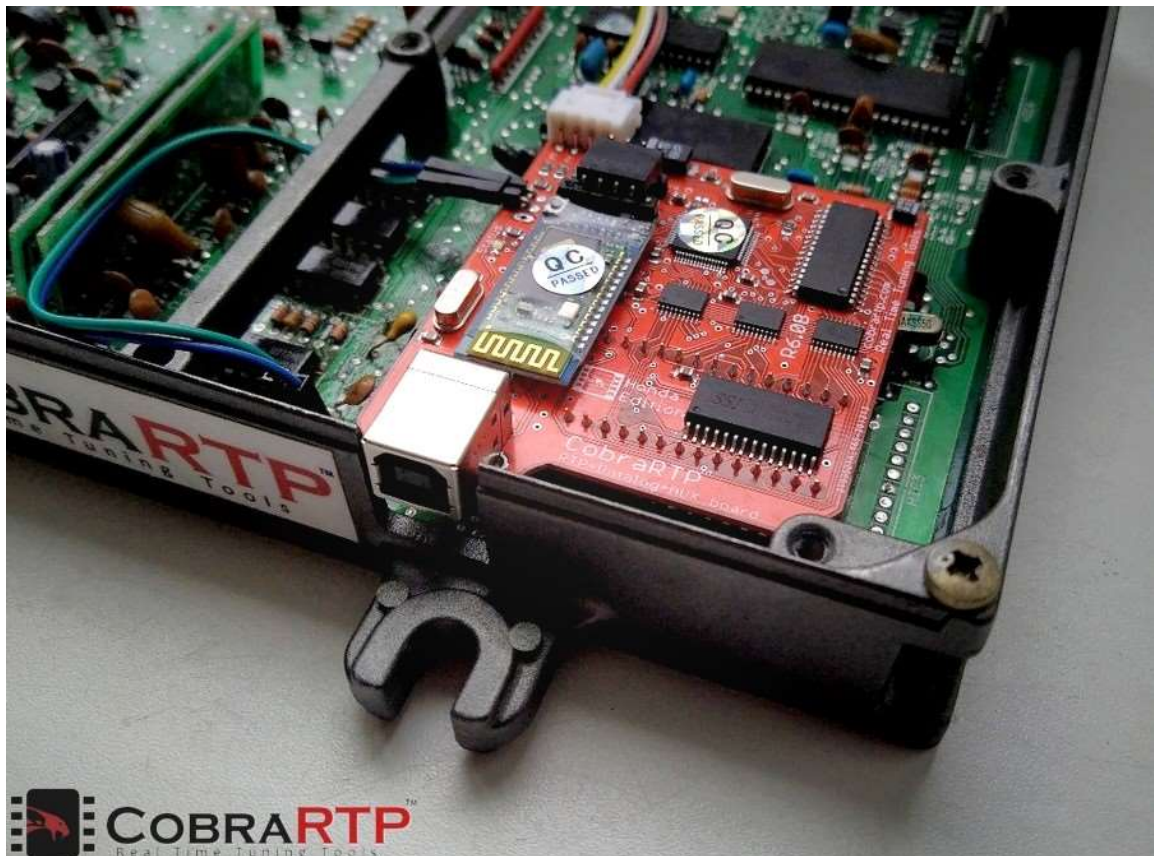# CobraRTP

Honda Edition R8-R10
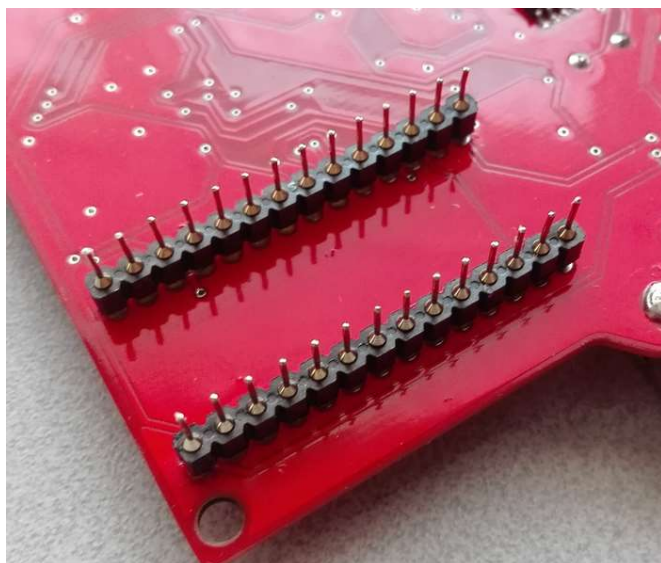
User Manual

Rev. 1.9

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> **First of all, your ECU must be prepared for Chip tuning, i.e. installed chipping kit (socket for the chip (round or V-shaped), removed J12 (or J4 for JDM) and more). Chipping kit is not included with CobraRTP!**

Connection and installation

Installation in the ECU is done using the pin contacts in the chip socket, as shown below, using the example of USDM OBD1.

To ensure access to the CobraRTP USB port, it is necessary to make a cutout in the ECU case.

