

## mega macs PC



## User Manual

Original User Manual

HBMMPCV5100EN0317S0

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# 1 About this Manual









## 1.1 Reading the Manual

Please read the user manual completely. Pay special attention to the first pages containing the safety notes and the conditions of liability. They exclusively deal with your safety during the work with the mega macs PC and PC VCI software.

When working with the mega macs PC and PC VCI software, it is recommended to read the individual work steps in the manual again to prevent hazard of persons and equipment or operating errors.

The mega macs PC and PC VCI software shall be used exclusively by a qualified person. Information and knowledge included in this training is not explained in this user manual.

## 1.2 Marking of Text Parts


	<b>DANGER</b> Text parts marked in this way indicate an imminent dangerous situation which, if not avoided, will lead to death or severe injuries.
	<b>WARNING</b> Text parts marked in this way indicate a potentially dangerous situation which, if not avoided, will lead to death or severe injuries.
	<b>CAUTION</b> Text parts marked in this way indicate a potentially dangerous situation which, if not avoided, will lead to minor or slight injuries if it is not avoided.
	<b>NOTICE</b> All texts labeled <b>NOTICE</b> refer to a hazard in the device or environment. Therefore, it is absolutely necessary to observe the notes or instructions stored here.
	<b>NOTE</b> Texts marked with <b>NOTE</b> contain important and helpful information. It is recommended to observe these texts.
	<b>Struck-through waste bin</b> This label indicates that the product must not be discarded as domestic waste. The bar underneath the waste bin indicates whether the product was "placed on the market" after August 13, 2005.
	<b>Direct current voltage</b> This label indicates a direct current voltage. Direct current voltage means that the electrical voltage does not change over a longer period of time.
	<b>Observe user manual</b> This label indicates that the user manual must always be read and always be available.

## 2 User Information




### 2.1 Safety Precautions

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#### 2.1.1 General Safety Precautions

	<ul style="list-style-type: none"><li>• The PC VCI is intended for use on motor vehicles only. It is a precondition for the use of the PC VCI that the user has knowledge of automotive technology and is therefore aware of the sources of danger and risks in the workshop and on motor vehicles.</li><li>• Please read the entire user manual thoroughly and carefully before using the mega macs PC. You can also find the user manual under ? in the mega macs PC.</li><li>• All notes given in the individual sections of this user manual apply. The following measures and safety precautions must also be followed.</li><li>• Furthermore, pay attention to all general instructions from labor inspectorates, trade associations and vehicle manufacturers as well as all laws, legal ordinances and instructions which have to be commonly obeyed by a repair shop.</li></ul>
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#### 2.1.2 Safety Precautions for the PC VCI

  	<p>To prevent incorrect handling and consequent injuries to the user or damage to the PC VCI, observe the following:</p> <ul style="list-style-type: none"><li>• Protect the PC VCI and the connecting cables from hot parts.</li><li>• Protect the PC VCI and the connecting cables from rotating parts.</li><li>• Regularly check connecting cables/accessory parts for damage (destruction of the PC VCI due to short circuit).</li><li>• Connect the PC VCI exclusively according to user manual.</li><li>• Protect the PC VCI from fluids such as water, oil or gasoline. The PC VCI is not watertight.</li><li>• Protect the PC VCI from strong impacts and do not drop it.</li><li>• Do not open the PC VCI on your own. Only technicians authorized by Hella Gutmann are allowed to open the PC VCI. Warranty and guarantee will be rendered void at any case of unauthorized tampering of the device or if the protective seal is damaged.</li><li>• If the PC VCI is not working properly, contact Hella Gutmann or a Hella Gutmann trading partner without delay.</li></ul>
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### 2.1.3 Safety Precautions for High Voltage/Line Voltage

	<p>Very high voltages occur in electrical systems. Due to voltage flashover on damaged components, such as marten damage or touching live components, the risk of electric shock is likely. High voltage via the vehicle and line voltage via the building's mains supply can cause severe injury or even death if adequate care is not taken. Therefore regard the following:</p> <ul style="list-style-type: none"><li>• Only use power supply cables with grounding contact.</li><li>• Only use a checked or the attached power cord.</li><li>• Always use the original cable set.</li><li>• Regularly check cables and adapters for damage.</li><li>• Perform any assembly work such as the connection of the PC VCI to the vehicle or the replacement of components only when ignition is switched off.</li><li>• Do not touch live components when ignition is switched on.</li></ul>
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### 2.1.4 Safety Precautions – Risk of Injury

	<p>When working on the vehicle, there is a risk of injury through rotating parts or rolling of the vehicle. Therefore regard the following:</p> <ul style="list-style-type: none"><li>• Prevent the vehicle from rolling.</li><li>• Additionally, place the gear selector to park position in vehicles with automatic transmission.</li><li>• Deactivate the start/stop system to avoid an inadvertent engine start.</li><li>• Connect the PC VCI to the vehicle only with engine shut down.</li><li>• Do not reach into rotating components when engine is running.</li><li>• Do not run cables near rotating parts.</li><li>• Check the high-voltage parts for damage.</li></ul>
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## 2.1.5 Safety Precautions for Hybrid/Electric Vehicles



Very high tensions occur on hybrid and electric vehicles. Due to voltage flashover on damaged components, such as marten damage or touching live components, the risk of electric shock is likely. High voltage at or in the vehicle can lead to death in case of inattention. Therefore regard the following:

- Only the following qualified employees are allowed to de-energize the high-voltage system:
  - High-voltage technician
  - Skilled electrician for predetermined operations – Hybrid or rather electric vehicles
  - Skilled electrician
- Place warning signs and warning tapes.
- Check the high-voltage system and the high-voltage lines for damage (visual inspection!).
- De-energizing the high-voltage system:
  - Switch off ignition.
  - Disconnect the service disconnect plug.
  - Remove the fuse.
- Securing the high-voltage system against re-activation:
  - Withdraw the ignition key and keep it safe.
  - Keep the service disconnect plug safe or secure the battery master switch against re-activation.
  - Insulate the battery master switch, the plug connections etc. with dummy plugs, covering caps or insulating tape with the corresponding warning notice.
- Check the de-energized state with a voltage tester. Even with disconnected high-voltage system, residual voltage can still be present.
- Ground and short-circuit the high-voltage system (necessary only if voltage is higher than 1000 V).
- Voltage below 1000 V: Cover the parts which are close to the system or which are energized e.g. with insulating cloth, hoses or plastic coverings. Voltage higher than 1000 V: Cover the parts with insulating plates/protective panels specially developed for this purpose so that sufficient protection against contact to adjacent parts is ensured.
- Regard the following before re-energizing the high-voltage system:
  - All tools and utilities are removed from the hybrid/electric vehicle.
  - Remove the grounding and short circuit of the high-voltage system. Do not touch any of the cables now.
  - Attach the protective paneling that has been removed before.
  - Remove the protective measures at the switching system.

## 2.2 Non-Liability

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### 2.2.1 Software

#### 2.2.1.1 Safety-Relevant Software Modifications

The present device software provides numerous diagnostic and configuration functions. Some of these functions affect the behavior of electronic components. These components also include components in safety-related vehicle systems, e.g., airbag or brakes. The following notes and instructions also apply to future updates and related software extensions.

#### 2.2.1.2 Performing Safety-Relevant Software Modifications

- Work on safety-related areas, e.g., the occupant safety system and the brake systems, may only be performed if the user has read and acknowledged this note.
- The user of the diagnostic device must comply fully with all work steps and conditions given by the device and the vehicle manufacturer, and follow the related instructions without fail.
- Diagnostic programs that make safety-related software modifications in the vehicle may and are only allowed to be used if the related warning notes including the declaration given in the following are accepted without reservation.
- It is imperative that the diagnostic program is used correctly, as programs, configurations, settings, and indicator lamps can be deleted/cleared with it. These changes affect and modify safety-related data and electronic controls, in particular safety systems.

#### 2.2.1.3 Prohibition of Safety-Relevant Software Modifications

Changes or modifications to electronic controls and safety-related systems are not allowed to be made in the following situations:

- The ECU is damaged and it is not possible to read out the data.
- The ECU and its allocation cannot be read out unambiguously.
- Reading out is not possible due to data loss.
- The user does not have the related training and knowledge necessary.

In these cases the user is not allowed to change programs, configurations, or to make other changes in the safety system. To avoid any danger, the user has to contact an authorized dealer instantly. Only an authorized dealer can guarantee the safe function of vehicle electronics together with the factory.

#### 2.2.1.4 Waiver of the Use of Safety-Relevant Software Modifications

The user undertakes not to use any safety-related software functions if one of the following conditions arise:

- There are doubts about the specialized skills of third parties to use these functions.
  - The user does not have the prescribed training qualifications.
  - There are doubts about the correct function of the safety-related software engagement.
  - The device is transferred to a third party. Hella Gutmann Solutions GmbH is unaware of this fact and has not authorized the third party to use the diagnostic program.
-

## **2.2.2 Non-Liability**

### **2.2.2.1 Data and Information**

The information in the database of the diagnostic program has been compiled based on automotive and importer information. Great care was taken to ensure the correctness of the information. The Hella Gutmann Solutions GmbH accepts no liability for any mistakes and the resulting consequences. This statement also applies to the use of data and information that are found to be incorrect or that were incorrectly displayed, also to errors that occurred inadvertently during compilation of the data.

### **2.2.2.2 Burden of Proof on the User**

The burden of proof is on the user of the device, that he has paid attention to technical explanations, notes on operation, equipment care as well as maintenance and safety without exception.

## **2.2.3 Data Protection**

The Customer agrees that its data may be stored for implementing and executing the contractual relationship and that technical data may be stored for performing data audits relevant to data security, statistical analysis and quality control. The technical data shall be stored separately from personal data and shared only with our contractors. We are obliged to treat all customer data that we receive confidentially. We may only disclose customer data if statutory provisions permit or require such disclosure or if the Customer has agreed.

## **2.2.4 Documentation**

The notes given in the device describe the most common fault reasons. However, there are often further reasons for existing faults, which cannot be listed here, or there are further sources of error, which are unknown yet. The Hella Gutmann Solutions GmbH is not liable for failed or unnecessary repair work.

The Hella Gutmann Solutions GmbH does not accept any liability for the usage of data and information that are found to be incorrect or that were incorrectly displayed, also for errors that occurred inadvertently during the compilation of the data.

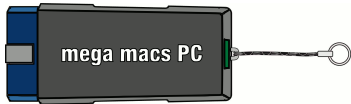






Notwithstanding the above, the Hella Gutmann Solutions GmbH does not accept any liability for any losses in relation to loss of profit, goodwill, or any other loss, including financial loss.

Hella Gutmann Solutions GmbH accepts no liability for damages or operating trouble resulting from failure to observe the "mega macs" user manual and the special safety precautions.

The burden of proof is on the user of the device, that he has paid attention to technical explanations, notes on operation, equipment care as well as maintenance and safety without exception.

## 3 Device Description

### 3.1 Delivery Contents

Quantity	Designation	
1	PC VCI	
1	Pen drive for installing the mega macs PC	
1	Bluetooth adapter	
1	USB cable for connecting the PC VCI to the PC	
1	OBD cable extension 0.3 m (optional)	
1	Quick Start Guide	
1	DVD	

#### 3.1.1 Checking Delivery Contents


Please check the delivery contents upon receiving your device so that complaints can be issued immediately regarding any potential damage.

Proceed as follows to check the delivery contents:

1. Open the package supplied and check for completeness based on the delivery slip.

Should you identify any damage to the package, then open the package in the presence of the delivery service and check the PC VCI for hidden damage. Any transport damage to the package supplied and damage to the PC VCI shall be registered in a damage report by the delivery service.

2. Take the PC VCI out of the packaging.

	<p><b>CAUTION</b></p> <p>Danger of short circuit due to loose parts in or on the PC VCI</p> <p>Danger of destruction of the PC VCI and/or the automotive electronics</p> <p>Never put the PC VCI into operation if you suspect that there are loose parts in or at the module. In this case please contact the Hella Gutmann repair service or a Hella Gutmann trading partner immediately.</p>
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3. Check the PC VCI for mechanical damage and shake slightly to ensure that there are no loose parts inside.

## 3.2 Intended Use

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The mega macs PC software and the PC VCI are systems used for detecting and rectifying faults in automotive electronic systems.

It uses a diagnostic interface to establish a connection to the automotive electronics and to provide access to descriptions of the vehicle system. A lot of this data is transferred to the PC directly via an Internet connection from the Hella Gutmann diagnostic database. Therefore, the PC should be permanently online.

The mega macs PC software is not suitable for repairing electrical machines and devices or home electrics. Diagnostic devices from other manufacturers will not be supported.

If the mega macs PC software and the PC VCI is used in a way not authorized by Hella Gutmann the protection of the device may be influenced.

The PC VCI is intended for industrial use. Outside of industrial environments, e.g., in commercial areas or in the centre of a town, radio interference suppression measures may need to be taken.

## 3.3 Using the Bluetooth Function

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The terms of use of the Bluetooth function may be restricted or prohibited through law or corresponding legal regulations in certain countries.

Observe the provisions in force in the respective country before using the Bluetooth function.

## 3.4 Federal Communications Commission (FCC)

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### 3.4.1 PC VCI (FCC)

This product contains FCC-ID: QOQWT41

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

The design of PC VCI complies with U.S. Federal Communications Commission (FCC) guidelines respecting safety levels of radio frequency (RF) exposure for mobile devices.


RF Exposure - This device is only authorized for use in a mobile application. At least 20 cm of separation distance between the PC VCI device and the user's body must be maintained at all times.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
  - Increase the separation between the equipment and receiver.
-



- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or ask an experienced radio/TV technician for help.


	<b>CAUTION</b> Any changes or modifications not expressly approved by Hella Gutmann Solutions GmbH could void the user's authority to operate the equipment.
---	---

## 3.4.2 Gembird BTD-MINI2

FCC-ID: 2ACULBTD-MINI2

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

	<b>CAUTION</b> Any changes or modifications not expressly approved by Gembird could void the user's authority to operate the equipment.
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Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 3.5 Industry Canada (IC)

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### 3.5.1 PC VCI (IC)

This product contains IC-ID: 5123A-BGTWT41

This device complies with the Canadian ICES-003 Class B specification.

RF Exposure - This device is only authorized for use in a mobile application. At least 20 cm of separation distance between the PC VCI device and the user's body must be maintained at all times.

Ce produit contient IC-ID: 5123A-BGTWT41

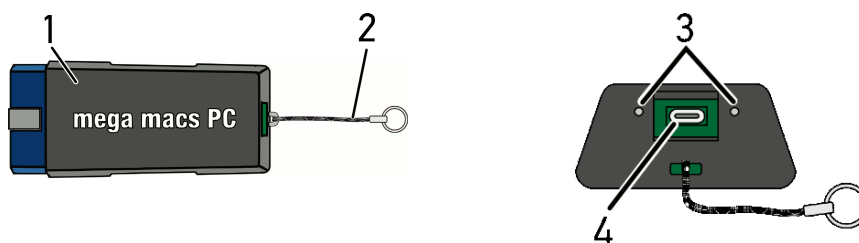
Cet outil répond aux normes canadiennes ICES-003 (spécification relative à la classe B).

