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MICROTRONIK HexProg II Tuner Chip Tuning Tool Full Set User Manual

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MICRO TRONIK

MICROTRONIK HexProg II Tuner Chip Tuning Tool Full Set

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   The operation manual provides detailed instructions on how to use the HexProg II Tuner.
8. **Operation Modes**

   The HexProg II Tuner offers different modes for ECU programming and tuning. These modes include:

   - Bench Mode
   - OBD Mode
   - Boot Mode

     For more information on these modes.
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The HexProg II Tuner provides additional services such as online service and short-term activation of cloning license.

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General

The ECU/TCU is the electronic control unit responsible for managing various operations in modern automobiles. It

handles tasks such as calculating and storing data for functions like air-fuel ratio and valve controls, ensuring efficient performance of the engine and transmission.

In addition, the ECU and TCU store unique security data specific to each vehicle, which imposes restrictions on replacing them with secondhand units via simple plug and play. Cloning plays a crucial role in enabling car programmers and ECU technicians to easily replace their control units with used ones from different vehicles. Essentially, cloning involves copying all data from one ECU to another, enabling it to function on a different chassis. Chip tuning, ECU cloning, and programming tasks. With its cutting-edge hardware and advanced software, HexProg II enables ECU technicians to read any complex ECM quickly and securely. Designed with meticulous attention to detail and built upon extensive experience, HexProg II Tuner delivers unparalleled speed, reliability, and user-friendliness. It stands as one of the top solutions capable of reading the most challenging

ECUs, supporting a wide range of ECUs/TCUs across various brands. Key features of HexProg II Tuner software include:

- Supports more than 15000 cars, bikes, trucks and tractors.
- Periodic updates to add more ECU protocols to the supported list.
- User-friendly software interface
- Auto checksum after modifications
- Cloning license lease Options
- Active tech support availability
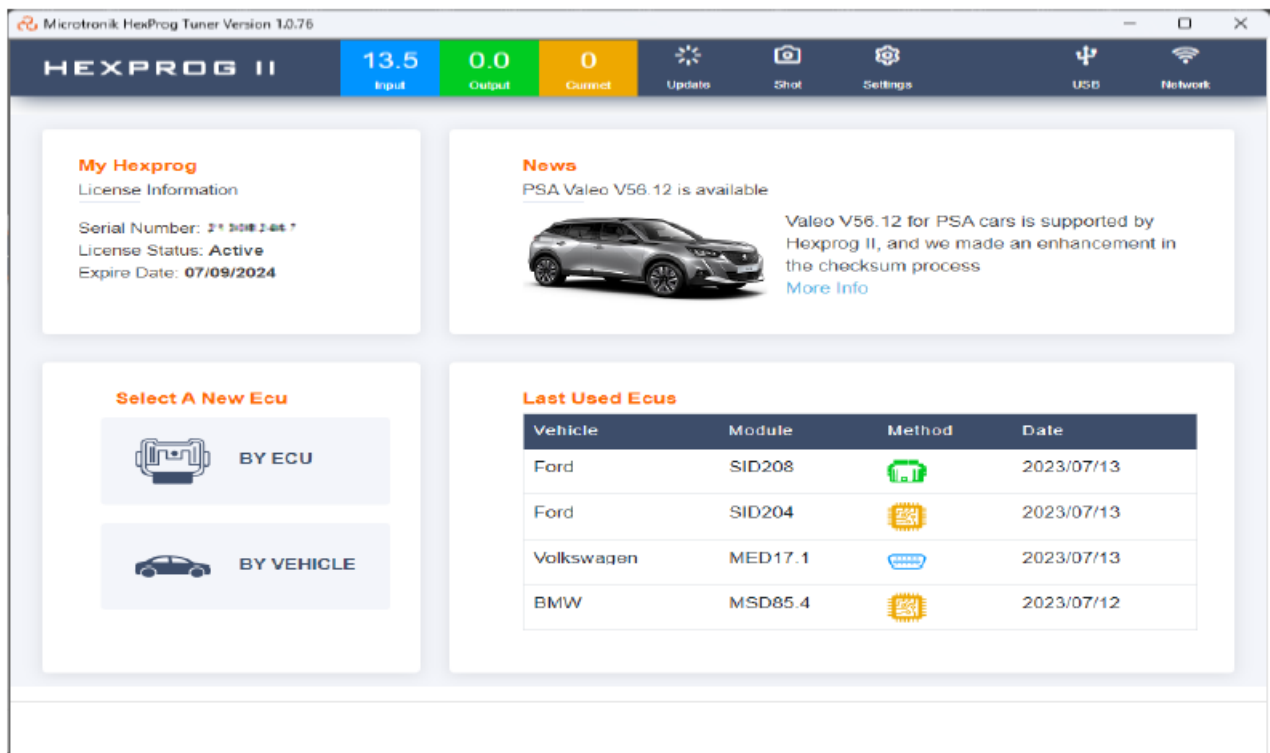
Accessories Included

HexProg II
HexProg II – the all-in-one solution for your ECU needs. With HexProg II Tuner, you have the essential functions required for your daily job, from ECU repairs to reading IMMO information and chip tuning. It supports over 70 car brands
and boasts an extensive ECU coverage of more than 15,000 vehicles. HexProg II Tuner's user-friendly software interface and automatic checksum feature make it the reliable choice for ECU repair and maintenance shops worldwide.

OBD Cable

Specially designed OBD cable which allows connecting HexProg II with car OBD port that allows OBD functions with ease.

USB Cable

High-speed noise-shielded USB cables are included for accurate and faster data transfer between the personal computer and HexProg II.

Bench Cable Set

Contains 4 sets of cables that can be used to communicate and read/write ECU Bench Mode and Boot Mode. Cable sets include CAN BUS wires, signal set wires, ground wires, and power wires.

J-tag / BDM Cable

MPC Cable set to allow to read MPC ecus in Boot Mode. It has a dedicated ribbon cable that can be used with BDM frames and also a multi-colored cable that is possible to solder direct on PCB to use with HexProg II and special cables for that purpose.

J-tag cable is used mainly for Cars and Truck ECUs. It's required in Boot Mode for Ecus with MPC5XXX or SH72XX. It has a ribbon rainbow-colored cable to connect to the ECUs PCB via BDM method.

Power Supply
HexProg II On Bench functions required a 14V 3A ac/dc adapter as a power supply to provide power to ECUs. It is provided a custom build power supply with the tool.

Technical Specifications

HexProg II has the major advantage of the latest technology available which will make possible coverage of more ECUs than its previous versions. The major internal technical features of HexProg II are as follows.

- Using a modern and one of the fastest ARM MCUs in the market, this will improve the performance and prolongs the life cycle of HexProg II.
- It supports cars, bikes, trucks, and tractors for repair, cloning and chip tuning.
- HexProg II covers all standard communication protocols (ISO15765, ISO14229, ISO14230, ISO9141, SAEJ2178, SAEJ2284, etc.) that are required to communicate with cars, trucks, …, etc.
- It supports all known requirements to provide the ability to program major available Microcontrollers in vehicles (Like Infineon, Renesas, Freescale/Motorola, NEC, …)

Software Configuration Requirements

HexProg II Tuner software can be used on Windows 7, 8, 10, and 11 operating systems, both in 32-bit and 64-bit versions. To install the software and make it works properly, you need to have an internet connection. This is because the software relies on connecting to Microtronik servers to access important data during its operation.

## Software Installation and Configuration Files

HexProg II Tuner software can be installed from the Microtronik official website. If you download the software for checking purposes without HexProg II hardware, you can only view the software's layout and the list of supported ECUs and vehicles. So please follow the given procedure to download the software and set it up.

