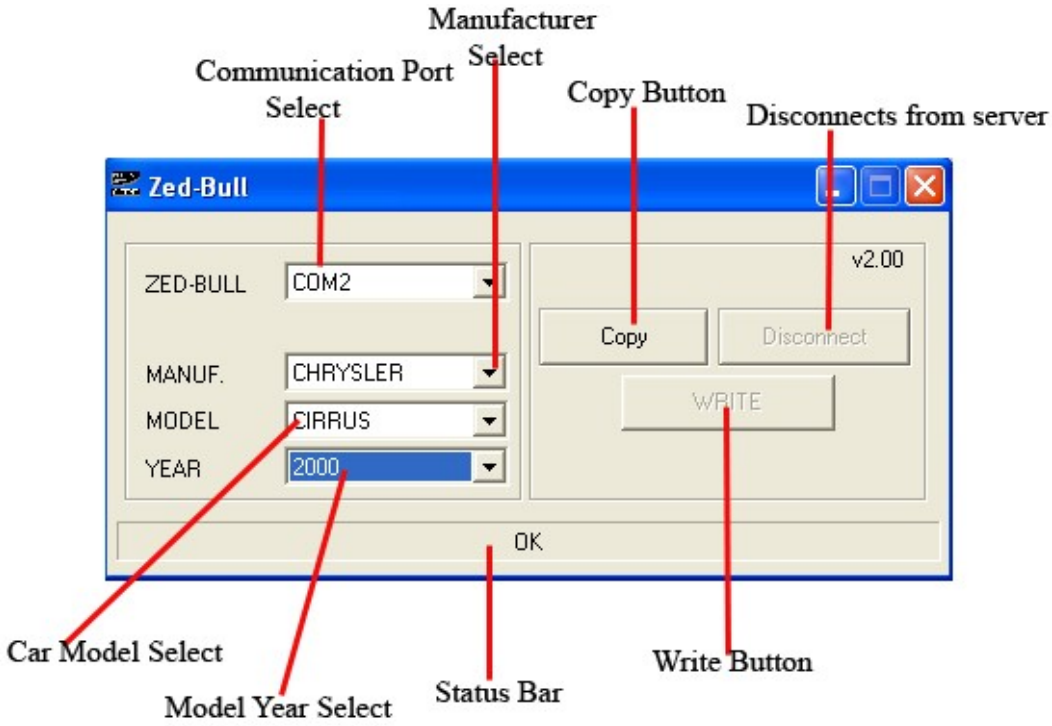
transponder cloning process is completed. If transponder needs to be cloned with PC software , “Copy with PC Software” expression is displayed on the screen.

All 4D transponders are cloned to Silca Electronic Heads (EH2) or JMA batteryless TPX2 transponders with Zed-BULL 4D client PC software.

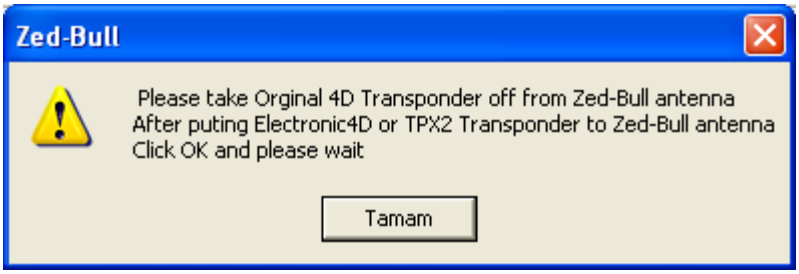


Copying 4D transponders is possible only with Zed-BULL Client PC Software.

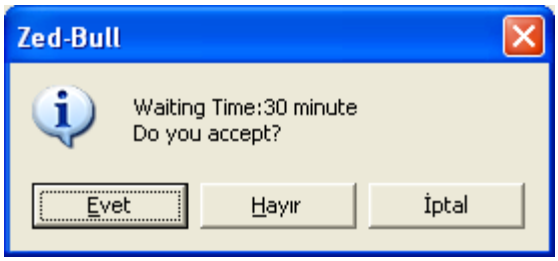
User must connect to server to copy 4D transponders. Zed-BULL PC Software connects to the server and gets neccessary datas to write on to electronic key. User should choose correct communication port, car manufacturer, car model and model year, if these informations are not selected correctly, copy operation will be successfull but in order to reduce the copying process time, these informations should be selected correctly.



After informations are selected, copy button is pressed, Connection test will be done automatically and if it is successfull transponder pages will be read to be send to server. The message below will be displayed.



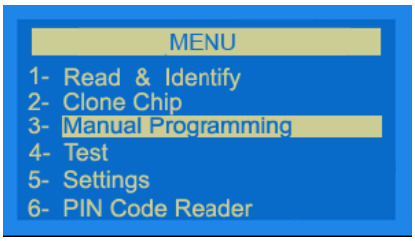
When this message is displayed, user must remove the original key from Zed-BULL antenna, other wise, Zed-BULL will try to write on to original key and it will cause data corruption with the original transponder.
server will give approximate time for copy process, when user confirm the given time, copying process will start.



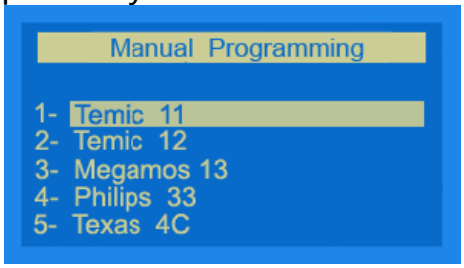
If user wants to end process before it is completed "Disconnect" button should be pressed. After server makes the calculation datas will be written to transponder automatically, if user wants to write second or third key "write" button is pressed to write the datas to transponder. Copying process is completed.
Note:To copy 4D transponders user should use a PC which has internet connection.

TYPING TRANSPONDER DATA MANUALLY 6.3

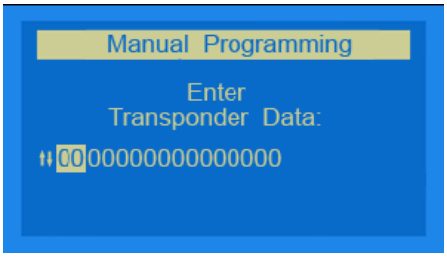
If customer transponder data is present, it is possible to type these datas manually using Zed-BULL keypad.
In main menu highlight choice 3 using up and down arrows and press enter.



Type of transponder will be asked to user. Using up and down arrows choose transponder type that you want to write data.



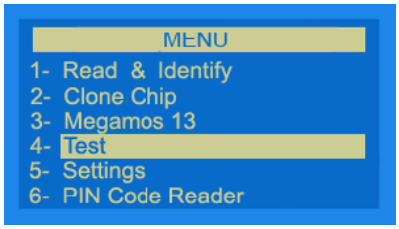
Press enter, using key pad type the datas manually and press enter. Use up and down arrows to choose the type of transponder that the datas will be written into. Finally press “W” button to write datas to the transponder.



An important point is that the data entered manually, must include valid information for the 11,12,13 and 4C type transponders. Before writing process starts, Zed-BULL checks the validity of the data and informs the user if the data is non-valid.
For example:
ID 11 : should have at least 1 “5F” byte in data string.
ID 12 : should have at least 1 “C1” byte in data string.
ID 13 : should have at least “1111 1111 xxxx xxx1” bit string in data string.
ID 4C : Crc calculation must be valid for the data string.