> **Warning: It is worth paying special attention when installing (removing) the board in ECU, as well as during storage, since the type of pin contacts (round) shown in the photo above have low strength and can be prone to kinking under light load or when the board falls without protection.**

The **Datalog** is connected to the ECU (connector **CN2**) using a cable from the kit, as shown above.

As you can see, two data lines are used for the connection - **RX** and **TX**, respectively **2** and **4** pin of connector CN2 in the ECU. This is true for both USDM and the JDM region.

> **Warning: Do not touch the board when power is on! It can do damage under static voltage or noise!**

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CONNECTION TO PC

Connect Honda Edition to a PC using a standard USB type-B cable.

CobraRTP can only connect to a PC, i.e. There is no need to install (connect) the emulator to the ECU, or connect a separate power source.

Connection setup

After connecting, you should have a new device in the device manager. After that, you need to install USB drivers. Read how to do this for different board revisions:

Installing the USB driver

Installing USB drivers is standard. To do this, you must run the file "*Setup v3.0 USB Driver.exe*" and follow the instructions (3).

After successful installation of the driver, in the Device manager, if there is a connected emulator, two virtual COM ports should appear:
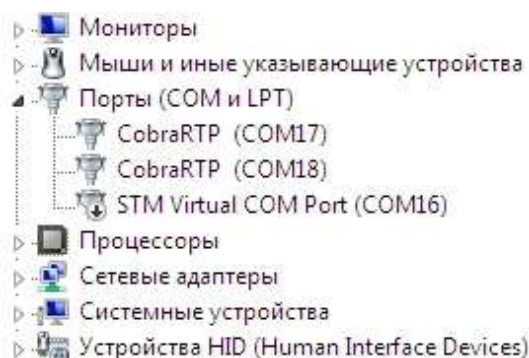
View of the device in the device manager upon successful installation of the driver (port numbers may differ from yours).
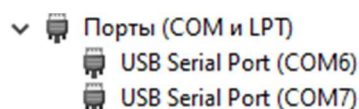

Wrong (standard) type of drivers, follow point 2 of the note below.

Notes:

1. One of the COM ports is used for **RTP (emulation)**, the second, respectively, for **Datalog**. It is possible to determine on which port the emulator (RTP) is used, using the CobraRTP Utility (see below).

2. If for some reason the standard drivers were installed (auto-update), then for stable operation of the system it is necessary to specify the following parameters in the port properties in Device Manager:

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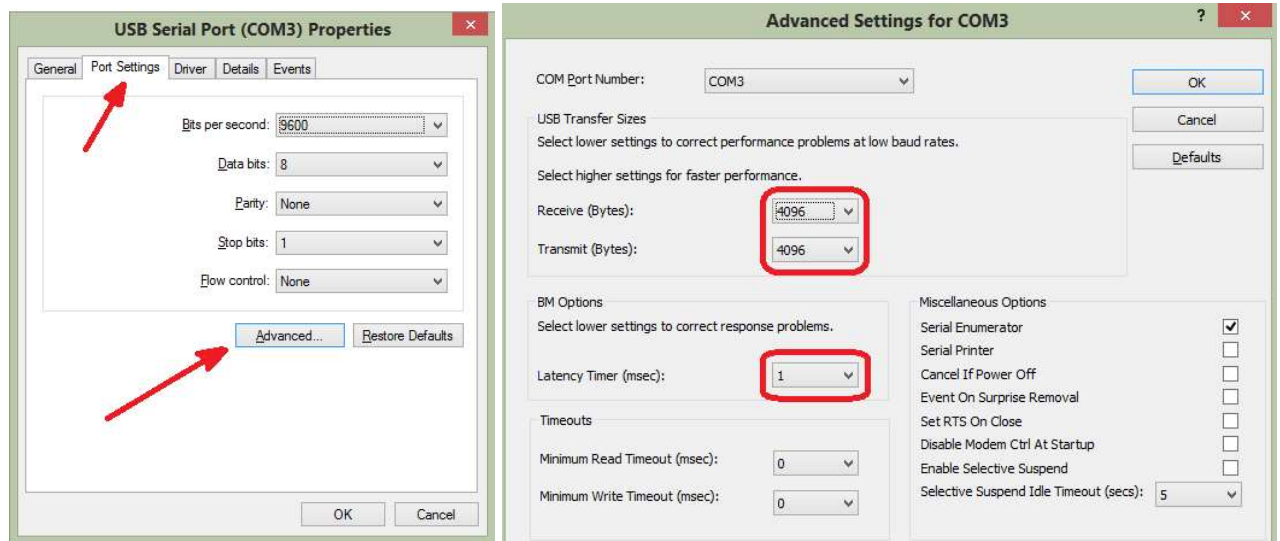
This operation must be performed for both COM ports.

Or reinstall (delete) standard driver using the official drivers from our website (described above).