1. Download HexProg II Tuner software from the web address
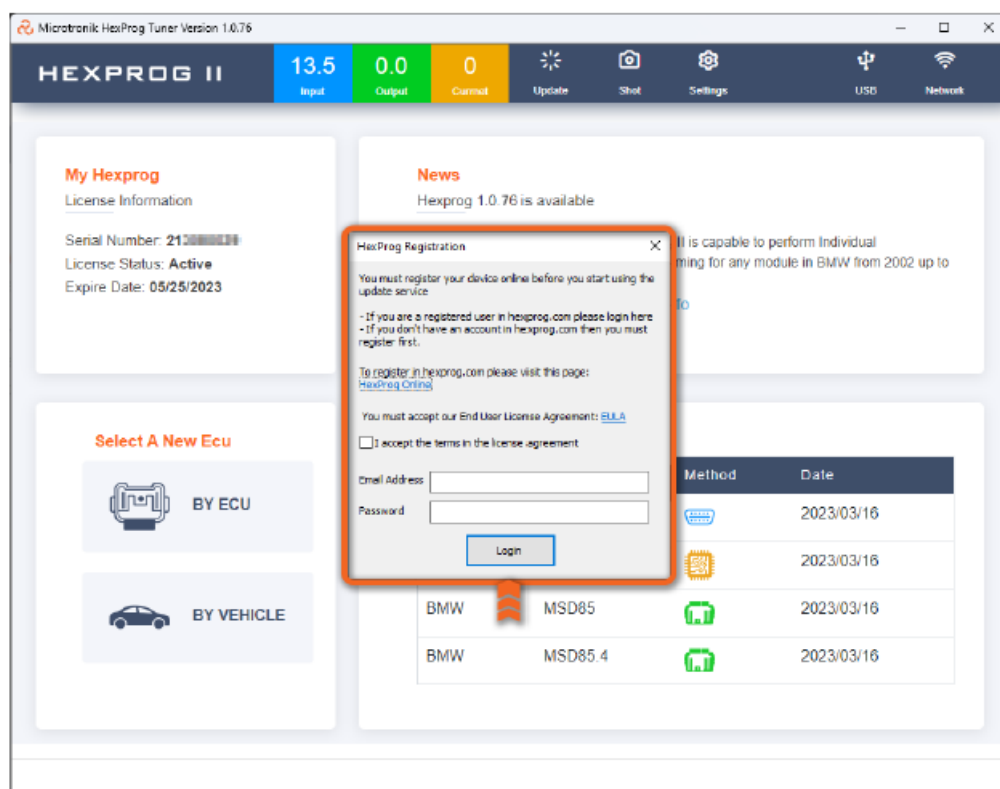   **https://www.microtronik.com/support/downloads**.
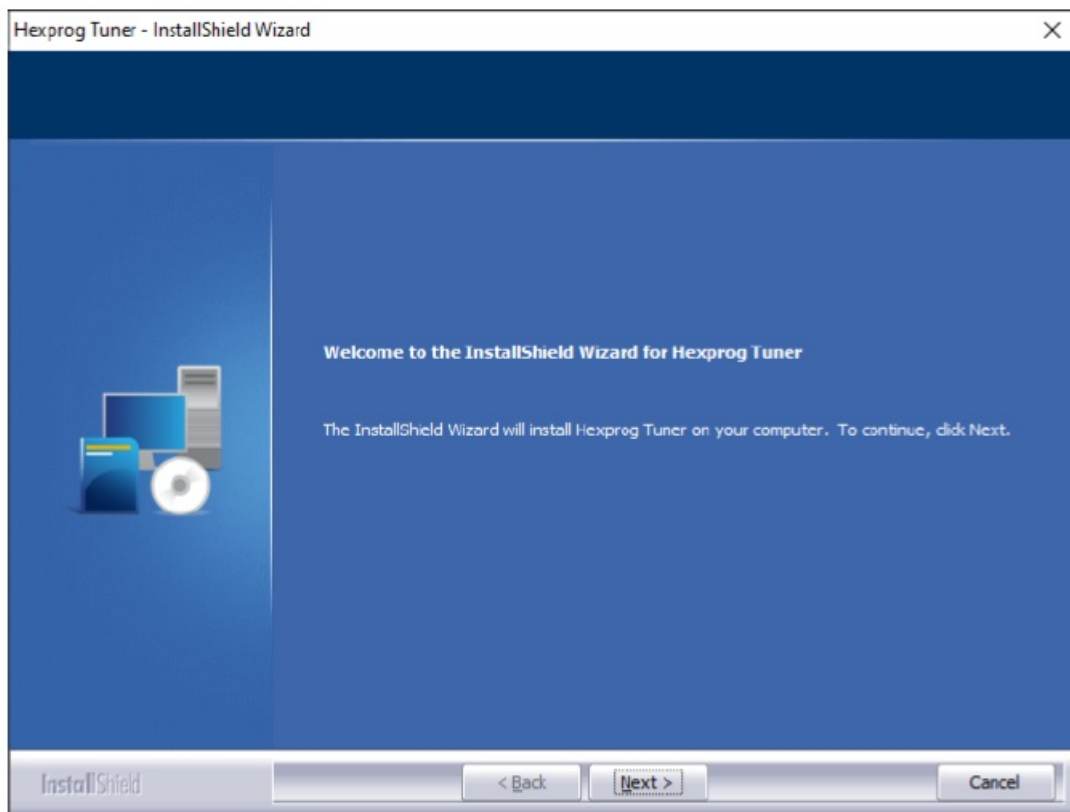
2. Once the download is finished extract the software and install it to the pc

3. Connect HexProg II hardware to one of the USB ports of the pc

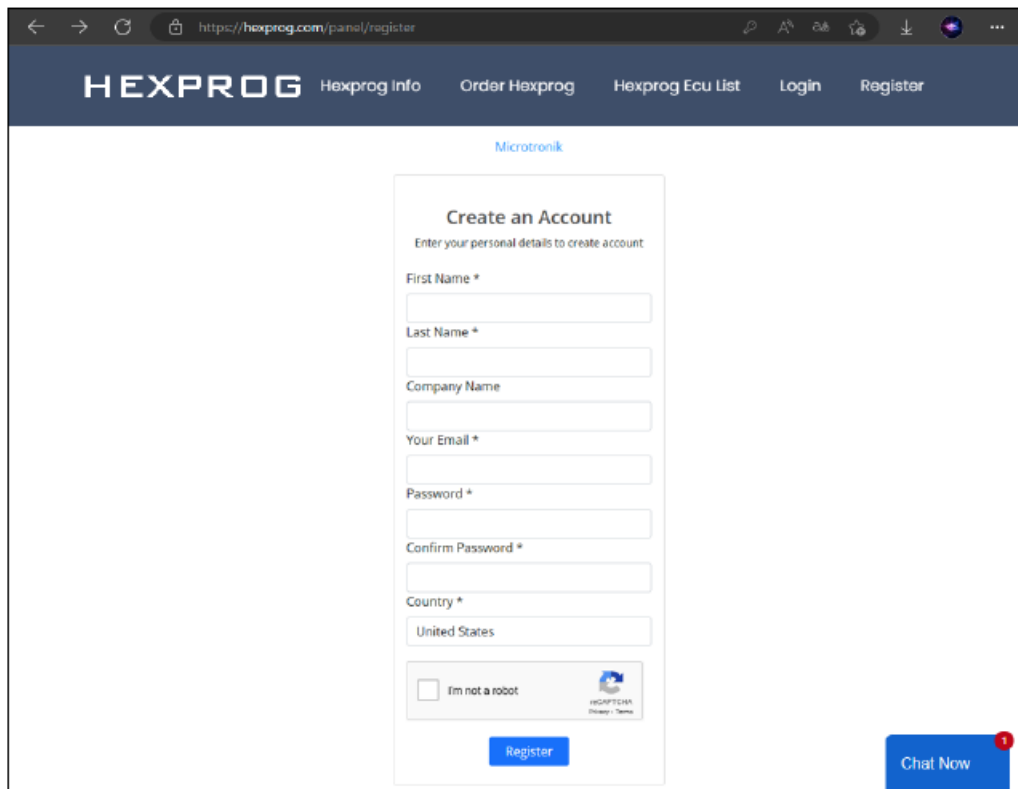4. Click the update button on top of the software
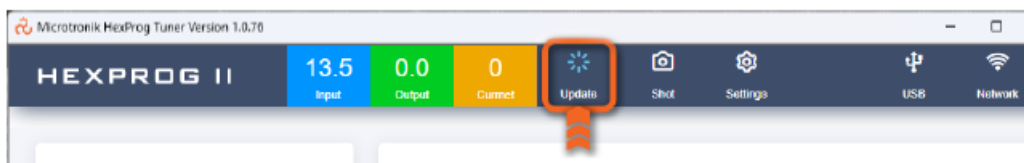
5. Then the software will show you a login window.

6. Please go to **www.hexprog.com** and register your e-mail and fill up your details

7. Do not use special characters in password when you register
8. Go to your e-mail and activate account from the link given in the e-mail

9. Then come back to HexProg II Tuner software and fill up the e-mail and password created on **www.hexprog.com**.
10. Software will start updating now and once the update is finished software can be used.

