

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 can be downloaded from web page.

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.

ACCESSORIES

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

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 powerful device in the market.

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

It can identify all transponders used in automotive 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.

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

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

Device is supported with PC software, which you can find useful 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 writing to transponder.

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

One of the most useful property of the PC Software is transponder production property. 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.

There are 2 types of tokens, one token is device token, which is free of charge and the other one is Pc token which is used for Eeprom & Mcu applications and transponder production applications(with 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, ZBE:refers to Zed-BULL + Eeprom and MCU application, ZBET:refers to Zed-BULL + Eeprom & Mcu Application + transponder production) are displayed on the

Zed-BULL screen.

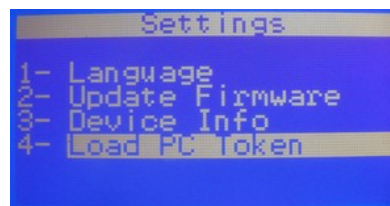


User should contact local distributor for both device and Pc token. Tokens are loaded as in the steps below.

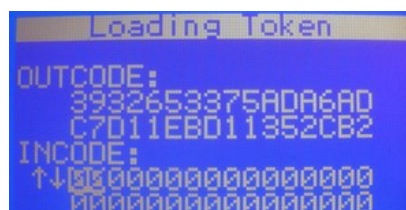
1.Choose 5th choice(settings) in the main menu.



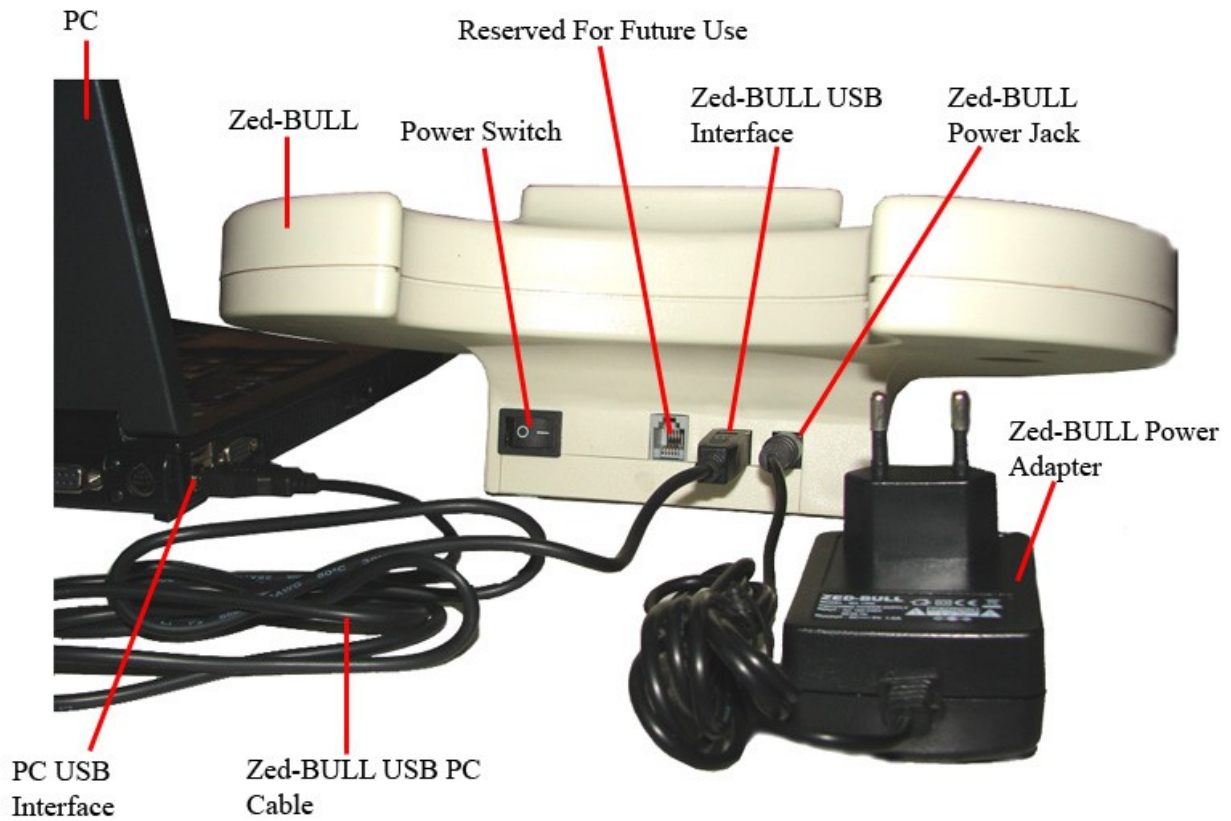
2.Choose 4th choice(Load PC token) in the settings sub menu.



