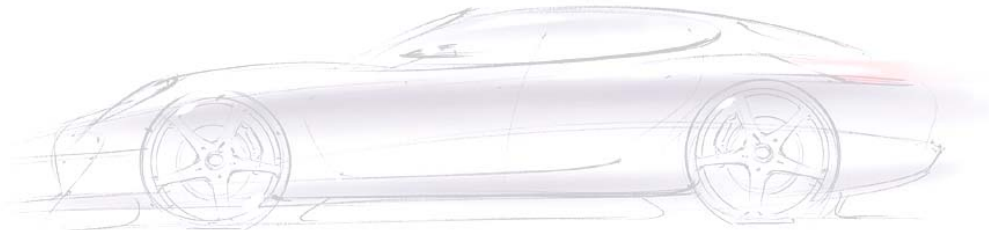




PORSCHE

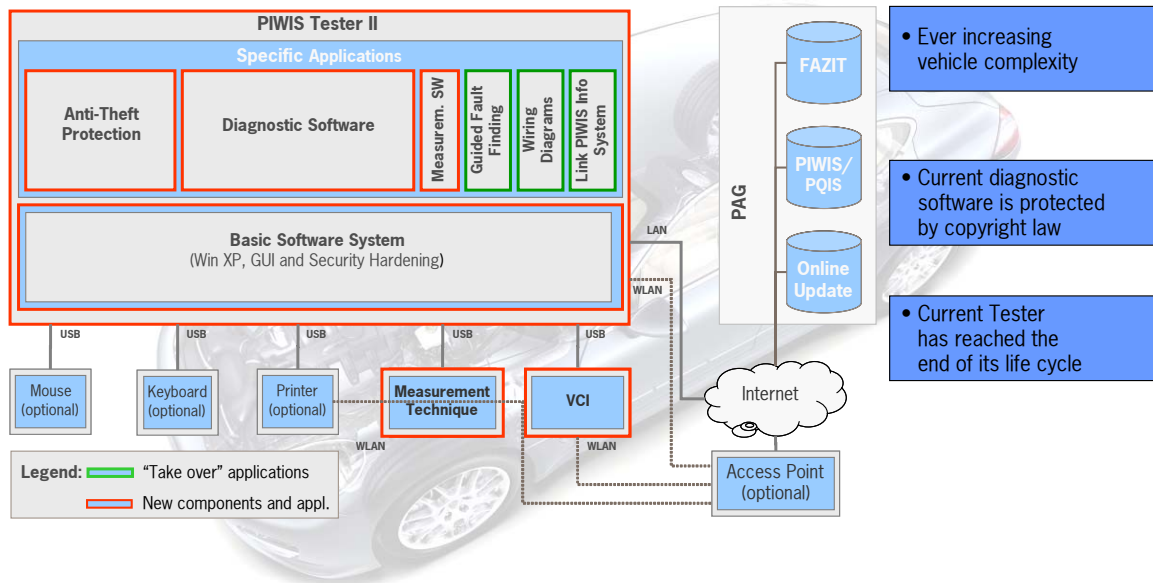
PORSCHE



PIWIS Tester II

Panamera

System overview - PIWIS Tester II



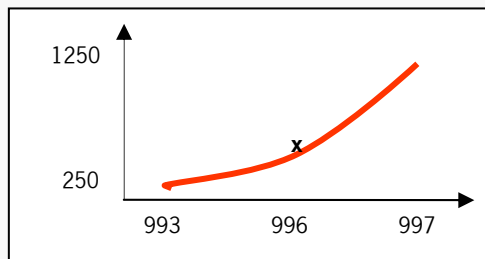
Reinhold Noel
Service Training

Panamera

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Information for participants:

- **Greater vehicle complexity** with regard to electrics/electronics and growing number of fault codes:
- Increased **safety requirements**.
- Additional online functions