Operation Manual
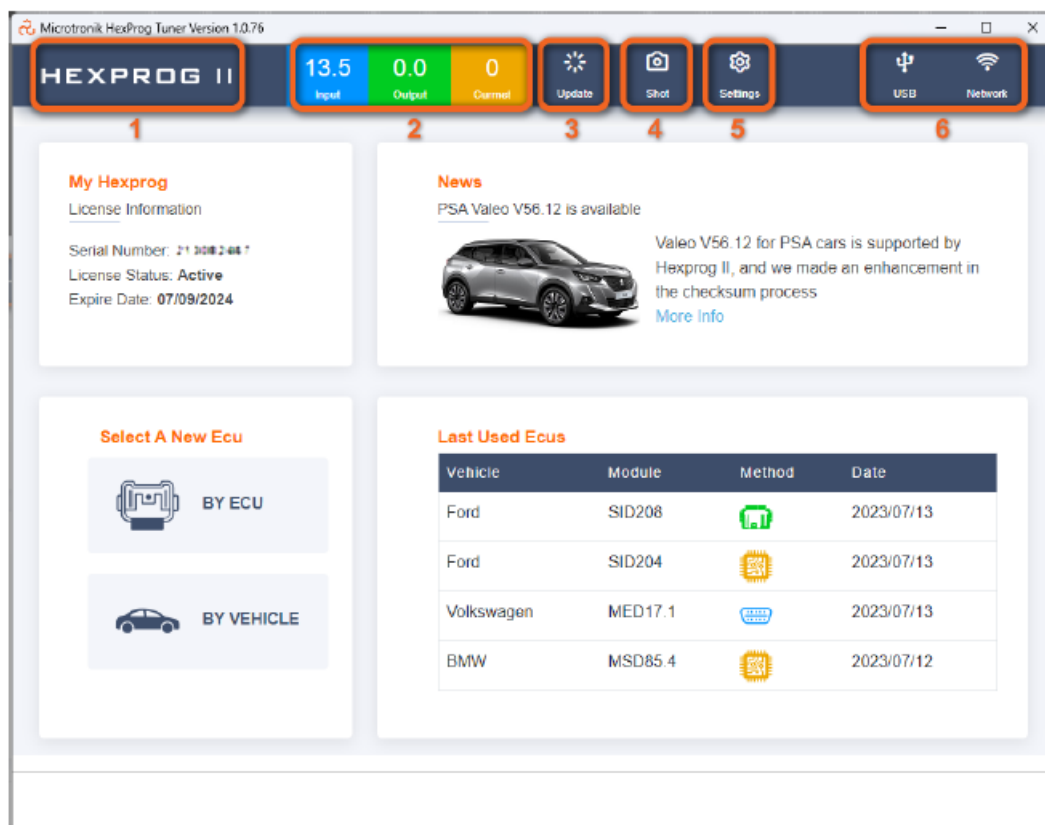
Once the software update is completed it will display the home page given above.

Home Button
HEXPROG II logo in the toolbar acts as the home button. Regardless of your current page or ECU selection, you can click on it to quickly return to the main menu or home page

Voltage and Current Tracking
Live voltage and current tracking are given on the top of the software. It will help users to identify the communication and the required power supply to ecu and the current draws.


Update
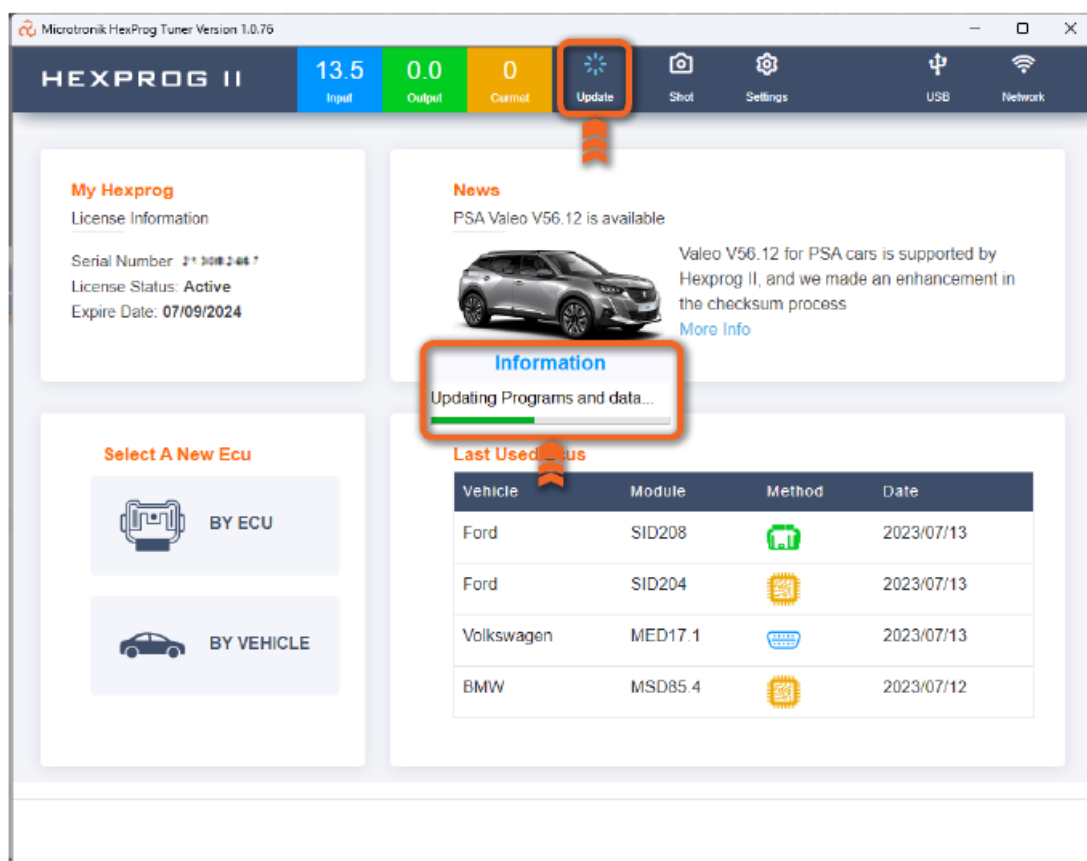
The update button is given on the home page in between the voltage/current display and the screenshot button. HexProg II Tuner software has a convenient update button on its home page. This button turns orange when a new version is released. Users can simply click the update button to install the latest version, which brings new features and supports additional ECUs.
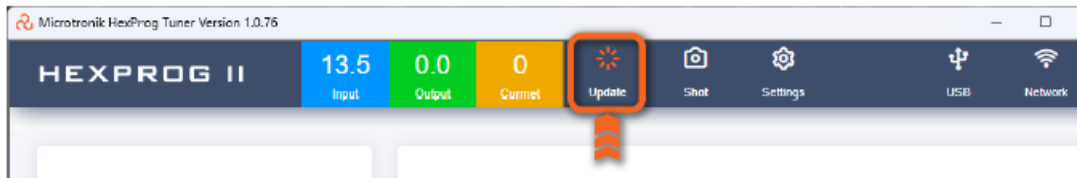
Screenshot

The toolbar also has a special button for capturing live screen photos. It's a useful feature that allows customers to take screenshots of software screens for various purposes.
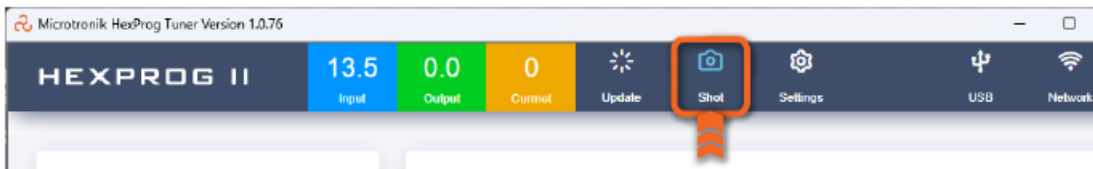
Settings

The toolbar provides users with the option to modify their preferences, such as language and checksum settings. Just simply click on the "Settings" button conveniently located on the toolbar. Additionally, it also displays essential information about your device.
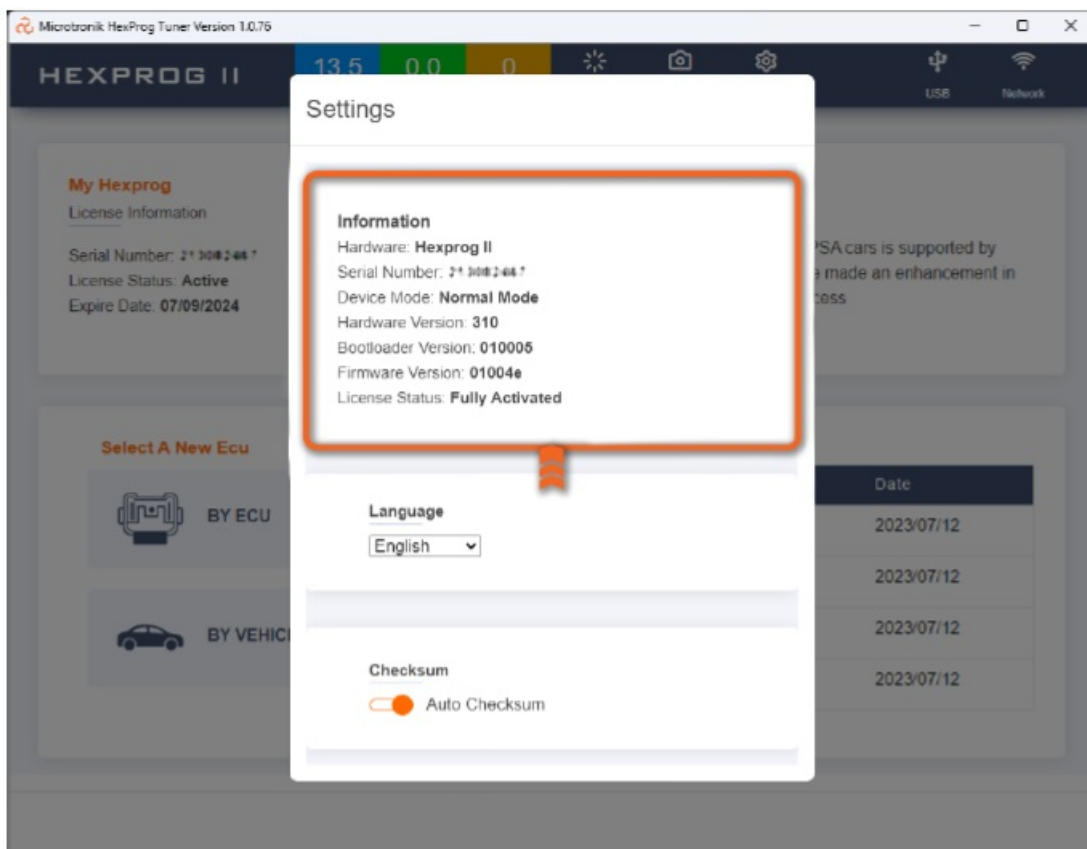

Serial Number and License

The software features a "Settings" button, which displays your hardware version, device status, and serial number. Upon closing the settings window and returning to the main menu, you will find concise information about your license status and expiration date.