3.Device will give Outcode, outcode should be given to local distributor, Local distributor will give user In code, this In code should be entered carefully and correctly to the device, if 5 times repeatedly In code is entered wrong, device will want new In code. If In code is entered correctly tokens will be loaded to the device.

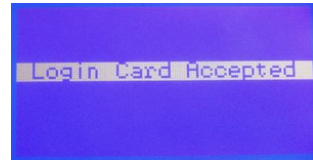
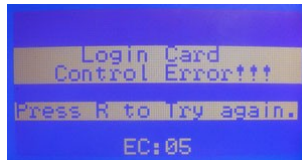


All connections of Zed-BULL are shown in the picture below.



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;





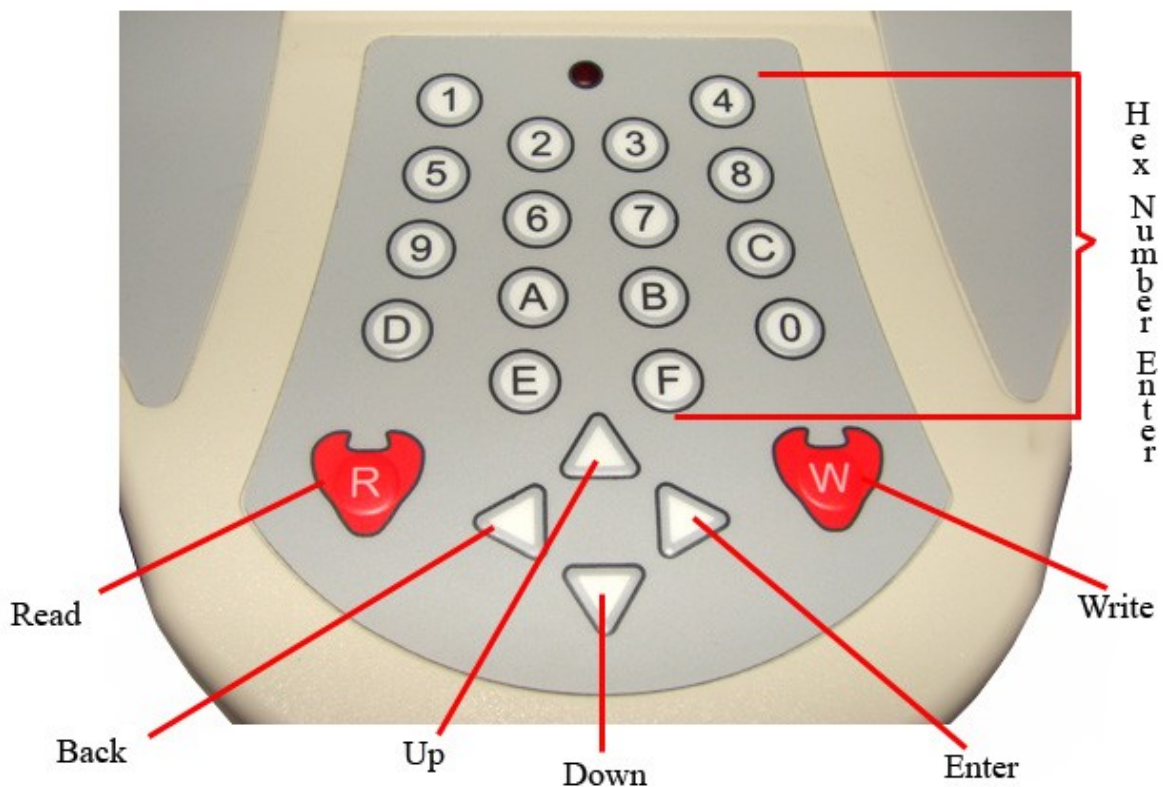
Screen at start up

Screen at login card error

Screen at successful login

If user loses 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 functionalities of Zed-BULL with new developed technologies.

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 displayed.

Usage:

Insert customer key to the Zed-BULL antenna 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.