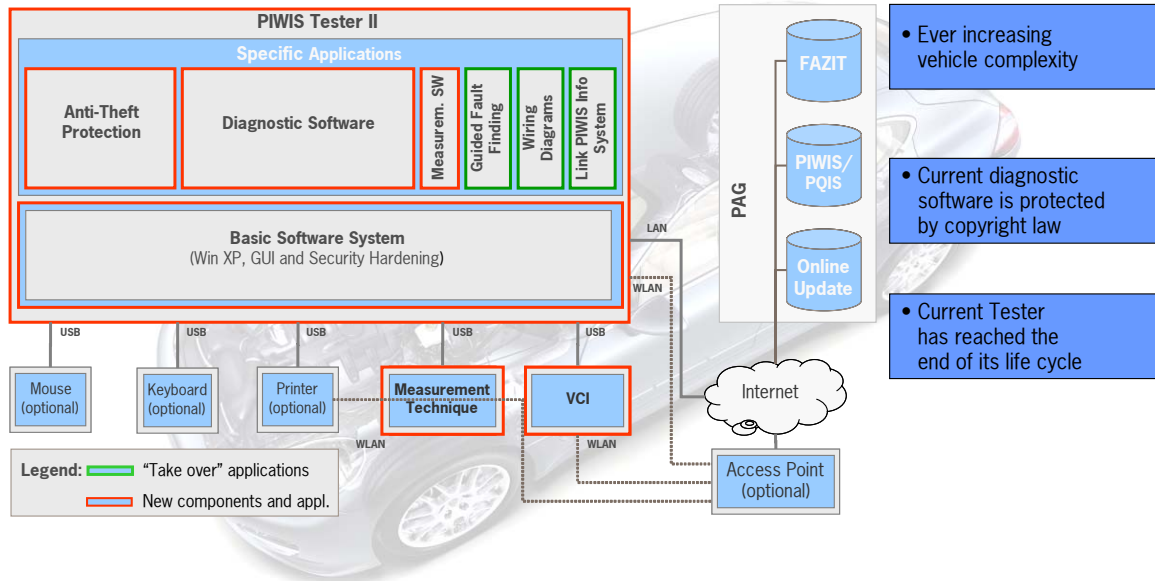


Number of fault codes with increasing diagnostic ability

- The **product life cycle** of the PIWIS Tester is similar to that of an office PC.

- The **PIWIS Tester** has been used for more than 5 years now and has therefore reached the **end of its product life cycle** in 2009.
- Some **components** of PIWIS Tester I are **no longer available now** and stocks must be replenished.
- The **current diagnostic software will no longer be able to run on future operating systems**.
- Not enough support from suppliers in the long term.
- **The market launch of the Panamera** will see the introduction of one **diagnostic software package** for all future Porsche models.

System overview - PIWIS Tester II



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Information for participants:

PIWIS Tester II: Main features

Technology:

- Dual core processor
- 2 GB RAM/120 GB hard drive
- Higher screen resolution (1024 x 768)
- Longer battery life

Robust design:

- Dust- and water-resistant
- Impact- and knock-resistant
- Robust connections with cover

Serviceability:

- Battery, DVD drive, hard drive and connections (e.g. USB) can be changed in the workshop without the use of special tools.



Information for participants:

PIWIS Tester II with case



- Tester
Ruggedized Notebook Computer



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Service Training

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Information for participants:

Part No.	Item	Quantity
	Workshop case	1
000 721 981 80 (without WLAN)	PIWIS Tester II (with/without WLAN)	1
000 721 981 90 (with WLAN)		
000 721 981 80 110	Power supply unit	1
	Power cable	1
000 721 981 80 020	Battery pack	1
	DVD drive	1
000 721 981 80 090	Tablet stylus	3
???	Safety line	1
	Operating manual	1
000 721 981 80 410 (without WLAN)	Vehicle communication module - VCI (with/without WLAN)	1
000 721 981 90 410 (with WLAN)		
000 721 981 80 440	• USB cable	1
000 721 981 80 420	OBD cable	1
000 721 981 80 430	End-of-life vehicle adapter	1
000 721 980 80 450	• Loopback connector	1
	Velcro strip	1
	Measuring equipment interface with USB connecting cable	1
000 721 981 80 320	Measuring cable set consisting of 4 measuring leads (2 x red/2 x black) and alligator clips	1
	Spare fuses	2
Separately packed - cardboard		
000 721 981 80 010	Docking station	1

PIWIS Tester II with case



- Tester Ruggedized Notebook Computer



Information for participants:

Communication interface between vehicle and Tester



- VCI
Vehicle Communication Interface (VCI)



Information for participants:

- The Tester and all parts needed for operation and diagnosis are supplied in a special case.
- The interface was integrated in the Tester on PIWIS Tester I.
- The Vehicle Communication Interface (VCI) forms the communication interface between the Tester and the vehicle on PIWIS Tester II. The VCI can be connected to the Tester both via LAN (cable) and WLAN. The supplied diagnostic cable is always used to connect the vehicle and VCI.