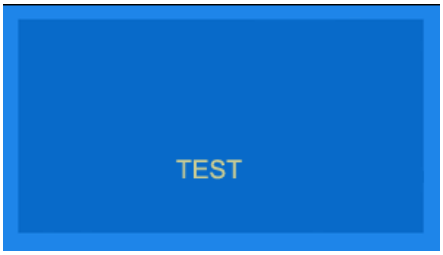
TESTING 6.4

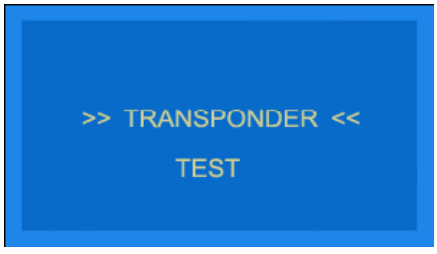
This menu is used for checking whether key has a working transponder inside or not.
Usage:



Highlight choice 4 using up and down arrows and press enter.

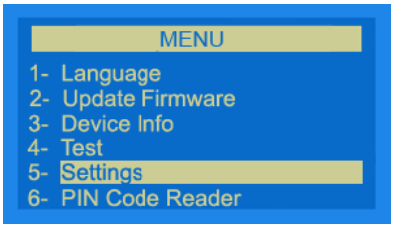
When there is transponder inside the key “TRANSPONDER” expression will be displayed on Zed-BULL screen, if there is no transponder inside the key only “TEST” expression will be displayed on the screen for some seconds and main menu will be displayed back.

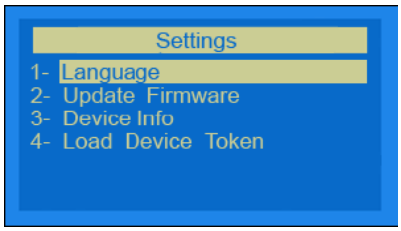




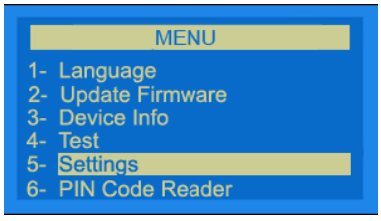
SETTINGS 6.5

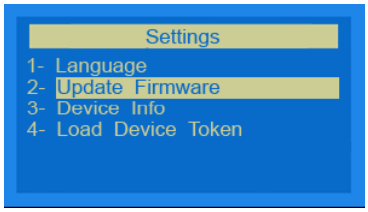
This menu is used for choosing device language, updating device, getting device info and loading device token.
Usage:
Highlight choice 5 using up and down arrow and press enter, for language selection highlight choice 1 and press enter, language options will be displayed on the screen. Highlight your language using up and down arrows and press enter selected language choice is now activated. Use Esc button to return back to main menu.



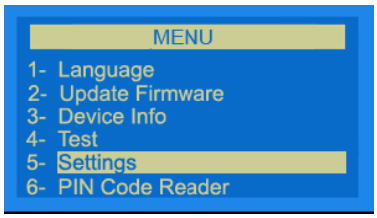


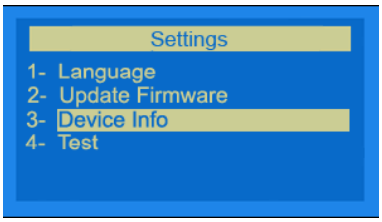
Update Firmware: When user wants to update device this choice should be selected. The loader version and the serial number is displayed on the screen. To quit this menu device needs to be re started.Detailed information of firmware update is described in the Pc software settings sub menu.

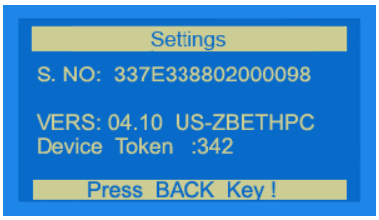




Device Info: When this sub menu is selected Information about device such as: serial number, version, apllication information, device token is displayed on the screen.





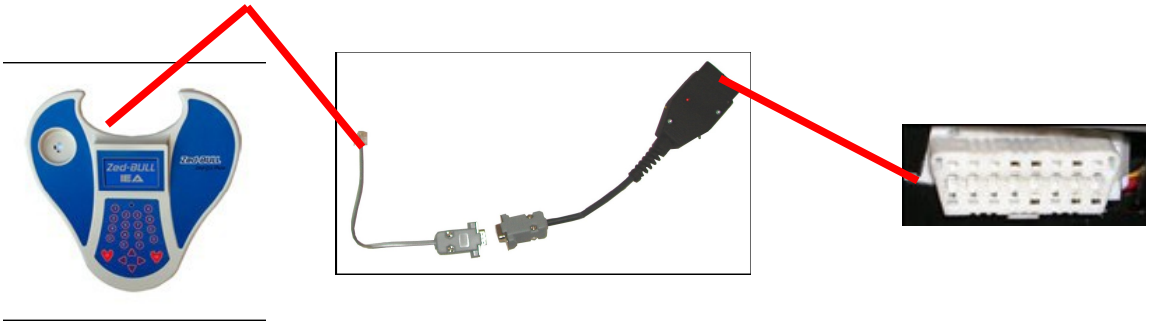


Load Device Token: Load Device Token sub menu should be choosed in settings menu. In main menu highlight 5th choice(settings) using up and down arrow and press enter, highlight choice 4(Load Device Token) and press

enter. Details about loading token is described in General features section (section 5).

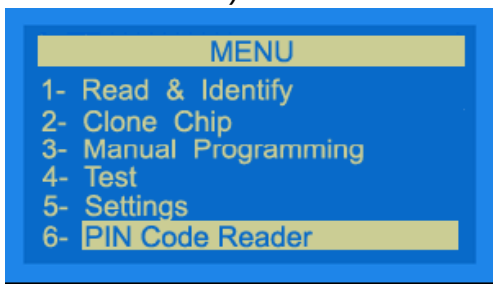
VAG PIN READER 6.6

VAG Pin Code reader automatically extracts the pin code of the car for VAG group. Adapter side is connected to the OBD of the car and the other side is connected to Zed-BULL.

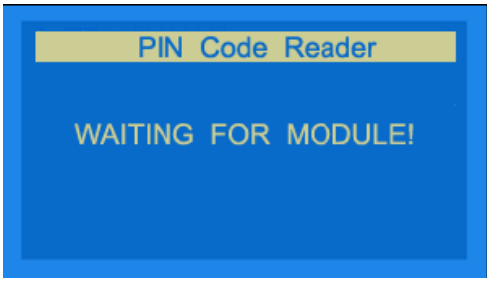


Zed-BULL VAG Pin Reader OBD II

1-Choose 6th choice(Pin Code Reader) from main menu.



2-Press enter, "Waiting for Module" expression will be displayed on the screen.



3-Plug the Pin reader adapter to the OBD II connector. The device will extract the pin code automatically and will be displayed on the screen. If extracting is unsuccessfull, UNSUCCESSFULL expression will be displayed on the screen.
4-If pin reading is unsuccesfull try the steps from 1 to 3 again.