Languages

The default language of the system is English. It also supports French, German, Spanish, Portuguese, Chinese, Korean, and Turkish. Users have the flexibility to choose their preferred language and set it as the default,

enabling them to interact with the system more comfortably and effectively in their chosen language.
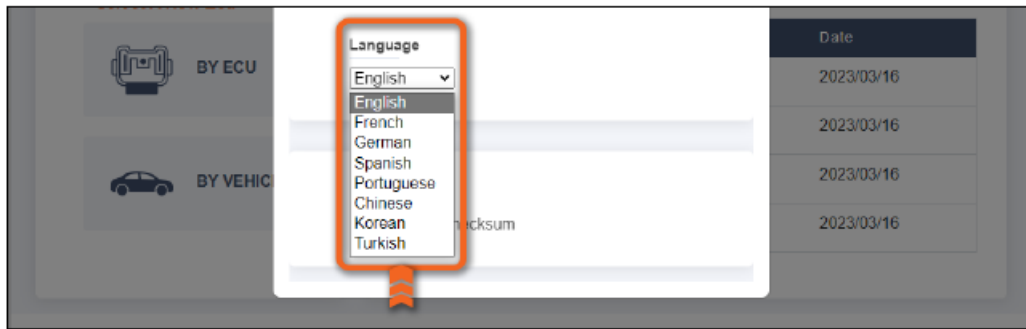
Checksum

One of the useful features of HexProg II Tuner is its ability to perform checksums that works with most supported ECUs. It allows tuners to modify the ECU's flash or MAPs section and write it back without any hassle. The software offers an auto checksum option, which can be activated or deactivated from the user interface. This feature simplifies the process of writing original flash files to the ECU separately, with or without checksum correction.

USB and Internet Status
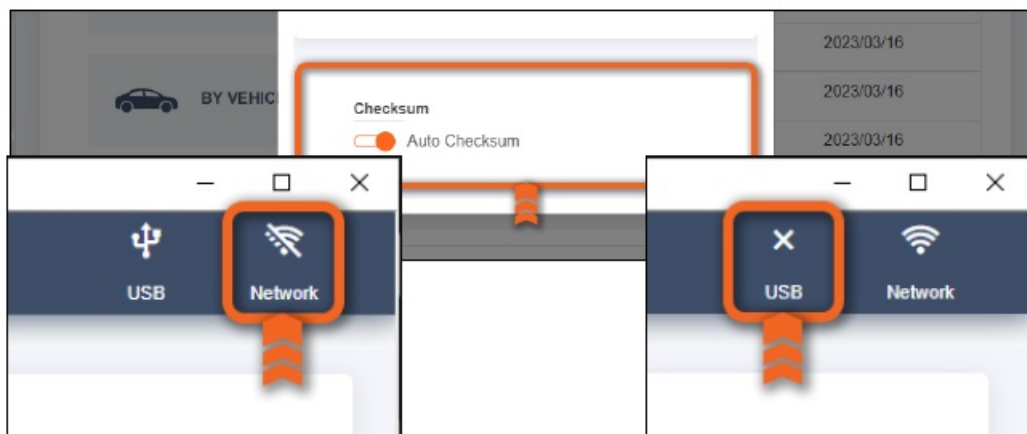
When the device is working and connected to the internet, both the USB and internet connection are active. If any of them become disconnected or encounter connectivity issues, the software will indicate their status as inactive.

Selection of ECU/TCU

The ECU/TCU selection process offers two options: choosing based on the vehicle model or direct selection. This streamlines operations, allowing faster read/write and cloning of ECUs without complications. Additionally, a window displays previously used ECUs for easy selection, simplifying the process further. In summary, users have multiple search methods available to find and select ECUs efficiently.

- Using car model
- Using engine type
- Using ECU name/Bosch part number
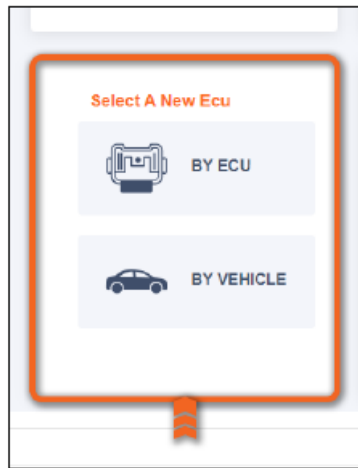
Selection by ECU
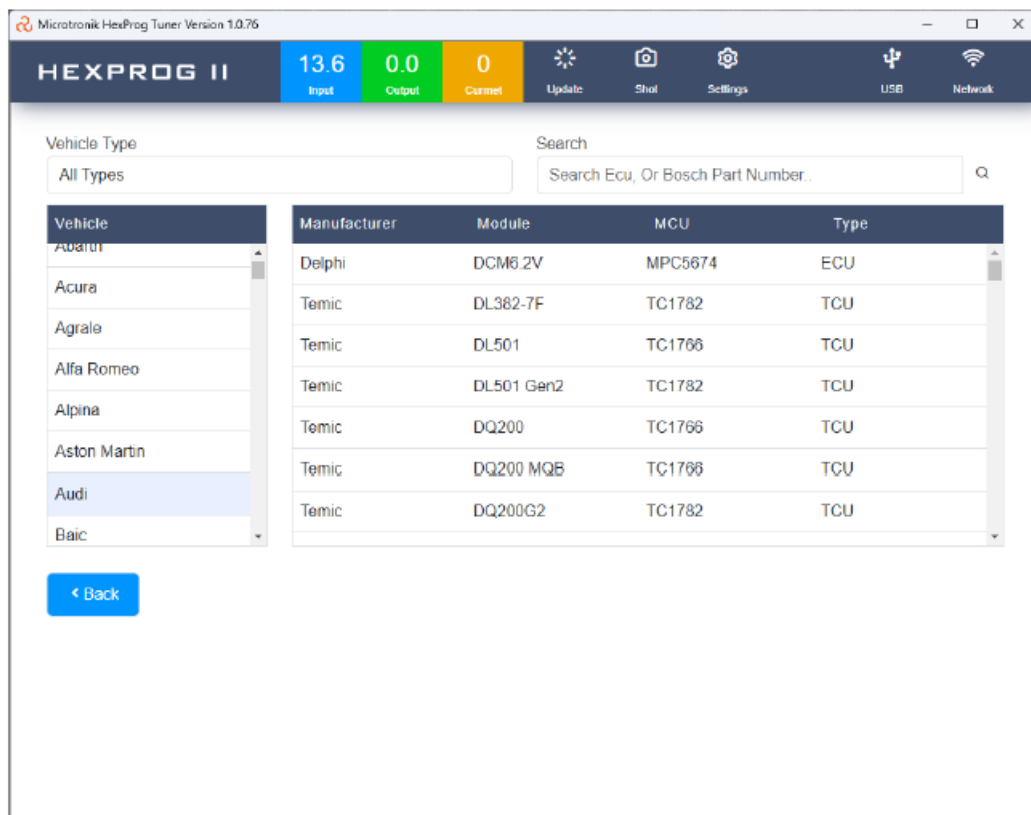
HexProg II Tuner software offers convenient ECU search options by part number and ECU name, facilitating easy browsing by list or car. This is especially useful for Bosch ECUs without labeled names, but only part numbers. The software also allows manual selection of specific ECUs from manufacturers, providing flexibility in tuning.
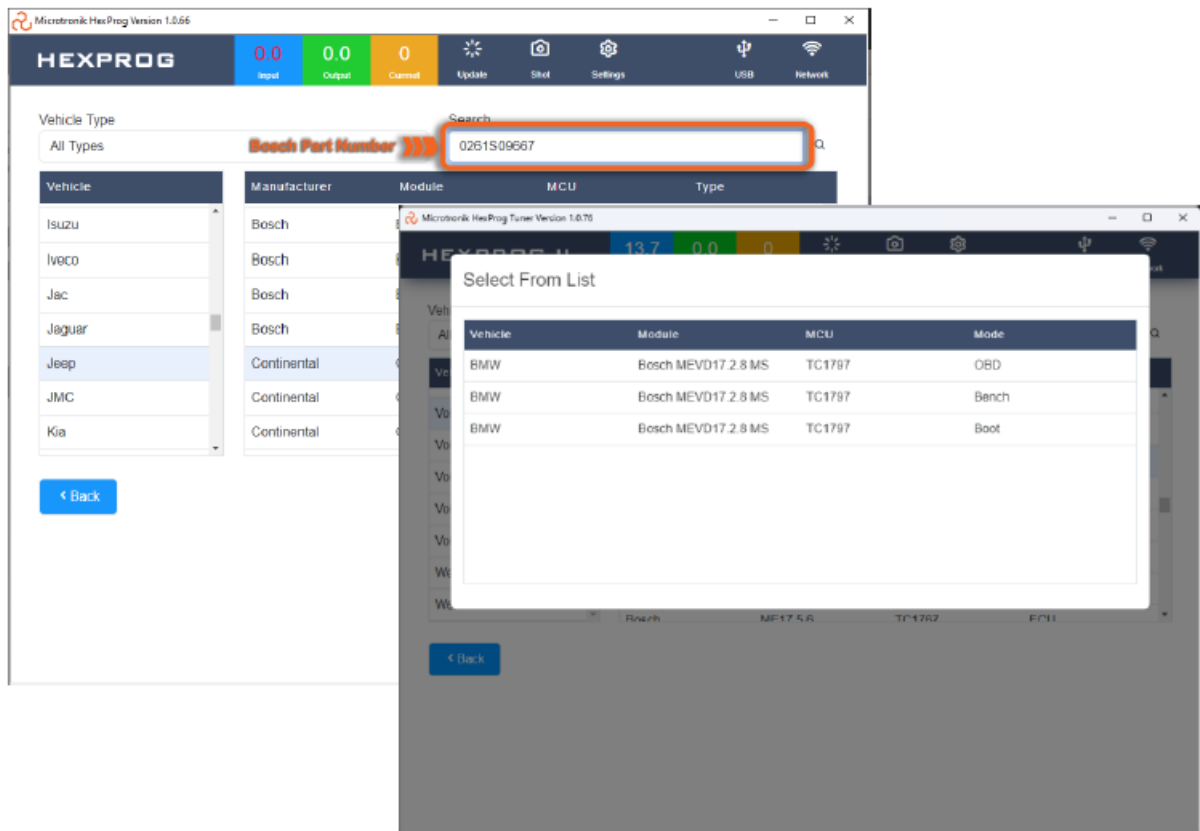
Selection by Vehicle Model