Communication interface between vehicle and Tester (accessories)



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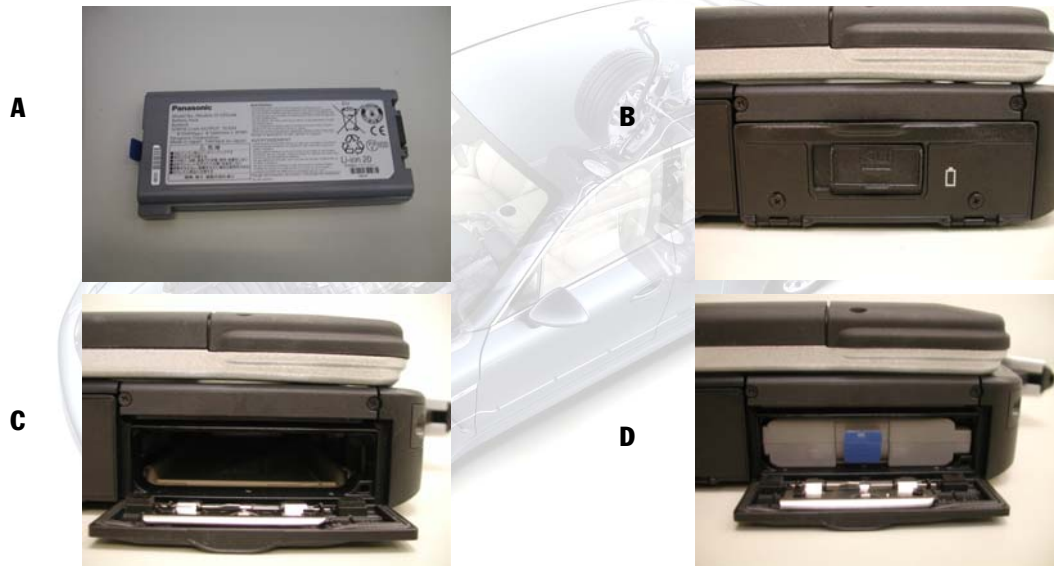
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Information for participants:

The following functions and/or malfunctions can be recognised based on LED activity:

Item	Description	Colour	Status	Function
1	Status LED	Red	Off	Normal function
			On	Malfunction/service case
2	Power LED	Green	Flashes (1 Hz)	Normal function
			Off/On	VCI firmware not running - malfunction/service case
3	USB LED	Yellow	Off	USB cable not plugged in
			Lights up briefly	When USB cable is plugged in
			Lights up	During data traffic on the USB
4	WLAN LED	Yellow	Off	No access point nearby - not logged in
			Flashes rapidly at intervals	Searching for access point
			Flashes rapidly at intervals	Access point found - login phase
			Lights up	Access point found - logged in
			LED flashes at high frequency	VCI firmware cannot be started - malfunction/service case

Inserting the battery



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Service Training

Panamera

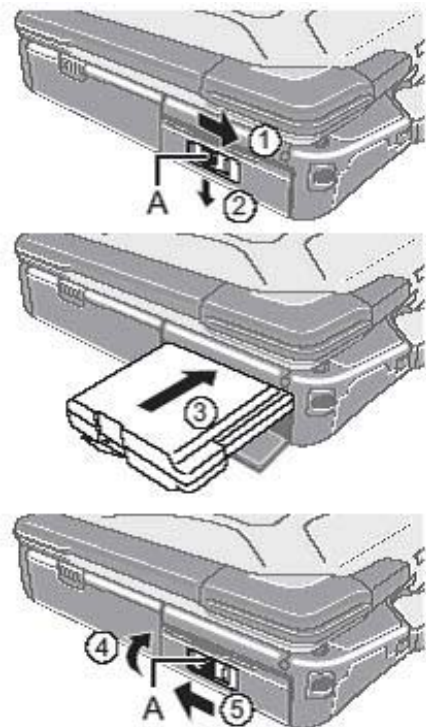
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Information for participants:

A - Lithium ion battery Panasonic CF-VZSU46 **10.65 V 8.5 Ah**
B - Battery slot locked

C - Battery slot open
D - Battery installed

1. Move the catch (A) to the right (1).
2. Slide the catch (A) down (2) and open the cover.
3. Slide the battery all the way in (3) as shown in Fig. 1.
4. Close the cover until you hear it engage correctly (4).
5. Slide the catch (A) to the left to lock the cover (5).



Measuring equipment for PIWIS Tester II



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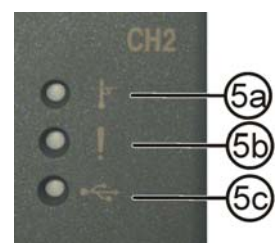
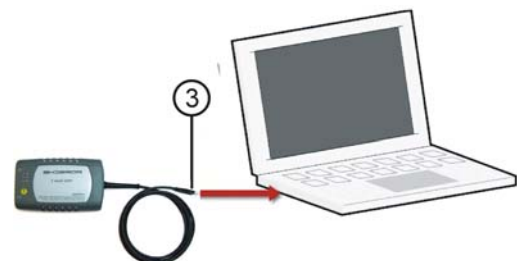
Created on: 26.03.2009
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Information for participants:

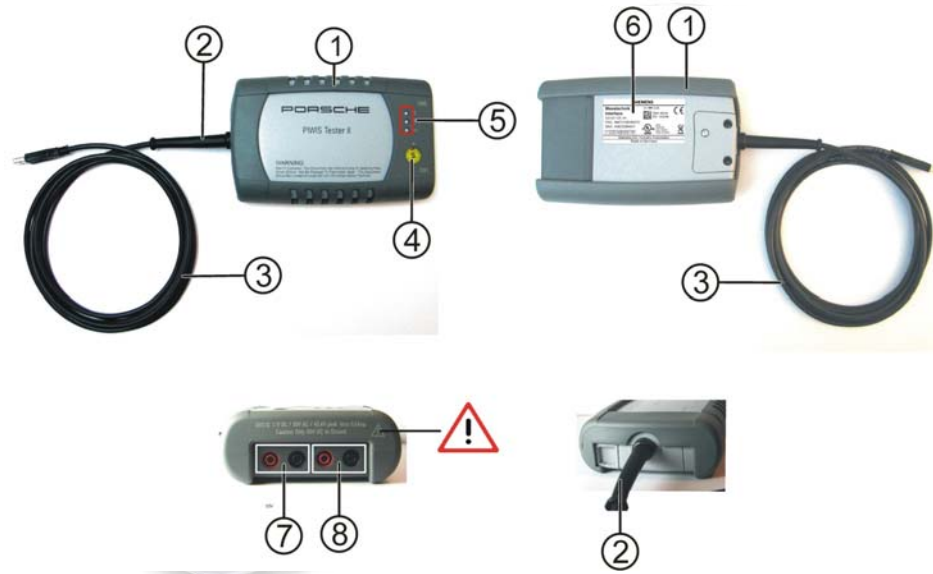
Item	Designation
1	Protective sleeve made of rubber (rubber covering)
2	Extruded rubber sleeve on USB connecting cable of measuring equipment interface
3	USB connecting cable
4	Calibration sticker
5	Light-emitting diodes (description in Chapter 6.4)
6	Identification plate
7	Sockets for measuring channel 1
8	Sockets for measuring channel 2

! CH1/2: 32V DC/30 V AC/42.4 V peak I_{max} 0.6 amp
Caution: Only 50 V DC to ground

- The computer to which the measuring equipment interface is to be connected must be switched on.
- All drivers and the measuring equipment software are pre-installed on the Tester. No additional software has to be installed.
- The USB cable (3) is connected to a free USB slot on the computer.
- A self-test of the measuring equipment interface is initiated automatically as soon as the cable is plugged in. If there is a fault, the red LED (5b) starts to flash.
- Once the self-test is complete, the measuring equipment application can be started on the Tester.
- After starting the measuring equipment application, the measuring equipment interface runs through a basic configuration and the green LED (5c) lights up continuously.