OVERVIEW OF PC SOFTWARE 7

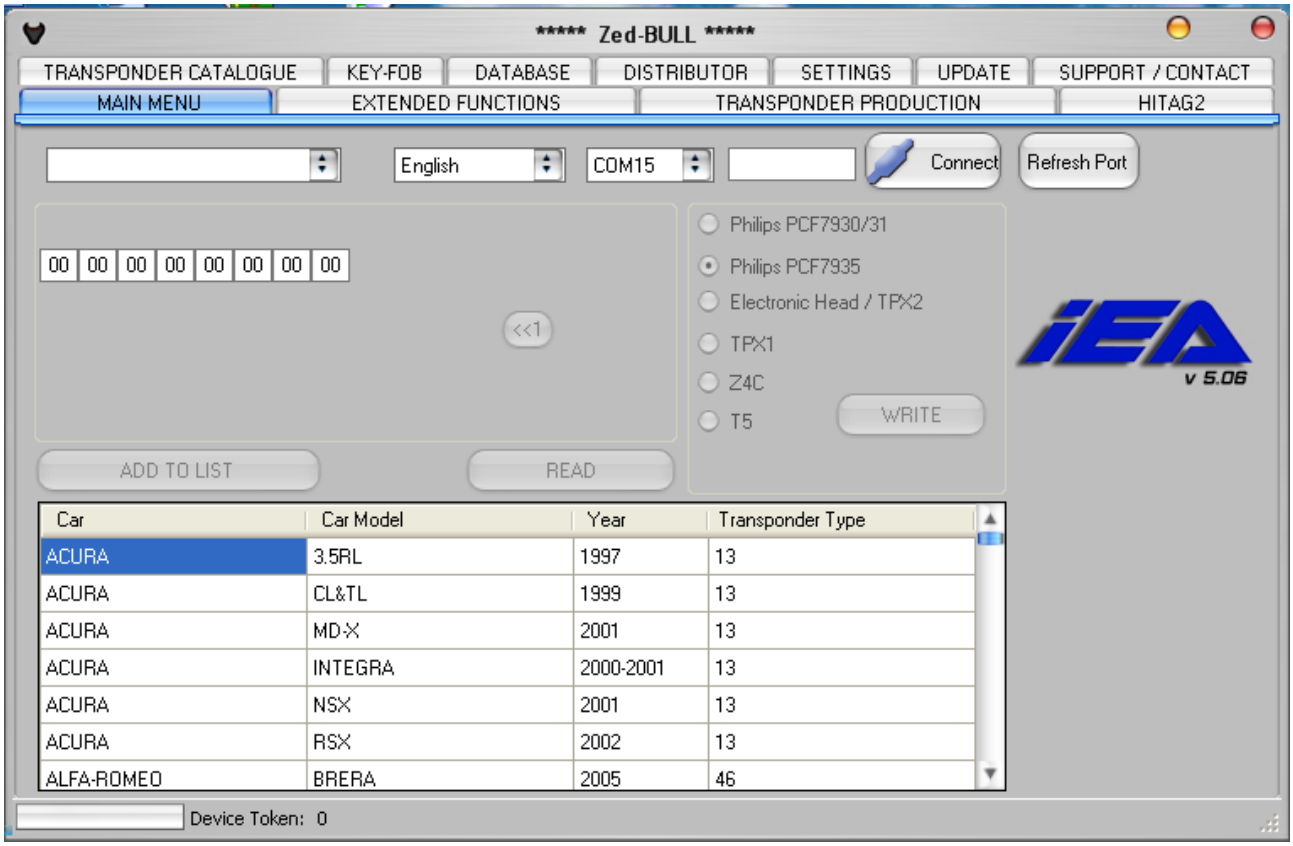
Zed-BULL PC software is used for EEPROM and MCU applications, transponder production, Hitag 2 reading and writing, storing customer information, getting informations about transponders and matching car models, key-fob programming procedures, distributor contact details. Transponder reading and writing can be both done with or without PC software.

Software Setup:

Double click on the setup.exe icon and install the software. After installing software, with the USB cable given, connect Zed-BULL to PC using any of the USB ports. Click on Zed-BULL.exe to run the software.

Note: to use the software .NET framework(minimum version 3.5) should be installed in your PC.

MAIN MENU 7.1



In this menu all settings must be done correctly in order to use the software. Choose language and com port. Clicking "Refresh Port" button will show the possible communication ports that Zed-BULL using.

After choosing correct com port, click on connect button, if connection

fails, an error message will be displayed, if connection is succesfull all buttons will be active.

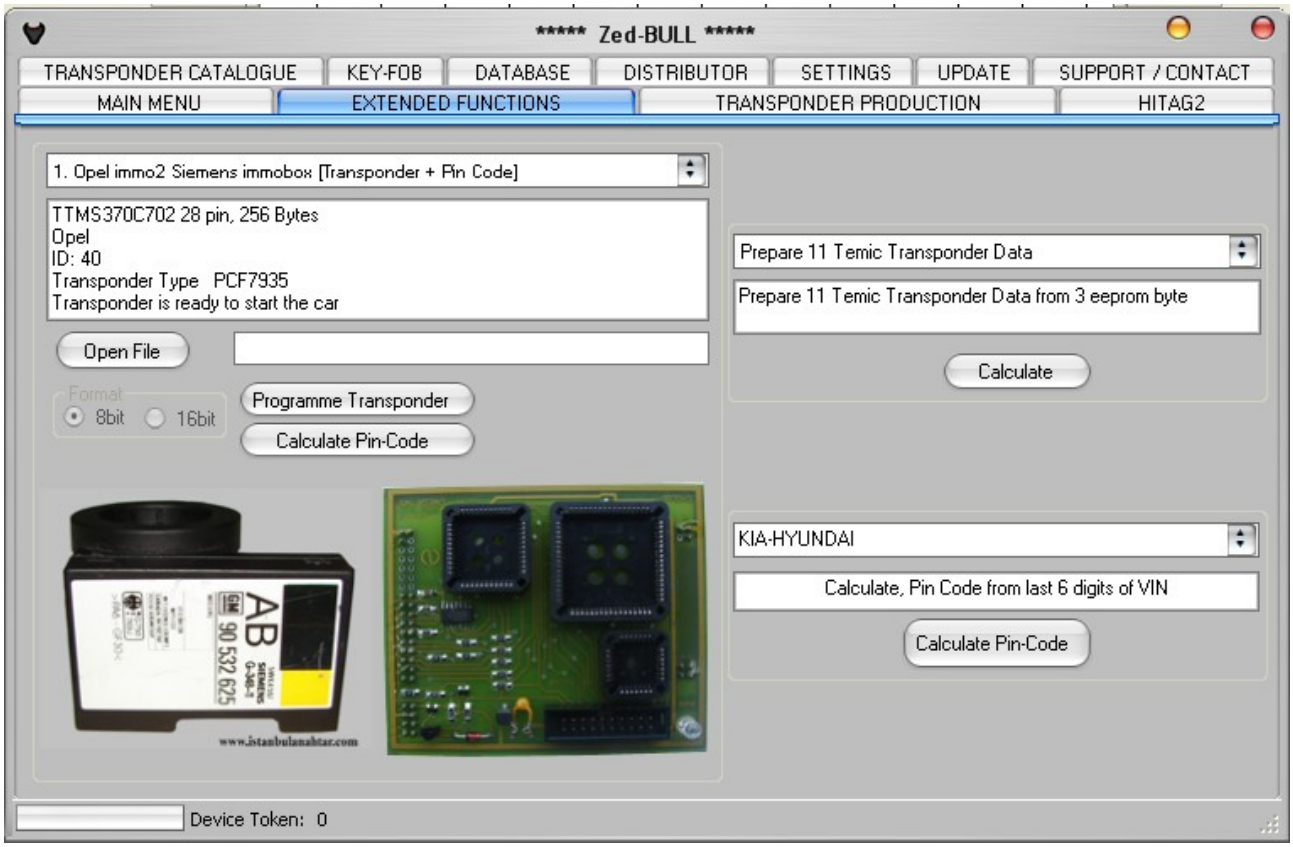
In main menu window, normal read write operations are done, when "READ" button is clicked, the transponder identification is displayed on the software window.

Writing to transponder is done in 2 steps; first the transponder type to write onto is choosen later "WRITE" button is clicked.

Transponder informations are added to database after clicking on "ADD TO LIST" button.

On bottom left side status bar gives information about the existing process. When process is completed the bar becomes totally blue.

EXTENDED FUNCTIONS 7.2



Left side of the window is reserved for EEPROM and MCU applications. Picture of the immobox and suitable adapter of the IC programmer is displayed on left bottom side. Details of the selected module is displayed on the text box just below the selected module. When IC programmer adapter picture or immobox picture is clicked bigger picture of each is displayed on another window, the IC that must be removed from board, is marked with red

buble. See the pictures below.