3. For successful installation of drivers it is strongly recommended to disable **anti-virus** software.
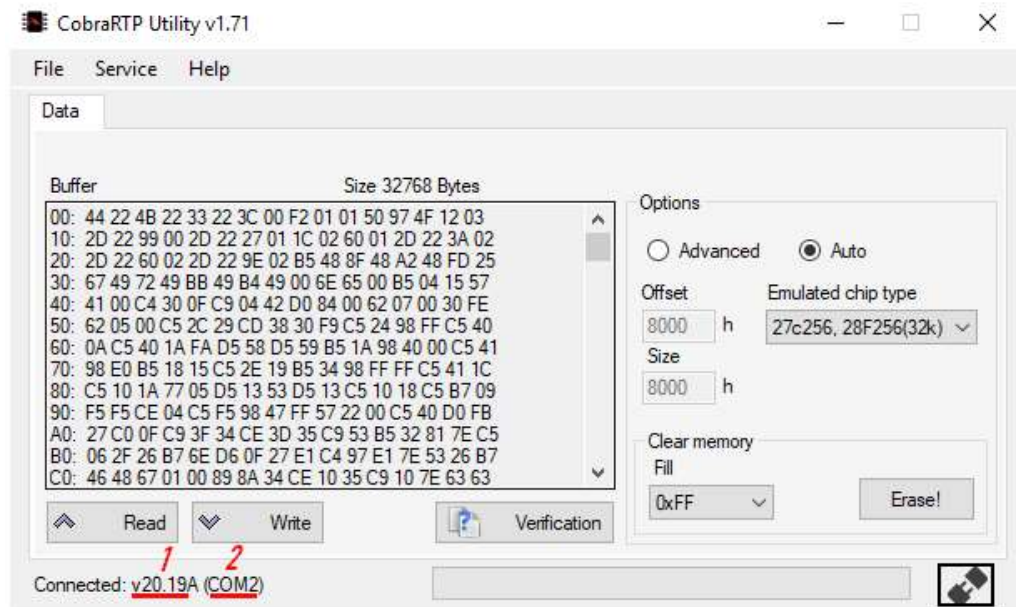
Check connection

To test the CobraRTP device, you can use **CobraRTP Utility**.

You can download the latest version on our website in the "*Downloads*" section. The number of the required COM-port for emulation (RTP) will be selected automatically and displayed in the status-bar of the program:

1. **–** emulator software version.
2. **–** the number of the active (used) COM-port (for emulation).

Accordingly, the second added COM-port number when connecting the device will be used for **Datalog**.
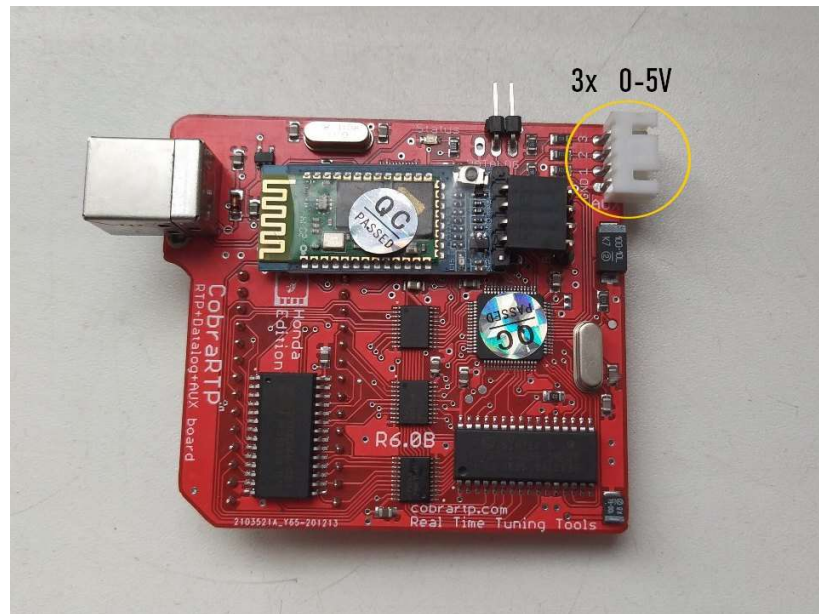
More info: https://cobrartp.com/en/cobrartp-utility/

For a detailed guide of Honda Edition, you can use the video tutorial: https://youtu.be/RfmCAp7csVY

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AUX SETTINGS

    The analog inputs in the device are used as an option (AUX) to expand the capabilities of the limited analog inputs in the ECU.
    This feature currently works in HTS 2.03 or later & Honda Edition R5.0+

Settings for HTS:

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This function is included with datalog.