Exposition aux fréquences radios - cet outil est exclusivement destiné à une utilisation mobile. Une distance minimale de 20 cm entre le PC VCI et l'utilisateur doit être maintenue en toute situation.

## 3.6 Range of Functions

The range of functions of the mega macs PC software depends on the country, the licenses acquired, and/or the optionally available hardware. This documentation may therefore describe functions that are not available on the individual device. Missing functions can be enabled by acquiring a corresponding license subject to charge and/or additional hardware.

## 3.7 Connectors



	Designation
1	OBD plug for diagnostic connector in the vehicle
2	Retaining strap for mounting e.g. a lanyard
3	<b>Green and blue indicator lamp (LED)</b> The indicator lamps show the operating status of the PC VCI.
4	Micro USB interface for USB cable to USB interface of the PC

## 3.8 Meaning of the Flashing Frequencies

Status display		Meaning
Blue LED	Green LED	
LED switched off.	LED switched off.	<ul style="list-style-type: none"> <li>Software inactive/faulty.</li> <li>No voltage present.</li> <li>PC VCI faulty.</li> </ul>
LED flashes quickly (1x per sec.).	LED switched off.	<ul style="list-style-type: none"> <li>Update failed.</li> <li>Update invalid.</li> <li>PC VCI faulty.</li> </ul>

Status display		Meaning
Blue LED	Green LED	
LED flashes slowly (every 3 sec.).	LED switched off.	<ul style="list-style-type: none"><li>• Update failed.</li><li>• Update invalid.</li><li>• PC VCI faulty.</li></ul>
LED flashes slowly (every 3 sec.).	LED permanently on with regular brief interruptions.	PC VCI ready for operation.

## 4 Contents of the mega macs PC Software

### 4.1 Diagnostic Functions

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- Reading/deleting trouble codes
- Parameter readout
- Actuator tests
- Service reset
- Basic settings
- Codings
- Test function

### 4.2 Additional Functions and Contents (Depending on the License Type)

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- Vehicle information, e.g.:
  - Timing belt data
  - Service data
  - Recall campaigns
- 2 updates per year, e.g.:
  - Diversification of the existing functions by new vehicle models

## 5 Installation of the mega macs PC

### 5.1 Supported Operating Systems for the mega macs PC

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- Microsoft Windows Vista
- Microsoft Windows 7/8

### 5.2 System Requirements for the mega macs PC

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- at least 512 MB free internal memory
- at least 2 GB free hard drive space
- at least 1 free USB port at the PC
- Screen resolution at least 800 x 600
- Windows administration rights (for installation)

### 5.3 Installing the mega macs PC Software

---

An installation wizard guides you through the necessary steps.

Proceed as follows to install the mega macs PC software:

1. Switch on your PC.
2. Plug in the supplied pen drive (2) into the USB port of the PC.  
The USB drive **mega macs PC** opens automatically.
3. Click **>Open folder<** and start the file **mega\_macs\_pc.exe**.

**NOTE**

The USB drive can also be opened as follows: **Start > My computer > mega macs PC**.

The **mega macs PC Setup** window appears.


4. Select the required language and click **>OK<**.  
The selection will be saved automatically.
5. Click **>Next<**.  
A selection window appears. A target directory for the mega macs PC software files is already suggested. If you wish to have another target directory, you can use the **>Search<** function to select a suitable directory. At the end of installation, the files will be copied into the selected target directory.
6. Click **>Next<**.
7. Click **>Install<**.  
Installation is started.
8. Wait until installation is finished.
9. Click **>Finish<**.  
A link to the mega macs PC is automatically created on the desktop.
10. Disconnect the pen drive.

Installation of the mega macs PC software is complete now.

## 6 Putting the mega macs PC into Operation


This section gives a description of how to switch on and off the mega macs PC software as well as all the necessary steps for the first use of the mega macs PC software.


### 6.1 Connection to the PC VCI

	<p><b>NOTE</b> The PC VCI must always be connected via Bluetooth to the PC on which the mega macs PC software is used.</p>
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The PC VCI is a regular feature of the mega macs PC software. The PC VCI contains software components. Various functions of the mega macs PC software therefore require a connection to the PC VCI.

### 6.2 Executing the mega macs PC Software

	<p><b>NOTE</b> During initial start-up and after every software update, the software user needs to confirm the general terms and conditions (GTC) of Hella Gutmann Solutions GmbH. Otherwise, certain device functions will be unavailable.</p>
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	<p><b>NOTE</b> Upon the first start-up of the device, you must couple the mega macs PC software with the PC VCI. This requires the mega macs PC to be connected to the PC VCI via USB cable. A Bluetooth connection is sufficient when starting up in the future.</p>
---	---

Proceed as follows to execute the mega macs PC software:

1. Insert the USB cable into the USB port on the PC and the PC VCI.
2. Go to **Start > All programs > Hella Gutmann Solutions > mega macs PC** and select **> mega macs PC**.

The mega macs PC software can also be executed as follows:



- Windows 8: Click on the **mega macs PC** symbol on the start screen.
- Windows 7 and lower: Click on the mega macs PC shortcut on the desktop.


The mega macs PC software will be started.

The GTCs appear.

3. Read the GTCs and confirm them at the end of the text.

A user selection window appears. The user name is saved for all data stored in the Car History. This enables quicker identification of the mechanic who performed the repair work if a query is subsequently made.

4. Double-click .
5. Enter the user name.
6. Confirm your entry with .
7. Activate the **Stay logged in** check box if necessary.  
If the **Stay logged in** check box is activated, you will not need to select a user name when switching on in the future.

8. Confirm your entry with .  
The input will be saved automatically.
  9. Disconnect the USB cable of PC VCI and PC.
  10. Insert the Bluetooth adapter into the USB port of the PC.  
If the PC recognizes the Bluetooth adapter, the LED becomes blue.  
The main menu appears.
- Now you can work with the mega macs PC software.


## 6.3 License Release

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**NOTE**

In order to use the full scope of the purchased licenses you need to download them from the HGS license server before taking the device into operation for the first time.

Proceed as follows to retrieve licenses:




1. Select **Contracts** under **> Settings** in the main menu.
2. Select **>License<**.
3. Call up **My licenses** with .  
Data download is in progress. Purchased licenses are displayed.

Now you can work with the mega macs PC software.

## 6.4 Closing the mega macs PC Software

---

Proceed as follows to close the mega macs PC software:

1. Close the mega macs PC software with .
2. Observe the confirmation prompt.
3. Close the mega macs PC software with . Abort the procedure with .

The mega macs PC software will be closed.

## 7 Installation of the HGS PassThru Software

### 7.1 Provision of HGS PassThru

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Since 2010, the Euro 5 standard has been applicable for all new vehicles. It regulates, among other things, the type-approval of vehicles with regard to emissions. With the Euro 5 standard, manufacturers are obligated to provide independent repairers with unrestricted Internet access to all information relating to the maintenance and repair of the vehicles.

Only Euro 5-capable devices may be used to program the ECUs. HGS PassThru is an interface used to install the latest software version from the online portal of the manufacturer on the vehicle ECU. The PassThru function is an add-on and does *not* replace the diagnostics. Here, Hella Gutmann establishes a direct communication between the manufacturer's OEM server (Original Equipment Manufacturer) and the vehicle.

Provision of the software varies depending on the manufacturer. The following options are available:

- Download the PC software
- Request the PC software on CD or DVD
- Online solutions

Here charges may accrue depending on the manufacturer e.g. for:

- Registration
- Licenses
- Software

The software content (scope of information and function) varies depending on the manufacturer. Some manufacturers provide the legally required functions and information only, whereas others provide additional data.

### 7.2 Supported Operating Systems for HGS PassThru

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- at least Microsoft Windows 7 (32/64 bit)

### 7.3 System Requirements for HGS PassThru Driver

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Hella Gutmann requires the following for installation of the HGS PassThru driver:

- at least 2 GB free internal memory
- at least 40 GB free hard disc space
- at least 1 free 2.0 USB port on the laptop/tablet
- web-compatible laptop or tablet

### 7.4 Installing the HGS PassThru Software

---

An installation wizard guides you through the necessary steps.

Proceed as follows to install the HGS PassThru software:

1. Switch on the laptop/tablet.



2. Call up the website of Hella Gutmann.
  3. Select **WORKSHOP SOLUTIONS > SERVICE > PassThru**.
  4. Select **DOWNLOADS > Software – PassThru**.  
The window **HGS PassThru Setup** is displayed.
  5. Save the PassThru setup.exe with **>Save file<**.  
A target directory is suggested for the files of the PassThru setup.exe. If you wish to have another target directory then select a suitable directory. At the end of installation, the files will be copied into the selected target directory.
  6. Save the PassThru setup.exe with **>Save<**.  
The PassThru setup.exe will be saved in the target directory.
  7. Click the PassThru setup.exe in the target directory.  
The window **HGS PassThru Setup** is displayed.
  8. Select the requested language with ▼.
  9. Confirm the selection with **>OK<**.  
The selection is saved automatically. The setup wizard of HGS – PassThru is displayed.
  10. Click **>Next<**.  
The general terms and conditions (GTCs) appear.
  11. Read the GTCs and confirm them at the end of the text.
  12. Click **>Next<**.  
Select a product to be able to install the HGS PassThru Setup software successfully.
  13. Select **>HGS VCI<**.
  14. Install the product with **>Install<**.  
Installation is started.
  15. Wait until installation is finished.
  16. Click **>Finish<**.  
A link to HGS PassThru will be automatically created on the desktop.
- Installation of the HGS PassThru software is now complete.

## 8 Initial Start-Up of the HGS PassThru Software

This section describes how the HGS PassThru software is used.


### 8.1 Preconditions for Initial Start-Up of HGS PassThru

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- Voltage supply of device and laptop or tablet through mains supply and mains cable is ensured.
- Laptop or tablet is booted.
- Laptop or tablet available for connecting vehicle to the Internet
- HGS PassThru file correctly installed on laptop or tablet.
- Admin rights available.
- Latest Java version installed.
- Stable Internet connection
- All processes/programs that have been started or are running in the background are closed.


### 8.2 Running the HGS PassThru Software

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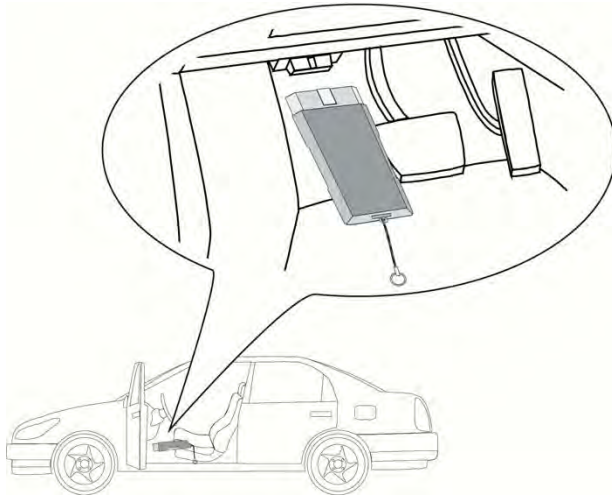
	<p><b>CAUTION</b></p> <p>Pay attention that the voltage supply during the entire procedure is no lower than 12 V.</p> <p>A voltage drop may lead to the abortion of the download and the ECU may be damaged.</p> <p>The old software version of the ECU <i>cannot</i> be re-established if an update is intended.</p>
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Proceed as follows to run the HGS Pass Thru software:

1. Insert the USB cable into the USB connection of the PC VCI.

	<p><b>NOTICE</b></p> <p>Danger of short circuit and voltage peaks when connecting the PC VCI</p> <p>Danger of destruction of automotive electronics</p> <p>Switch off ignition before connecting the PC VCI to the vehicle.</p>
---	---

2. Insert the PC VCI into the vehicle's diagnostic interface.



Both LEDs of the PC VCI flash. The PC VCI is ready for operation.

3. Insert the USB cable into the USB port of the laptop/tablet.  
Connection is established. Laptop/tablet is connected to the vehicle via HGS VCI.
4. Select **Applications > PassThru** in the main menu.  
The disclaimer is displayed.
5. Read the disclaimer and confirm it at the end of the text.  
The PassThru function is active.
6. Switch on the vehicle ignition.
7. Observe the manufacturer's specifications.
8. Select **Start > All Programs > Hella Gutmann Solutions > HGS PassThru**.  
Alternatively you can run the HGS PassThru software as follows.
  - Windows 7: Select the HGS PassThru shortcut in the desktop.
9. Select the requested language.
10. Start the communication test with **>Start test<**.



The communication test is started. Connection between laptop/tablet and HGS VCI is tested.

The connection between laptop/tablet and HGS VCI is active if the left row of arrows is green.

The connection between HGS VCI and vehicle is tested afterwards.

The connection between HGS VCI and vehicle is active if the right row of arrows is green.

The connection between laptop/tablet and vehicle via HGS VCI has been successfully established now.

11. Finish the communication test with **>Finish<**.
12. Call up the requested manufacturer website online with the laptop/tablet.
13. Follow the instructions on the manufacturer portal.
14. Select PassThru (HGS VCI) of Hella Gutmann.

## 9 Configuring the mega macs PC

Configure all interfaces and functions under **>Settings<** in the main menu.


### 9.1 Always Online

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To obtain all the data provided by Hella Gutmann about the related vehicle, the PC requires a permanent online connection. To keep the connection costs down, Hella Gutmann recommends a DSL connection and a flat rate.

- Install the Gutmann Portal on the office or workshop PC.

The latest software for the Gutmann Portal is on the DVD supplied.

Once the connection symbol  in the top toolbar changes from black to green, the online connection has been set up successfully and is active.

### 9.2 Setting Company Data



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Enter the company data that shall appear on the hard-copy printout, e.g.:

- Company address
- Fax number
- Homepage

#### 9.2.1 Entering Company Data

Proceed as follows to enter the company data:

1. Select **Company** under **> Settings** in the main menu.
2. Select **>Company data<**.
3. Open the virtual keypad under **Company name** with .
4. Enter the company name.
5. Confirm your entry with .  
The input will be saved automatically.
6. Repeat steps 3-5 for further entries.

#### 9.2.2 User name

##### 9.2.2.1 Entering the User Name

Here you can manage the different users.

The respective user name is saved for all data stored in the Car History. This enables quicker identification of the mechanic who performed the repair work if a query is subsequently made.