The EEPROM or MCU of the selected module is read with IC Programmer. File with ".bin" or ".dat" extension is selected using open file button from the exact location of the file in PC hard drive. After choosing the correct file choose the format correctly, if the output file of the IC programmer is 8 bits use 8 bit format, if the output file of the IC programmer is 16 bits use 16 bit format. Choosing wrong format will cause corrupted data and calculated datas will be wrong. To programme transponder, place the correct transponder to the Zed-BULL antenna and click on button "programme transponder"

EEPROM & MCU APPLICATIONS 7.2.1

The Eeprom & Mcu application list is given in Appendix A. As long as new solutions are obtained number of the applications will be increased soon, new applications will be added to software with new updates.

Important Notes:
-User must use external IC programmer to read the Eeproms and Mcus.
-The pictures of the IC programmer in Zed-Bull Pc software is for brand Omega-Mtrk IC Programmer.
-Omega-Mtrk IC Programmer covers all the applications in the list and we suggest this programmer. But user is free to use any of the IC programmers in the market.
-According to the features of IC Programmer, all the Eeproms and Mcus might need to be desoldered from immo board. For most of the IC programmers in the market Eeproms and Mcus must be desoldered from immo board.
-While desoldering the Eeproms and Mcus, user must be very carefull, since the pins of the Eeproms and Mcus are thin, they might be broken if not disoldered slowly and properly.
-When an Eeprom or Mcu is read with IC Programmer, we strongly

recommend user to save a copy of the original Eeprom or Mcu data file. When a problem occurs while using the file , copy of the original file will be still holding the needed datas and might be used for recovery.

-The Eeprom or Mcu must be soldered back in the same direction when it is desoldered.

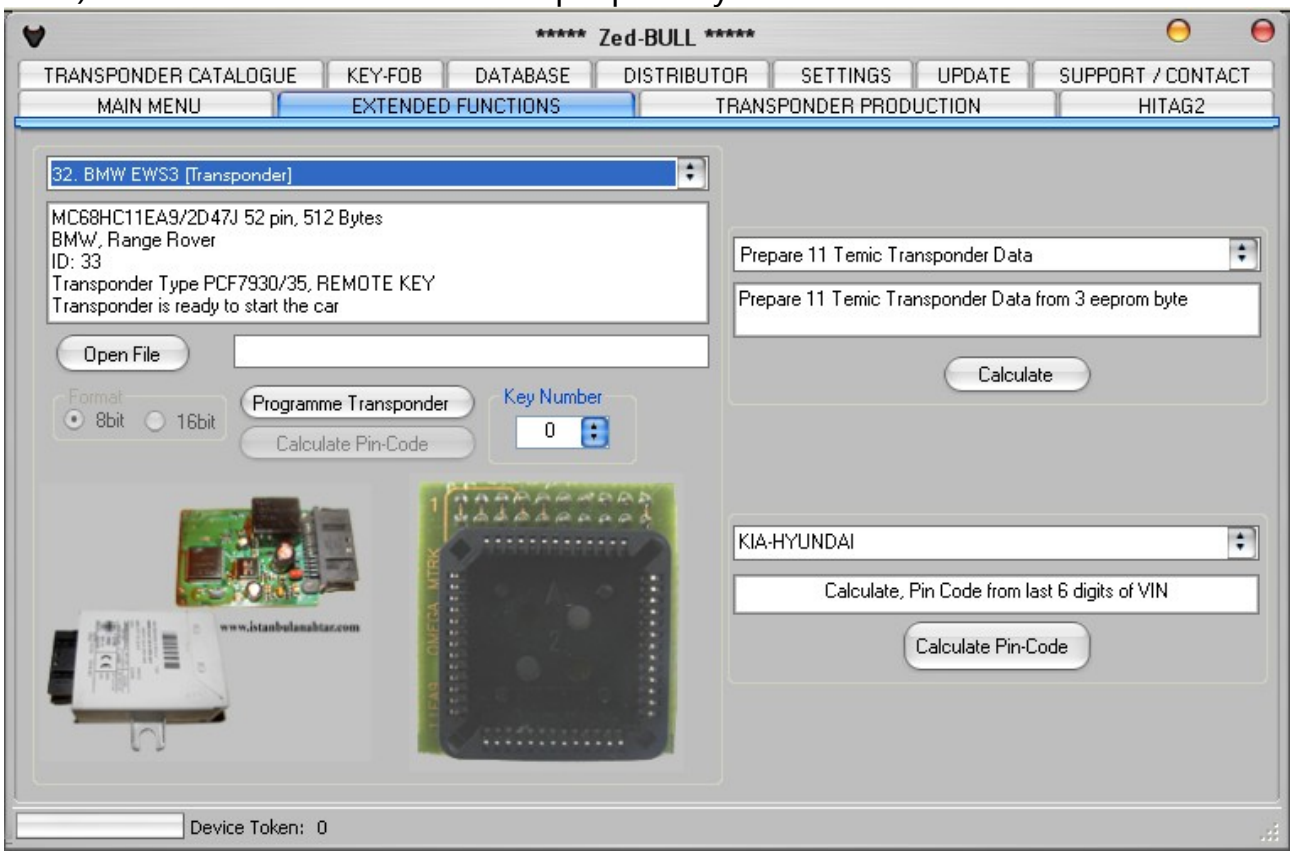
-While soldering back the Eeprom or Mcu, user must be carefull against unwanted short circuits between pins.

-While reading motorola Mcus, removing the security of the Mcu is suggested. If the Mcu is read without removing the security, all the informations might be deleted for some Mcu types. So user must be carefull about this detail while reading Motorola Mcus.

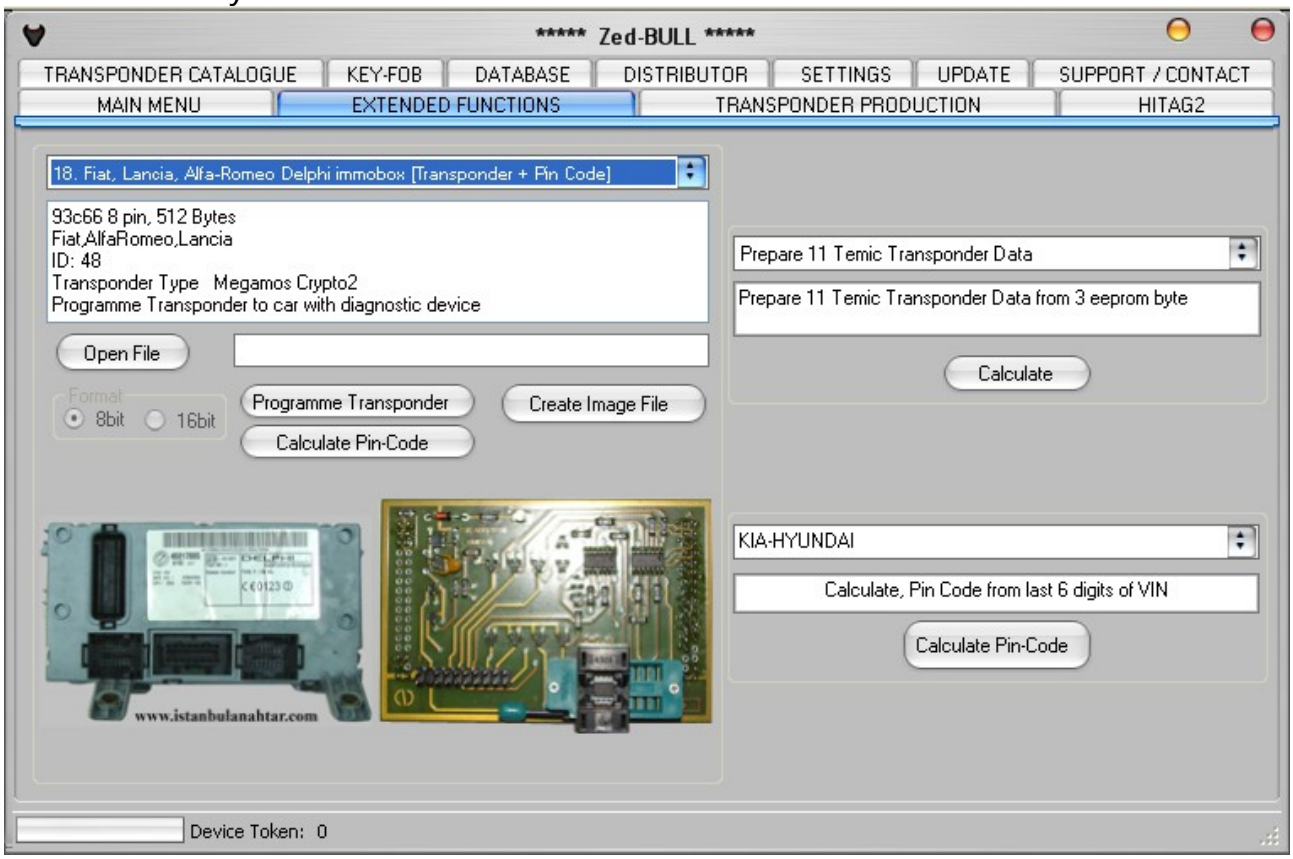
-Some non-original IC programmers in the market might delete Eeprom and Mcu datas while reading. Using original IC programmers is suggested.