DATA:5F00000007E2A67D TYPE:11 TEMIC WR	DATA:3E8199C1A3A3261D TYPE:12 TEMIC WR	DATA:FF81344CCAE7E31E TYPE:13 MEGAMOS WR Opel Frontera Master Key
DATA:300700FCC001E007 0EE038F003FF0F1C TYPE:33 GM WR	DATA:7EA5E077C0000000 0068D17E0000 TYPE:4C TEXAS WR	DATA:00008003D89D0515 781348C2B7480000 TYPE:73 MTSB WR
DATA:30C78103F87F0007 0EF0CF8F1E3FF0F1C TYPE:40 CRYPTO	DATA:4141CCBA1A88969E BC40B1B3D26B90B8 TYPE:41 PRECODED CHIP	DATA:3038FEE3FFFF1FFF FF1F00FE03000000 TYPE:42 CRYPTO VAG WR OBD programmable
DATA:000080026ECAD84F 422B4B5043BC0000 TYPE:44 MITSB OBD OBD programmable	DATA:FFFFFFFFF30C22F 12732FFFFFFFFFFFF TYPE:45 CRYPTO PEU WR PRESS B FOR PIN CODE	ID :DEFA8619 TYPE:46 CRYPT Philips Hyundai,Kia,Ctroen,Peu CHIP:PCF7936 MODE>Password-Mnchstr
ID :D4426355 UM1 :AA0F8765 UM2 :AAAAAAAAAAAAAAAA TYPE:48 CRYPT Megamos Magic II	FF 00 3E325311 **L* TYPE:4D 60 CRYPTO WR Rs1:AF5A1B Rs2:4224A6	19 00 4B183711 L*LL TYPE:4D 61 CRYPTO WR Mitsubishi Rs1:AF5A1B Rs2:4224A6
FF 00 4B25CF11 L*L* TYPE:4D 62 CRYPTO WR Mitsubishi - Subaru Rs1:AF5A1B Rs2:4224A6	04 00 01AB6E01 **L* TYPE:4D 63 CRYPTO WR Ford (Fiesta-Fusion) Rs1:3DEB3A Rs2:9D7848	FF 00 3854F311 **L* TYPE:4D 64 CRYPTO WR Chrysler - Ren.Megane Rs1:1B91A6 Rs2:7FDAF3
F9 00 4B26B311 L*L* TYPE:4D 65 CRYPTO WR Suzuki Rs1:AF5A1B Rs2:4224A6	32 03 946A2F0C LLLL TYPE:4D 67 CRYPTO WR Toyota Master Key Rs1:70974E Rs2:591B34	DATA:5555555555555555 5555555555555555 TYPE:PCF7935

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).

```
ATTENTION!
Put The Original Key
And Press R
Don't Remove The Key
During Process!
```

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

```
DATA: 4248304552534154
      5AC4280998D8030E
TYPE: 33
Press W to Write
```

after this step press button "W". If there is more than 1 choice for the transponder type to write onto, 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.

```
WRITE
Enter the Transponder
TYPE
which you'll write.
1- Philips 7930/31/35
2- Sokymat T5
```

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

```
WRITING
02 5352
```

```
VERIFYING
```

```
SUCCESSFULL
```

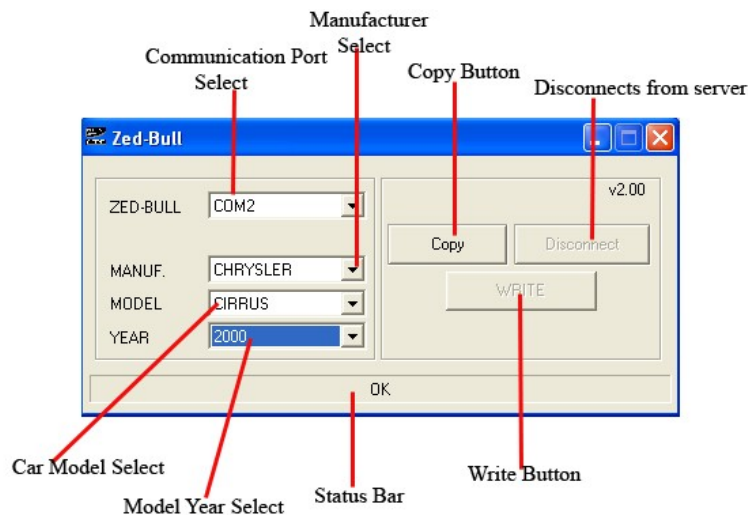
transponder cloning process is completed. If transponder must be cloned with PC software , "Copy with PC Software" expression is displayed on the screen. All 4D transponders are cloned to Silca Electronic Heads (EH2)with Zed-BULL 4D client PC software.

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 necessary data 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 successful but in order to reduce the copying process time, these informations should be selected correctly.

After informations are selected, copy button is pressed, 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 "write" button is pressed to write the data to electronic head. 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 data manually using Zed-BULL keypad. This transponder is ready to start the car.

In main menu highlight choice 3 using up and down arrows and press enter(right arrow). Type of transponder will be asked to user. Using up and down arrows choose transponder type that you want to write data. Press enter(right arrow), using key pad type the data manually and press enter(right arrow). Use up and down arrows to choose the type of transponder that the data will be written into. Finally press "W" button to write data 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.