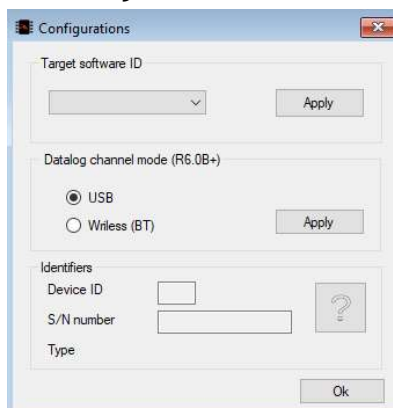Also analog inputs (AUX) can be checked and configured in the CobraRTP utility *Service - Analog in*:
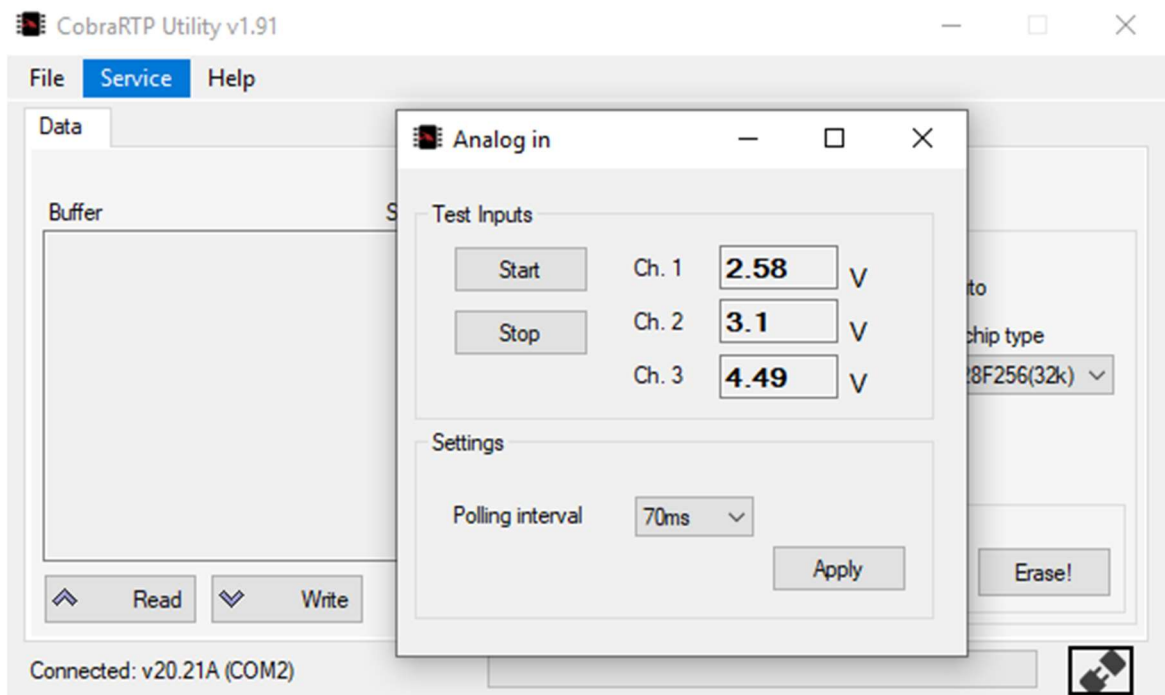
The voltage will correspond to that specified for one or more channels (1-2-3) between GND.
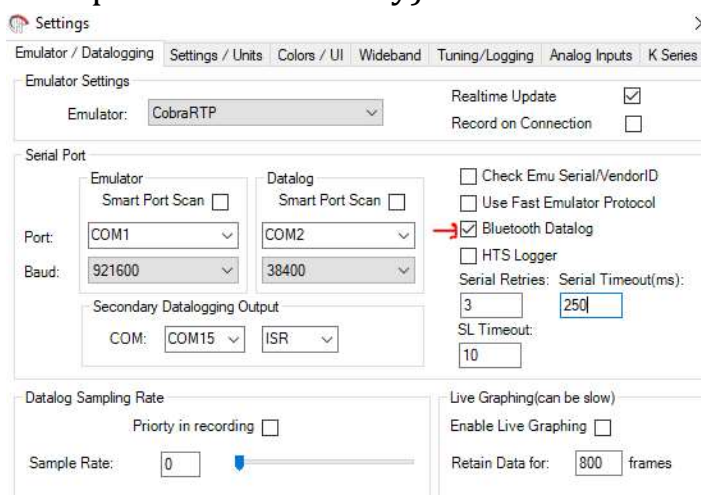
SELECT DATALOG CHANNEL MODE (USB-BT)

This function is available for versions with bluetooth module (**R6.0B +**).
To select the dataog mode (channel), use the *Service-Settings* tab:

To switch the mode, you must select the appropriate item and save (the selected mode is saved in permanent memory).