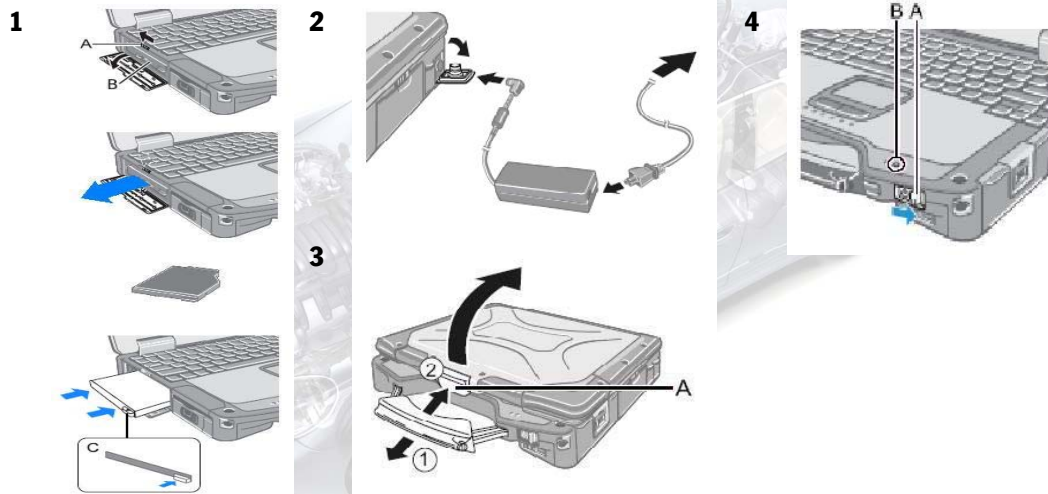


Measuring equipment for PIWIS Tester II



Information for participants:

Inserting the DVD drive, connecting the power supply unit, switching on the Tester



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Information for participants:

Installing the DVD drive:

- Slide the catch (A) to the left and open the cover.
- Remove the spacer (B) from the drive slot.
- Insert the DVD drive.
- Press the eject lever (C) until it engages securely.

Connecting the power supply unit:

- After inserting the battery and installing the DVD drive, PIWIS Tester II can now be connected to a plug socket via the power supply unit. The battery starts charging automatically.
- The battery charging process is indicated by an orange light at the right next to the handle. The light turns green once the battery is fully charged.

Opening and switching on PIWIS Tester II:

- Pull the handle (1) forward, press the lever (2) and open PIWIS Tester II.

Switching on the Tester:

- To switch on PIWIS Tester II, push the power switch (A) briefly to the right until the operational status indicator (B) lights up.

Allocating your personal user password (challenge/response)



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Information for participants:

Starting to use the PIWIS Tester and software:

Before using the diagnostic software for PIWIS Tester II for the first time on a Porsche vehicle, several steps must be performed to activate and update the Tester. The activation and updating process can take **2-3 hours**. Under certain circumstances, the Tester imprinting and **PPN certificate installation** steps can take **several days**.

Observe the following sequence - as described in the sections below:

1. Allocate your **personal user password** (challenge/response)
2. Set national language
3. Set the date/time
4. Perform software update using DVD
5. Configure the printer
6. Run Tester imprinting process
7. Set up internet connection
8. Install PPN certificate
9. Perform online update

Allocating your personal user password:

When you switch on a new PIWIS Tester II for the first time, you must request a personal password from the **Help desk**. Since you do not know the password at this time, press the **F9 button** - in the Password entry field - instead of entering the password.