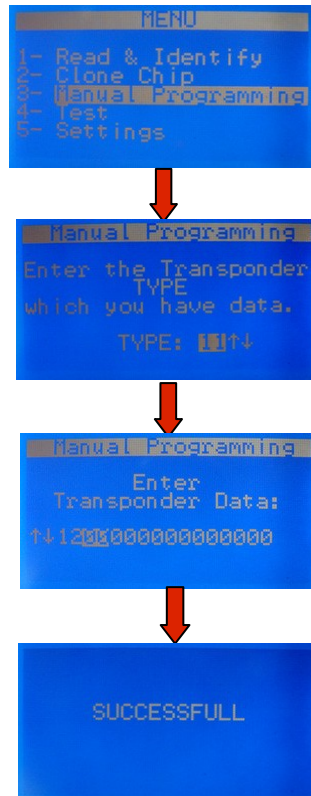
For example:

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.



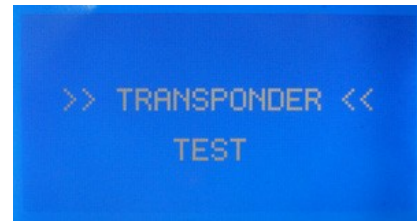
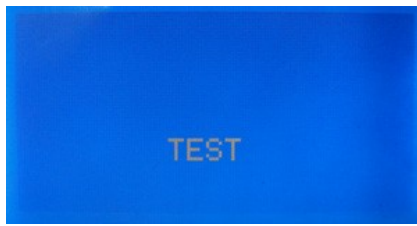
TESTING

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(right arrow). 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 Pc token.

Usage:

Highlight choice 5 using up and down arrow and press enter(right arrow), for language selection highlight choice 1 and press enter(right arrow), language options will be displayed on the screen. Highlight your language using up and down arrows and press enter(right arrow) selected language choice is now activated. Use exit button(left arrow) to return back to main menu.

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

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

The device will give an outcode, user should give this outcode to the local distributor, Local distributor will give user an in code. User should enter the in code carefully and correctly. At most 4 times user can enter wrong in code, for the fifth time if wrong incode is entered system will refresh the outcode and realting to this, incode will be refreshed, previous in code will not be used.

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.

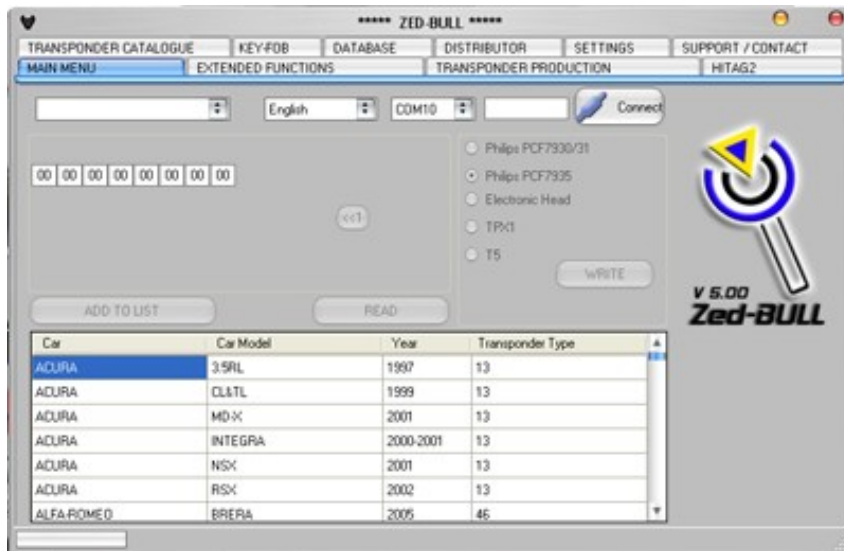
Software Setup:

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 2.0) 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. To learn which com port you are using, right click on My Computer, click on properties, click on hardware, click on device manager, and finally click on the ports choice. The communication port that you are using will be displayed on that menu.