-While desoldering the Eeprom or Mcu, user must be careful about not desoldering the neighbour components on the immo board accidentaly.

-For BMW applications, user must be careful about the key number. When customer wants spare key, the original customer key should be read and the key number should be noted(Zed-BULL is able to show key number when read). In the PC software window proper key number should be selected.



To make key which directly starts the car for the modules 11,12, and 18 few additional steps required. The prosedure is as below:
1-Desolder the Eeprom or Mcu from immo board.
2-Read Eeprom or Mcu with external IC Programmer.
3-Save the file with ".bin"or ".dat" extension with any name and to any location as you wish.
4-Open the file that you saved, using the Zed-Bull Pc Software, insert the suitable transponder to the antenna and click the "programme transponder" button on Zed-BULL Pc Software, precoded transponder is prepared.
5-Do not remove the transponder from antenna, press "Create Image File" button on Extended Function Menu. Save the file with different name such as ".....image.bin"or "....image.dat" in order not to overwrite on to the previous file.
6-Using the IC programmer write the file that you saved to the eeprom or Mcu of the immo board. The process is completed. The tranponder will start the car directly.



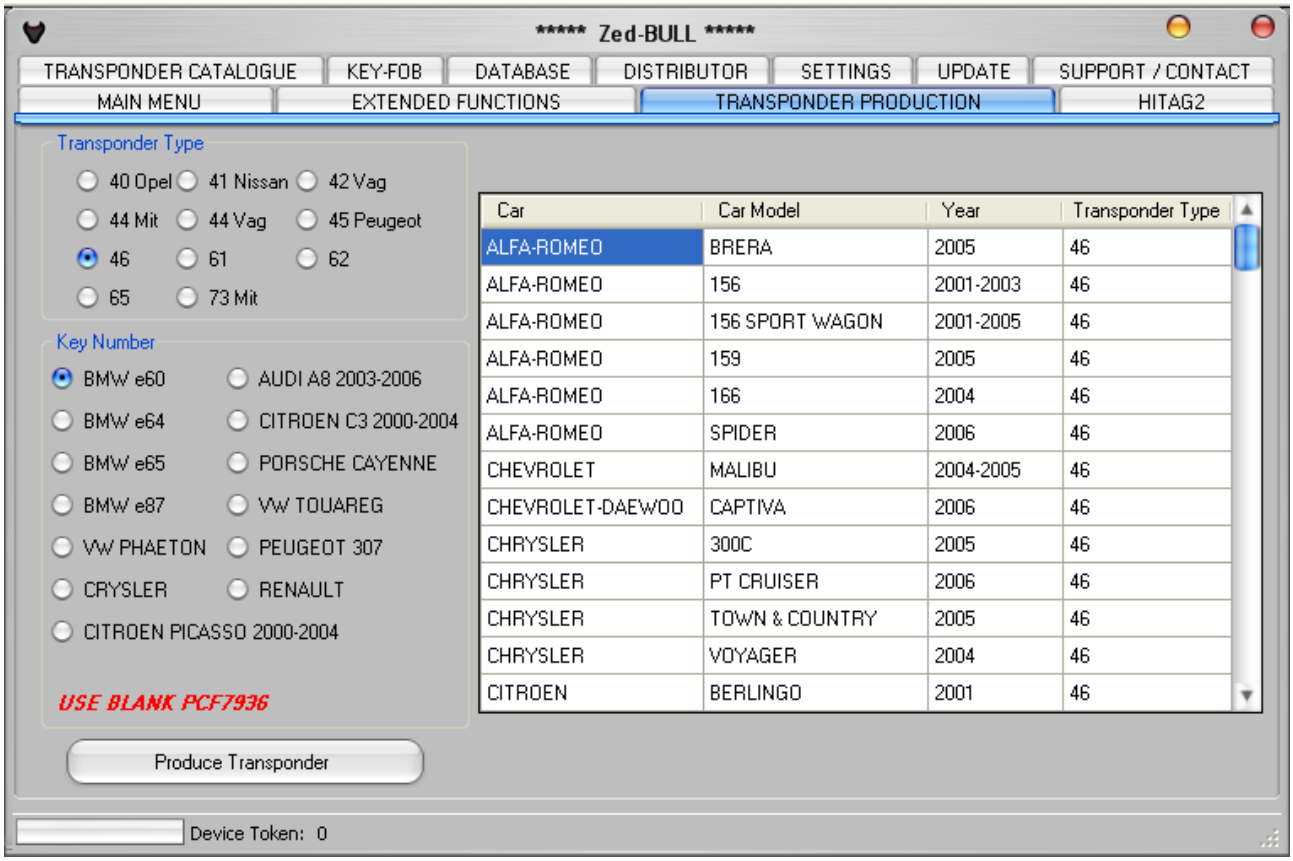
PREPARING TRANSPONDER DATA 7.2.2

Right top side of the main menu window is reserved for preparing data for 11,12 temic, 13 megamos, 4C texas and 33 renault transponders from eeprom bytes. This feature is added to the software for professionals. If the location of bytes that is related with transponder data is known this feature is used. The eeprom bytes are written and key data is calculated. This calculated data can be written manually to transponder. Preparing random data, and unlocking 48 megamos crypto transponder is also available in this sub menu.

HYUNDAI KIA PIN CODE CALCULATION 7.2.3

Right bottom side is reserved for Hyundai-Kia pin code application. Hyundai and Kia pin code is calculated from last 6 digits of the VIN. For Hyundai, calculation is not valid for numbers beginning with "0", for Kia all numbers are valid.

