



**ELSECSYS**  
ADVANCED ELETRONIC SOLUTIONS

# CPPRO

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## USER MANUAL



## ABOUT

We create a future of customizing cars software by developing high quality tools that let you use your imagination without any limitations.

Personalize your car, personalize your future.



## CONTACT US

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English

# Elsecsys

CPPro profesional automotive equipment  
instruction manual



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## 2. Safety principles and rules

- Read this manual thoroughly before the first use of all the device . Failure to comply with safety regulations contained in this instruction manual may result in loss of warranty .
- Only cables provided or sold by Elsecsys company must be used .
- The device must be protected from the rain , moisture and sunlight.
- The device is not intended for use by people ( including children) with compromised mental.physical, sensory capacities or with insufficient experience or knowledge unless closely supervised and instructed by a person responsible for their safety.
- When using electrical equipment , always comply with basic safety precautions.
- The device should not be used for any other purposes than those specified in this manual .
- Only authorized service center can service the unit. The warranty does not cover damages caused by improper exploitation of the unit, failure to comply with this manual, unauthorized alterations or repair carried out by an unauthorized person. Before cleaning , repairing or any maintenance work , always disconnect the unit from the power supply.
- The device is intended for use both indoors and outdoors.
- The device should not be exposed to excessive smoke or dust.
- Do not touch the screen with a sharp object, doing so may result in malfunction or damage.
- In case of a chipped or cracked touch screen, do not use the device . Any damages to the glass screen resulting from improper handling will exclude any warranty.
- The Device should be cleaned with a dry and soft cloth. Do not clean the device by spraying or immersing water .
- Disconnect the unit from power supply before cleaning the unit or any of its part .

## ATTENTION

This manual does not take into account local regulations . The user is solely responsible for the compliance with local regulations

Any repair work must be carried out by Elsecsys company or its authorized dealer.Failure to comply with it may result in loss of warranty.

Plas store this instruction manual in a safe place. If the device is passed on to another user this manual should also be provided.

### 3. Preliminaries

#### Device inspection - transport

After receiving the device make sure that it is intact and that all accessories are in place. Supplied accessories may differ depending on the purchased software package. In case of any damage do not use the device , but immediately contact Elsecsys company or its authorized representative

#### Switching on and off the device

CPPro device does not have a switch . In order to switch on / off the device power cables should be connected / disconnected .

#### Contact - Customer Service

In case of any problem with CPPro , please contact an authorized representative or ELSECSYS company directly. Please provide serial number of the device when contacting the company . Serial number can be found on the back of the unit .



4. CPPro - description

1. Display - technical parameters.



display - technical parameters

| Technical parameters |                           |
|----------------------|---------------------------|
| Dimension            | 4.3' (120,38x79,2x8,63mm) |
| Backlight            | LED                       |
| Display type         | TFT                       |
| Control options      | Touch                     |
| Type                 | Colour 262k               |
| Resolution           | 480x272                   |
| Brightness           | 500 cd/m <sup>2</sup>     |
| Temperature Range    | -20 to 70°C               |

4. CPPro - description

2. Touch screen

-Tapping and swiping – use these intuitive gestures to fully operate the device

Connection Network Activity Info

Device date and time

Action buttons

Spinning main menu



4. CPPro - description

3. Connectors .

Main system  
DB15  
Female  
Connector



( RFU ) FireWire  
Connector

Micro USB

DC Connector

DB9 Female Connector



Chip EEPROM DB9  
Male Connector



SD Card Slot

#### 4. CPPro - description

4. Menu items- All CPPro functionalities can be accessed by tapping on the following icons:



'V.A.G C.P OBD2' icon for running V.A.G C.P OBD2 function programs



Tools icon for running tools function in CPPro



'OBD2 DIAG.' for running OBD2 Diagnose programs



'SPEC FUNC SW' for running special function programs



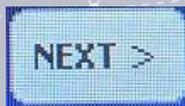
'ECU FLASH PROGR' for running ECU FLASH programmer function



GEARS icon for running the device maintenance options



HELP icon for running help function .



Button that allows user to confirm accessing chosen functionality

4. CPPro – description

5. V.A.G C.P OBD2



Main menu with component protection programs for V.A.G .



This folder contains programs for remove component Protection R/W memory .

4. CPPro – description

6. TOOLS



Tools function button in CPPro



This folder contains programs for EEPROM editor and RFID chip editors .

4. CPPro – description

7. OBD2 DIAG.



General OBD2 diagnostic software .

4. CPPro – description

8. SPEC FUNC SW



Specialized OBD2 software folder.



Contains special function .