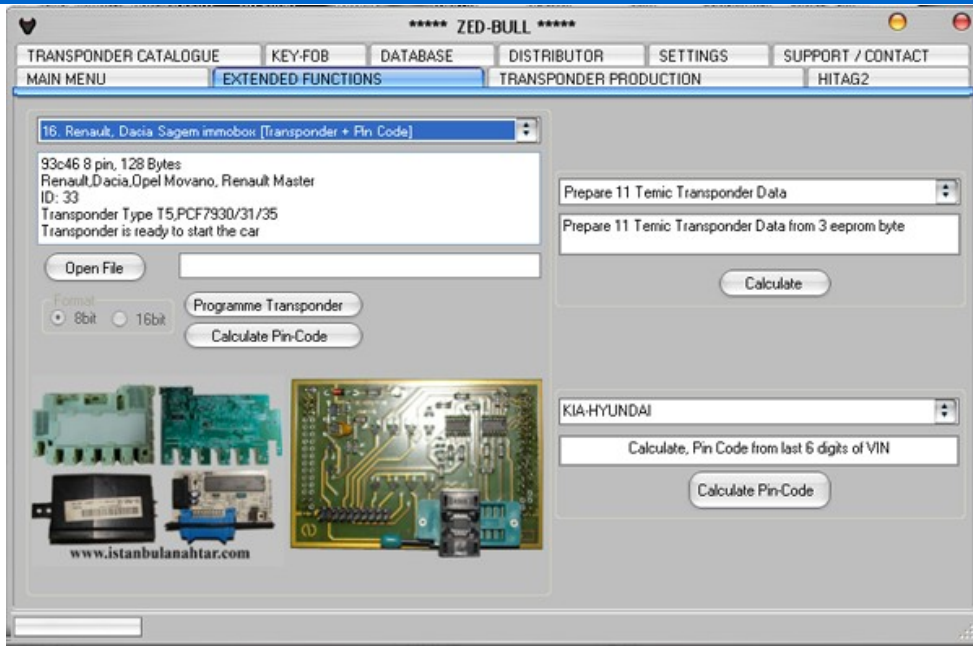
After choosing correct com port, click on connect button, if connection fails, an error message will be displayed, if connection is successful all buttons will be active.

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 chosen 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.



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 bubble. See the pictures below.



The EEPROM or MCU of the selected module is read with IC Programmer. File with ".bin" 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"

The Eeprom & Mcu application list is as below. 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.

Eeprom & Mcu applications have token system, for each application 1 token is needed.

Car	ID	Immo box	Pin code	Transponder for diagnostic	Transponder to start car
Opel	40	siemens	√		√
Vw, seat	42	Siemens immo 2	√		√
Vw, seat	44	Valeo immo 3	√		√
Fiat, lancia,citroen, peugeot	13	delphi			√
Alfa romeo, iveco	33	Bosch code 1			√
Honda, acura	13	megamos			√
Honda, rover	33	valeo			√
Fiat, lancia	11	Immo 001.01 marelli			√
Fiat, lancia	11	Immo 110.01 marelli			√
Mercedes sprinter, vito	12	temic			√
Fiat, lancia, alfa romeo	48	magnetti marelli	√	√	
Vw, skoda, seat	33	Siemens immo 1	√		√
Renault laguna	33	valeo	√		√
Renault, dacia	33	sagem	√		√
renault	46	Uch siemens	√		
Fiat, lancia, alfa romeo	48	delphi	√	√	
Bmw	33R	ews1			√
Bmw	33R	ews2			√
Bmw	33R	ews3			√
Toyota corolla 98-99	4C	toyota			√
Toyota corolla 00-02	4C	Delson ic900			√
Toyota corolla	4C	bosch			√
Toyota yaris II	4C	toyota			√
Toyota corona	4C	toyota			√
Renault laguna	46	renault	√		

iveco	46	iveco	√	√	
Renault megane II	46	renault	√		
Alfa romeo code 2	44	bosch			√
mitsubishi	44	bosch			√
Volvo	44	Bosch immo 3			√
Peugeot,Citroen	33	Valeo	√		√
Mitsubishi Lancer	4C	Mitsubishi			√
Daihatsu 98-00	4C	Daihatsu			√
Audi	13	Delphi			√
Nissan,Subaru	33	Siemens			√
Mercedes Sprinter, Vito	12	Temic			√
Opel	33	Siemens			√
Daihatsu 00-01	4C	Daihatsu			√
Mercedes Actros, Atego	13	Temic			√
Suzuki swift	4C	suzuki			√
Toyota corolla 2000	4C	toyota			√
Volvo,mitsubishi carisma	33	bosch			√
Peugeot motorbike	11	marelli			√
Renault	46	sagem	√		
Peugeot 406	45	siemens	√		√
Peugeot 206	45	siemens	√		√
Peugeot, Fiat, lancia, Citroen	33	texton			√
Chrysler	64	Skim type 2	√		√
Mazda 323	12	temic			√
Suzuki Grand Vitara	4C	suzuki			√
Fiat, Citroen, Peugeot	48	delphi	√	√	
Alfa Romeo	33	bosch			√

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 careful, since the pins of the Eeproms and Mcus are thin, they might be broken if not disordered 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 data 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 careful 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 careful about this detail while reading Mcus.

-Some non-original IC programmers in the market might delete Eeprom and Mcu data 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 accidentally.