Pssword for BT mode: **1234**

Tutorial: **https://youtu.be/y_6EdtvHOGY**

Note:
1. Wireless way of working datalog (BT) is designed primarily to work with the mobile application (TunerView), as well as with the Honda Tuning Suite. Performance with other programs is not guaranteed, but possible!
2. To test the Datalog channel in the "Test" tab, use the USB mode.
3. Make sure that the correct COM port for BT datalog is selected, there may be several of them and it does not correspond to the COM port for USB mode!
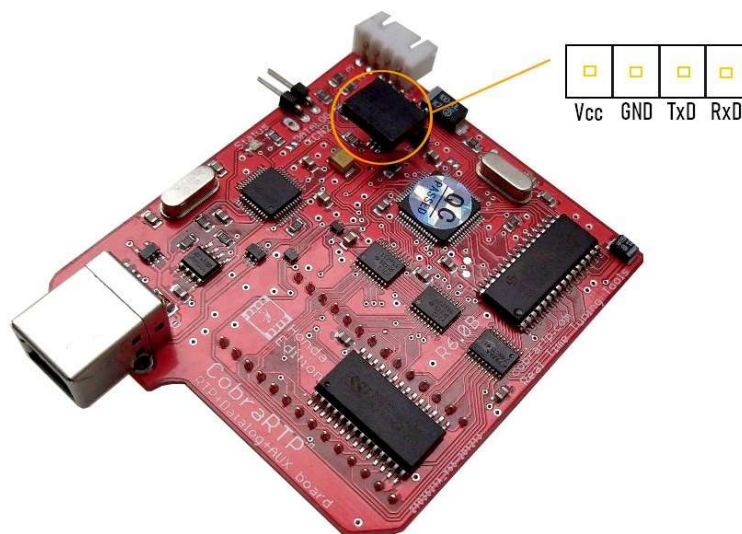
INSTALLING BLUETOOTH (BT) MODULE

If you have a revision of the **R6.0B +** board without a preinstalled BT module for **datalog**, then you can install the BT module yourself.

To do this, you need any BT module with the ability to provide the following settings:

- speed must be set to: 38400 bps/s (baud)

-power supply voltage (Vcc-GND):   5V

The connection diagram is shown below:

Note: the direction of the TX / RX lines is shown inverse, i.e. the way the pins of the bluetooth module should be located. For example HC-05 is fully compatible.

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DUAL-MODE (DUALMAP)

   CobraRTP Honda Edition starting with revision R7 allows the upload and use of two different basemap's (Bin). For this, a "Dual-mod" jumper is provided on the board, with the help of which the firmware is selected (memory block):

Upload two ROMs (basemap)
   Firmware download is performed in the following order:
   1. Upload ROM1 (jumper installed - contact closed)
   2. Upload ROM2 (jumper removed - contact open)
   Thus, by closing and opening the contact of the "Dual-Mod" jumper, we select a memory block and upload different firmware into different areas of the emulator's memory.

   Using
  For use, you can select the desired memory area, i.e. ROMx using the jumper state (closed / open), in accordance with the order of the uploaded.
  For the convenience of switching, you can use a toggle switch brought out at a short distance (no more than 1m is recommended) using a cable.
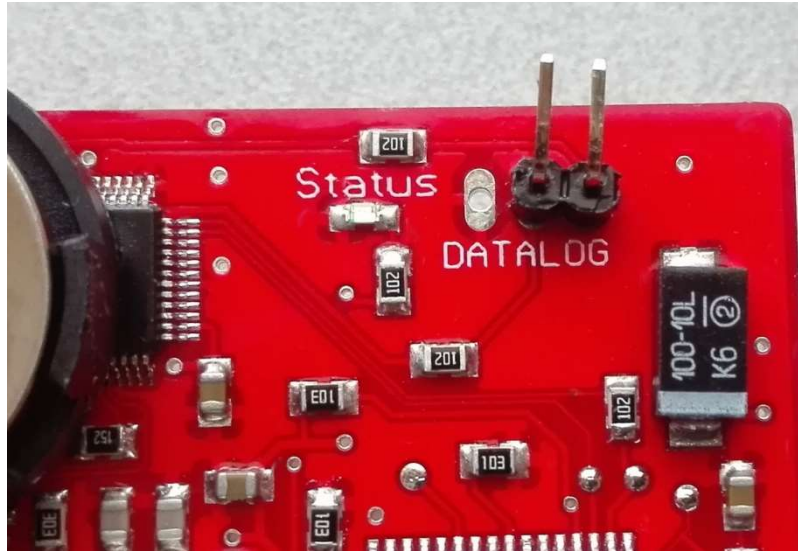
  It is allowed to switch firmwares with the engine running.

Also, you can see the video instruction: https://youtu.be/CiyAftnVTD0

STATUS INDICATOR

On the CobraRTP board of all variants, LED indicators of the current state of the device are provided:

Status – emulator status indicator has 2 modes:

1. Battery life:
   At the first power supply, the indicator lights up and is constantly lit during operation..

2. Tuning:
   When the emulator is connected to the software, the indicator will go out, and it will only light up again during identification, read, write, and verification operations.

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TUNING SOFTWARE CONFIGURATION