Allocating your personal user password (challenge/response)

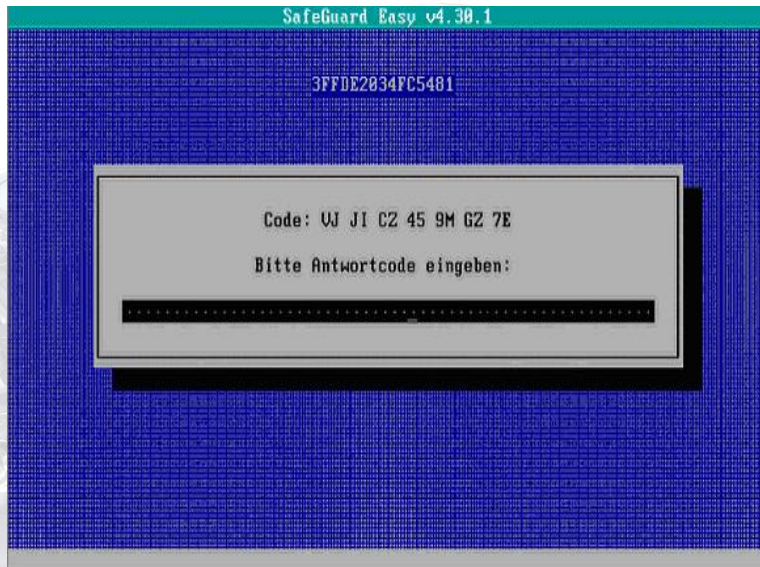


Information for participants:

Allocating your personal user password (challenge/response)

Note:

The PIWIS Tester must **not** be switched off until the Support employee has entered the response code!



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Information for participants:

A code is now generated automatically, which is then displayed as shown on the slide.

- You must forward the displayed code (e.g. VJ JI CZ 45 9M GZ 7E) to a Support employee (working for your importer).
- You can do this either by telephone or in writing (by fax).
- The **contact information** for your importer can be found on the **PIWIS Tester II order documents**.
- The Support employee uses the **serial number** of the PIWIS Tester II (located on the back of the Tester) and the automatically generated code to generate a **response code**.



The Tester must **not** be switched off until the Support employee has entered the response code!

- Once you receive the response code from the Support employee, enter it in the PIWIS Tester II screen shown above.
- You can then create your own new password. For security reasons, the new password must be entered twice. The **password** must be **at least 8 characters long**.
- The new password must include **upper and lower case letters**, at least **2 numbers** and **special characters**.
- The **system will start** as soon as you press Enter. The screen shown on the next slide appears for approx. **2 minutes**. The **PIWIS Tester software is now being configured**.

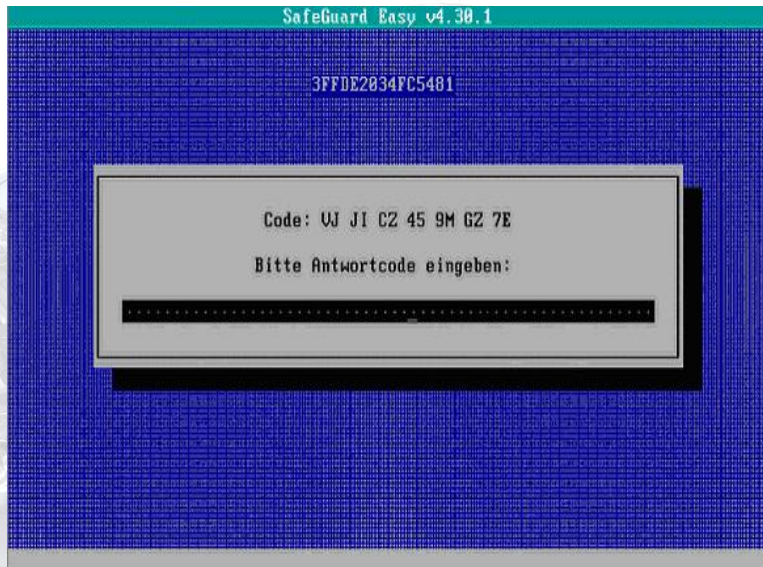


The PIWIS Tester must **not** be switched off while the software is being configured!

Allocating your personal user password (challenge/response)

Note:

The PIWIS Tester must **not** be switched off until the Support employee has entered the response code!