-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. In the PC software window proper key number should be selected.

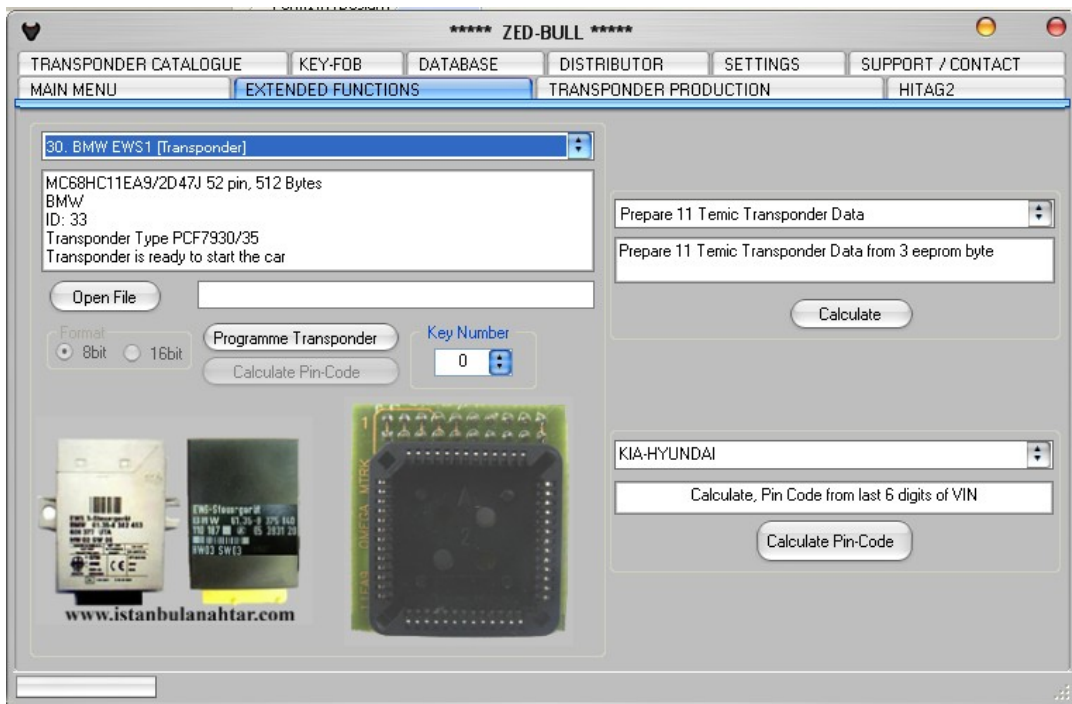
To make key which directly starts the car for the modules 11,12, and 18 few additional steps required. The procedure is as below:

1-Desolder the Eeprom or Mcu from immo board.

2-Read Eeprom or Mcu with external IC Programmer.

3-Save the read file with ".bin" extension with any name and to any location as you wish.

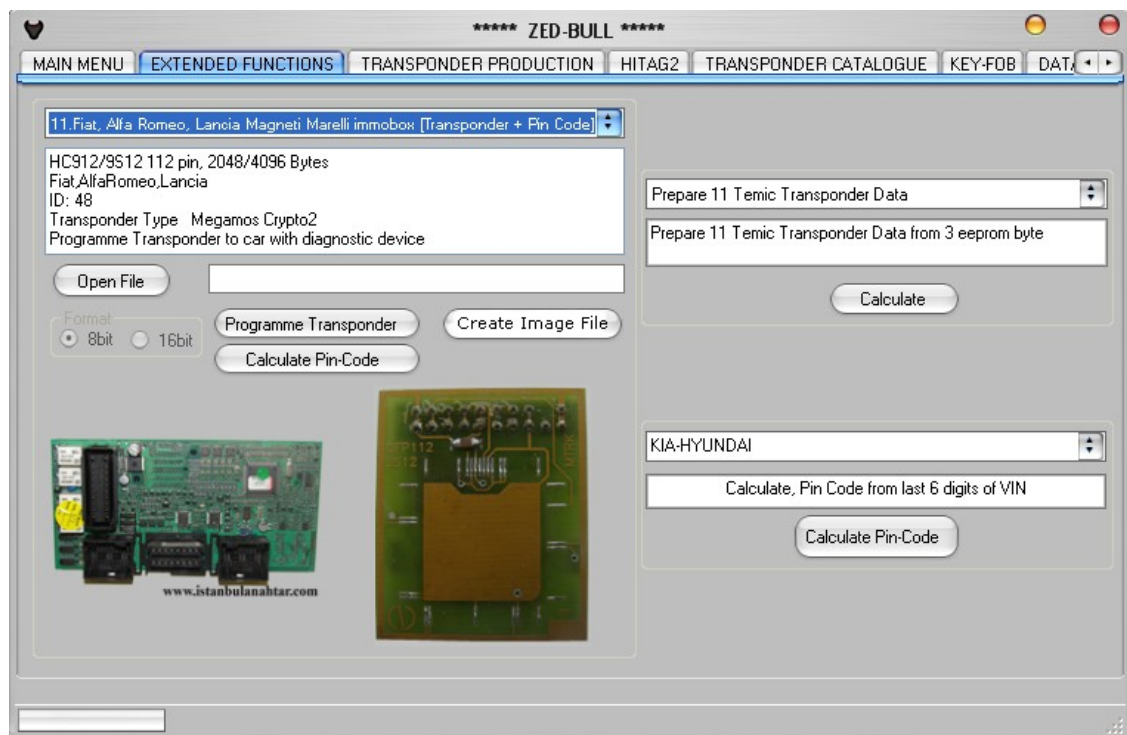
4-Open the file that you saved, using the Zed-Bull Pc Software, insert the suitable transponder to the antenna and click the "programme transponder"