4. CPPro – description

9. ECU FLASH



Specialized software for OBD2 ECU FLASH .

4. CPPro – description

10. SYSTEM



SYSTEM stores all of the device details and settings.



The system contains six sub options:

- System Info
- System Settings
- Software Activations
- HW Periph Test
- Firmware Update
- FS Format Disk

#### 4. CPPro – description

##### 10. SYSTEM - System Info



**Main Board** - section presents all of the most important details of CPPro device. You can find here information about the software versions, voltage details, current device temperature and TLock.



**SecM Board** – Security Module Board info.

4. CPPro – description

10. SYSTEM - System Info

IO Board – In/Out Board info

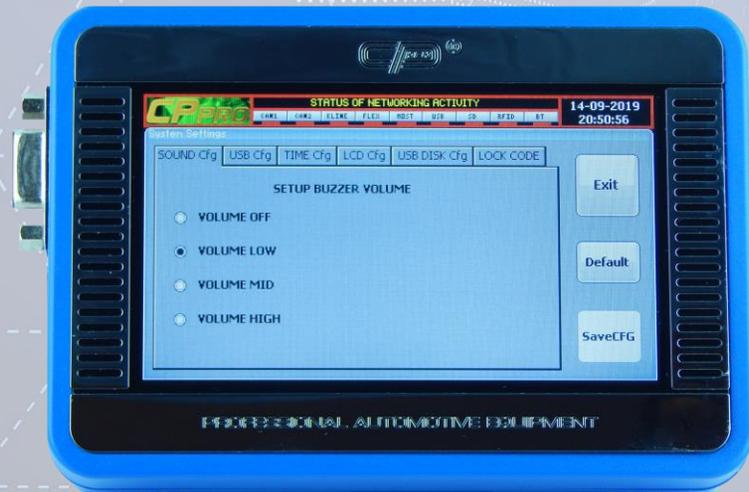




Clock Settings defines the device date and time in UTC format. Each of our devices has it's own datetime which is required for a proper system operation.

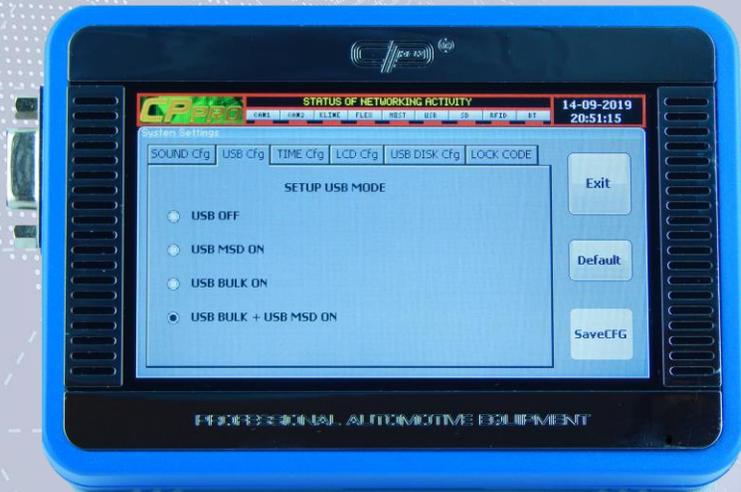
#### 4. CPPro – description

#### 10. SYSTEM - System Settings



**SOUND Cfg** allows user to change the sound intensity. You can set that up to the following:

- OFF
- LOW
- MID
- HIGH



**USB Cfg** - tells us about the active USB mode. You can choose from the following modes:

- **USB OFF** - USB is completely off state
- **USB MSD ON** - **USB MSD** is std USB MSD Class CPPRO Disk will be Mounted By Windows -if USB is plugged to PC
- **USB BULK ON** - **USB BULK** is communication Class Used for windows utility software
- **USB BULK ON + USB MSD ON** - Both Class are active

#### 4. CPPro – description

##### 10. SYSTEM - System Settings



**TIME Cfg** - gives you the possibility to define your own time zone which will be used by the device to operate, and also if Top header time will show Local or UTC Time;.