TRANSPONDER PRODUCTION 7.3



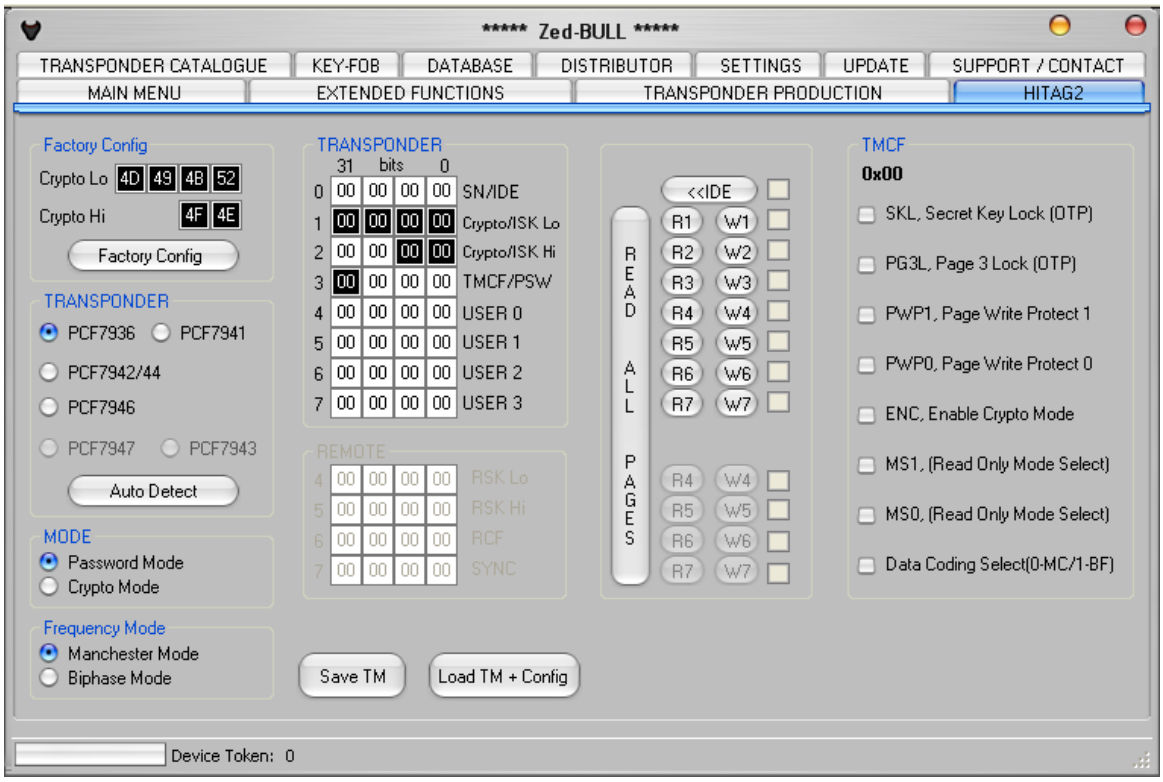
This menu is used for preparing transponders to use with diagnostic devices. Transponders that can be produced with this menu is listed below;
40 opel, 41 nissan, 42 VAG, 44 Mitsubishi, 44 VAG, 45 Peugeot, 46, 61, 62,65 and 73 Mitsubishi.

When transponder type is selected key number options are displayed on the same window under transponder type options area. Both transponder type and key number must be selected before clicking the button “produce transponder”. Transponders with different key numbers can be programmed to same car.

The Blank transponder to use is shown in Red just over the “produce transponder” button

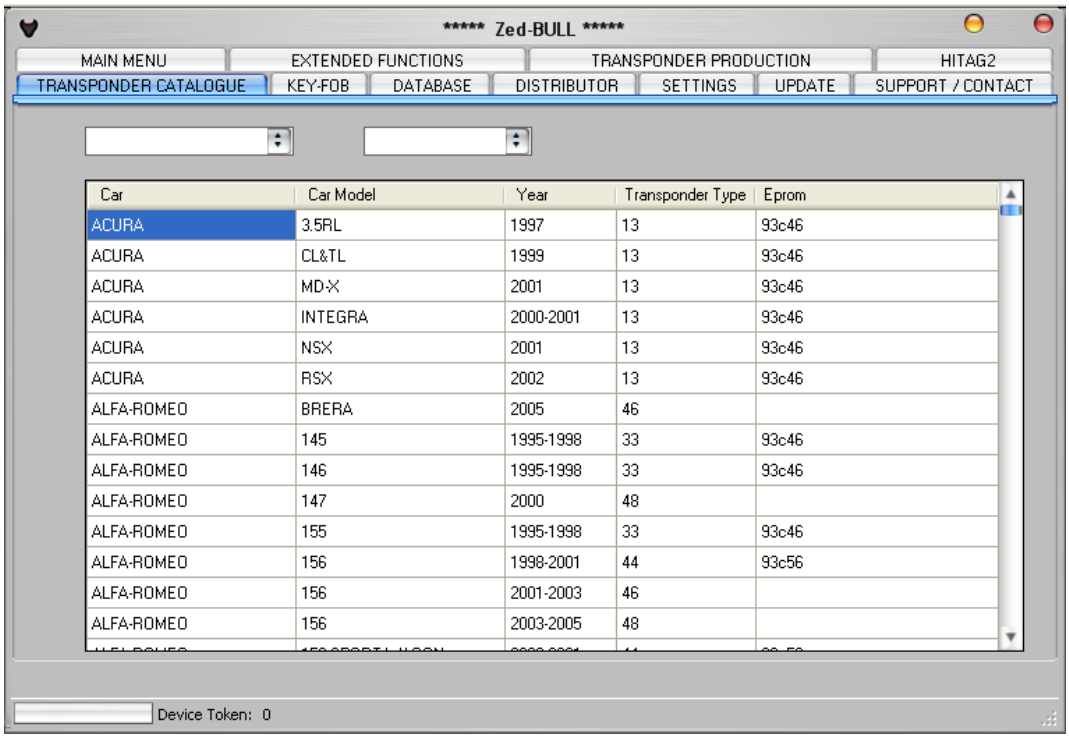
On the right side of the window according to the selected transponder type matching car models are displayed.

HITAG 2 7.4



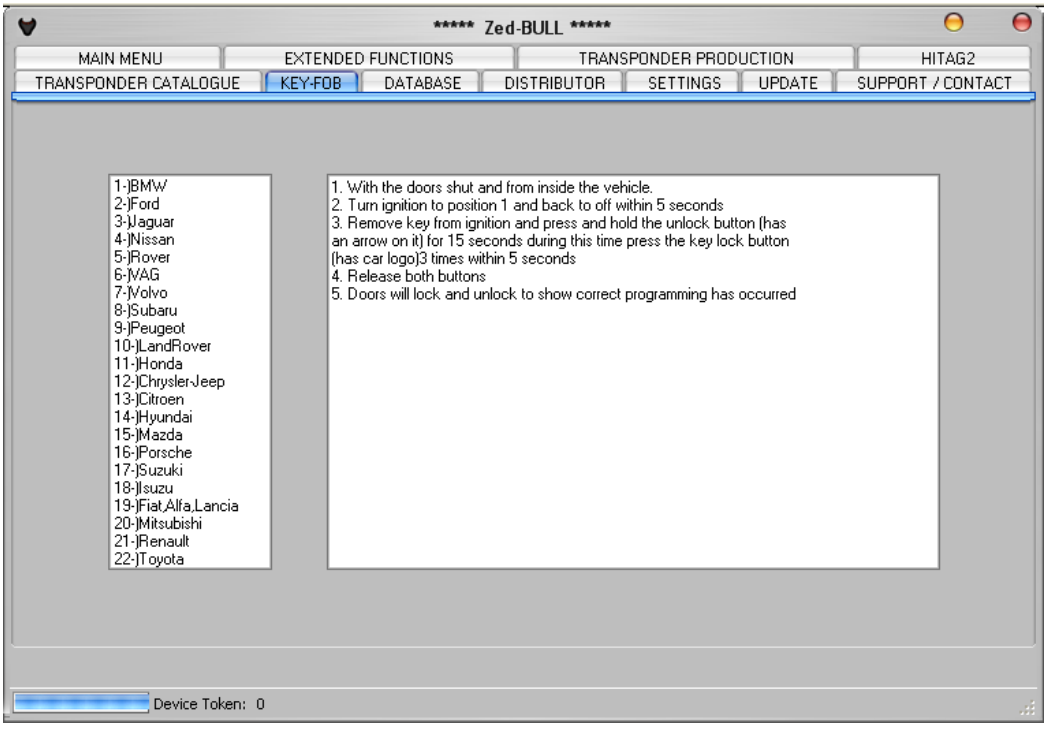
It is possible to edit latest generation transponder hitag 2 with Zed-BULL Pc software. Pages of hitag 2 transponders can be both read and written with Zed-BULL and Zed-BULL PC Software. Software shows transponder type, transponder mode, frequency mode, transponder pages and transponder configuration bits to the user and can be edited by the user.