The ability to select ECUs based on vehicle models is beneficial for users who are knowledgeable about vehicles but may not be familiar with specific ECU names. This feature simplifies OBD read/write functions and enables users to conveniently search for their car model or engine code directly.
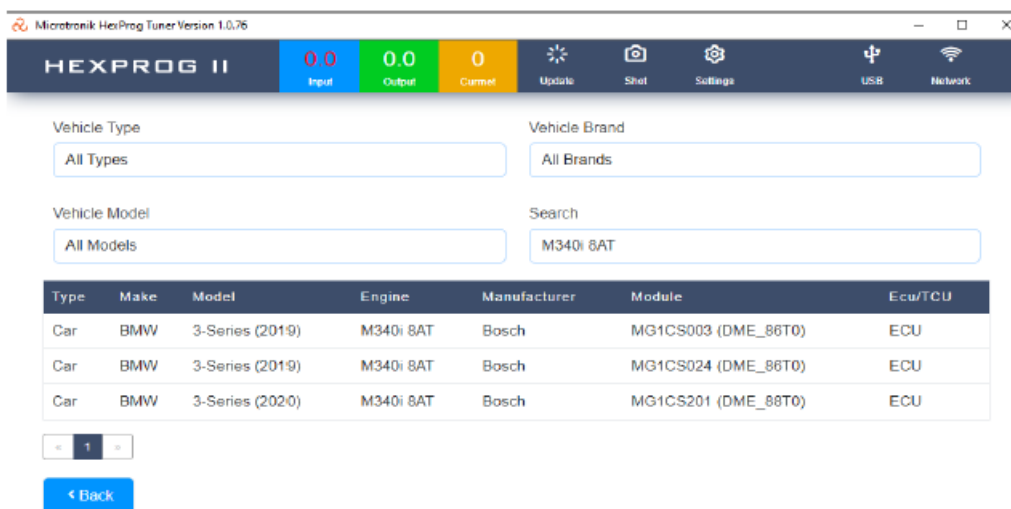

After selecting a vehicle, users will be directed to a page displaying all pertinent details such as the model, engine type, and year of manufacture. This allows users to verify that the information matches their own car model. Once they have confirmed the accuracy of the details, they can proceed to the ECU/TCU read/write option.
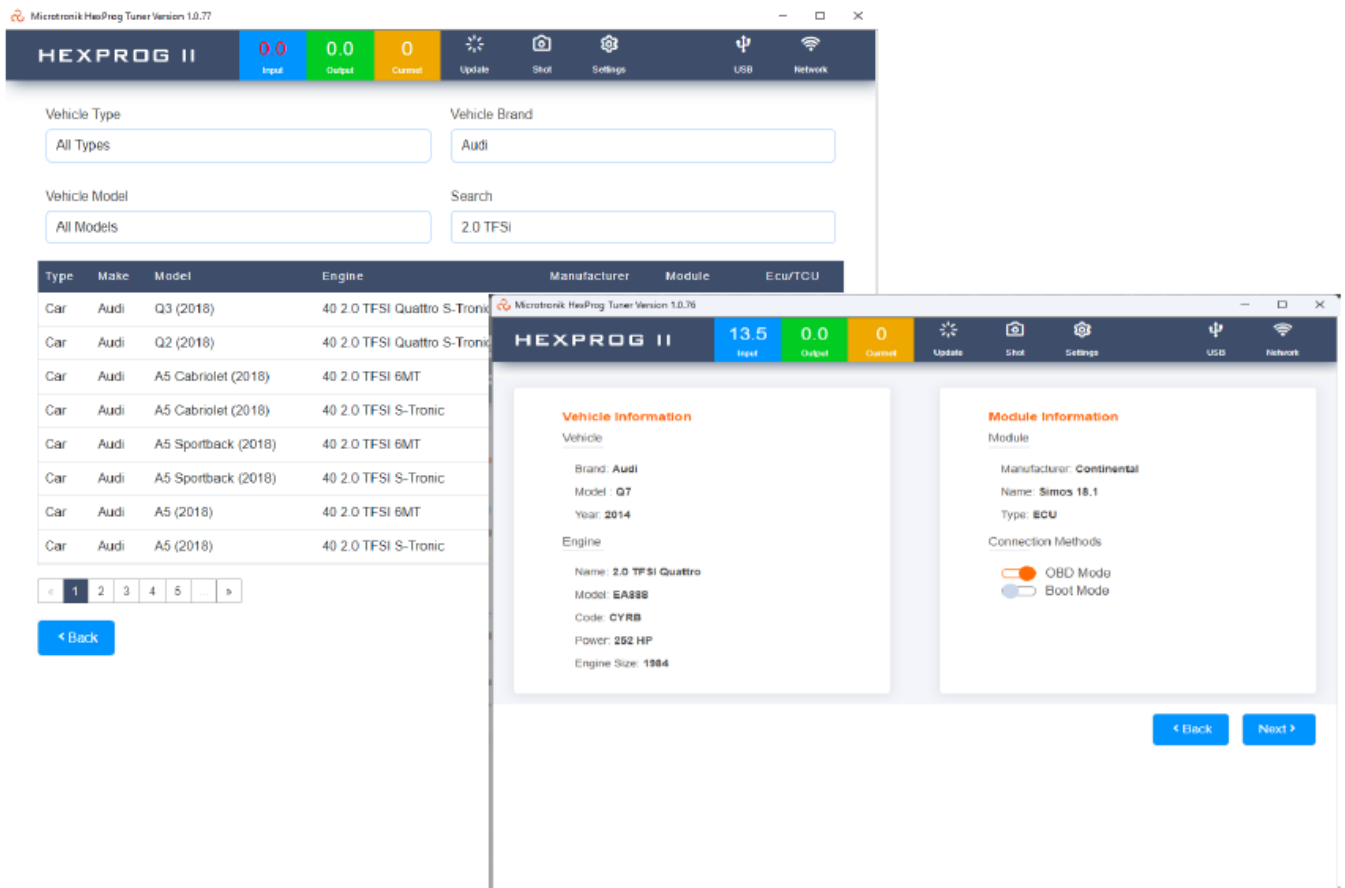
Last Used ECUs/TCUs