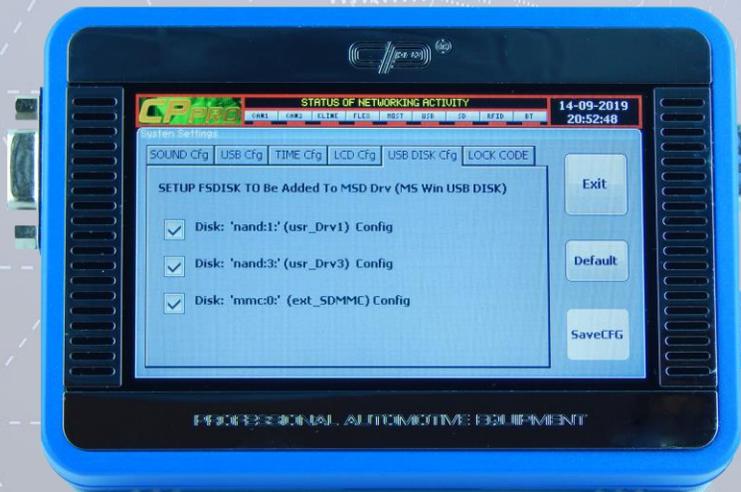


Thanks to **LCD Cfg** you can customize the display parameters. Adjustable parameters are:

- Contracts
- Brightness
- Saturation

#### 4. CPPro – description

#### 10. SYSTEM - System Settings



#### USB DISK Cfg ENABLE/DISABLE

Select which CpPro Internal Disk will be active for USB MSD driver.

Means which disk you want to see in Windows Manager - once USB will be plugged in to PC .



**LOCK CODE** If you would like to protect your device by the power on LOCK Password use option and provide your custom lock code.

All digits wit 0000.. value means password off.

If device is already locked – for change the user password – you need to provide the actual saved code.

There is also emergency option for users – for each device Serial Number special Master Unlock code will be provided.

It can be used to reset (turn off) password in case if forgot last stored password. Its unique code provided individually for each device. User should keep this code out of unauthorized persons.

The **master Reset Password** can be found at:

**Usr\_Disk2:\Usr\_Priv\XXXXXXXXX\_ManufactReport.txt**

The xx.xx – is the CpPro dev serial nr;

4. CPPro – description

10. SYSTEM – WH PERIPH

Filestest API Test



The test execution



4. CPPro – description

10. SYSTEM – FIRMWARE UPDATE



To update the device firmware place SD card in the SD card socket and start the update procedure using Upd Sys DBF From SD option.

10. SYSTEM – FS FORMAT DISC



Last SYSTEM option gives you the possibility to format internal and external device memory.

## 4. CPPro – description

### 11. TECHNICAL PARAMETERS

**RECOMMENDED POWER SUPPLY VOLTAGE:** 12 VDC

**POWER SUPPLY INPUT CURRENT:** 5 A

**PERMISSIBLE POWER SUPPLY VOLTAGE RANGE:** 11-17 VDC

**MAXIMUM CURRENT CONSUMPTION:** 2 A .  
(IN THE PERMISSIBLE POWER VOLTAGE RANGE)

**PROCESSOR / FPGA:** 300 Mhz ARM CM CORTEX

**RAM MEMORY:** 32 MB

**MASS STORAGE:** 128 mb nand + 256 mb nand + sd card

**DISPLAY:** 4:3

**LANGUAGES:** English

**WEIGHT:** 450 g

**SUPPORTED NET INTERFACE:** 2 X CAN bus up to 1 mb/s

- K-Line iso9141
- RFID Reader with auto tune antenna  
Antenna is high performance Ferrite antenna;
- Universal Serial Memory IO Port with all pins contact test  
Support and advanced Circuit protection,  
Wide range of regulated voltage(1.65..5.1V and 0-2 amp  
Load) can easily read/write almost EEP Memory On Board  
by contact CLIPS even harder design where other  
programmer need to get out the memory;

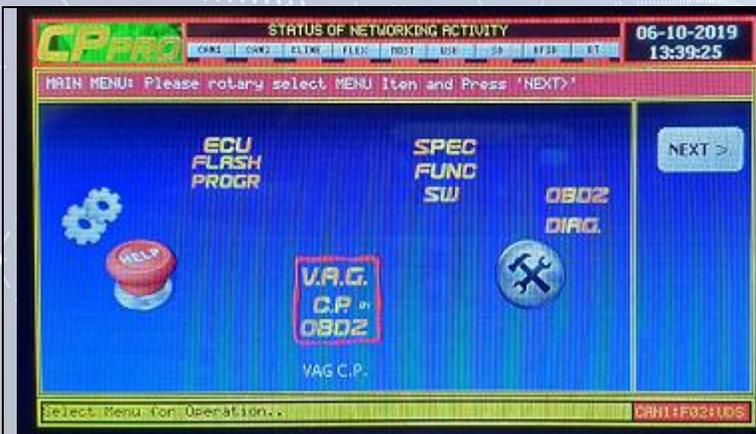
Special Port For Other interface like MCU/JTAG etc  
For future access to microcontrollers if will need.