Proceed as follows to enter the user name:

1. Select **Company** under **> Settings** in the main menu.
-


2. Select **>User<**.
3. Open the virtual keypad with **+**.
4. Enter the user name.
5. Confirm your entry with **✓**.  
The input will be saved automatically.

### 9.2.2.2 Assigning a Password

Here you have the option to assign passwords to the users.


The assigned password must be entered when selecting the user.

Proceed as follows to assign a password to a user:

1. Select **Company** under **> Settings** in the main menu.
2. Select **>User<**.
3. Selected the requested user name.
4. Open the virtual keypad under **Password (optional)** with .
5. Enter the requested password.
6. Confirm your input with **✓**.  
The input is saved automatically.


### 9.2.2.3 Deleting the Password

Proceed as follows to delete the password:

1. Select **Company** under **> Settings** in the main menu.
2. Select **>User<**.
3. Selected the requested user name with assigned password.
4. Delete the password under **Password (optional)** with .
5. Observe the confirmation prompt.
6. Confirm the confirmation prompt with **✓**.  
Password will be deleted.

### 9.2.2.4 Deleting the User Name

Proceed as follows to delete the user name:



1. Select **Company** under **> Settings** in the main menu.
2. Select **>User<**.
3. Select the required user name.
4. Delete the user name with .
5. Observe the confirmation prompt.
6. Confirm the confirmation prompt with **✓**.  
The user name is deleted.

### 9.2.2.5 Creating Cost Estimates

Here you can enter the base values for the cost estimate.

You can enter 3 different hourly rates (net) and one VAT rate. These values are used to calculate the total amount of the work to be done.

Proceed as follows to enter the basic values in the cost estimate:

1. Select **Company** under **> Settings** in the main menu.
2. Select **>Cost estimate<**.
3. Open the virtual keypad under **Hourly rate 1 (Net in EUR)** with .
4. Enter the required hourly rate.
5. Confirm your input with .  
The input is saved automatically.
6. Repeat steps 3 to 5 for further entries.

## 9.3 Update of the mega macs PC and PC VCI Software

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Here you can perform the updates of the software the PC VCI. Various system parameters are also displayed, e.g.:

- Package version
- Module type (ID)
- Software version

Hella Gutmann Solutions supplies customers with regular software updates. The update is subject to charge. These updates contain new vehicle systems as well as technical modifications and improvements. We recommend keeping your software up to date.

### 9.3.1 Preconditions for an Update

Ensure the following to perform updates:

- The mega macs PC software is installed on a web-compatible PC.
- The PC VCI is connected to a web-compatible PC through USB cable or Bluetooth.
- A Bluetooth-compatible PC or Bluetooth adapter is plugged into the PC.
- The corresponding licenses are activated by Hella Gutmann.
- The access software Gutmann Portal is installed on the PC.
- Voltage supply of PC and PC VCI is guaranteed.

### 9.3.2 Calling Up System Information

Here you will find all information required for the identification of the mega macs PC software.

Proceed as follows to call up system information:

1. Select **Update** under **> Settings** in the main menu.
-


2. Select **>System<**.  
An info window appears.

Here you can find information including the software and hardware version and the device number.

### 9.3.3 Setting the Language

Here you can set the language version if the software is multilingual. After having set the language, the update will be installed in this language.

Proceed as follows to set the language:

1. Select **Update** under **> Settings** in the main menu.
2. Select **>System<**.
3. Open the list under **Language setting** with .


The compilation of languages depends on the prevailing software.


4. Select the requested language.  
The selection will be saved automatically.

### 9.3.4 Starting the Test

Check the present software for incorrect or missing files here.

Proceed as follows to start the test:

1. Select **Update** under **> Settings** in the main menu.
2. Select **>System<**.
3. Open the list under **Step** with .
4. Select **>Check<**.

5. Start the check with .
- Installation is being checked.

The delivered list after completion of the installation test must not include an incorrect file.


The message *Device software OK* appears if the present software is OK.

6. Should the list nevertheless include incorrect files, start the update again.


### 9.3.5 Starting the Software Update

Start the software updates here.

Proceed as follows to start the software update:

1. Select **Update** under **> Settings** in the main menu.
2. Select **>System<**.
3. Open the list under **Step** with .

4. Select **>Update<**.

	<p><b>NOTICE</b></p> <p>Insufficient voltage supply</p> <p>System data loss</p> <p>Do not switch off the PC and the PC VCI during the software update and do not disconnect both from voltage supply.</p> <p>Ensure sufficient voltage supply.</p>
---	--

5. Start **Update** with .

The device searches for a new update that will then be downloaded and installed.

The mega macs PC software will be finished automatically upon a successful software update. The installation will be checked automatically after startup.

## 9.3.6 Calling up PC VCI Information

Here you will find all information required for the identification of the PC VCI.

Proceed as follows to call up PC VCI information:


1. Select **Update** under **> Settings** in the main menu.
2. Select **>PC VCI<**.

An info window appears.



This menu provides the software and hardware version and the module type of the PC VCI.

## 9.3.7 PC VCI Update

Here you can update the software for the PC VCI.

	<p><b>NOTICE</b></p> <p>Insufficient voltage supply</p> <p>System data loss</p> <p>Do not switch off the PC and the PC VCI during the PC VCI update and do not disconnect them from voltage supply.</p> <p>Ensure sufficient voltage supply.</p>
---	--

Proceed as follows to start the PC VCI update:

1. Insert the PC VCI into the vehicle's diagnostic connector.  
Alternatively, you can ensure voltage supply via USB cable.  
Both LEDs of the PC VCI flash. The PC VCI is ready for operation.
  2. Select **Update** under **> Settings** in the main menu.
  3. Select **>PC VCI<**.
  4. **Start the PC VCI update** with .
  5. Regard the window with infos and instructions.
  6. Confirm the window with infos and instructions with .
- The PC VCI update will be started. Data is copied from the mega macs PC software to PC VCI.



The message *PC VCI update update successfully done.* appears if the update was successful.

## 9.4 Configuring the Interfaces

---



Here you can configure the interfaces for the printer and the BPC-Tool.

All interfaces of the mega macs PC software are configured under **Settings > Interfaces**.

### 9.4.1 Configuring the BPC-Tool

#### 9.4.1.1 Searching for a BPC-Tool

Proceed as follows to search for a BPC-Tool:

1. Switch on the BPC-Tool and connect it with the mega macs PC software (see operating instructions of the BPC-Tool).
  2. Select **Interfaces** under **> Settings** in the main menu.
  3. Select **>BPC<**.
  4. Search for a **BPC-Tool** with .
  5. Observe the info window.
  6. Confirm the info window with .
- The connection to the BPC-Tool is established.

Once the connection from the mega macs PC software to the BPC-Tool has been set up successfully, a drop-down list of the BPC-Tools that have been found is displayed.



7. Select the required BPC-Tool.  
The selection will be saved automatically.

The selected BPC-Tool address is displayed in the field **BPC address**.

#### 9.4.1.2 Deactivating the BPC-Tool Connection and Deleting the Assignment

Here you can deactivate the BPC-Tool connection and delete the assignment.

Proceed as follows to deactivate the BPC-Tool connection and delete the assignment:


1. Select **Interfaces** under **> Settings** in the main menu.
  2. Select **>BPC<**.
  3. **Deactivate the connection to the BPC-Tool and delete the assignment** with .
  4. Observe the confirmation prompt.
  5. Confirm the confirmation prompt with .
- The BPC-Tool connection is deactivated and the assignment is deleted.



#### 9.4.1.3 Starting a BPC-Tool Update

Proceed as follows to start the BPC Tool update:

1. Connect the BPC-Tool to the battery.
2. Select **Interfaces** under **> Settings** in the main menu.

3. Select **>BPC<**.

	<p><b>NOTICE</b>  Insufficient voltage supply  System data loss  Do not switch off the PC and the BPC-Tool during the update and do not disconnect both from voltage supply.  Ensure sufficient voltage supply.</p>
---	---


4. **Start BPC-Tool update** with .
  5. Regard the window with infos and instructions.
  6. Confirm the window with infos and instructions with .
- Update of the BPC-Tool will start. The device searches for a new update that will then be downloaded and installed.

The message *BPC-Tool update successful* appears if the update was successful.

#### 9.4.1.4 Calling up System Information for the BPC-Tool

Here you can find all information required for identification of the BPC-Tool.

Proceed as follows to call up system information of the BPC-Tool:

1. Select **Interfaces** under **> Settings** in the main menu.
  2. Select **>BPC<**.
  3. Call up **System information** with .
- An info window appears.

Here you can find information including the product name, the product ID and the operating system.





## 9.4.2 Setting Up the Printer

### 9.4.2.1 Printing with Standard PC Printer

Here you can set the standard printer for printing with the PC on which the mega macs PC software is installed.

For this, the mega macs PC software must forward the data to be printed to the Gutmann Portal. Then the Gutmann Portal sends the data to the standard printer of the system.

Proceed as follows to print out results with the standard printer:

1. Select **Interfaces** under **> Settings** in the main menu.
2. Select **>Printer<**.
3. Open a list under **Interface** with .
4. Select **>Gutmann Portal<**.  
The selection will be saved automatically.
5. Use  to open the virtual keypad under **top (mm)**.  
The margins are set ex works to 15 mm.
6. Delete the number set ex works with  or  where necessary.
7. Enter the requested height of the margins in mm.

8. Confirm your entry with ✓.  
The input will be saved automatically.
9. Repeat steps 5-8 for further entries.
10. Where necessary, activate the check box **Blank out company logo** to print out results without the company logo of Hella Gutmann.  
  
This function enables hard-copy printouts on printed paper.  
  
Now you can start printing via PC.

## 9.5 Setting the Country

---

Configure the following data here:

- Language setting
- Country setting
- Currency

### 9.5.1 Setting the Language Option

Here you can set the language if the software is multilingual (optional).

Proceed as follows to set the language:

1. Select **Country** under **> Settings** in the main menu.
2. Open the list under **Language setting** with ▼.  
The compilation of languages depends on the prevailing software.
3. Select the requested language.
4. Regard the window with infos and instructions.
5. Close the window with infos and instructions with ☒.  
The mega macs PC software will be finished automatically. The language setting will be saved automatically.
6. Execute the mega macs PC software again.
7. Confirm the user selection window with ✓.  
The main menu appears.

### 9.5.2 Making Country Settings

Make your country settings here.

The country version contains certain information, such as the print format for letters.


Proceed as follows to make the country settings:

1. Select **Country** under **> Settings** in the main menu.
2. Open the list under **County** with ▼.  
The compilation of countries depends on the prevailing software.
3. Select the country to the corresponding language.  
The selection will be saved automatically.

### 9.5.3 Setting the Currency

Here you can set the prevailing currency.

Proceed as follows to set the currency:

1. Select **Country** under **> Settings** in the main menu.
2. Open the list under **Currency** with .

The compilation of currencies depends on the prevailing software.

3. Select the requested currency.  
The selection will be saved automatically.


## 9.6 Setting Units

---

Adapt physical units to the prevailing regional metric system here.

### 9.6.1 Assigning Units

Proceed as follows to assign regional units to physical sizes:

1. Select **Units** under **> Settings** in the main menu.
2. Open a list under the requested unit with .
3. Select the requested unit.  
The selection will be saved automatically.

---

## 9.7 Configuring Miscellaneous

---

Configure the following data here:

- Other stipulations
- Car History
- Resolution


### 9.7.1 Configuring Other Matters

Here you can configure settings such as:

- Tips
- Demo mode
- Order management

#### 9.7.1.1 Setting the Demo Mode

Here you can set whether the device shall give predetermined values during the vehicle communication. This setting is mainly intended for marketing and sales presentations.

	<p><b>NOTE</b> In the course of vehicle diagnostics the demo mode must be switched off. Otherwise the device will deliver predetermined diagnostic results and no real values.</p>
---	--

Proceed as follows to set the demo mode:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Miscellaneous<**.
3. Open the list under **Demo mode** with **∨**.
4. Select **>on<** or **>off<**.  
Demo mode is switched off or on.

#### 9.7.1.2 Setting Tips

Here you can activate or deactivate additional information on different functions.


Proceed as follows to set the indication of tips:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Miscellaneous<**.
3. Open the list under **Tips** with **∨**.
4. Select **>on<** or **>off<**.  
Tips are switched off or on. The selection will be saved automatically.

#### 9.7.1.3 Configuring Order Management

Here you can set the data exchange between the mega macs PC software and the order management.

Proceed as follows to set the order management:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Miscellaneous<**.
3. Open a list under **Order management** with .
4. Select **>on<** or **>off<**.  
Order management is switched off or on. The selection will be saved automatically.

### 9.7.1.4 Performing a Factory Reset

Here you can reset the mega macs PC software to factory settings.



The following data and files will be reset to the state of delivery if you do the factory reset:

- Data stored in the Car History
- Downloaded files such as wiring diagrams or service schedules
- User data such as company data

The following functions will be also modified or deleted:

- IP address mode
- Telekom HotSpot
- Bluetooth MAC address
- asanetwork
- Display settings
- Confirmation of General terms and conditions
- Printer settings

Proceed as follows to perform a factory reset:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Miscellaneous<**.
3. Start **Factory reset** with .
4. Observe the confirmation prompt.
5. Confirm the confirmation prompt with .  
The mega macs PC software will be automatically reset to the condition at delivery.

## 9.7.2 Configuring the Car History


This menu provides the diagnostic results to the present vehicle from the functions **>Trouble codes<**, **>Parameters<**, **>Basic settings<** and **>Codings**. This has the following advantages:

- You can evaluate the diagnostic results later.
- Compare previously performed diagnostics to present diagnostic results.
- You can show the customer the diagnostic results without needing to reconnect the vehicle.

### 9.7.2.1 Automatic Car History Transfer

If you have selected the option **Automatic Car History Transfer**, the data saved in the Car History will be automatically transferred to Hella Gutmann.


Proceed as follows to transfer the Car History automatically:


1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Car History<**.
3. Open a list under **Automatic Car History Transfer** with .
4. Select **>on<** or **>off<**.  
The selection will be saved automatically.

### 9.7.2.2 Manual Parameter Management

Here you can select whether the device offers to delete existing parameter records in the Car History if there is not enough memory space.

Proceed as follows to manage the parameters manually:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Car History<**.
3. Open a list under **Administrating parameters manually** with .
4. Select **>on<** or **>off<**.


	<p><b>NOTE</b></p> <p>If <b>&gt;on&lt;</b> is selected, you can determine existing measurements in the Car History to be deleted.</p> <p>If <b>&gt;off&lt;</b> is selected, the device will automatically delete the oldest entries in the Car History.</p>
---	---

The selection will be saved automatically.

### 9.7.2.3 Sending the Car History

Here you can send the Car History to Hella Gutmann.