We have implemented a new feature that allows users to browse through the history of previous ECUs/TCUs that have been worked on. This feature is designed to assist users in identifying and reviewing past ECUs/TCUs, providing them with the exact date of when the work was done
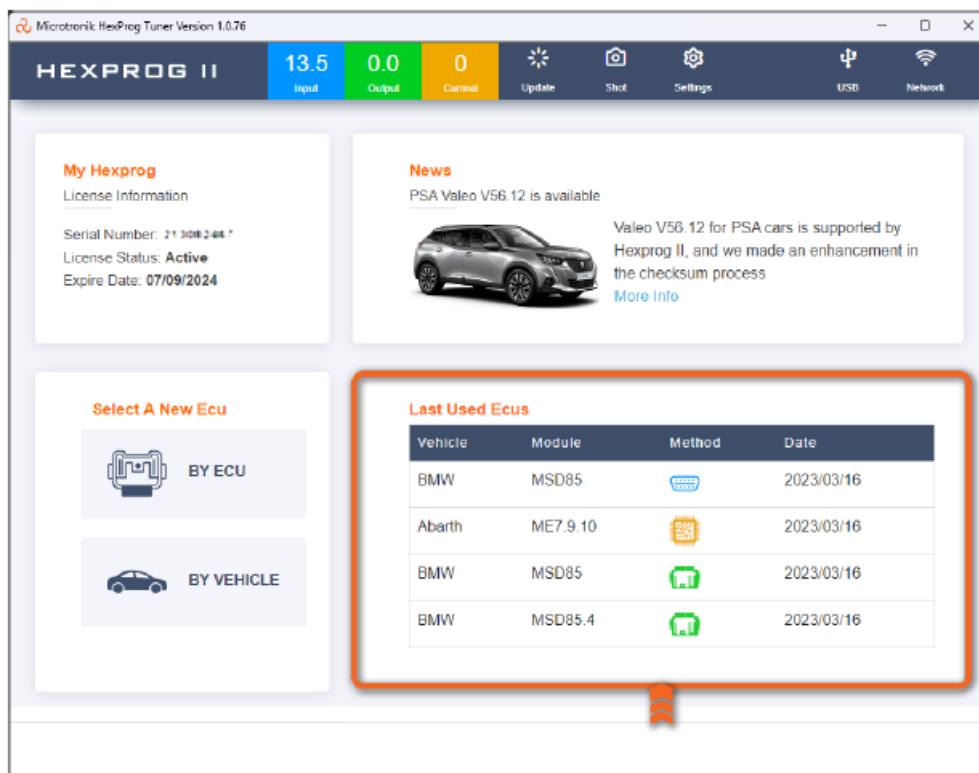
Wiring diagrams

Once you choose the ECU/TCU, you'll have various options to read or write ECU/TCU data, along with a wiring

diagram option. Easy-to-understand and detailed wiring diagrams make things simpler for users. However, wiring diagrams are not provided for OBD Mode since they are only necessary for Bench and Boot Modes, where you need to connect wires to the ECU/TCU. In OBD Mode, you can simply connect the DLC coupler using an OBD cable.

Operation Modes

### Different Modes for ECUs/TCUs
HexProg II Tuner has three modes for reading ECUs/TCUs:

- Bench Mode
- OBD Mode
- Boot Mode.

Most ECUs can be accessed in any of these modes, each with its own advantages and performance benefits. However, some ECUs/TCUs are only supported in specific modes. On the ECU/TCU read/write menu, symbols show which mode is available for each ECU/TCU. If a mode is not supported for a particular ECU/TCU, a message will appear when you hover over the corresponding button, indicating that the connection method is not yet available. The supported buttons will show an active protocol.
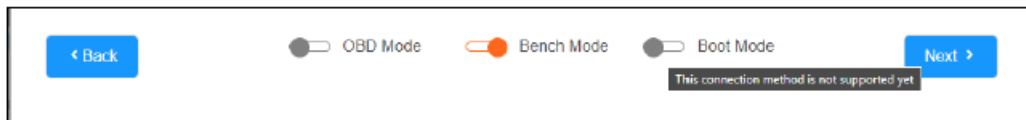
Bench Mode

Bench Mode in HexProg II Tuner allows users to read and clone/repair ECUs/TCUs without opening their covers. By connecting wires and a power supply to the ECU's/TCUs control unit, users can easily read and transfer data to another ECU/TCU, making it a reliable and convenient method for ECU tasks.

- Plug wires to ecu connector according to the wiring diagram.
- No need to open ecus.
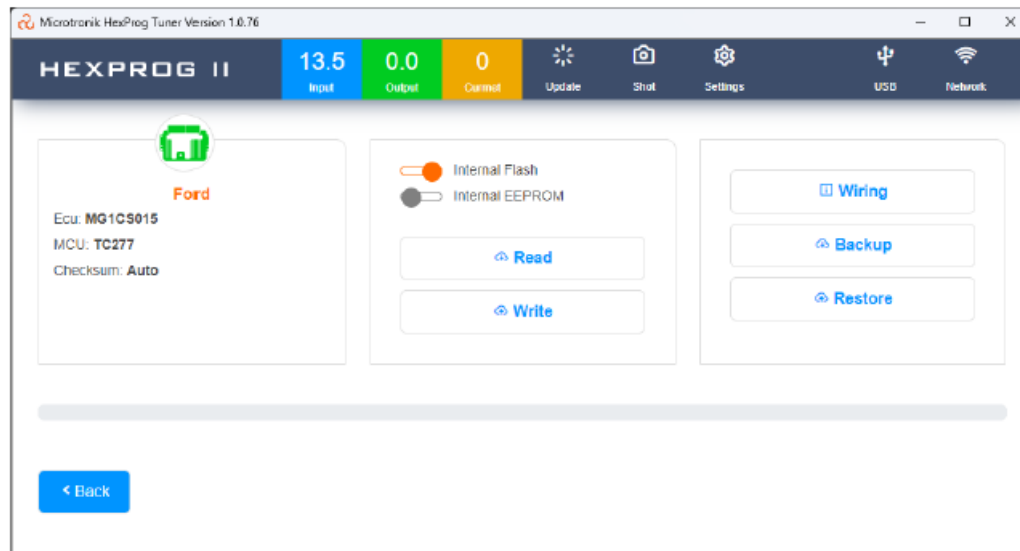
OBD Mode

This enables users to read and write data on ECU/TCU without removing it from the vehicle. It offers features such as power boosting, disabling filters (DPF, EGR), and bypassing immobilizer functions. Additionally, it can repair ECU maps by overwriting them with original stock files obtained from the server. The ECU read/write process is performed using the provided OBD cable.
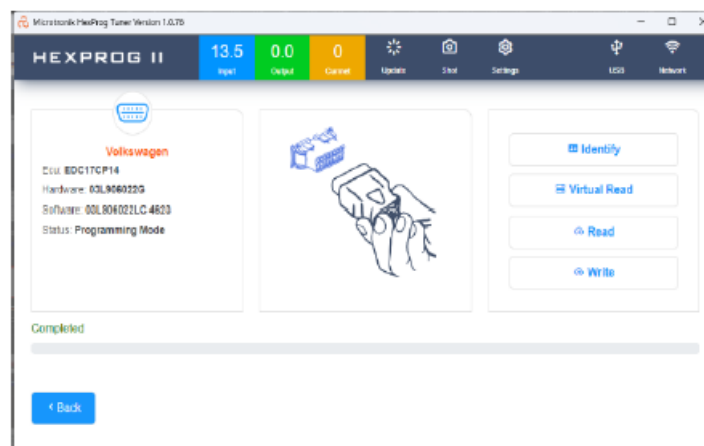
- Read and Virtual read based on ECU part number.
- Direct OBD method without removing the ECU.
- Auto checksum correction.
- Suitable for ECU Tuning and other online services.
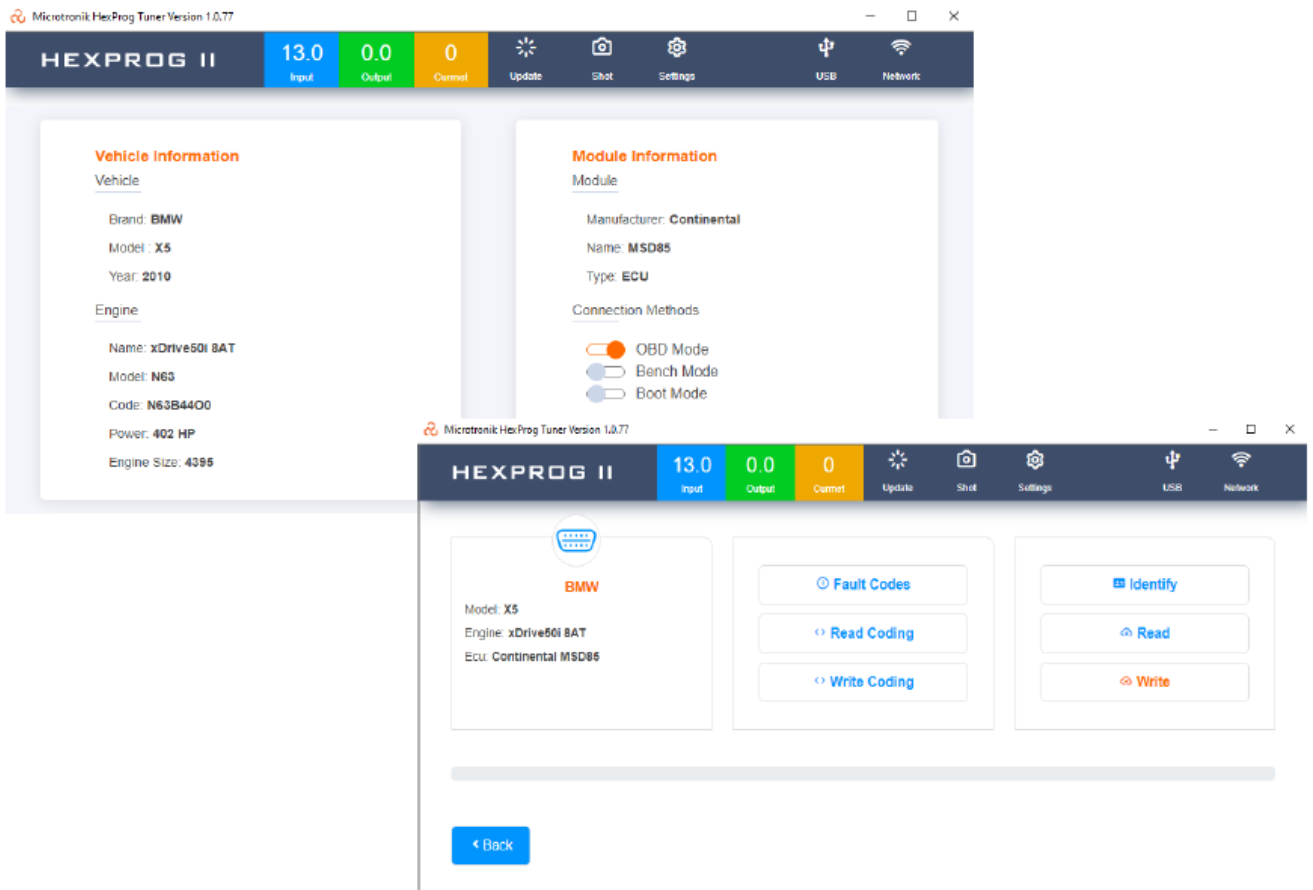
Boot Mode