5. CPPro –how to add module to car .

**EXAMPLE HOW TO ADD MODULE TO GATEWAY - MODULE KLIMA 4GH**

**STEP 1.**

A



Pick V.A.G CP OBD2

Click => Next

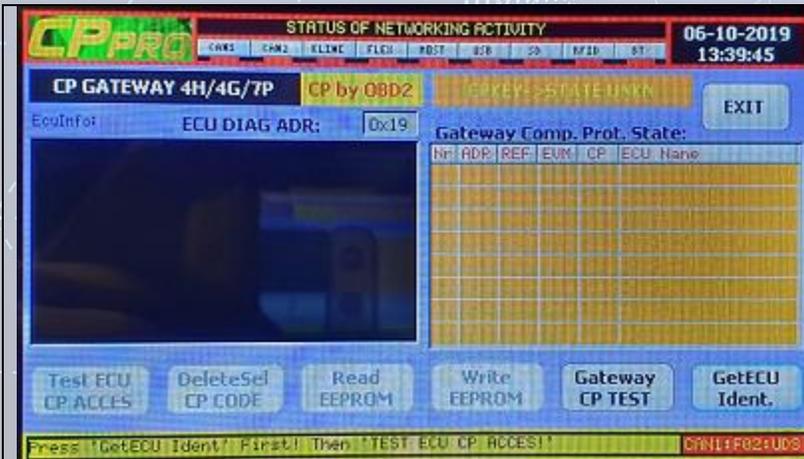
B



Pick GATEWAY 4H4G7P

Click = > Next

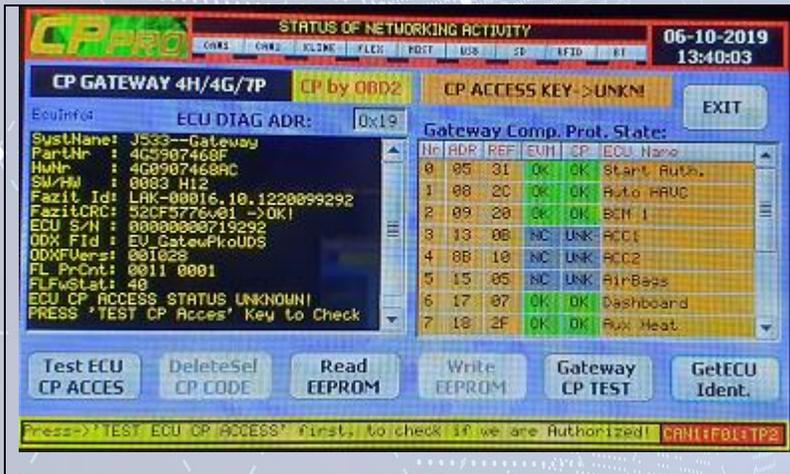
C



CP KEY -> STATE UNKN

Click = > **GETECU Ident.**

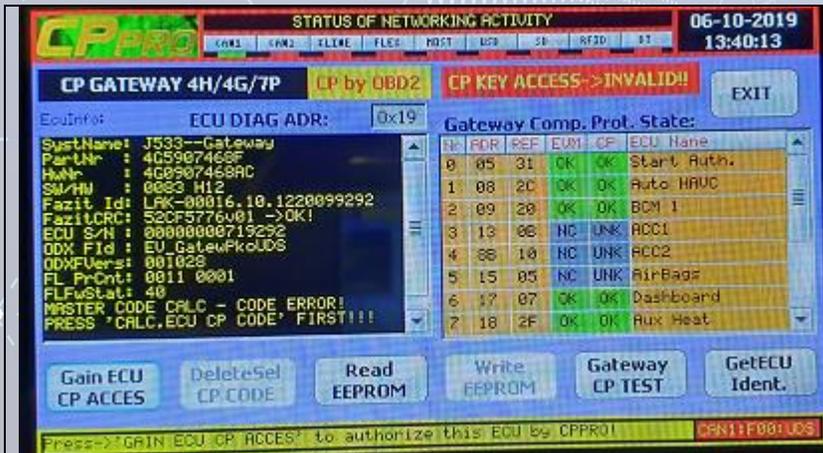
D



CP ACCES KEY - > UNKN

Click => Test ECU CP ACCES

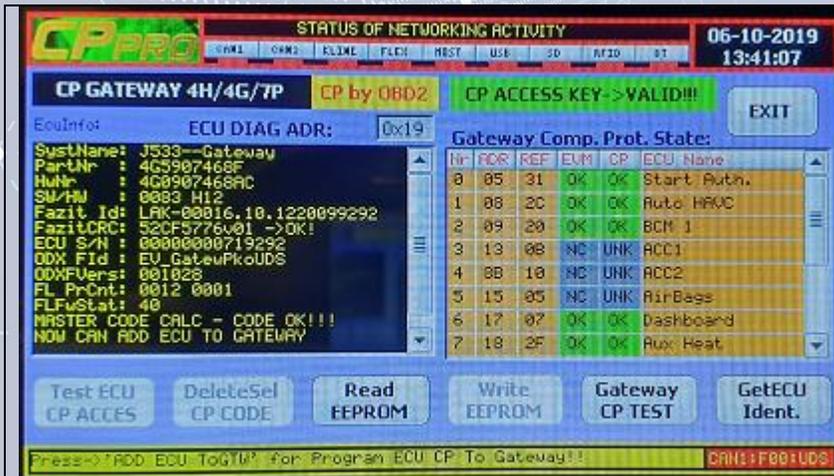
E



CP KEY ACCES -> INVALID

CLICK => Gain ECU CP ACCES

F



CP ACCES KEY -> VALID!!!