Proceed as follows to send the Car History data:

1. Select **Miscellaneous** under **> Settings** in the main menu.
  2. Select **>Car History<**.
  3. **Send Car History** with .
- The Car History is sent to Hella Gutmann.



### 9.7.2.4 Parameter Management

	<p><b>NOTE</b></p> <p>The menu point <b>Parameter management</b> can be done only if <b>Manage parameters manually</b> is set to <b>on</b>.</p>
---	---

With the **Parameter management** function, you can delete parameter records from the Car History. This is useful if more memory space is required for further parameter records.

Proceed as follows to delete parameter records:


1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Car History<**.

3. Call up **Parameter management** with .  
An info and selection window appears.  
Deactivate all parameter records with .  
Activate all parameter records with .
4. Activate or deactivate the required parameter records.
5. Delete the selected parameter records with .  
The parameter records are deleted.

### 9.7.2.5 Displaying Error Logs

If an error occurs when sending the Car History data, the error log is stored in the memory of the mega macs PC software.

Proceed as follows to call up the error log:



1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Car History<**.
3. Call up **Error logs** with .
4. Select the required error log.  
The error log is displayed.

It displays the troubles that occurred while sending the Car History data.

### 9.7.3 Setting the Resolution

Configure the screen resolution of the mega macs PC software here.

Proceed as follows to set the resolution:

1. Select **Miscellaneous** under **> Settings** in the main menu.
2. Select **>Resolution<**.
3. Open the list under **Resolution** with .
4. Select the requested resolution.
5. Regard the window with infos and instructions.
6. Close the window with infos and instructions with .  
The selection will be saved automatically. The mega macs PC software will be started again.

## 9.8 Contracts

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Here you can see the general terms and conditions as well as the licenses and notes of the programs and functions used by the Hella Gutmann Solutions GmbH.

### 9.8.1 Retrieving the License

Here you can see an overview of the purchased licenses.

Proceed as follows to retrieve licenses:



1. Select **Contracts** under **> Settings** in the main menu.
2. Select **>License<**.
3. Call up **My licenses** with .  
Data download is in progress. Purchased licenses are displayed.

## 9.8.2 Displaying the GTC

Here you will find the general terms and conditions (GTC) of Hella Gutmann Solutions GmbH. The agreement to the terms can only be revoked by doing a factory reset.

Proceed as follows to have the GTCs indicated:

1. Select **Contracts** under **> Settings** in the main menu.
2. Select **>GTC<**.  
The GTCs appear.

## 9.8.3 Displaying Other Licenses

Here you can view a list of the licenses and notes of the programs and functions used by Hella Gutmann.

Proceed as follows to retrieve licenses:

1. Select **Contracts** under **> Settings** in the main menu.
2. Select **>Miscellaneous<**.  
A list with the licenses and notes of the programs and functions used by the Hella Gutmann appears.

## 9.9 Test Functions

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Here you can perform various tests.

### 9.9.1 Precondition for Test Functions


Regard the following to perform the test functions:

- Voltage supply of the PC VCI through power adapter and mains cable is ensured.
- The PC VCI is connected with USB cable and PC.
- The PC VCI is *not* inserted in the vehicle's diagnostic connector.

### 9.9.2 Performing the VCI Plug Test

This test serves as a function check for defects in the PC VCI.

Proceed as follows to perform the test functions:

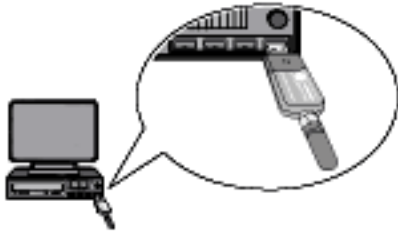
1. Select **Test functions** under **> Settings** in the main menu.
2. Start the **VCI plug (USB)** test with .  
The message *VCI OK, no malfunction detected* appears if the test was successful.

### 9.9.3 Performing VCI Diagnostics

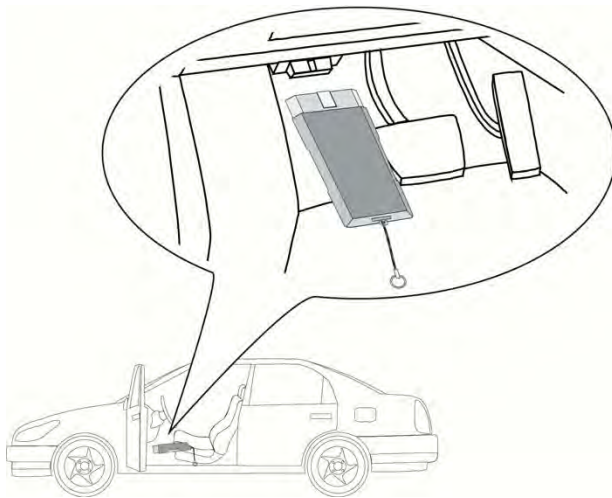
This diagnostics is used to test the functionality of Bluetooth for defects to determine data loss.

Proceed as follows to perform VCI diagnostics:

1. Insert the Bluetooth adapter into the USB port of the PC.



2. Insert the PC VCI into the vehicle's diagnostic connector.



Both LEDs of the PC VCI flash. The PC VCI is ready for operation.

3. Select **Test functions** under **> Settings** in the main menu.
4. Start **VCI diagnostics (Bluetooth)** with .










The **Wireless diagnostics** window appears. The Bluetooth function will be checked.







VCI diagnostics is completed successfully if *0* is displayed under **Defective protocols** and *Diagnostics complete* is displayed under **Status**.

## 10 Working with the mega macs PC





### 10.1 Symbols







#### 10.1.1 General Symbols

Symbols	Designation
	<b>Switch off</b> Exit the mega macs PC software.
	<b>Enter</b> Call up the selected menu.
	<b>Confirm</b> Perform the following functions: <ul style="list-style-type: none"> <li>• Start the selected function.</li> <li>• Confirm the present entry.</li> <li>• Confirm your menu selection.</li> </ul>
	<b>Cancel</b> Cancel the following functions: <ul style="list-style-type: none"> <li>• Active function</li> <li>• Input</li> </ul>
	<b>Start</b> Start a function or procedure.
	<b>Delete</b> Delete data or entries.
	<b>Arrow keys</b> Navigate with the cursor in menus or functions.
	<b>Print</b> Print the current window.
	<b>Help</b> Open the user manual and explanations on the individual menus or functions.



Symbols	Designation
	<b>Virtual keypad</b> Open the virtual keypad for text input.
	<b>Selection window</b> Open a selection window.
	<b>Select all</b> Select all available elements.
	<b>Unselect all</b> Unselect all available elements.
	<b>Zoom in</b> Zoom in the present view.
	<b>Zoom out</b> Zoom out of the present view.






### 10.1.2 Symbols in the Header

Symbols	Designation
	<b>Vehicle data</b> This menu contains the data of the currently selected vehicle.
	<b>User</b> Here you can click the symbol to change the user or double-click  to enter a new user name.
	<b>Help</b> Select the menus <b>&gt;Assistance in selection&lt;</b> and <b>&gt;User Manual&lt;</b> . <ul style="list-style-type: none"> <li><b>&gt;Assistance in selection&lt;</b> Indication of the active assistance for the different icons and the drop-down menu Black symbol: Help function is inactive Green symbol: Help function is active</li> <li><b>&gt;User Manual&lt;</b> Calling up the complete manual</li> </ul>







Symbols	Designation
 	<p><b>Shopping cart</b></p> <p>The spare parts booked for order are indicated with the following information:</p> <ul style="list-style-type: none"> <li>• Quantity</li> <li>• Component name</li> <li>• Manufacturer</li> <li>• Item number</li> </ul> <p>The shopping cart symbol is dark if there are spare parts in the cart.</p>
	<p><b>Order network</b></p> <p>Here you can exchange data between order network and the mega macs PC.</p>
	<p><b>Printer</b></p> <p>Printer is ready for operation</p> <ul style="list-style-type: none"> <li>• Black symbol: Printer is ready</li> <li>• Symbol flashes green-black: Print job is in progress</li> <li>• Red symbol: Connecting error between printer and PC</li> </ul>
	<p><b>Vehicle connection status</b></p> <p>Here you can view the active and inactive connections between the PC and the PC VCI. The symbol shows the active connection.</p> <ul style="list-style-type: none"> <li>• Black symbol: Connection to PC VCI is inactive.</li> <li>• Green symbol: Connection to PC VCI is active.</li> </ul>
	<p><b>PC connection status</b></p> <p>Here you can view the active and inactive connections PC and HGS data server.</p> <ul style="list-style-type: none"> <li>• Black symbol: Connection to HGS data server is inactive.</li> <li>• Green symbol: Connection to HGS data server is active.</li> </ul>










### 10.1.3 Symbols in the Main Menu

Symbols	Designation
	<p><b>Home</b></p> <p>Return to the main menu here.</p>
	<p><b>Vehicle Selection</b></p> <p>Select a vehicle or access the Car History here. First select a vehicle to access the following functions depending on the vehicle:</p> <ul style="list-style-type: none"> <li>• Diagnostics</li> <li>• Vehicle Information</li> </ul>




Symbols	Designation
	<p><b>Diagnostics</b></p> <p>Here you can find vehicle-specific ECU diagnostics, e.g.:</p> <ul style="list-style-type: none"> <li>• Trouble code readout</li> <li>• Parameter readout</li> <li>• Codings</li> </ul>
	<p><b>Vehicle Information</b></p> <p>Here you can find information regarding the selected vehicle, e.g.:</p> <ul style="list-style-type: none"> <li>• Assistance in finding the installation location of a component</li> <li>• Timing belt and service data</li> <li>• Technical Data</li> <li>• Wiring diagrams</li> <li>• Recall campaigns of vehicle manufacturers and importers</li> </ul>
	<p><b>Applications</b></p> <p>Useful applications are stored here:</p> <ul style="list-style-type: none"> <li>• Calculator</li> <li>• Calculations</li> </ul>
	<p><b>Optional HGS Tools</b></p> <p>Functions for linked accessory devices are stored here, e.g., for battery diagnostics.</p>
	<p><b>Settings</b></p> <p>Configure the mega macs PC software here.</p>







#### 10.1.4 Symbols in the Vehicle Selection Menu

Symbols	Designation
  	<p><b>Preselect the vehicle type</b></p> <p>Pre-filter the database according to vehicle type:</p> <ul style="list-style-type: none"> <li>• Passenger car</li> <li>• Motorcycle</li> <li>• Truck</li> </ul>
  	<p><b>Vehicle database</b></p> <p>Select a vehicle from the database, e.g., according to the following criteria:</p> <ul style="list-style-type: none"> <li>• Manufacturer</li> <li>• Type</li> <li>• Year of manufacture</li> <li>• Engine code</li> </ul>





Symbols	Designation
	<b>Car History</b> Call up the Car History here.
	<b>Display Car History files</b> Call up a list of saved diagnostic data records on a certain vehicle.
	<b>VIN identification</b> Read out the VIN of the vehicle using the OBD plug.
	<b>OBD diagnostics</b> Here you can only start the OBD diagnostics by selecting the vehicle manufacturer and the fuel type.
	<b>Page forward</b> Go one page forward.
	<b>Page back</b> Go one page back.
	<b>Information</b> Call up additional information regarding the selected vehicle, e.g.: <ul style="list-style-type: none"> <li>• Vehicle type</li> <li>• Engine displacement</li> <li>• Output</li> <li>• Engine code</li> </ul>
	<b>Update the Car History</b> Update the list of vehicles in the Car History and the vehicle status here.
	<b>Vehicle search in the vehicle database</b> Search for a vehicle in the vehicle database using its VIN, its manufacturer key no. or its license plate number.

### 10.1.5 Symbols in the Diagnostics Menu









Symbols	Designation
	<b>System information</b> Here you can find information and help texts on the selected system.
	<b>Expand view</b> Here you can call up a print preview with individual trouble codes after a global check of the trouble codes. More detailed information on the individual trouble codes in the systems appears.
	<b>Reduce view</b> Here you can close a print preview after a global check of the trouble codes.

Symbols	Designation
	<b>Selection to the right</b> Add available individual parameters to the selected parameters here.
	<b>Selection to the left</b> Relocate single parameters back to the list of available parameters here.
	<b>Select all</b> Relocate all parameters selected back to the list of available parameters.
	<b>Parameter information</b> Call up detailed information on the selected parameter.
	<b>Parameter selection</b> Return to the parameter list.
	<b>Save parameters</b> Here you can save the automatic recording of the parameters in the Car History.



### 10.1.6 Symbols in the Vehicle Information Menu

Symbols	Designation
	<b>Car History</b> This menu contains all the work with the mega macs PC done on vehicles provided that you have entered a license plate number or a keyword for the vehicle selection.  The data is saved under the license plate number or keyword entered previously.
	<b>Component help</b> Call up detailed information on the certain components, e.g.: <ul style="list-style-type: none"> <li>• Engine compartment image</li> <li>• Component test values</li> <li>• Repair instruction</li> <li>• Component image</li> </ul>
	<b>Service data</b> This menu contains vehicle-specific service schedules and oil change intervals.
	<b>Timing belt data</b> This menu contains the removal and installation instructions for timing belts and timing chains.






Symbols	Designation
	<p><b>Diagnostic database</b></p> <p>This menu contains manufacturer and vehicle-specific solutions for various problematic cases.</p> <p>All suggested solutions are from the practice and are retrieved from the Hella Gutmann diagnostics database.</p>
	<p><b>Technical data</b></p> <p>Here you can find all of the data required for service and repair work, e.g.:</p> <ul style="list-style-type: none"> <li>• Timing marks</li> <li>• Wheel alignment data</li> <li>• Spark plug type</li> </ul>
	<p><b>Wiring diagrams</b></p> <p>This menu contains the wiring diagrams of various vehicle systems e.g.:</p> <ul style="list-style-type: none"> <li>• Engine</li> <li>• ABS</li> <li>• Airbag</li> <li>• Comfort</li> </ul>
	<p><b>Fuses/relays</b></p> <p>This menu includes the location and function of fuses and relays.</p>
	<p><b>Component test values</b></p> <p>This menu contains measurement and test data for components with electrical cables connected to an ECU plug.</p>
	<p><b>Flat rate units</b></p> <p>This menu contains the common labor rates and flat rates for diverse work on the vehicle including the service of collecting, bringing and towing assistance.</p>
	<p><b>Exhaust emission data</b></p> <p>This menu contains the exhaust emission values determined by the manufacturer and the test steps necessary for a German exhaust-emission check.</p>
	<p><b>Cabin air filter</b></p> <p>This menu contains the demounting and installation instructions for the cabin air filter.</p>








### 10.1.6.1 Symbols in the Car History Menu

Symbols	Designation
	<p><b>Next entry</b></p> <p>Here you can call up the next entry in the Car History.</p>
	<p><b>Previous entry</b></p> <p>Here you can call up the previous entry in the Car History.</p>


### 10.1.6.2 Symbols in the Component Help Menu

Symbols	Designation
	<b>Search a component</b> Search a certain component by its name in the component help list.
	<b>Search the next component</b> Here you can search for a related entry that corresponds to the entered search pattern.
	<b>Add components to shopping cart</b> Add selected components to the shopping cart.