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" 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.

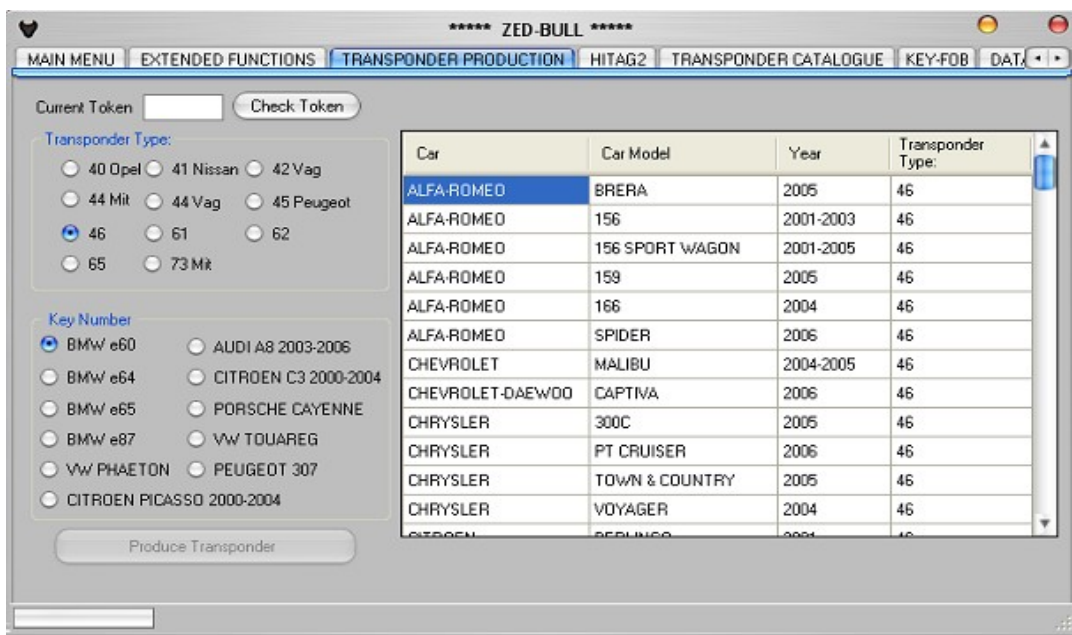


Right top side of the main menu window is reserved for preparing data for 11,12 temic, 13 megamos, 4C texas and 33 renault transponders from eeprom bytes. This feature is added to the software for professionals. If the location of bytes that is related with transponder data is known this feature is used. 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

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



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.

“Produce Transponder” button will not be active unless “Check Token” button is clicked. User should first check whether there is enough token for