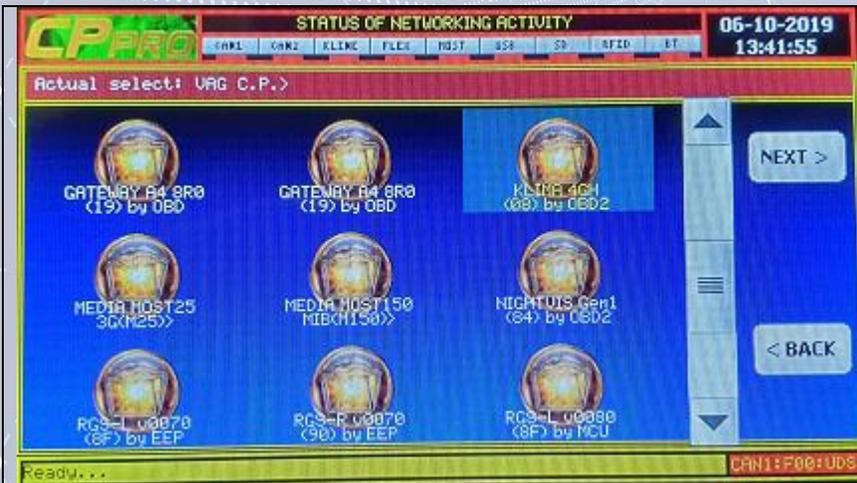
**From now we can add modules to car .**

Click EXIT .

Note:  
 Each time the CPro is restarted **as first** need to go in Gateway SW,  
 And obligatory execute only **STEP 1C and 1D** - if this Gateway was  
 already authorized before. **Or STEP 1C...1F** if such Gateway is  
 authorized first time. **After this simple job – All other ECU can be  
 added to this gateway as soon as each one of them will be  
 authorized too, in almost cases - exactly same way as gtw, but  
 by using other program.**