### 10.1.6.3 Symbols in Service Data Menu

Symbols	Designation
	<b>Service interval timing belt data</b> Here you can call up the service interval for the timing belt change.
	<b>Flat rate units for service</b> Here you can find the common flat rate units and times (FRUs) for the vehicle service.
	<b>Change to diagnostic database</b> Change directly to the diagnostic database from the service database.
	<b>Component list</b> Here you can call up a list with context-relevant components.
	<b>Additional information</b> Here you can view additional vehicle information about the manufacturer, model, or type.
	<b>Select service interval</b> Here you can find and select the vehicle-specific service intervals of the vehicle.
	<b>Back to flat rate units</b> Here you can return to the general flat rate units and times for the vehicle service.


### 10.1.6.4 Symbols in the Timing Belt Data Menu

Symbols	Designation
	<b>Service interval timing belt data</b> Here you can call up the service interval for the timing belt change.



### 10.1.6.5 Symbols in the Wiring Diagram Menu

Symbols	Designation
	<b>Assembly/system selection</b> Here you can return directly to the wiring diagram selection page.
	<b>Component selection</b> Here you can see an overview of all the components included in the wiring diagram. These are sorted alphabetically and indicated with a colored border in the wiring diagram depending on the selection.
	<b>Indicating/blanking the general view of the wiring diagram</b> If you zoomed the wiring diagram you can view an overview bottom left. If you move the frame in general view you can view the section in the zoomed view.
	<b>Component help</b> Here you can find additional information on the selected component, e.g.: <ul style="list-style-type: none"> <li>• Wiring diagrams</li> <li>• Parts information</li> </ul>




### 10.1.6.6 Symbols in the Fuses/Relays Menu

Symbols	Designation
	<b>Fuses/relays for component</b> Here you can view components with fuses/relays in the selected fuse box. These are sorted alphabetically and are indicated with a colored border in the fuse box depending on the selection.


### 10.1.6.7 Symbols in the Component Test Values Menu

Symbols	Designation
	<b>Component help</b> Call up detailed information on certain components, e.g.: <ul style="list-style-type: none"> <li>• Engine compartment image</li> <li>• Component test values</li> <li>• Repair instruction</li> <li>• Component image</li> </ul>
	<b>Component selection</b> This menu returns you to the component test values selection.



### 10.1.6.8 Symbols in the Flat Rate Units Menu

Symbols	Designation
	<b>NOTICE</b> Steps that are particularly important when performing work steps are emphasized separately here.
	<b>Information</b> Here you can see additional work steps that can arise during work.
	<b>Additional work</b> If applicable, you can see additional work steps that can arise during work.




### 10.1.6.9 Symbols in the Battery Management Menu

Symbols	Designation
	<b>Display explanation</b> Here you can call up explanations for the test result and the specialist terms to be used.







### 10.1.7 Symbols in the Applications Menu

Symbols	Designation
	<b>Calculator</b> Perform general calculations here.
	<b>Calculations</b> Here you can perform the the following conversions: <ul style="list-style-type: none"> <li>• Fuel consumption</li> <li>• Piston speed</li> <li>• Current/power output/resistance</li> <li>• Conversion of technical units</li> </ul>



## 10.1.8 Symbols in the Settings Menu

Symbols	Designation
	<p><b>Add user</b></p> <p>Here you can add a new user the the list of users.</p> <p>The respective user name is saved for all data stored in the Car History. This enables quicker identification of the mechanic who performed the repair work if a query is subsequently made.</p>
	<p><b>Start diagnostics</b></p> <p>Here you can start a connection test of the prevailing interface.</p>
	<p><b>Language management</b></p> <p>Uses this symbol to set language-specific keypad layouts and to delete installed languages.</p>

## 10.1.9 Symbols on the Virtual Keypad

Symbols	Designation
	<p><b>Copy/paste</b></p> <p>Here you can copy text into the clipboard or paste text from the clipboard.</p>
	<p><b>Insert special characters</b></p> <p>Use this symbol to insert special characters into the text.</p>
	<p><b>Select the keypad</b></p> <p>Here you can select and manage the country-specific keypads.</p>
	<p><b>Manage keypad languages</b></p> <p>Here you can select language-specific and country-specific keypads.</p>
	<p><b>Add keypad to list</b></p> <p>Here you can add country-specific keypads from the <b>Available keypads</b> list to the <b>Keypad</b> list.</p>
	<p><b>Remove keypad from list</b></p> <p>Here you can remove country-specific keypads from the <b>Keypad</b> list.</p>


## 10.1.10 Symbols in the Manual

Symbols	Designation
	<b>Search for entries</b> Here you can search for certain words.
	<b>Search for next entry</b> Here you can search for a related entry that corresponds to the entered search pattern.







## 10.2 Vehicle Selection

Here you can select vehicles according to the following parameters:

- Vehicle type
- Manufacturer
- Model
- Fuel type


	<b>NOTE</b> You require an online connection if you wish to access all available information.
---	--


Proceed as follows to select a vehicle:

1. Select **>Vehicle selection<** in the main menu.
2. Select **>i<**.
3. Activate the check box  for passenger cars,  for motorcycles, or  for trucks.
4. Select **Vehicle database** with , , or .
5. Select the requested manufacturer.
6. Select the requested fuel type.
7. Select the requested model.
8. Double-click to the requested vehicle type.  
The **Vehicle data** menu appears.

Here you can enter either the license plate number or the customer name (max. 10 characters).

9. Open the virtual keypad with .


	<b>NOTE</b> If you do not enter a license plate number or the customer name, the device does not store any data of the current vehicle in the Car History.  One license plate number or customer name can be used for several vehicles.
---	--

10. Enter the license plate number or customer name.
11. Click  twice to confirm the input.  
The input will be saved automatically.


Vehicle selection is now ready for **>Diagnostics<** and **>Vehicle data<** and the data will be stored in the **>Car history<**.

The mega macs PC software switches automatically back to the main menu.

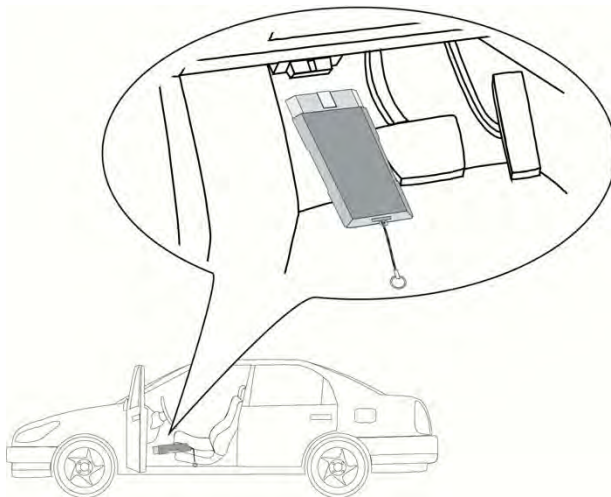
## 10.2.1 Identifying a Vehicle by VIN

	<p><b>NOTE</b> The VIN cannot be read out via the OBD for every vehicle.</p>
---	--







Proceed as follows to identify a vehicle by VIN:


	<p><b>NOTICE</b> Danger of short circuit and voltage peaks when connecting the PC VCI Danger of destruction of automotive electronics Switch off ignition before connecting the PC VCI to the vehicle.</p>
---	--

1. Insert the PC VCI into the vehicle's diagnostic connector.



Both LEDs of the PC VCI flash. The PC VCI is ready for operation.

2. Select **>Vehicle selection<** in the main menu.
3. Select **>i<**.
4. Activate the check box  for passenger cars,  for motorcycles, or  for trucks.
5. Select **VIN identification** with .
6. Select the requested manufacturer.
7. Confirm the selection with .  
Data download is in progress. Communication with the vehicle is established.
8. Regard the window with infos and instructions.  
The message *VIN could not be read out* appears if the VIN could not be read out.
9. Confirm the window with infos and instructions with  where necessary.
10. Repeat steps 5 to 8 where necessary.

11. Confirm the window with infos and instructions with .  
Communication to vehicle is being established. A drop-down list appears.  
The corresponding vehicles are selected from the database.
12. Double-click the required vehicle to select.
13. Perform steps 8 to 11 as described in the section **Vehicle selection (Page 54)**.


## 10.3 Vehicle search

Here you can search for vehicles in the vehicle database using the following parameters:








- VIN
- Manufacturer key
- License plate number

### 10.3.1 Country-Specific Search of Vehicle


The country-specific vehicle search determines the vehicle type depending on the country using various search criteria, such as license plate number or manufacturer key.

	<p><b>NOTE</b></p> <p>The country-specific vehicle search is only possible in the following countries:</p> <ul style="list-style-type: none"> <li>• Germany</li> <li>• Denmark</li> <li>• France</li> <li>• Ireland</li> <li>• Netherlands</li> <li>• Norway</li> <li>• Sweden</li> <li>• Switzerland</li> <li>• Austria</li> </ul>
---	---


Proceed as follows to search for a vehicle by country:

1. Select **>Vehicle selection<** in the main menu.
2. Select **>i<**.
3. Activate the check box  for passenger cars,  for motorcycles, or  for trucks.
4. Select **Vehicle search** with .
5. Select **>Country-specific<**.
6. Open list under **Country** with .
7. Select the requested country.  
The search criteria are adapted on a country-specific basis.
8. Open the virtual keypad on the first search criterion with .
9. Enter the requested value.
10. Confirm your entry with .










11. Repeat steps 8 to 10 for the second search criterion where necessary.
12. Start the country-specific search with .  
Data download is in progress. The corresponding vehicles are selected from the database.  
A drop-down list appears.
13. Double-click the required vehicle to select.
14. Perform steps 8 to 11 as described in the section **Vehicle selection (Page 54)**.


## 10.3.2 Searching a Vehicle by VIN

	<b>NOTE</b> Searching a vehicle by its VIN is not possible for every manufacturer.
---	---







Proceed as follows to search a vehicle by VIN:

1. Select **>Vehicle selection<** in the main menu.
2. Select **>i<**.
3. Activate the check box  for passenger cars,  for motorcycles, or  for trucks.
4. Select **Vehicle search** with .
5. Select **>VIN<**.
6. Open the list under **Manufacturer (VIN)** with .
7. Select the requested manufacturer.
8. Open the virtual keypad under **VIN (at least 1. to 13. digit)** with .
9. Enter the VIN.
10. Click  twice to confirm the input.  
VIN is searched for.  
A drop-down list is displayed if multiple vehicle models are found.
11. Double-click the required vehicle to select.
12. Perform steps 8 to 11 as described in the section **Vehicle selection (Page 54)**.

### 10.3.3 Searching a Vehicle By License Plate Number

	<p><b>NOTE</b> Vehicle search by license plate number is possible only for the following countries:</p> <ul style="list-style-type: none"> <li>• Denmark</li> <li>• France (type mine)</li> <li>• Ireland</li> <li>• Netherlands</li> <li>• Norway</li> <li>• Austria (national code)</li> <li>• Sweden</li> <li>• Switzerland (type approval number)</li> </ul>
---	--

Proceed as follows to search for a vehicle according to its license plate number:



1. Select **>Vehicle selection<** in the main menu.
2. Select **>i<**.
3. Activate the check box  for passenger cars,  for motorcycles, or  for trucks.
4. Select **Vehicle search** with .
5. Select **>Car History<**.
6. Open the virtual keypad under **License plate number** with .
7. Enter the license plate number or customer name.
8. Click  twice to confirm the input.  
The license plate number is searched for.  
A drop-down list is displayed if multiple vehicle models are found.
9. Double-click the required vehicle to select.
10. Perform steps 8 to 11 as described in the section **Vehicle selection (Page 54)**.


## 10.4 OBD diagnostics

Switch to the OBD diagnostics directly only by selecting the vehicle manufacturer and the fuel type.

### 10.4.1 Performing an OBD Diagnostics Quick Start

Proceed as follows to perform an OBD diagnostics quick start:

1. Select **>Vehicle selection<** in the main menu.
2. Select **>i<**.
3. Select **OBD diagnostics** with .
4. Select the requested manufacturer.
5. Select the requested fuel type.
6. Select the requested system.
7. Confirm the selection with .

8. Observe the info window.
9. Confirm the info window with  if appears.  
The diagnostics start.

## 10.5 Diagnostics

---

Here you can exchange data between vehicle systems that have to be checked by using the mega macs PC software and PC VCI. The respective scope of inspection and variety of functions depend on the "intelligence" of the vehicle system.

The following parameters are available under **>Diagnostics<**:

- **>Trouble codes<**

Here you can read out and delete trouble codes stored in the ECU memory. Information on the fault code are available too.

- **>Measured value<**

Here the device indicates the present flat rate units or states of the ECU graphically and alphanumerically.

- **>Actuators<**

Here you can activate actuators with the help of the ECU.

- **>Service reset<**

Here you can reset the service interval manually or automatically.

- **>Basic settings<**

Here you can assign basic setting values to ECUs and actuators.

- **>Codings<**

Here you can code tasks to actuators and ECUs and you can adapt new components to the vehicle.

- **>Test function<**

Here the device evaluates and depicts the performance of the individual cylinders.

### 10.5.1 Preparing Vehicle Diagnostics

The selection of the correct vehicle is a basic precondition for trouble-free vehicle diagnostics. The mega macs PC software provides assistance to simplify the selection, e.g., indicating the installation position of the diagnostic connector or vehicle identification by VIN.

The following ECU functions are possible in the **>Diagnostics<** menu:

- Trouble code readout
- Parameter readout
- Actuator tests
- Service reset
- Basic settings
- Codings
- Test function

Proceed as follows to prepare vehicle diagnostics:

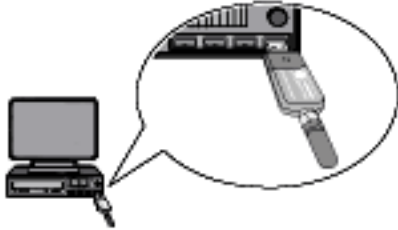
**NOTICE**

Danger of short circuit and voltage peaks when connecting the PC VCI

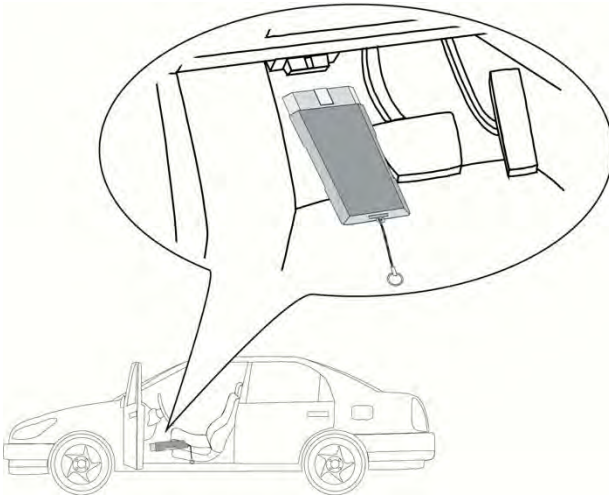
Danger of destruction of automotive electronics

Switch off ignition before connecting the PC VCI to the vehicle.