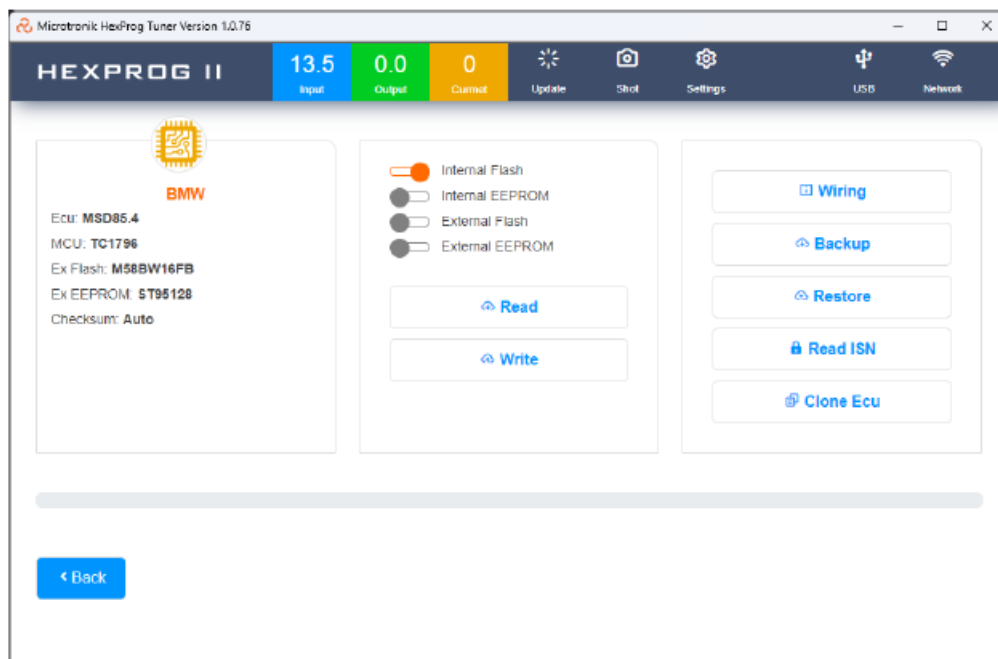Boot Mode is a method used for reading and writing data in certain ECUs. It requires opening the ECU cover and making direct connections to the PCB board. This method is useful when communication is lost via Bench Mode. With HexProg II software and a provided wiring diagram, you can establish connections and perform ECU data operations similar to Bench Mode.

Backup and Restore Options

HexProg II Tuner offers comprehensive support for ECU/TCU cloning in both Bench Mode and Boot Mode. It is compatible with a wide array of ECUs/TCUs and ensures accurate replication, particularly for models without an immobilizer in the OTP portion. By capturing and encrypting all data, including internal flash, EEPROM, and external memory, it generates a .bak file. This versatile backup file can be effortlessly utilized to clone the ECU

onto a donor ECU, simplifying the cloning process significantly.
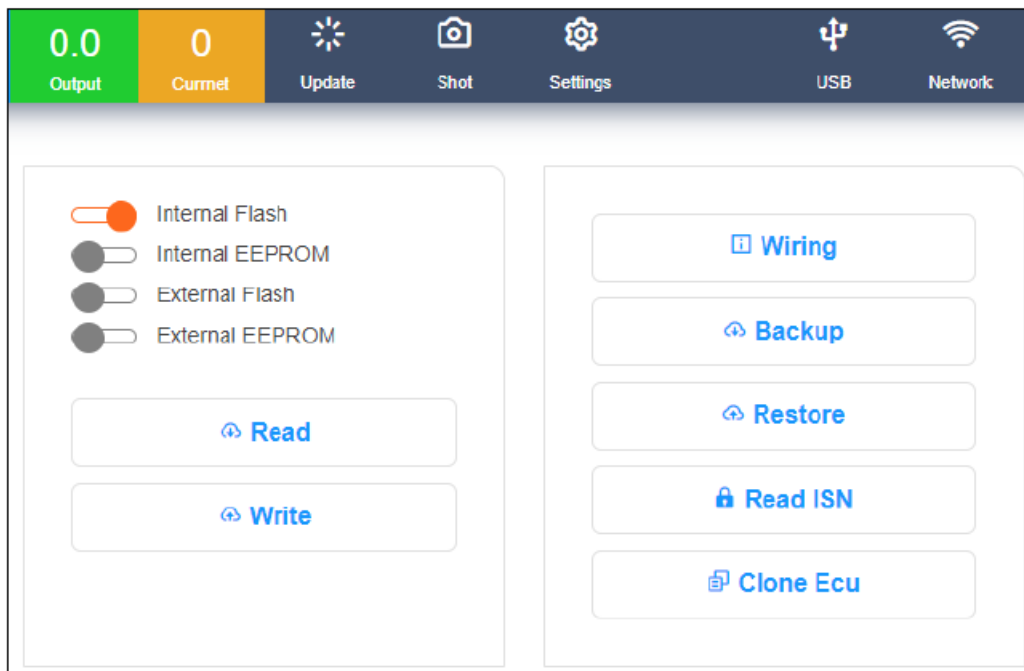
Clone Button
Some ECUs can be cloned 1:1 by backing up the original ECU and donor ECU, then restoring the backup to the donor ECU without overwriting the TriCore password in the OTP portion. However, other ECUs require special protection for password cloning. HexProg II Tuner offers a clone button specifically for these ECUs to ensure secure cloning without altering the TriCore password in the flash. It's crucial to create backups of both ECUs before starting the cloning process. By connecting the original ECU, clicking the clone button, and then connecting the donor ECU, HexProg II Tuner transfers the data without changing the password. Failure to follow these steps may result in changed passwords and issues with the ECU. If the original file and PC used with the ECU are available, it is possible to recover the ECU by restoring the original file in Boot Mode using the same PC, which restores the password stored in the internal flash.

Note:
It is always recommended to make all ECU backups before modifying or cloning ECU for future ECU recovery and safety purposes.

**Reading ECU Data Individually**
The advanced option in HexProg II Tuner allows you to read/write ECU data in a more targeted manner. Instead of creating a full backup, you can read individual data files in the ECM, such as the internal EEPROM, internal flash, or Ext-flash. This feature is particularly useful for cloning when certain data in the original ECU, like the VIN or IMMO, is corrupted in the internal EEPROM, and different data is present in the internal flash.