 BEFORE RUNNING THE EMULATOR IN ECTUNE, HTS, CROME, BRE OR TURBOEDIT, YOU MUST MAKE SURE THAT THE CURRENT TARGET SOFTWARE ID CORRESPONDS TO THE PROGRAM YOU INTEND TO USE (SEE COBRARTP UTILITY):
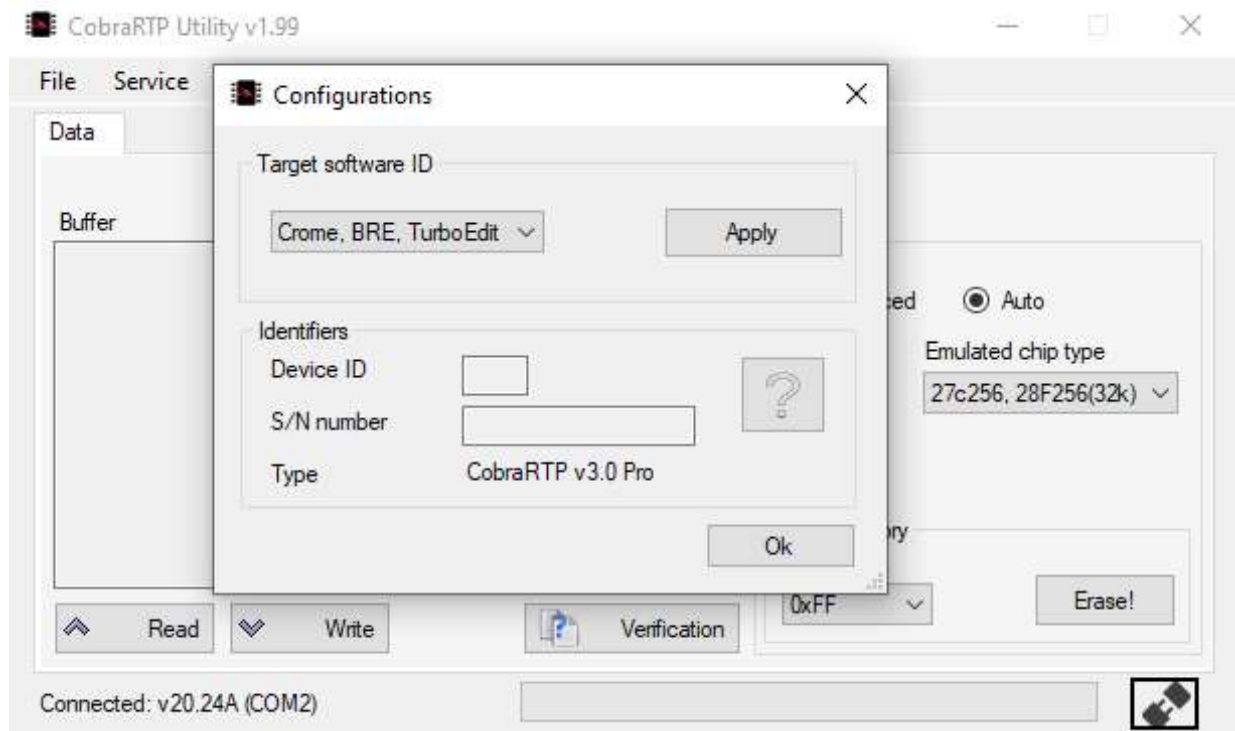
To change, you must follow *Service – Configurations* and select the appropriate software in the list and "*Apply*"
 (at a time).

Always download the latest software and check CobraRTP device updates.

eCtune (OBD1):

YOU NEED TO DOWNLOAD THE PREPARED VERSION ON OUR WEBSITE IN THE "DOWNLOADS" SECTION.

* Port for emulation (same as in CobraRTP utility)
1) Port (Datalog) - for datalog, usually one more than the emulation port number (see Device Manager (COM & LPT)).
3) Datalog speed rate for the datalog (do not neglect).

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HTS (OBD0/OBD1):
https://hondatuningsuite.com/

- Port (Emulator) - for emulation (same as in CobraRTP utility)
- Port (Datalog) – for datalog, usually one more than emulation port number (check in Device Manager (COM & LPT)).
- Baud - data speed, set as in the image.
- Bluetooth datalog –use only if Bluetooth connection.