1. Insert the Bluetooth adapter into the USB port of the PC.



2. Insert the PC VCI into the vehicle's diagnostic connector.





Both LEDs of the PC VCI flash. The PC VCI is ready for operation.

3. Start the mega macs PC software.
4. Perform steps 1 to 11 as described in the section **Vehicle selection (Page 54)**.
5. Select **>Diagnostics<** in the main menu.


## 10.5.2 Trouble codes

If a component malfunction is detected while ECU carries out an internal test, a trouble code will be set in memory and the corresponding warning lamp will be activated. The device reads out the trouble code and displays it in plain text. It also indicates information about the trouble code, such as possible effects and causes.

### 10.5.2.1 Reading Out Trouble Codes

	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch</p> <p>Risk of injury or material damage</p> <p>Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to read out the trouble codes:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Trouble codes** under **> Function**.
3. Select the requested assembly.
4. Observe the information and instructions windows.
5. Select the requested system.  
When only one system is available for a vehicle, then the device selects this system automatically.
6. Observe the info window.
7. Select further sub-categories where necessary.
8. Call up the **>Information<** tab.
9. Follow the instructions on the screen.
10. Start trouble code reading with .  
Communication to vehicle is being established. All trouble codes read out are indicated.

11. Select the requested trouble code.  
Corresponding repair tips are indicated.

The repair tips contain the following information:

- Trouble code number, original trouble code number in addition where necessary
- Title of trouble code
- Explanation of the function and task of the component
- Vehicle-specific data, e.g., wiring diagrams
- Possible effects
- Possible causes, when, and under which conditions the trouble occurred, and when it was saved.
- General diagnostic information regardless of the vehicle type and which does not always apply to the present problematic case.


12. Repair the vehicle. Then clear the saved trouble codes from the vehicle system.


### 10.5.2.2 Deleting Trouble Codes in Vehicle System

Here you can delete the read-out trouble codes of a vehicle system.

Proceed as follows to delete the trouble codes of a vehicle system:

1. Perform steps 1 to 12 as described in the section **Reading out trouble codes (Page 61)**.

	<p><b>NOTE</b> All trouble codes selected will be irrevocably deleted from the ECU memory after the deletion process. Therefore, always save the read-out data read in the Car History.</p>
---	---


2. Clear the saved trouble codes from the vehicle system with .


All trouble codes in the ECU memory will be cleared.


The message *Trouble code deletion done* appears if the trouble codes have been cleared successfully.

### 10.5.2.3 Global Check, Reading Trouble Codes




The global check scans all ECUs assigned to the vehicle software for stored trouble codes.

	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch Risk of injury or material damage Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
---	--

	<p><b>NOTE</b> The stored trouble codes cannot be retrieved any more after global check with trouble code deletion. Therefore, it is recommended to perform the global check with trouble code reading first.</p>
---	---


	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>
---	---

Proceed as follows to perform the global check with trouble code reading:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Trouble codes** under **> Function**.
3. Select **>Global check<**.
4. Call up the **>Information<** tab.
5. Follow the instructions on the screen.
6. Call up the ECU overview with .
7. Select further sub-categories where necessary.  
The device indicates all ECUs installed in the vehicle.  
  
The device automatically activates all ECUs.
8. Activate/deactivate the requested ECUs.  
  
Deactivate all ECUs with   
Activate all ECUs with .
9. Start the global check with trouble code reading with   
Communication to vehicle is being established.  
  
Activated ECUs are read out. This may take a few minutes.  
  
The number of trouble codes in the prevailing ECU memory is indicated.  
  
You can call up a print preview with a list of the individual trouble codes for the respective ECU with **+**.  
  
You can close the print preview with a list of the individual trouble codes for the respective ECU with **-**.
10. Call up the required trouble codes under **Faults** in the respective ECU memory with   
The device indicates all trouble codes and repair tips.

#### 10.5.2.4 Global Check, Trouble Code Clearing

Here you can clear all the trouble codes stored in the ECUs.

	<p><b>NOTE</b> The stored trouble codes cannot be retrieved any more after global check with trouble code deletion. Therefore, it is recommended to perform the global check with trouble code reading first.</p>
---	---

Proceed as follows to perform the global check with trouble code deletion:

1. Perform steps 1 to 10 as described in the section **Global check, trouble code reading (Page 62)**.

**NOTE**

Clearing all trouble codes in all vehicle systems is possible only if all systems can be read out with the same OBD plug.

2. Delete all trouble codes in the bottom toolbar with .
3. Regard the window with infos and instructions.
4. Confirm the window with infos and instructions with .
5. Observe the info window.
6. Confirm the info window with .  
All saved trouble codes will be deleted.

### 10.5.3 Parameters

Many of the on-board systems supply digital measured values in the form of parameters for fast diagnostics. Parameters indicate the present state or nominal and actual values of the components. The device displays the parameters alphanumerically and graphically.

**Example 1**

The engine temperature can be within a range of -30 °C to 120 °C.

If the temperature sensor reports 9 °C but the engine actually has a temperature of 80 °C, the ECU calculates an incorrect injection time.

A trouble code is not stored, as this temperature is logical for the ECU.

**Example 2**




Fault text: *Oxygen sensor signal faulty*

In both cases, diagnostics can be significantly eased if the corresponding parameters are read out.



The mega macs PC software reads the parameters and displays them in plain text. It additionally provides information on the parameters.




### 10.5.3.1 Reading Out Parameters

	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch Risk of injury or material damage Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> Calling up the ECU parameters for the fault diagnostics after the trouble codes have been read has priority over all other work steps.</p>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to read out the parameters:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Parameters** under **> Function**.
3. Regard the warning notice.
4. Select the requested assembly.
5. Regard the warning notice if appears.
6. Select the requested system.
7. Observe the information and instructions windows.
8. Call up the **>Information<** tab.
9. Follow the instructions on the screen.
10. Call up the parameter with .
11. Select the OBD plug and system.
12. Regard the window with infos and instructions.
13. Confirm the window with infos and instructions with .

The device automatically adds the most important parameters to the list **Selected parameters**.

Use  in the bottom toolbar to call up information on the selected parameters in the parameter selection menu, e.g. component descriptions.

An explanation of the selected parameter appears.

14. Select the requested parameter group under **Groups**.


Diagnose a certain problematic case directly by selecting a parameter group, as only the parameters required for it are stored.


15. Select additionally required parameters in the list **Available parameters** by double-clicking if required.

You can select maximum 16 parameters at the same time.

16. Start the parameter reading with .

During the readout procedure, the recordings are automatically saved in the Car History under the previously entered license plate number.

	<p><b>NOTE</b> A light blue bar in the top toolbar indicates how much of the memory space reserved for this purpose in the Car History has been used. If the blue bar is complete, the first data of the present measurement will be removed from the memory and the free capacity is filled with new data.</p>
---	---

17. Press  to cache the records of the selected parameters.  
The recordings are saved in the Car History.


The parameter readout will start again afterwards.


18. Return to the list of parameter selection with .


## 10.5.4 Actuators

Use this menu to activate components in electronic systems. You are hence able to check basic functions and cable connections of those components.



### 10.5.4.1 Activating the Actuator


	<p><b>DANGER</b> Rotating/moving parts (electric fan, brake calliper piston, etc.) Danger of cutting or pinching fingers or device parts Remove the following things from the danger zone before actuating actuators:</p> <ul style="list-style-type: none"> <li>• Limbs</li> <li>• Persons</li> <li>• Device parts</li> <li>• Cables</li> </ul>
---	--


	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch Risk of injury or material damage Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
---	--


	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>
---	---

Proceed as follows to activate the actuator:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Actuators** under **> Function**.
3. Select the requested assembly.
4. Regard the warning notice if appears.
5. Select the requested system.
6. Observe the info window.
7. Call up the **>Information<** tab.
8. Follow the instructions on the screen.
9. Start the actuator test with .
10. Select the OBD plug and system.
11. Regard the window with infos and instructions.
12. Confirm the window with infos and instructions with .  
Communication to vehicle is being established.
13. Activate the check box for the requested component.

	<p><b>NOTE</b> If the vehicle offers the automatic actuator test, all ECUs and actuators connected to them will be automatically actuated one after the other.</p>
---	--

	<p><b>NOTE</b> The actuator test of a component must be finished completely first before the next test can be started.</p>
---	--



14. Observe the info window.
15. Follow the on-screen instructions.
16. Confirm the info window with .
17. Push the button indicated.  
The actuator test is performed.

The message *Actuator test successfully done* appears if the actuator test was successful.



## 10.5.5 Service reset

Use this menu to reset service intervals provided that this function is supported by the vehicle. Here you will find a description for the manual reset or the mega macs PC performs the reset automatically.



### 10.5.5.1 Performing Manual Service Resets

	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch</p> <p>Risk of injury or material damage</p> <p>Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>




Proceed as follows to perform the manual service reset:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Service resets** under **> Function**.
3. Select the requested system.
4. Observe the info window.
5. Call up the **>Information<** tab.
6. Follow the instructions on the screen.
7. Start the manual service reset with .
8. Regard the window with infos and instructions.
9. Follow the instructions on the screen.
10. Confirm the performed service reset with .

### 10.5.5.2 Performing Automatic Service Resets

	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch</p> <p>Risk of injury or material damage</p> <p>Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to perform the automatic service reset:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Service resets** under **> Function**.
3. Select the requested system.
4. Observe the info window.
5. Call up the **>Information<** tab.
6. Follow the instructions on the screen.
7. Start the automatic service reset with .
8. Select the OBD plug and subsystem where necessary.
9. Regard the window with infos and instructions.
10. Confirm the window with infos and instructions with .  
Communication to vehicle is being established. The service reset will be done automatically.  
The message *Service interval reset* appears if the service reset was successful.
11. Confirm the info window with .

## 10.5.6 Basic settings




Here you can adjust or adapt components and ECUs according to manufacturer's specifications.

### 10.5.6.1 Preconditions for Basic Settings

Regard the following in order to perform basic settings:



- Vehicle system is working properly.
- No trouble codes saved in ECU memory
- Vehicle-specific preparations performed.

### 10.5.6.2 Performing Manual Basic Settings




	<p><b>WARNING</b> Wrong or incorrectly performed basic settings Risk of injury or material damage to vehicles Regard the following when performing basic settings:</p> <ul style="list-style-type: none"> <li>• Select the correct vehicle type.</li> <li>• Regard the window with infos and instructions.</li> </ul>
	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch Risk of injury or material damage Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to perform the manual basic setting:



1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Basic settings** under **> Function**.
3. Select the requested assembly.
4. Select the requested system.
5. Observe the information and instructions windows.
6. Call up the **>Information<** tab.
7. Follow the instructions on the screen.

8. Start the manual basic setting with .
9. Regard the window with infos and instructions.
10. Follow the instructions on the screen.
11. Confirm the performed basic setting with .

### 10.5.6.3 Performing Automatic Basic Settings

	<p><b>WARNING</b> Wrong or incorrectly performed basic settings Risk of injury or material damage to vehicles Regard the following when performing basic settings:</p> <ul style="list-style-type: none"> <li>• Select the correct vehicle type.</li> <li>• Regard the window with infos and instructions.</li> </ul>
	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch Risk of injury or material damage Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to perform the automatic basic setting:




1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Basic settings** under **> Function**.
3. Select the requested assembly.
4. Select the requested system.
5. Observe the information and instructions windows.
6. Call up the **>Information<** tab.
7. Follow the instructions on the screen.
8. Start the automatic basic setting with .
9. Regard the window with infos and instructions.
10. Confirm the window with infos and instructions with .  
Communication to vehicle is being established.
11. Select further sub-categories where necessary.

12. Confirm the selection with ✓.
  13. Regard the window with infos and instructions.
  14. Confirm the window with infos and instructions with ✓.  
Communication to vehicle is being established. Basic settings are made automatically.
- The message *Basic setting successfully done* appears if the basic setting was successful.

## 10.5.7 Codings

Here you can code components and ECUs. Codings are necessary, if components were replaced or additional functions in an electronic system must be activated.



### 10.5.7.1 Performing Manual Coding Procedures

	<p><b>WARNING</b> The ECU is not coded or is incorrectly coded</p> <p>Death or severe injuries of persons due to improper or even wrong ECU operation</p> <p>Material damage of the vehicle or the ambient area</p> <p>Regard the following when performing coding procedures:</p> <ul style="list-style-type: none"> <li>• Some working procedures require a specific training, e.g., working on the airbag.</li> <li>• Regard the window with infos and instructions.</li> </ul>
	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch</p> <p>Risk of injury or material damage</p> <p>Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>




Proceed as follows to perform manual coding:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Codings** under **> Function**.
3. Select the requested assembly.
4. Select the requested system.
5. Observe the info window.
6. Call up the **>Information<** tab.




7. Follow the instructions on the screen.
8. Start the manual coding with .
9. Regard the window with infos and instructions.
10. Follow the instructions on the screen.
11. Confirm the coding performed with .

### 10.5.7.2 Performing Automatic Coding Procedures

	<p><b>WARNING</b> The ECU is not coded or is incorrectly coded</p> <p>Death or severe injuries of persons due to improper or even wrong ECU operation</p> <p>Material damage of the vehicle or the ambient area</p> <p>Regard the following when performing coding procedures:</p> <ul style="list-style-type: none"> <li>• Some working procedures require a specific training, e.g., working on the airbag.</li> <li>• Regard the window with infos and instructions.</li> </ul>
	<p><b>CAUTION</b> Pulling off of the PC VCI when actuating the clutch</p> <p>Risk of injury or material damage</p> <p>Proceed as follows before starting:</p> <ol style="list-style-type: none"> <li>1. Apply the parking brake.</li> <li>2. No gear is engaged.</li> <li>3. Regard the window with infos and instructions.</li> </ol>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to perform an automatic coding procedure:

1. Perform steps 1 to 5 as described in section **Preparing Vehicle Diagnostics (Page 59)**.
2. Select **Codings** under **> Function**.
3. Select the requested assembly.
4. Select the requested system.
5. Observe the info window.
6. Call up the **>Information<** tab.
7. Follow the instructions on the screen.
8. Start automatic coding with .  
Communication to vehicle is being established.
9. Regard the window with infos and instructions.