TRANSPONDER CATALOGUE 7.5



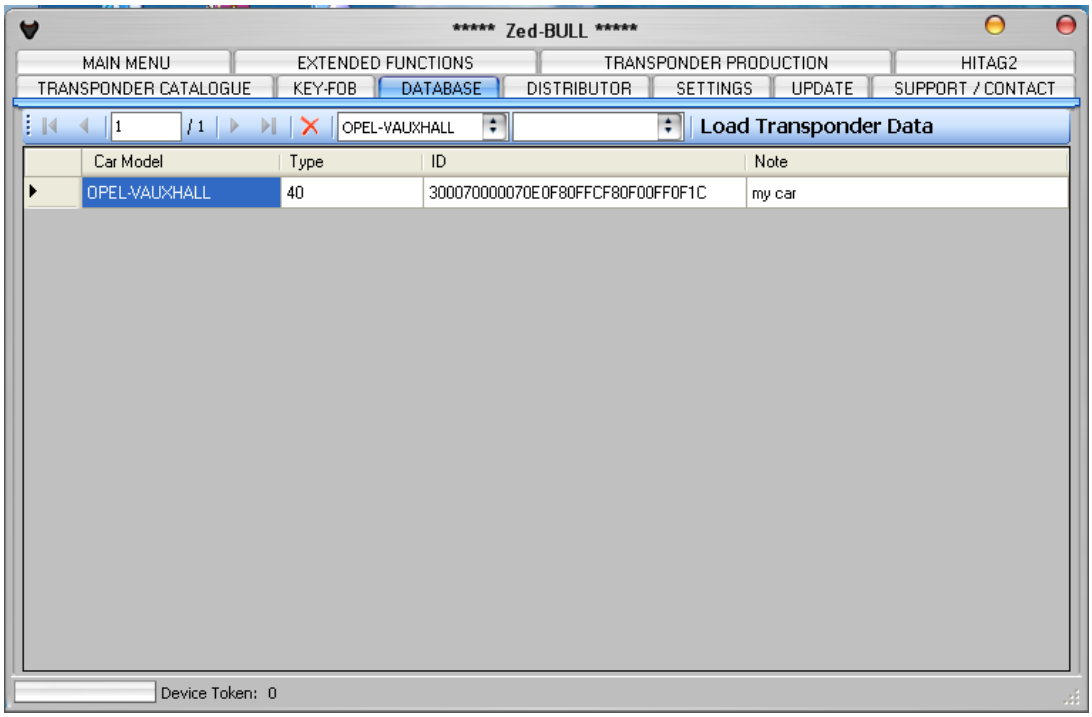
In transponder catalogue sub menu, user finds usefull informations about transponders and matching car models. Information about the IC type in immo box of the car is also given for most of the car models.

KEY-FOB 7.6



Programming key fobs manually is described step by step in this sub menu. On the left side of the window, car type is selected and on the right side of the window programming procedures are displayed in a text box.

DATABASE 7.7

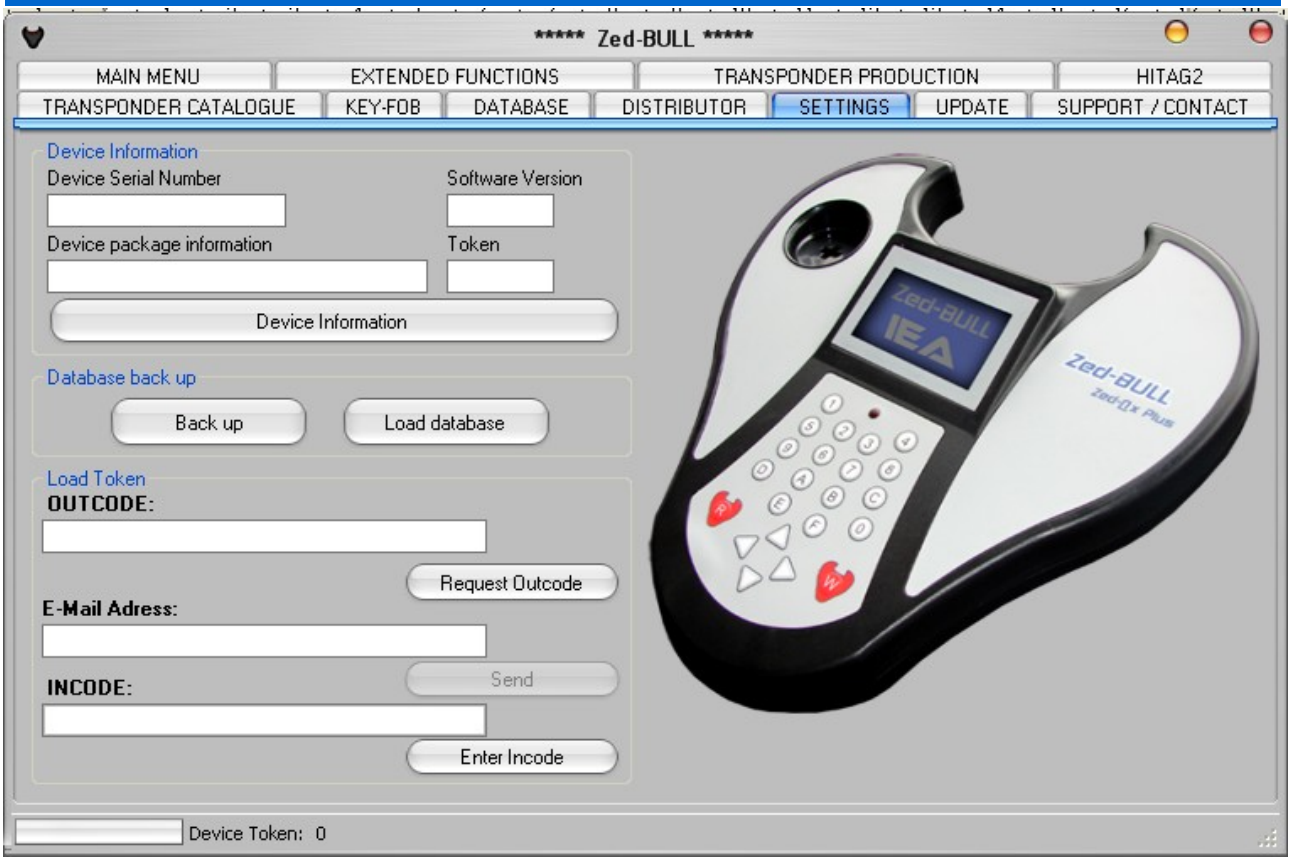


Unlimited number of customer information can be stored in database section of the PC software. When a customer whose information exists in the database comes again, using recorded information, it is possible to make key.

DISTRIBUTORS 7.8

Here user will find contact details of Zed-BULL distributors around the world.

SETTINGS 7.9



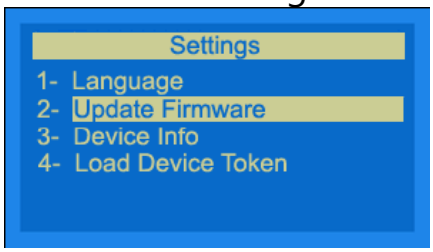
In this menu user can load token and update the device. Loading token is described in General Features section with details.Clicking the button “Serial number-version”, user can learn the device serial number and version of the software. When user wants to update the device, update file is loaded using

“open file” button and selecting the correct update file for the device and

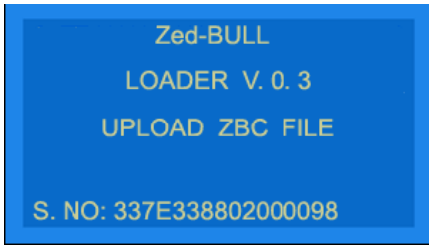
“Update” button is clicked. Device starts updating it self. The status bar shows the percentage of the process.