**STEP 2 CP AUTHORIZE KLIMA AND ADD it TO GATEWAY**

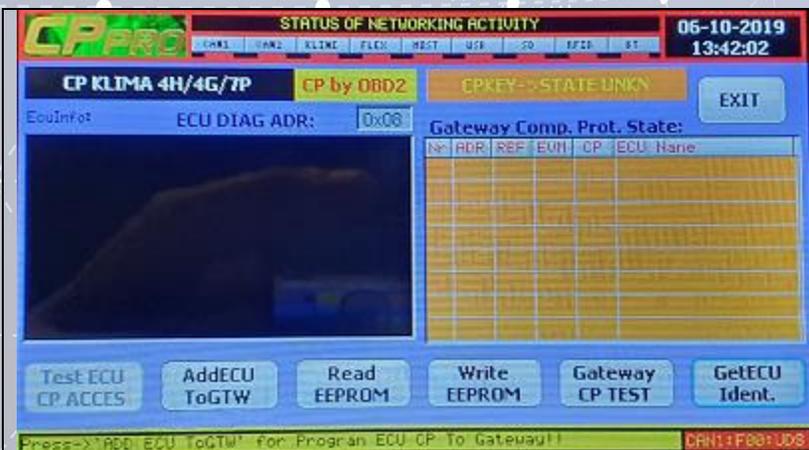
A



Now we pick KLIMA 4GH

Click - > Next

B



CP KEY -> STATE UNKN

Click = > **GETECU Ident.**

C

The screenshot shows the CPPro software interface. At the top, it displays 'STATUS OF NETWORKING ACTIVITY' with a date of 06-10-2019 and time 13:45:49. The main title is 'CP KLIMA 4H/4G/7P' and the status is 'CP by OBD2 CP ACCESS KEY->UNKN!'. Below this, there are several sections: 'EcuInfo' with details like 'SystName: KLIMA 2 ZONEN', 'PartNr: 4G0820043AC', and 'HuNr: 4G0820043AC'; 'Gateway Comp. Prot. State' with a table of components; and a bottom section with buttons for 'Test ECU CP ACCES', 'AddECU ToGTW', 'Read EEPROM', 'Write EEPROM', 'Gateway CP TEST', and 'GetECU Ident.'. A yellow status bar at the bottom reads 'Press->'TEST ECU CP ACCESS' first, to check if we are Authorized!'.

| Nr | ADR | REF | ELM | CP  | ECU Name    |
|----|-----|-----|-----|-----|-------------|
| 0  | 05  | 31  | OK  | OK  | Start Auth. |
| 1  | 08  | 2C  | OK  | OK  | Auto HAUC   |
| 2  | 09  | 20  | OK  | OK  | BCM 1       |
| 3  | 13  | 0E  | NC  | UNK | ACC1        |
| 4  | 08  | 10  | NC  | UNK | ACC2        |
| 5  | 15  | 05  | NC  | UNK | AirBags     |
| 6  | 17  | 07  | OK  | OK  | Dashboard   |
| 7  | 18  | 2F  | OK  | OK  | Aux Heat    |

CP ACCES KEY -> UNKN

Click -> Test ECU CP ACCES

D

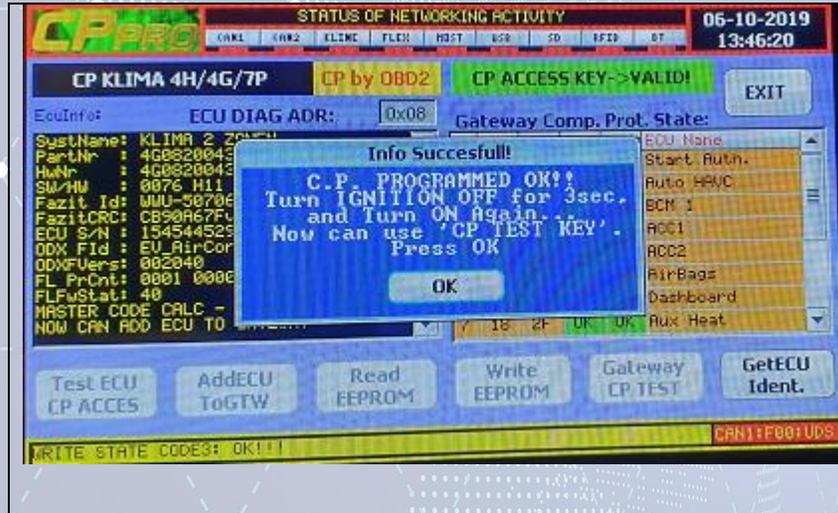
The screenshot shows the CPPro software interface after a successful test. The status is now 'CP ACCESS KEY->VALID!'. The 'EcuInfo' section is identical to the previous screenshot. The 'Gateway Comp. Prot. State' table is also identical. The bottom section now features a yellow status bar that reads 'Press->'ADD ECU ToGTW' for Program ECU CP To Gateway!'.

| Nr | ADR | REF | ELM | CP  | ECU Name    |
|----|-----|-----|-----|-----|-------------|
| 0  | 05  | 31  | OK  | OK  | Start Auth. |
| 1  | 08  | 2C  | OK  | OK  | Auto HAUC   |
| 2  | 09  | 20  | OK  | OK  | BCM 1       |
| 3  | 13  | 0E  | NC  | UNK | ACC1        |
| 4  | 08  | 10  | NC  | UNK | ACC2        |
| 5  | 15  | 05  | NC  | UNK | AirBags     |
| 6  | 17  | 07  | OK  | OK  | Dashboard   |
| 7  | 18  | 2F  | OK  | OK  | Aux Heat    |

CP ACCES KEY -> VALID

Click -> AddECU ToGTW

E



**CP ACCES KEY -> VALID !**

Write state code3 : ok !

Now module KLIMA 4GH is programed.