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Crome (OBD1):
https://www.tunewithcrome.com/
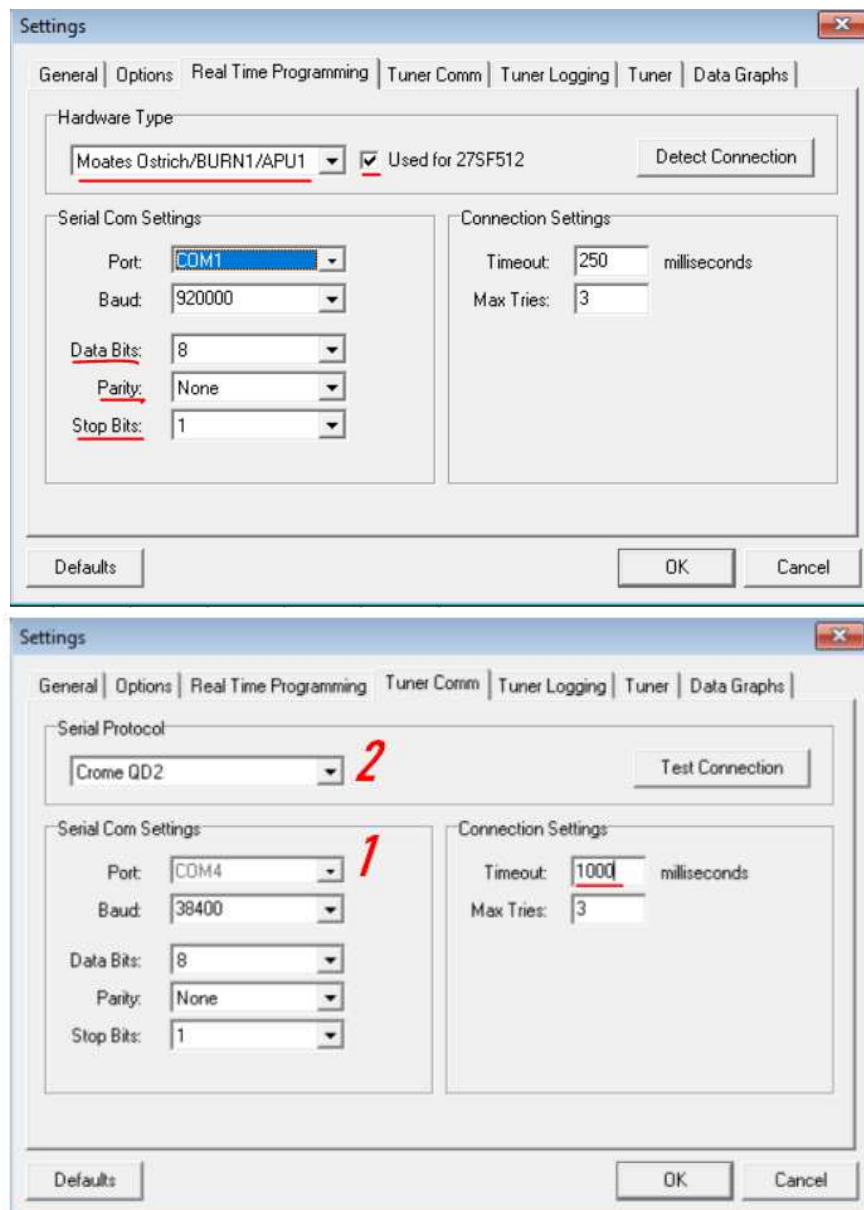
1) Port for datalog, usually one more than the emulation port number (see Device Manager (COM & LPT)).
2) The protocol should be selected QD2, or if you are using Crome Gold - QD3 respectively.
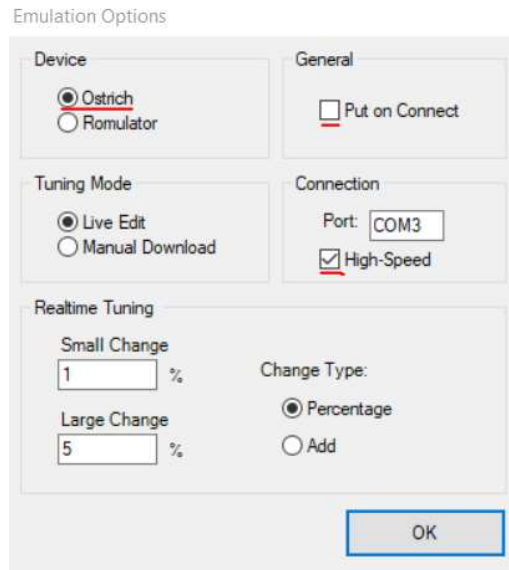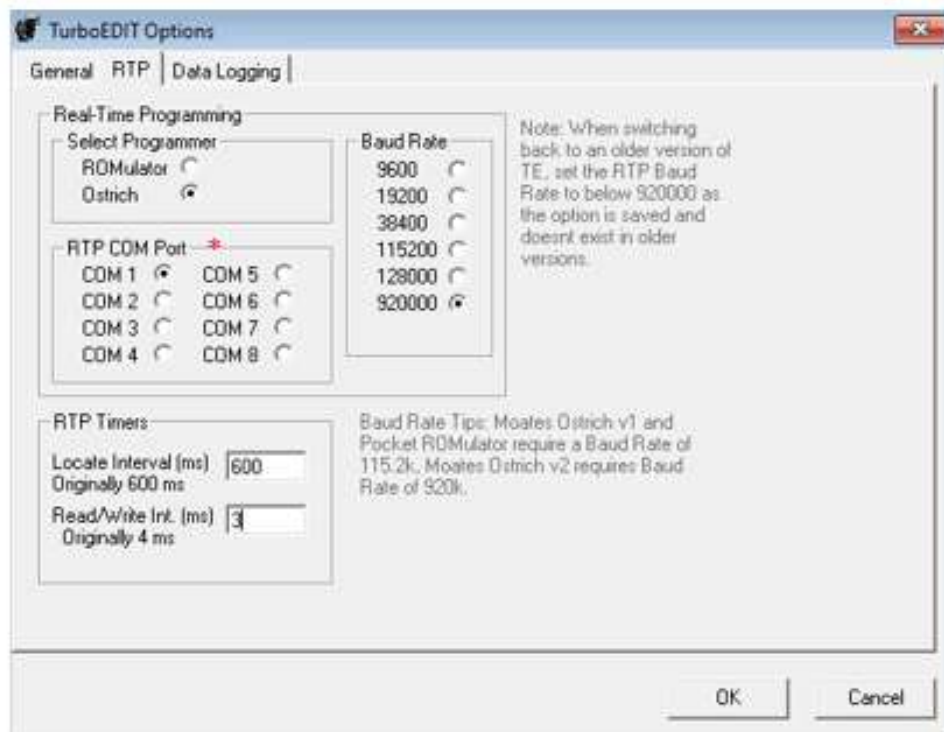
BRE (OBD0):