Important note: When user wants to update device for additional applications such as; Eeprom & Mcu applications or transponder production applications and other applications uploading both ZBP and ZBC file is required. When user wants to update Zed-BULL for new version; only ZBP file needs to be uploaded to Zed-BULL. User should contact local distributor for ZBC and ZBP files.

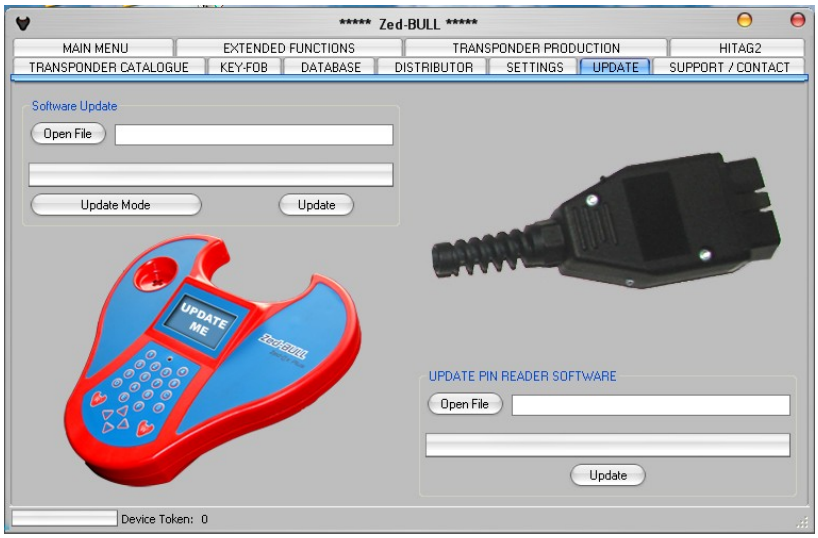
Steps for updating Zed-BULL:
1-Choose Update Firmware choice in Settings sub menu.



2-The device will be in loader mode. The screen display should be as below.

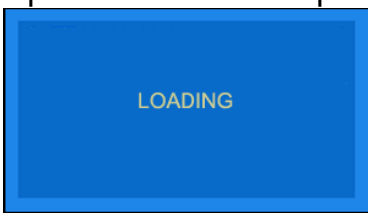


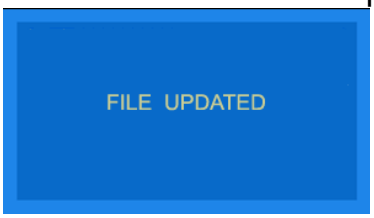
Or directly from Pc software user may click Update Mode button to get the device to loader mode.

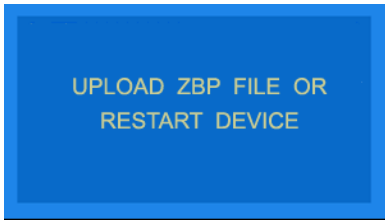


Here user should upload ZBC or ZBP file using pc software
Click open file, load ZBC or ZBP file, and finally click update button.

3.After uploading ZBC file user may restart the device and end updating or upload ZBP file if updating to newer version is required.







Device is restarted turning off the power switch.

SUPPORT/CONTACT 7.10

Whenever user has problems or questions this sub menu can be used. An e-mail will be sent to the manufacturer company directly.

Appendix-A

	Eeprom & MCU Applications	Precoded Transponder for Diagnostic	Transponder ready to start the car	Pin Code	Automatic module recognition	Detailed immo box picture	Detailed immo board picture
1	Opel immo2 Siemens immobox	X	√	√	√	√	√
2	VW, Seat immo2 Siemens immobox	X	√	√	√	√	√
3	VW, Seat immo3 Valeo immobox	X	√	√	√	√	√
4	Fiat,Lancia,Citroen,Peugeot Delphi immobox	X	√	X	√	√	√
5	Opel immo1 Siemens immobox	X	√	√	√	√	√
6	Honda, Acura Megamos immobox	X	√	X	√	√	√
7	Honda, Rover Valeo immobox	X	√	X	√	√	√
8	Fiat, Lancia imm001.01 magneti marelli immobox	X	√	X	√	√	√
9	Fiat, Lancia imm110.01 magneti marelli immobox	X	√	X	√	√	√
10	Mercedes Sprinter, Vito, Vw volt Temic immobox	X	√	√	√	√	√
11	Fiat, Alfa Romeo, Lancia magneti marelli immobox	√	√	√	√	√	√
12	Fiat, Citroen code2 Delphi immobox	√	√	√	√	√	√
13	VW,Skoda,Seat immo1 Siemens immobox	X	√	√	√	√	√
14	Daihatsu 1998-2000	X	√	X	X	√	√
15	Daihatsu 2000-2001	X	√	X	X	√	√
16	Renault, Dacia Sagem immobox	X	√	√	√	√	√
17	Renault Siemens	√	X	√	√	√	√
18	Fiat, Lancia, Alfa romeo Delphi immobox	√	√	√	√	√	√
19	Peugeot, Citroen, Valeo immobox	X	√	√	√	√	√
20	Toyota Corolla 1998-99 89780-12060RI-3BTY	X	√	X	X	√	√
21	Volvo immo3 Bosch immobox	X	√	X	√	√	√

22	Toyota Corolla Bosch	X	√	X	X	√	√
23	Toyota Yaris 2	X	√	X	X	√	√
24	Toyota Corona	X	√	X	X	√	√
25	Renault Laguna 2	X	X	√	√	√	√
26	Mercedes Actros, Atego Temic immobox	X	√	X	√	√	√
27	Renault Megane 2	X	X	√	√	√	√
28	Alfa Romeo Code2 Bosch immobox	√	√	√	√	√	√
29	Mitsubishi Bosch immobox	X	√	X	√	√	√
30	BMW ews1	X	√	X	√	√	√
31	BMW ews2	X	√	X	√	√	√
32	BMW ews3	X	√	X	√	√	√
33	Iveco Daily, Iveco Truck Bosch immobox	√	X	√	√	√	√
34	Renault Laguna Valeo immobox	X	√	√	√	√	√
35	Alfa Romeo, Iveco Bosch immobox	X	√	X	√	√	√
36	Suzuki Swift	X	√	X	X	√	√
37	Toyota Corolla 2000	X	√	X	X	√	X
38	Volvo, Mitsubishi carisma Bosch immobox	X	√	X	√	√	√
39	Toyota Corolla 2000-20002 Delson	X	√	X	X	√	√
40	Nissan, Subaru Siemens immobox	X	√	X	√	√	√
41	Peugeot motorbike Marelli immobox	X	√	X	√	√	√
42	Renault Sagem immobox	√	X	√	√	√	√
43	Peugeot 406 Siemens immobox	X	√	√	√	√	√
44	Peugeot 206 Siemens immobox	X	√	√	√	√	√

45	Audi Delphi immobox	X	√	√	√	√	√
46	Peugeot, Fiat, Lancia, Citroen Texton immobox	X	√	X	√	√	√
47	Chrysler SKIM immobox	X	√	√	X	√	√
48	Mazda 323 Temic	X	√	X	√	√	√
49	Suzuki Grant vitara	X	√	X	X	√	√
50	Peugeot, Fiat, Citroen	X	√	X	√	√	√
51	Toyota avensis	X	√	X	X	√	√
52	Nissan Siemens immobox(NATS-4)	X	√	X	√	√	√
53	Volvo Bosch immobox	X	√	X	√	√	√
54	Daewoo immobox	X	√	X	√	√	√
55	Opel isuzu immobox	X	√	√	√	√	√