**NOW YOU CAN ADD OTHERS MODULES !!**

**YOU CAN SKIP STEP 1 .**

**FOR FIX COMPONENT PROTECTION EACH PROGRAM WORKING IN SAME WAY:****STEP1:****- AUTHORIZE ECU**

In almost cases this step is done by diagnostic wire like OBD2, Direct Flexray(only Radars) or Fiber Optic MOST 25 or MOST150 in cases of media ECU(amplifiers,CD Changers,TV Tuners etc)

There is few ecu that the step1 need to be done in any special ways(EEprom,MCU etc) – each one is described in separated manual.

Once this step is done(in any cases) the ecu future can be fully accessed by OBD2 where can be added to gateway in the next step;

**STEP2:****- ADD TO GATEWAY**

Once ECU is authorized successfully in step1 (signaled by light green label in each CP software) the button **ADD TO GTW** Will be highlighted and ECU can be added to CAR.

One important things to remember is that after each power up of CPPRO need to go to Gateway Software , press **“GET ECU ID”** and then **“TEST ECU CP ACCES”** key to get Gateway info into memory;

After this operation in every programs **“ADD TO GTW”** button can be used;

**Communication Network Activity info**

**CP ACCESS KEY State**  
It inform if CPRO Tool can authorize this ECU

**Name of Program**

**ECU Diag. Address**

**Here we can find ECU Module identification data Readed by OBD2**

**Component Prot. State Info Label from Gateway.** Each Row represents one ECU which CP is programmed to Gateway.

**This table providing spec. Info:**

- **Col1 (Nr.)** – is pos Number
- **Col2 (Adr)** – ECU Diagn .Adr
- **Col3 (Ref)** – ECU Refer. Adr
- **Col4 (EVM)** – is Ecu Event Memory Error Indicator.
- **Col5 (C.P.)** – inform if ECU was Authorized by Gateway correctly or Not.

**The:**  
**Green(Ok)** mean: CP OK,  
**Red (Err)** mean: CP Invalid  
**- Col6 (Ecu Name)** - is Name Of ECU

# WINDOWS UTILITY APPLICATION

1. CPPRO Utility – windows software for management the firmware update and activation software



Step 1 .

Click on Activation List .

**Activation List .**

**step 1 :**  
Select **CheckBox** of programs what you want to activate/deactivate.

**step2 :**  
When all required programs already selected need to click button **'ADD TO BASKET'** (once any program will be selected – button start to be active). And the programs will show us on lower table.