10. Confirm the window with infos and instructions with ✓.  
Coding is performed automatically.

The message *Coding successfully done* appears if the coding process was successful.

## 10.6 Vehicle Information

---

Here you have an overview of the following vehicle information:

- Car History

Here you will find the diagnostic results.

- Component help

Here you can find the components that are installed in the selected vehicle. The following are available:


- Components relevant for diagnostics

Here you can find the components that are installed in the selected vehicle and relevant for diagnostic work.

- Parts catalog

Here you can find the components that are installed in the selected vehicle. There are also additional information on the component and you can jump to related data.

- Service data

This menu contains vehicle-specific service schedules. Use  to call up various information about the service-relevant components such as parts information. The **Parts information** menu provides information about the selected component as well as alternatives that are identical in design. In the **Engine compartment image** menu, the component location is indicated with a red arrow. This facilitates the identification of the requested component. The **Fuses/relays** menu indicates the location of the main fuse box, the fuse box and the relay box in the vehicle depending on the selection.

- Timing belt data

Here you can retrieve the tools required for repairing the timing belt, as well as the vehicle-specific removal and installation instructions via the Gutmann Portal.

- Diagnostic Database

Here you can retrieve vehicle-specific online assistance via the Gutmann Portal.

- Technical Data

View all the necessary data for service and repair work on the vehicle here.

- Wiring diagrams

Here you can find the vehicle-specific wiring diagrams such as for engine, ABS and airbag.

- Fuses/relays

Here you can view the installation position of the main fuse box, the fuse box and the relay box as well as the individual fuses.

- Component test values

The following is displayed here:

- ECU plug

- Pin assignment

- Signal graphs

- Nominal values

- Flat rate units

View the common labor rates and times for repair work on different components. The sub-categories supplied within a selection can be filtered with the help of TecDoc criteria.

- Exhaust Emission Data

---

This menu contains the exhaust emission values determined by the manufacturer and the test steps necessary for a German exhaust-emission check.

- Cabin Air Filter

Here you can find the removal instructions for the cabin air filter.

- Recall campaigns


This menu contains the recall campaigns of manufacturers and importers.

## 10.6.1 Car History


This menu provides the diagnostic results to the present vehicle from the functions **>Trouble codes<**, **>Parameters<**, **>Basic settings<** and **>Codings<**. This has the following advantages:

- You can evaluate the diagnostic results later.
- Compare previously performed diagnostics to present diagnostic results.
- You can show the customer the diagnostic results without needing to reconnect the vehicle.

### 10.6.1.1 Selecting Vehicles from the Car History

	<p><b>NOTE</b> Diagnostic results automatically stored here can be retrieved only if the function <b>Automatic Car History Transfer</b> is set to <b>&gt;on&lt;</b> under <b>Settings &gt; Miscellaneous &gt; Car History</b>.</p>
--	--



Proceed as follows to select a vehicle from the Car History:

1. Select **>Vehicle selection<** in the main menu.
2. Select the  Car History tab.
3. Double-click the required vehicle to select.  
The mega macs PC software switches back to the main menu automatically.

The vehicle selected appears in the top toolbar.

### 10.6.1.2 Deleting Entries from the Car History

Proceed as follows to clear one or more entries from the Car History:

1. Select **>Vehicle selection<** in the main menu.
2. Select the  Car History tab.
3. Call up **Delete Car History** with .  
A drop-down list appears.

Following functions are available:

- **Delete single entry**
- **Clear entire Car History**
- **All Older Than**

### 10.6.1.3 Deleting Single Entries and the Entire Car History

Proceed as follows to delete single entries and/or the entire Car History:

1. Activate the requested check box.
2. Confirm the deletion process with ✓.
3. Observe the confirmation prompt.
4. Confirm the confirmation prompt with ✓.  
The selected entries will be deleted.

#### 10.6.1.4 All Older Than

Proceed as follows to delete defined entries from the Car History:

1. Activate the check box **All older than**.
2. Open the drop-down list with ☰.
3. Open the list under **Day** with ▼.
4. Select the required day.
5. Repeat steps 3 and 4 for **Month** and **Year**.
6. Confirm the selection twice with ✓.
7. Observe the confirmation prompt.
8. Confirm the confirmation prompt with ✓.  
The selected entries will be deleted.

### 10.6.2 Component help

Here you can find the components that are installed in the selected vehicle. The following are available:

- Components relevant for diagnostics

Here you can find the components that are installed in the selected vehicle and relevant for diagnostic work.

- Parts catalog

Here you can find the components that are installed in the selected vehicle. There are also additional information on the component and you can jump to related data.

#### 10.6.2.1 Calling Up Component Help

Proceed as follows to retrieve the component help:

1. Select **>Vehicle information<** in the main menu.
2. Select **Component help** with ⚙️.  
Data download is in progress.
3. Open the **Parts catalog** with with +.
4. Select the requested component with +.

5. Select additional subcomponents with **+** if required.  
A drop-down list appears.


Depending on the selected component, the following information is available:

- **Parts information**

Here you will find information on spare parts and parts that are identical in design and construction. You can also add spare parts to your shopping cart.

Deactivate all parts with .

Activate all parts with .

Add activated parts to the shopping cart with .

- **Cabin image**


In the cabin image, the component location is indicated by a red triangle. This helps identify the required component.

- **Engine compartment image**

In the engine compartment image, the component location is indicated with a red triangle. This helps identify the required component.


- **Component test values**

This menu contains measurement and test data for components with cables connected to an ECU plug.

You will leave the Component help menu when selecting **Component test values**. Return to the Component help with .


- **Fuses/relays**


Here you can view the installation position of the main fuse box, the fuse box and the relay box as well as the individual fuses.

You will leave the Component help menu when selecting **Fuses/relays**. Return to the Component help with .

- **Service data**

This menu contains vehicle-specific service schedules.

You will leave the Component help menu when selecting **Service data**. Return to the Component help with .


6. Call up the component with .
7. Select the required information.  
Data download is in progress.
8. Select additional subitems if required.  
Image and/or text information is displayed.





## 10.6.3 Service data

This menu contains vehicle-specific service schedules and oil change intervals.

### 10.6.3.1 Calling Up Service Data












Proceed as follows to call up service data:

1. Select **>Vehicle information<** in the main menu.
2. Select **Service data** with .

3. Observe the info window.
4. Close the info window with  where necessary.
5. Select the required service types.  
The individual service types differ depending on the manufacturer and vehicle type selected.  
You can retrieve additional vehicle information about the manufacturer, model, or type with .
6. Select the another service interval where necessary.
7. Continue with .  
Another tab is indicated.  
The individual tabs differ depending on the manufacturer and vehicle type selected.
8. Activate the requested check box.
9. Continue with .  
The service data with the individual working positions appears.

**NOTE**



We recommend printing out the service data and processing the single working positions systematically. This is not saved in the Car History.

10. Activate the check box for the processed working positions.
11. Enter the tire tread depth and the tire pressure under **Further points** after having done all working positions.
12. Open the virtual keypad under **mm** with .
13. Enter the tire tread depth.
14. Confirm your entry with .
15. Repeat steps 11-13 for further entries.
16. Open the virtual keypad under **bar** with .
17. Enter the tire pressure.
18. Confirm your entry with .
19. Repeat steps 16-17 for further entries.
20. Open the selection window under **Date of next vehicle safety and emissions inspection:** with .
21. Open the list under **Month** with .
22. Selected the required month.
23. Repeat steps 20 and 21 for **Year**.
24. Confirm the selection with .
25. Open the selection window under **First-aid kit expiry date** with .
26. Repeat steps 20 to 23 for further selections.
27. If necessary, open the virtual keypad under **Remark** with  and enter the required remark.
28. Enter your remark.
29. Confirm your entry with .
30. Print the service data using .


## 10.6.4 Timing belt data

This menu contains the removal and installation instructions for timing belts and timing chains.

### 10.6.4.1 Calling Up Timing Belt Data


	<p><b>WARNING</b> Risk of shifting or falling vehicle parts Risk of injury or pinching Remove or secure all loosened mounting parts.</p>
	<p><b>NOTE</b> You need an online connection to access the timing belt data.</p>

Proceed as follows to retrieve toothed belt data:

1. Select **>Vehicle information<** in the main menu.
2. Select **Timing belt data** with .  
Data download is in progress.
3. Select the required information.  
An info window appears.

The following information is available:

- Tool  
This displays text and images for the devices required for removal and installation.
- Removal Instructions  
This displays text and images for the individual work steps for the removal process.
- Installation instructions  
This displays text and images for the individual work steps for the installation process.

	<p><b>NOTE</b> If multiple removal and installation instructions appear, these are indicated with numbers, e.g., Removal 1, Removal 2, Installation 1. You need to click on the removal and installation instructions consecutively.</p>
---	--

4. Select the required information.  
The selected information is shown.

## 10.6.5 Technical Data



Here you can view all the necessary data, among other things, for service and repair work on the vehicle, e.g.:

- Adjustment values for ignition and exhaust system
- Recommended spark plug types
- Tightening torques
- Capacity of the air conditioning


Where necessary or helpful, the data records are supplemented by illustrative images.





### 10.6.5.1 Calling Up Technical Data

	<p><b>NOTE</b> You need an online connection to access the technical data.</p>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to retrieve technical data:



1. Select **>Vehicle information<** in the main menu.
2. Select **Technical data** with .
3. Select the requested data record.  
The technical data appear.

If a blue  is displayed at the end of the text, additional image or text information is available. This can be called up by clicking .


## 10.6.6 Wiring diagrams

View a vast number of vehicle-specific wiring diagrams here.

### 10.6.6.1 Calling Up Wiring Diagrams

	<p><b>NOTE</b> You need an online connection to access the wiring diagrams.</p>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to retrieve wiring diagrams:


1. Select **>Vehicle information<** in the main menu.
2. Select **Wiring diagrams** with .
3. Select the requested assembly.

4. Select the requested system.

Several system types can be installed in one vehicle model range. The system type is mostly written on the ECU or can be determined through parameter readout.

The wiring diagram appears.

5. Select the requested component by clicking on it.

If you do not know the position of a component, you can select the component directly with .

The component is indicated by a colored frame and the appropriate designation.

6. Select the requested component.

Call up further component information with .

The component is indicated by a colored frame and the appropriate designation.

## 10.6.7 Fuses/relays

Here you can view the installation position of the main fuse box, the fuse box and the relay box as well as the individual fuses.

### 10.6.7.1 Calling Up Fuse and Relay Box Images

Proceed as follows to call up fuse and relay box images:

1. Select **>Vehicle information<** in the main menu.

2. Select **Fuses/relays** with .

3. Select the required fuse/relay box.

The device indicates the fuse box and or the relay box.


The right-hand window displays an overview of the fuse or relay box.

The top left window indicates the installation position of the fuse or relay box in the vehicle with a red circle.

The relays are marked with grey rectangles.

Fuses are marked with colored rectangles.

4. Selected the required fuse or relay by clicking it.

If the position of the fuse or relay is unknown, you can directly select the component that it supplies with .



Information on the component and the designation of the fuse or relay is displayed in the bottom left window.

You can call up additional information on the selected component with .


## 10.6.8 Component test values

This menu contains measurement and test data for components with cables connected to an ECU plug.

### 10.6.8.1 Calling Up Component Test Values

	<p><b>NOTE</b> You need an online connection to access the component test values menu.</p>
	<p><b>NOTE</b> The selection of the following possibilities depends on the selected manufacturer and vehicle type:</p> <ul style="list-style-type: none"> <li>• Functions</li> <li>• Assemblies</li> <li>• Systems</li> <li>• Data</li> </ul>

Proceed as follows to retrieve component test values:

1. Select **>Vehicle information<** in the main menu.
2. Select **Component test values** with .
3. Select the requested assembly.
4. Select the requested system.  
All components installed in the vehicle are indicated in red font.
5. Double-click on the required component to select.  
A drop-down list appears.


Depending on the selected component, the following information is available:

- Parts information
  - Cabin image
  - Wiring diagrams
6. Select the required information.  
Image and/or text information is displayed.

## 10.6.9 Flat rate units


Here you can view the common labor rates and repair times on different components.

### 10.6.9.1 Calling Up Flat Rate Units

	<p><b>NOTE</b> You need an online connection to access the flat rate units.</p>
---	---

Proceed as follows to retrieve flat rate units:

1. Select **>Vehicle information<** in the main menu.

2. Select **Flat rate units** with .  
Data download is in progress.
3. Select the requested category.  
Data download is in progress.
4. Select the requested subcategory.

Data download is in progress.

The following information appears:


- Removal works
- Installation works
- Test works
- Flat rate units

The tasks that are indicated in bold letters contain single working steps. These can be displayed by clicking the bold text.


## 10.6.10 Exhaust emission data

This menu contains the nominal exhaust emission values determined by the manufacturer and the test steps necessary for a German exhaust-emission check.

### 10.6.10.1 Calling Up Exhaust Emission Data

	<p><b>NOTE</b> You need an online connection to access the exhaust emission data.</p>
---	---

Proceed as follows to retrieve exhaust-emission data:

1. Select **>Vehicle information<** in the main menu.
2. Select **Exhaust-emission data** with .
3. Select the correct vehicle type.


The exhaust-emission data appear.

Text marked in blue in the exhaust-emission data menu indicates an extra image or text information. Just click to it to view this information.

## 10.6.11 Cabin air filter


Here you can find the removal instructions for the cabin air filter.

### 10.6.11.1 Calling up the Removal Instructions for the Cabin Air Filter

	<p><b>NOTE</b> You need an online connection to access removal instructions for the cabin air filter.</p>
---	---


Proceed as follows to call up the removal instructions for the cabin air filter:

1. Select **>Vehicle information<** in the main menu.

2. Select **Cabin air filter** with .  
The removal instructions appear.  
  
The removal instructions appear as individual images in the left-hand window.  
  
A large-format version of the selected image appears in the right-hand window.
3. Click the images on the left from top to bottom consecutively.  
The image that is currently clicked is indicated with a colored border and is displayed in a large format.


## 10.6.12 Recall campaigns

This menu contains the recall campaigns of manufacturers and importers.


Recall campaigns aim to protect consumers against unreliable products. Models affected by a recall campaign from within the last 2 years are identified by a .

Hella Gutmann Solutions GmbH is only a supplier of these contents and is therefore not responsible for its exactness, correctness and reliability. Please direct potential questions regarding the scope and handling directly to the authorized repair shops/manufacturers. For reasons of liability, the Hella Gutmann Technical Help Line does not provide information on this matter.

### 10.6.12.1 Calling Up Recall Campaigns

	<p><b>NOTE</b> You need an online connection to access recall campaigns.</p>
---	--

Proceed as follows to retrieve recall campaigns:

1. Select **>Vehicle information<** in the main menu.
2. Select **Recall campaigns** with .  
Data download is in progress.
3. Select the requested recall campaign in the left drop-down list.