By copying the specific data from one ECU to another, you can address issues caused by corrupted internal flash. Additionally, if the original ECU's internal flash has been corrupted during flashing/programming or due to other factors, you can recover it by writing a good flash to the ECU. However, the success of 100% cloning through individual data writing may depend on the extent of data damage and the specific memory locations storing the data.
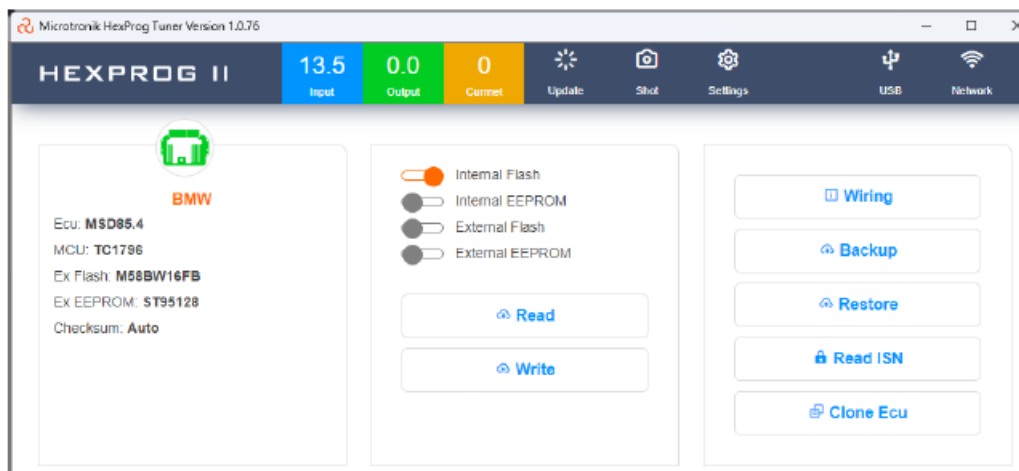
ISN Reading-ECU Info

One of the characteristic features of HexProg II Tuner software is that it can read the Immobilizer security key known as ISN number from BMW and MINI ECU using Bench Mode. This software also displays the VIN (Vehicle Identification Number) stored within the ECU during the ISN reading process. Additionally, ISN can be read in Boot Mode, and a convenient ECU info button is provided for this purpose.
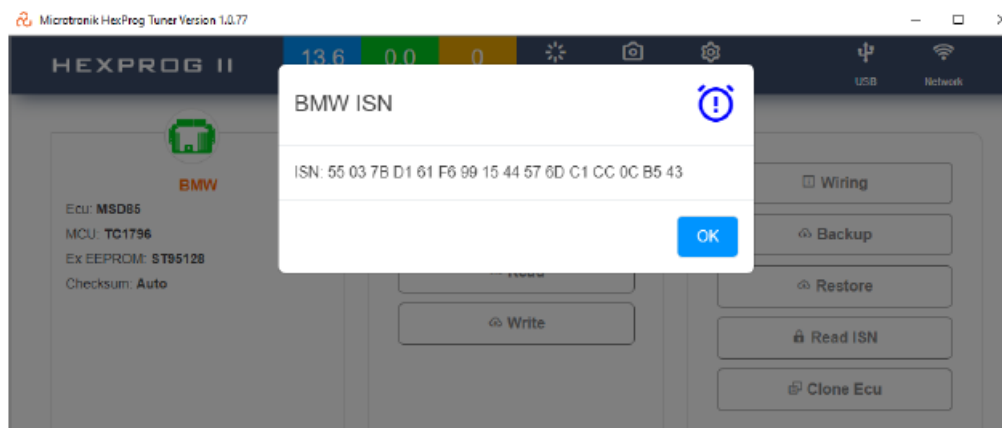

Other Services
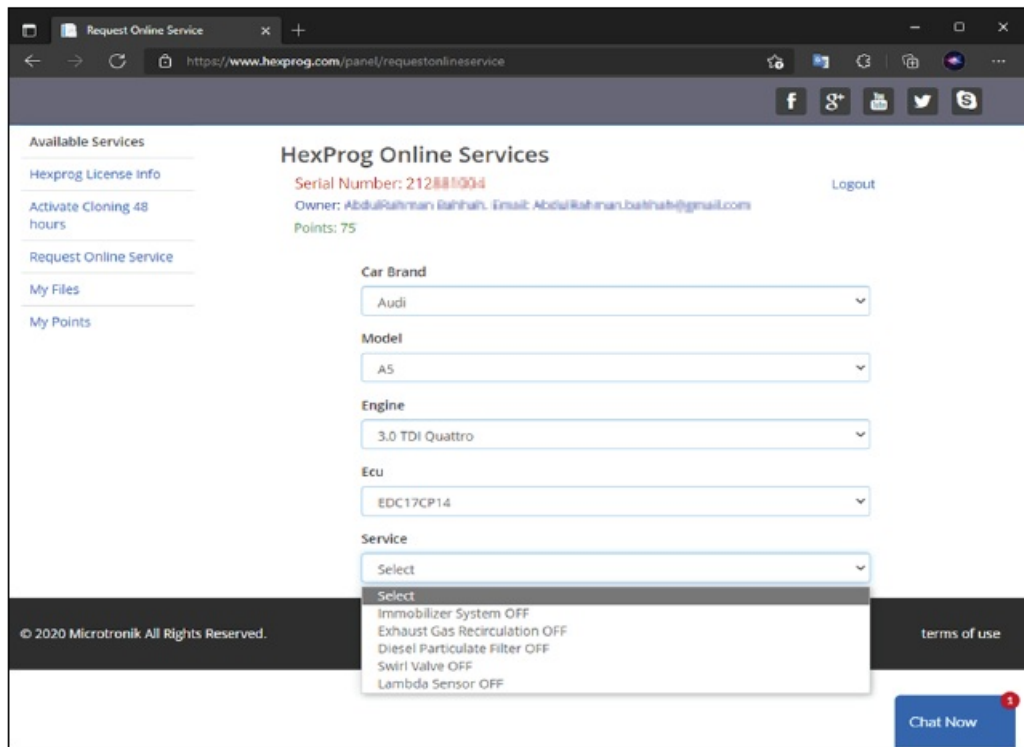
Online Service

We offer ECU services like removal of DPF, EGR, AdBlue, and more. These services are available through our online service. Also, we provide an option to delete IMMO specifically for VAG models. You can access these services online by logging into your account at **www.hexprog.com**.

- Works based on the points system
- Fast service with no waiting
- 100% tested on cars and safe.

Short-Term Activation of Cloning License
For the tuners and garages who infrequently use the Clone or Tune function and find that a one-year license is not financially feasible, we offer the option to purchase a license with full functionality for a 48-hour period. This allows them to complete their necessary tasks within a shorter timeframe while keeping costs more manageable.

- The cloning license can be easily leased for 48 hours from our website and its instant activation from **www.HexProg.com**.
- It's based on a points system with affordable charges.
- No usage restrictions or limits on the number of ECUs during the active license period.
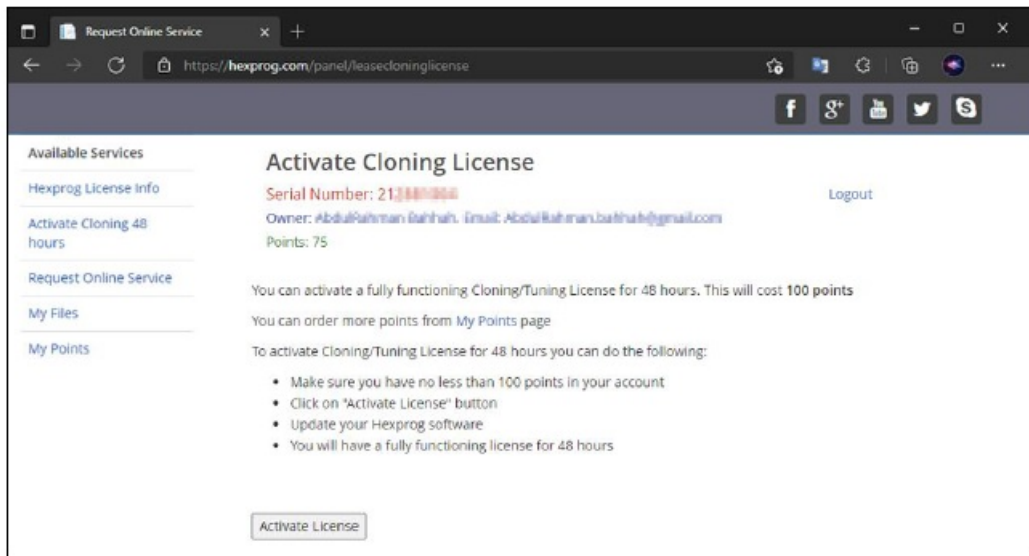
Active Tech Support

We provide comprehensive online tech support exclusively for our customers. Our dedicated team is available to help you become familiar with the functions and capabilities of our tools. If you have any doubts or questions, our online team is ready to assist you in real-time. We have made it incredibly convenient to access support through our website, where you can easily chat with us for immediate clarification while you work. Additionally, we offer online support across multiple platforms. These IDs are available in the contact section on **www.microtronik.com/contact**.

- Skype
- WhatsApp
- Live chat from the website
- Ticketing facility from the website
- Email support

Thank you for choosing HexProg II Tuner as your cloning and ECU solution. We are happy to welcome you to our family. Please reach us if you have any queries.

Documents / Resources

MICROTRONIK HexProg II Tuner Chip Tuning Tool Full Set [pdf] User Manual
HexProg II Tuner Chip Tuning Tool Full Set, II Tuner Chip Tuning Tool Full Set, Chip Tuning Tool Full Set, Tuning Tool Full Set, Tool Full Set, Full Set, Set

References

- **Hexprog II Official Website - Home**

- ♻ **Hexprog II Official Website - Home**
- 🚗 **List of Contacts in Microtronik Website**
- 🚗 **Autohex and Hexprog Software Downloads**

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