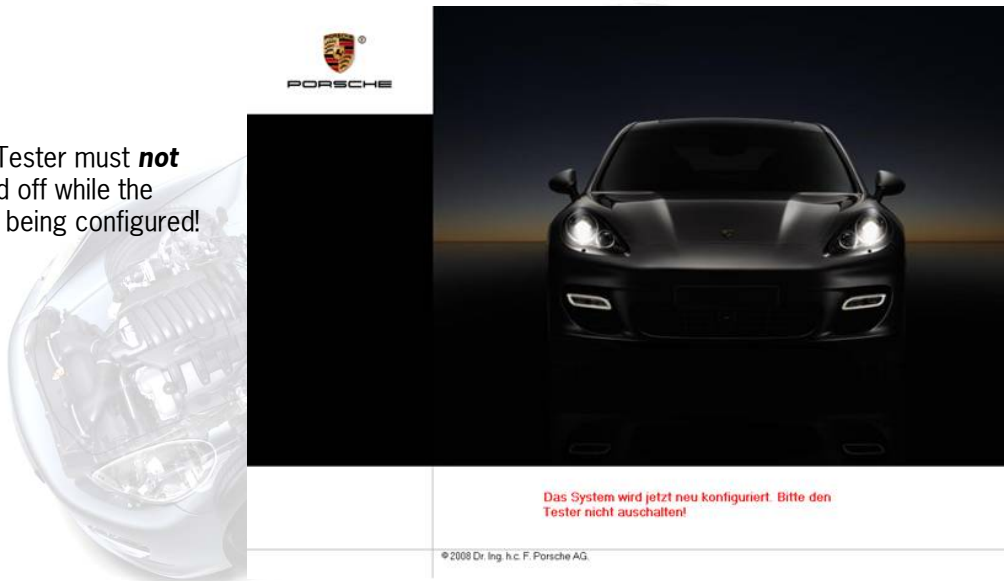


Information for participants:

Automatic software configuration of PIWIS Tester II

Note:

The PIWIS Tester must **not** be switched off while the software is being configured!



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Information for participants:

- Once the **configuration is complete**, the system will **restart**.
- PIWIS Tester II then **jumps automatically** to the **Tester imprinting** screen (described in a separate section).
- Before Tester imprinting can be performed however, the national language and date/time settings must be checked or changed and a complete DVD update must be performed.
- A printer must then be installed on PIWIS Tester II.



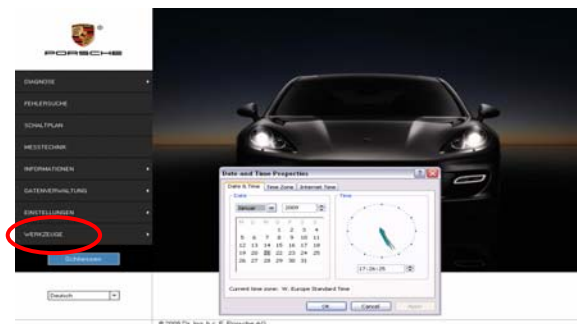
The Tester imprinting screen must therefore be closed again at this point.
To do this, press the "Close" button.

Now set the national language:

The button at the bottom left on the desktop can be used to set the required national language.

Apart from German, the following languages are available:

- English
- English (US)
- French
- Italian
- Spanish
- Chinese
- Japanese
- Russian



Automatic software configuration of PIWIS Tester II

Note:

The PIWIS Tester must **not** be switched off while the software is being configured!