Here you can view the following information:


- Cause
- Effect
- Solution

## 10.6.13 Battery management

Here you will find removal and installation instructions as well as general information on the battery.

### 10.6.13.1 Calling Up Battery Management

Proceed as follows to call up the battery management:

1. Select **>Vehicle information<** in the main menu.
2. Select **Battery management** with .  
A drop-down list appears.

3. Select the required information.

A drop-down list appears.

Depending on the vehicle, the following is available here:

- **>Replace battery<**

This displays the individual work steps for removing and installing the battery.

- **>Installation location, charging, and jump start<**

This displays the battery position and the individual work steps for charging and jump starting the battery.

- **>Start/stop system<**

This displays the individual steps for the start/stop system.

- **>Battery diagnostics<**

Here you can perform battery diagnostics. A test result together with an evaluation appears for every battery diagnostics.

- **>Battery registration<**

Here you can perform the battery registration.

Image and text information is displayed.

4. Click the images on the left from top to bottom consecutively.

The image that is currently clicked is indicated with a colored border and is displayed in a large format.

## 10.7 OBD

Indication of the individual OBD modes for petrol and Diesel vehicles as well as the pre-test of the German exhaust-emission check and the VW short trip.

OBD modes and OBD tests	
Pre-test of German exhaust-emission analysis	Quick test of the exhaust-gas relevant parameters of an OBD vehicle. This test should be done before the actual exhaust-gas emission inspection.
Readiness code	Indication of the type of diagnostic connector.
Parameters	Indication of all emission-relevant parameters. The number of the available parameters depends on the vehicle.
Freeze frame data	Indication of ambient data (rpm, coolant temperature) of the stored fault code.
Permanent trouble codes	Indication of all permanent trouble codes that are emission-relevant.
Delete trouble codes	Deletion of all trouble codes from "Mode 2/3/7".
Oxygen sensor test results	Check and evaluation of oxygen sensor function. This mode is not supported at CAN bus protocols.
Result of sporadic system test	Indication of manufacturer-specific parameters.
Sporadic trouble codes	This mode displays all sporadic and emission-relevant trouble codes.
Actuator tests	Here you can actuate the actuators that have been determined by the manufacturer as emission-relevant.

<b>OBD modes and OBD tests</b>	
Vehicle Information	Here you can call up vehicle and system information, e.g., the VIN.
Inactive trouble codes	Here you can view freeze frame data as well as permanent and sporadic fault codes.

# 11 Applications

An overview of the available applications is shown here.


## 11.1 Calculator

---

Perform general calculations here.

### 11.1.1 Activating the Calculator

Proceed as follows to make calculations:

1. Select **>Applications<** in the main menu.
2. Select **Calculator** with .
3. Perform the requested calculations.

## 11.2 Pass Thru

---

Here you can transmit data from the shop PC to the vehicle in the shop.

### 11.2.1 Calling Up PassThru

Perform the steps as described in section **Executing the HGS PassThru Software (Page 26)** to call up PassThru.

## 11.3 Calculations


---

Here you can perform the the following conversions:



- Fuel consumption
- Piston speed
- Current/power output/resistance
- Conversion of technical units

### 11.3.1 Calling Up Calculations

Proceed as follows to call up calculations:

1. Select **>Applications<** in the main menu.
  2. Select **Calculations** with .
  3. Select the required calculation type.
  4. Select the required size.
-




5. Open the virtual keypad with .
6. Enter the requested value.
7. Confirm your entry with .
8. Repeat steps 5 to 7 for further entries where necessary.  
The calculation result is displayed under **Result**.









## 11.4 Cost estimate






Prepare vehicle-specific cost estimates for the repair time and the costs to be expected.

### 11.4.1 Performing Cost Estimates

	<p><b>NOTE</b></p> <p>To perform cost estimates, you have to enter at least 1 hourly rate and the VAT rate under <b>Settings &gt; Company &gt; Cost estimate</b> (see section <b>Entering Cost Estimates (Page 30)</b>).</p>
---	--

Proceed as follows to perform a cost estimate:

1. Select **>Applications<** in the main menu.
2. Select **Cost estimates** with .
3. Add a new cost estimate with **+**.
4. Observe the info window.
5. Close the info window with .
6. Open the selection window under **First registration** with .
7. Open the list under **Day** with .
8. Select the day of the first registration.
9. Repeat steps 5 and 6 for **Month** and **Year**.
10. Confirm the selection with .
11. Open the virtual keypad under **Kilometer/mileage reading** with .
12. Enter the kilometer/mileage reading.
13. Confirm your entry with .
14. Repeat steps 5 to 8 for the **Vehicle safety and emissions inspection date**.
15. Confirm the selection with .
16. Add a new cost estimate with **+**.  
Data download is in progress.
17. Select the requested category.  
Data download is in progress.
18. Select the required subcategory.  
Data download is in progress. A list with working steps appears.  
  
The tasks that are indicated in bold letters contain single working steps. These can be displayed by clicking the bold text.
19. Activate the check box for the required work.

20. Confirm the selection with .  
A cost estimate is displayed.
21. Open the list under **Hourly rate unit price** with .
22. Select the required hourly rate.
23. Perform steps 19 and 20 for each additional working position.  
The calculated cost estimate is displayed.  
  
Add further working steps with .
- Delete working steps from the cost estimate with .
24. Save the cost estimate with .  
The cost estimate is saved to the vehicle currently selected in the Car History.









## 11.5 E-mail

---


Here you can send a written request or message of any nature to the Hella Gutmann support.

### 11.5.1 Sending an E-Mail to Hella Gutmann Support

Proceed as follows to send an e-mail to Hella Gutmann Support:

1. Select **>Applications<** in the main menu.
2. Select **E-mail** with .
3. Open input window with .
4. Open the virtual keypad under **Subject** with .
5. Enter the required subject.
6. Confirm your entry with .
7. Open the list under **Contact person** with .
8. Select the requested contact person.
9. Open the virtual keypad in the e-mail window with .
10. Enter your text here.
11. Confirm your entry with .
12. Send the e-mail with .  
The e-mail will be sent to the Hella Gutmann Technical Help Line.

## 12 Optional HGS Tools

	<p><b>NOTE</b> The optional accessory devices (BPC-Tool) are required to use the <b>&gt;Optional HGS Tools&lt;</b>.</p>
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Here you can find an overview of the available HGS Tools.

The **>Optional HGS Tools<** menu contains functions with which additional hardware can be used. These are displayed only if the additional hardware is connected to the device.

### 12.1 Battery diagnostics

Here you can test a battery using the BPC-Tool or import a test result from the BPC-Tool into the Car History.

You are given an overview of the following functions:

- **>System test<**

Here you can perform a system test using the BPC-Tool. The following is displayed during the system test:

- Battery test with battery state of charge and state of health
- Starter test with voltage and current intensity when starting the internal combustion engine
- Alternator test with voltage and current intensity when the power consumer is switched on and switched off
- Drain Current

- **>Import result (system test)<**

Here you can import the most recent system test into the Car History.

- **>Battery test<**

Here you can perform a battery test using the BPC-Tool. The battery state of charge and state of health are tested.


- **>Import result (battery test)<**

Here you can import the most recent battery test into the Car History.






#### 12.1.1 Performing a System Test

The following tests are performed consecutively by the BPC-Tool during the system test:

- Battery test
- Starter test
- Alternator test
- Drain Current

	<p><b>NOTE</b> A blue amp clamp (CP 700) is required for the complete system test. Without an amp clamp, the current intensity is not measured during the starter and alternator tests. The resistor test is not applicable at all.</p>
---	---

Proceed as follows to perform the system test:

1. Connect the BPC-Tool to the battery (see operating instructions for the BPC-Tool).
2. If required, insert the electrical plug connection of the amp clamp into the ST3 connector of the BPC-Tool with the arrow pointing up.
3. Select **>Optional HGS Tools<** in the main menu.
4. Select **Battery diagnostics** with .
5. Select **>System test<**.
6. Open the list under **Temperature measurement** with .
7. Select the required type of temperature measurement.
8. Repeat steps 6 to 7 for another selection.
9. Open the virtual keypad under **Cold cranking amps [A]** with .
10. Enter a value.
11. Confirm your entry with .
12. Start the **System test** with .






The connection to the BPC-Tool is established.

The system test is started.

From here, the system test is controlled using the keys on the BPC-Tool (see operating instructions of the BPC-Tool). A summary of the system test is displayed on the BPC-Tool and is automatically imported into the device.

## 12.1.2 Performing a Battery Test

Proceed as follows to perform the battery test:

1. Connect the BPC-Tool to the battery (see operating instructions for the BPC-Tool).
2. If required, insert the electrical plug connection of the amp clamp into the ST3 connector of the BPC-Tool with the arrow pointing up.
3. Select **>Optional HGS Tools<** in the main menu.
4. Select **Battery diagnostics** with .
5. Select **>Battery test<**.
6. Open the list under **Battery position** with .
7. Select **>In the vehicle<** or **>Outside the vehicle<**.
8. Repeat steps 6 to 7 for another selection.
9. Open the virtual keypad under **Cold cranking amps [A]** with .
10. Enter a value.
11. Confirm your entry with .
12. Start the **Battery diagnostics** with .

The connection is established and the device searches for the BPC-Tool.

The battery test is started.

From here, the system test is controlled using the keys on the BPC-Tool (see operating instructions of the BPC-Tool).




### 12.1.3 Preconditions for Saving Test Results in the Car History

Ensure the following to save the most recent test results of the system and battery test in the Car History:

- Required vehicle selected in the mega macs PC software.
- BPC-Tool on.
- BPC-Tool connected to the mega macs PC software.

### 12.1.4 Saving Test Results in the Car History

Proceed as follows to save the most recent test result from the battery test or system test in the Car History:

1. Select **>Optional HGS Tools<** in the main menu.
2. Select **Battery diagnostics** with .
3. Select **>Import result (system test)<** or **>Import result (battery test)<**.
4. Start the import with .
5. Observe the confirmation prompt.
6. Confirm the confirmation prompt with .  
The connection to the BPC-Tool is established.

The test results are saved in the Car History.

## 13 General Information

### 13.1 PassThru Troubleshooting

The following list shall help you to repair smaller problems yourself. Select the relevant problem description and check and perform the steps listed under **Solution** in sequence until the problem is solved.

Problem	Solution
<p>The left row of arrows between the laptop/tablet and the HGS VCI is red. The second test does not start.</p>	<ul style="list-style-type: none"> <li>• Check the connections of the USB cable and plug connections to the laptop/tablet and PC VCI.</li> <li>• Check USB cable and plug connectors for damage.</li> <li>• Insert the USB cable and plug connectors correctly.</li> <li>• Disconnect the PC VCI from the diagnostic connection of the vehicle. Remove the USB cable from the PC VCI. Wait approx. 2 or 3 sec and then plug in the USB cable into the USB connection of the PC VCI again. Insert the PC VCI into the vehicle's diagnostic interface. Regard potential Windows messages. Repeat the communication test.</li> </ul>
<p>The left row of arrows between the laptop/tablet and the HGS VCI is green. The right row of arrows between the HGS VCI and the vehicle remains red.</p>	<ul style="list-style-type: none"> <li>• The PC VCI is properly inserted in the vehicle's diagnostic connector.</li> <li>• Check if 12 V voltage supply through vehicle is ensured at pin 16 of the PC VCI (PC VCI may be defective).</li> <li>• Perform the VCI plug test.</li> </ul>

## 13.2 Troubleshooting

The following list shall help you to repair smaller problems yourself. Select the relevant problem description and check and perform the steps listed under **Solution** in sequence until the problem is solved.


Problem	Solution
The program hangs up or is without function.	<ul style="list-style-type: none"> <li>• Briefly interrupt the voltage supply. Start the mega macs PC software again.</li> <li>• Check the present software for incorrect or missing files.</li> <li>• Perform a software update.</li> </ul>
Printout function with the mega macs PC does not work.	<ul style="list-style-type: none"> <li>• Switch on the printer.</li> <li>• Ensure that the printer is online.</li> <li>• Ensure the paper feed.</li> <li>• Exactly adjust the paper feed mode (continuous or rather single sheet).</li> <li>• Check the printer configuration.</li> <li>• Correctly connect the printer cable.</li> <li>• Exchange the printer cable for testing purpose.</li> <li>• Select another printer for testing purpose.</li> </ul>
Communication to vehicle cannot be established.	<ul style="list-style-type: none"> <li>• Select the correct vehicle by engine code.</li> <li>• Strictly follow the notes in the window with infos and instructions.</li> <li>• Check if there is 12 V supply through the vehicle on pin 16 of the PC VCI (PC VCI possibly defective).</li> <li>• Perform a PC VCI (wireless) diagnostics.</li> </ul>

## 13.3 Care and Maintenance

Like any device, the PC VCI must be handled carefully. Therefore regard the following:

- Regularly clean the PC VCI with a mild cleaning detergent.
- Use commercial household cleaning detergents and a moistened, soft cleaning cloth.
- Replace damaged cables/accessories immediately.
- Always use original spare parts.

## 13.4 Disposal

	<p><b>NOTE</b>          The guidelines listed here is exclusively valid in Europe.</p>
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In compliance with Directive 2012/19/EU of the European Parliament and Council of 4 July 2012 relating to Waste Electrical and Electronic Equipment (WEEE), and the German national statute governing the distribution, return and environmental disposal of electrical and electronic equipment (Electrical and

Electronic Equipment Act – ElektroG) of 16 March 2005, we are obliged to take back this device, distributed by us after 13 August 2005, at the end of its service life free of charge and to dispose of it in accordance with the above-mentioned directives.

Because this device is equipment that is used exclusively commercially (B2B), it must not be handed over to a public disposal facility.

The device can be disposed of at the following address (specifying the date of purchase and the device number):

Hella Gutmann Solutions GmbH

Am Krebsbach 2

79241 Ihringen

GERMANY

WEEE reg. no. DE 25419042

Phone: +49 7668 9900-0

Fax: +49 7668 9900-3999

Mail: info@hella-gutmann.com

## 13.5 Technical Data of the PC VCI

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### PC VCI

<b>Rated current</b>	200 mA
<b>Voltage supply</b>	12 - 15 V (+/- 10 %)
<b>Ambient temperature</b>	Recommended: 10 - 35 °C Working range: 0 - 45 °C
<b>Dimensions</b>	110 x 50 x 26 mm (H x W x D)
<b>Type of protection</b>	IP20
<b>Data transfer rate</b>	max. 3 Mbit/s
<b>Frequency band</b>	2.4 GHz
<b>Interfaces</b>	<ul style="list-style-type: none"><li>• Bluetooth class 1</li><li>• Micro USB</li></ul>
<b>Range</b>	inside: 3 - 10 m outside: max. 50 m



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Made in Germany