http://benogle.com/projects/bre.html

TurboEDIT (OBD0):

https://honda-perf.net/turboedit/TurboEDIT%203.2.2%20Full%20Install.exe

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TROUBLESHOOTING

1. **Connection issues in tuning software**

   Decision:
   - check if the **software ID** is selected correctly in **CobraRTP Utility**
   - check if the COM port number is selected correctly
   - check if the device is connected in other software at the moment **(COM port can be connected in only one software)**

2. **Datalog issues**

   Decision:
   - Check if the datalog wires are connected correctly
   - Check if the COM port for the datalog is correctly selected (**differs from the emulation COM port number**)
   -Check baud for datalog COM in software settiongs
   -Check serial timeout
   -If you have a version with **bluetooth** - make sure that the used datalog channel is selected in the configurations (CobraRTP Utility) (**see above**)

 If the issue with datalog persists, check the compatibility of your computer with the datalog. Jumper j12 (j4 for JDM) is removed, J1 is installed, is the base ROM loaded, etc.), and check CobraRTP hardware in the **CobraRTP Utility** in the *Service->"**Test (hardware)**"* option.

Also, one of the rare causes that have been discovered by our customers is a pin-to-pin short circuit for FTDI USB controller:


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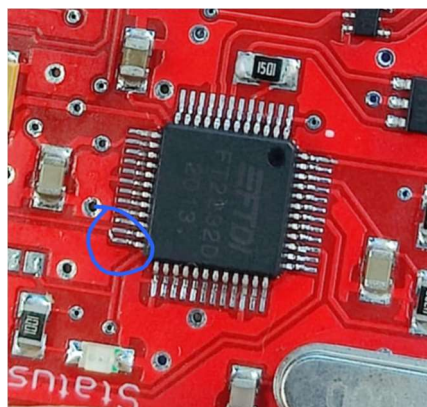
3. Base Rom is loaded but car won't start and is in emergency mode (Check Engine light (MIL) is on all the time)

Decision:
- Check if unused sensors are disabled in options (HTS, eCtune, BmTune)
- Make sure that Baserom is compatible with your ECU
- Check 28 pin socket contacts
- Make sure that if J1 is installed and have good contact in the ECU
- Check CobraRTP hardware in CobraRTP Utility (*Service - Test - ROM*)
If the test result is negative, then check the board, it may be a pin-to-pin short circuit. In this case, you should check all the pins:
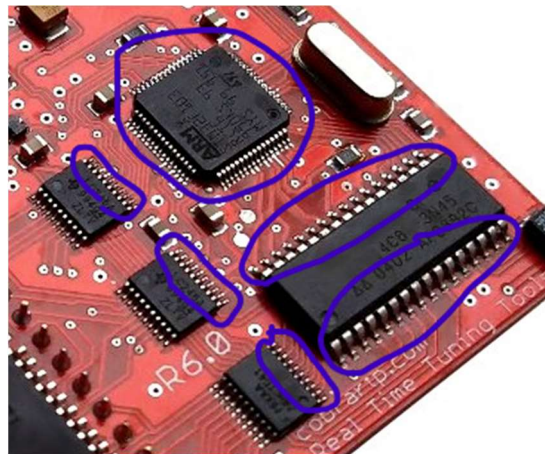
To test the main nodes of the board hardware, you can use the built-in functions in CobraRTP Utility (Servise->Test):
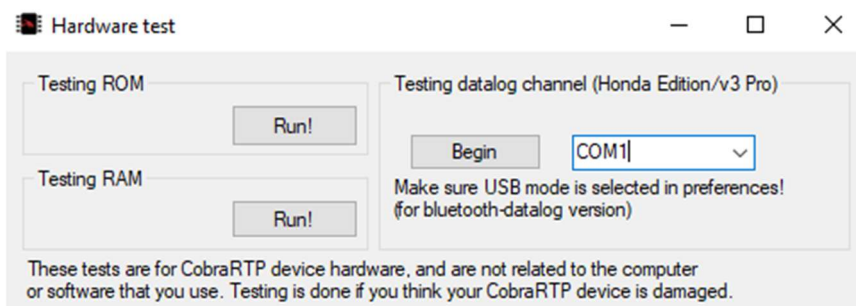
SPECIFICATIONS

1. Supply voltage R2-R5...5 V (±10%)
    Supply voltage R6-R7...4-5.5 V
2. Supply current (active)..50-70 mA
3. Memory access time ....60 ns
4. Ambient temperature:
    -R2-R3 (with battery): 0...50°C
    -R4+:   -20...70°C

CobraRTP Team ©2018.
cobrartpteam@gmail.com   https://cobrartp.com/en