**step3:**  
click button **' CREATE REQ FILE'** . Save the file and send us this file via e - mail.

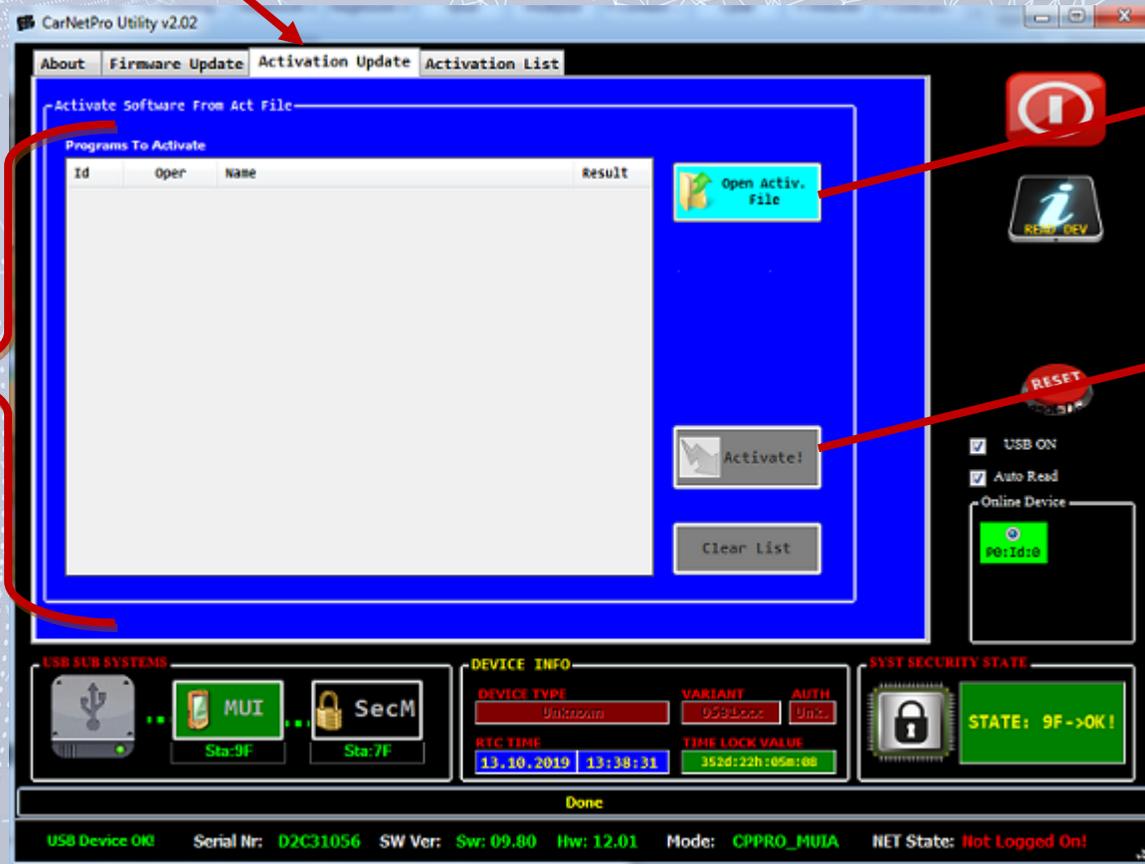


**Program List View Filter:**

Here you can switch between this four option.  
-Valid Prog .  
-Not Named  
-Active  
-Not Active

Step 2 .

Click on Activation Update



On this table you will see what programs will be activated after you click button Activate!

**Step 1 :**  
Now you need open the file what we send to you via e-mail by click **OPEN ACTIV FILE**  
Then activation list will be loaded to the listbox

**Step 2:**  
Finally click **'ACTIVATE'**  
All the programs from list will be activated, Finally you should see **"DONE"** it means activation completed

## Firmware Update:

### **STEP1: CPPRO SYSTEM FIRMWARE UPDATE by WINDOWS UTILITY**



When you will get from us files with the firmawe update or you download from our site . Now you need to do is 3 steps.

**step 1 :**  
**Open File**  
**(Fw\_v\_XXXX.FWC)**  
 The text boxes will be filled with update details

**step 2 :**  
**Download**  
 The file will be transferred to device internal memory

**step 3 :**  
**Run update**  
 CpPro will reboot and enter FW Bootloader where firmware will be loaded. Rest will be done automatically.  
**DON'T POWER OFF DURING FIRMWARE IS UPDATING!!!**

## STEP2: CPPRO SYSTEM DATABASE UPDATE BY USER:

After CPPRO Firmware Updated, usually need to update also CPPRO Internal System Database.  
To Do this Please follow procedure:

1. Prepare Valid SD Card (!!!MUST!!! be compatible with CPPRO internal File System type: File System->FAT16, Partition Size must be less than < 4GB):
  - Insert sd card with size 4-16 GB into CPPRO Device SD Card Slot (!!! CAUTION !!! All SD Card Data Will be ERASED!)
  - Turn On Device, and Go to "MAIN\_MENU->SYSTEM->FS FORMAT DISK->FORMAT DISK 'EXT\_SDMMC'" and Start the software - It Format and Prepare Your SD Card structure.
2. On Your PC - Copy Folder with all Internal content named as Database Version (like v1.07): "CPPRO\_UpdPACK\_vXX.XX\\SysDBF\\vX.XX" to your SD Card dest folder: "EXT\_SDMMC:\\SW\_Update\\SysDB\_PROD\\"
  - after Copy Files Done - Unmount SD Disk on your PC Computer (mouse right click on your SDcard disk in "Windows Explorer" and choose "Unmount")
  - Note: !!!SOMETIMES ITS VERY IMPORTANT TO REAL STORE COPIED DATA ON SD CARD by Windows(Cached Content)!!!
3. Insert Again SD Card To CPPRO Device SD Card Slot.
4. Go to: "MAIN\_MENU->SYSTEM->FIRMWARE UPDATE->Upd Sys DBF FromSD" - and run it
5. After operation complete - CPPRO Device will ask for restart... After reboot - and Done!

### Note:

This step can be also done in more simple way..After CPPRO Main firmware update completed – device will reboot to normal mode.

If Internal database will need to be updated – before Main menu started the red warning window appears – it inform that need to update DataBase or if there any error in data consistency.

In this case you can skip it(press “**SKIP IT**”) – then normal menu is started and can update from menu like described before, or press “**UPD NOW**” – for direct start database updating of course - If the SD Card was already prepared(data must be placed in sd in exactly same way as described before when updating from system menu)

**Info for all Users...**

**This is preliminary version of this manual..**

**Very Soon it will be extended with detailed description of other functions..**

**We working hard to complete full description but after 4 years of hard work under device is much more harder...**

**Any way the device usage is very simple ..**

**The MOST25/MOST150 FIBER Optical CARNET PRO devices is under construction now and will be described in other user manual and available in a days.**