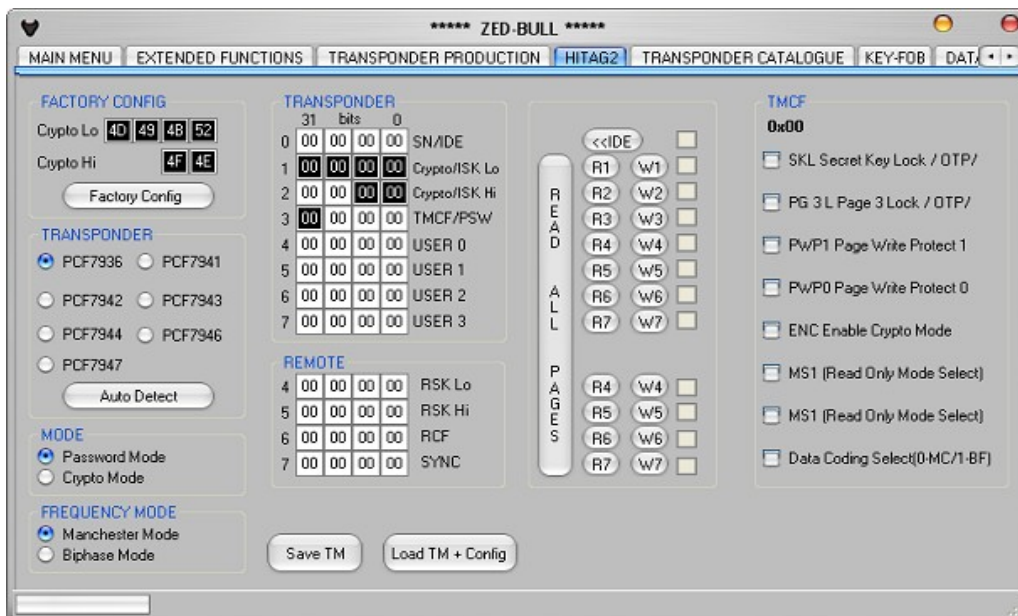
this application or not.

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.

Transponder production property has a token system, 1 transponder can be produced with 1 token, pressing "check token" button will show the remaining tokens for the application.

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.

Car	Car Model	Year	Transponder Type	Eprom
ACURA	3.5RL	1997	13	93c46
ACURA	CL&TL	1999	13	93c46
ACURA	MD-X	2001	13	93c46
ACURA	INTEGRA	2000-2001	13	93c46
ACURA	NSX	2001	13	93c46
ACURA	RSX	2002	13	93c46
ALFA-ROMEO	BRERA	2005	46	
ALFA-ROMEO	145	1995-1998	33	93c46
ALFA-ROMEO	146	1995-1998	33	93c46
ALFA-ROMEO	147	2000	48	
ALFA-ROMEO	155	1995-1998	33	93c46
ALFA-ROMEO	156	1998-2001	44	93c56
ALFA-ROMEO	156	2001-2003	46	
ALFA-ROMEO	156	2003-2005	48	

In transponder catalogue sub menu, user finds useful 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.

- 1-BMW
- 2-Ford
- 3-Jaguar
- 4-Nissan
- 5-Rover
- 6-VAG
- 7-Volvo
- 8-Subaru
- 9-Peugeot
- 10-LandRover
- 11-Honda
- 12-Chrysler-Jeep
- 13-Citroen
- 14-Hyundai
- 15-Mazda
- 16-Porsche
- 17-Suzuki
- 18-Isuzu
- 19-Fiat-Alfa-Lancia
- 20-Mitsubishi
- 21-Renault
- 22-Toyota

XJB Remote Control Programming Procedure

1. Unlock the Boot with key.
2. Turn Ignition on.
3. Warning light on dash comes on.
4. When they go out, lift arm rest, inside there is a valley button. Press 5 times within 5 secs of lights on dash going out. Horn & Lights Flash.
5. Press any button on remote, remote programmed.

Jaguar X300 Procedure

1. Open the boot lid and drivers door, and switch on the ignition. Press central locking switch (in the centre console) 5 times. The siren will chirp to indicate it has entered learning mode.
2. Press the lock button of the remote, the system will chirp to confirm it has received the remote.
3. To program further remotes, press the central locking switch once. The system will chirp twice for remote number two, then press the lock button of the remote as above.
4. Wait for 30 seconds for the system to close and chirp

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.

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.

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

In this menu user can load token and update the device. Loading token will be active soon. User can load token with Zed-BULL menu.

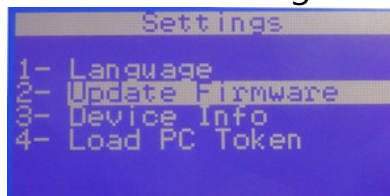
Clicking the button "Serial number-version", user can learn the device serial number and version of the software.

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, uploading ZBC file is required. When user wants to update Zed-BULL for new version; first ZBC file then 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.

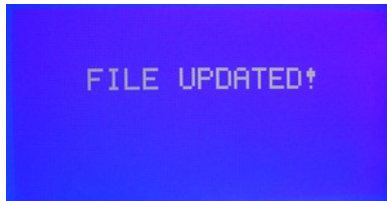
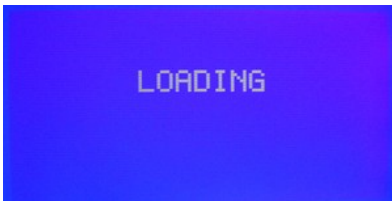


Here user should upload ZBC(Zed-BULL Customer) file using pc software

use button to add ZBC file



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.



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