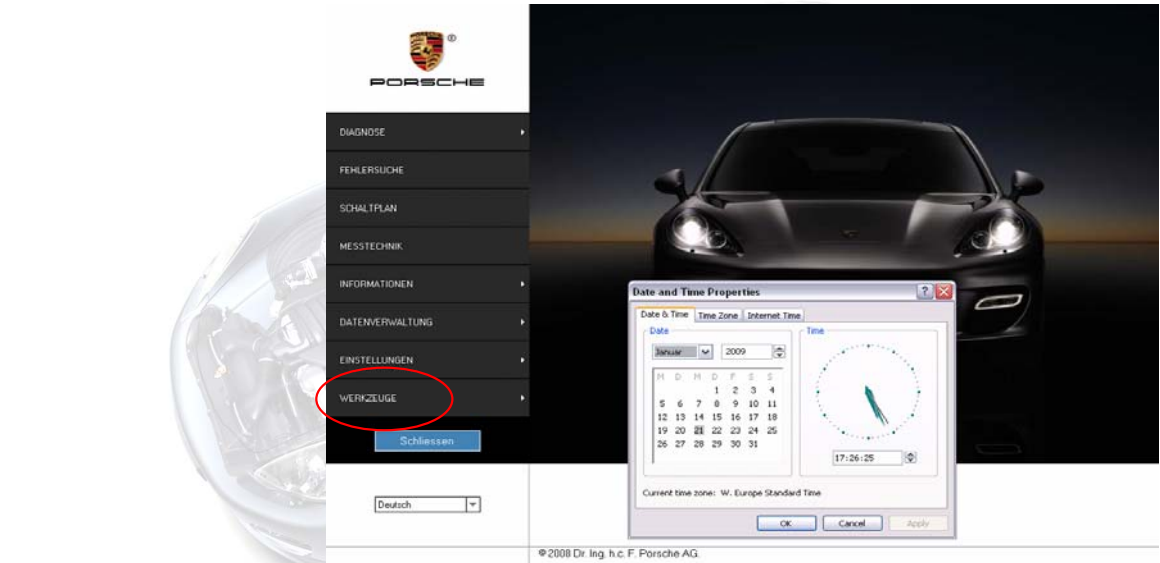


Das System wird jetzt neu konfiguriert. Bitte den Tester nicht ausschalten!

© 2008 Dr. Ing. h.c. F. Porsche AG.

Information for participants:

Setting date and time



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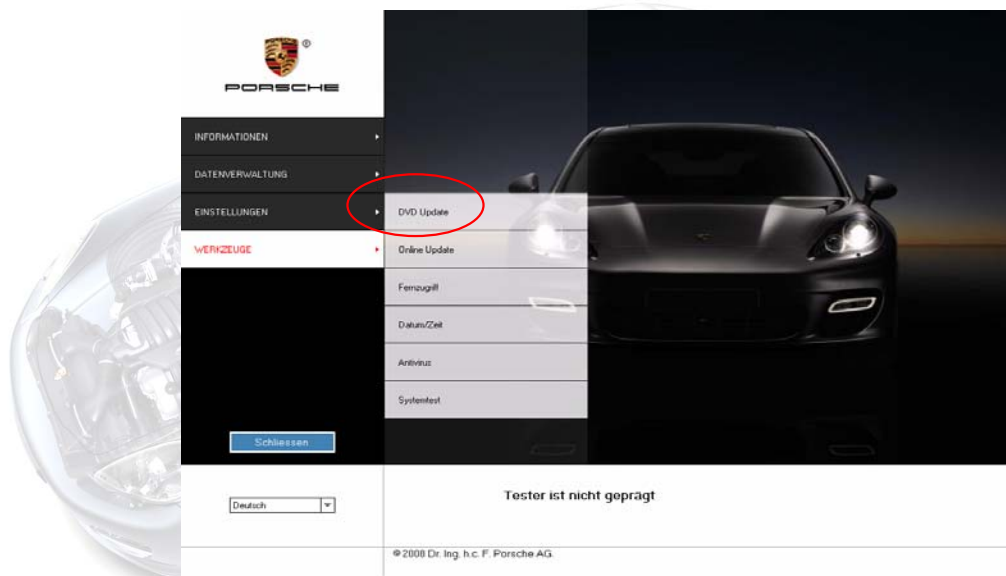
Panamera

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Information for participants:

- The system time for PIWIS Tester II must now be set by selecting Date/Time in the Tools menu.
- Check the settings and, if necessary, adjust the date and time to the local time zone.

DVD update



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Information for participants:

- Before you can start to use PIWIS Tester II, various software components in the PIWIS Tester must first be updated.
- To do this, insert the supplied update DVD into the DVD drive and close the drive. Select DVD Update in the Tools menu to go to the DVD update screen.
- Then, click OK to confirm the version information messages shown.



Note:

The update starts as soon as you click OK in both confirmation dialog boxes.

- The update is now **started**. The **DVD update** takes approx. **30-40 minutes**. Once the installation is finished, confirm by clicking on the corresponding OK button. The system is then restarted.

Printer configuration

Various printers are pre-installed on the system





PORSCHE

Informationen

Einstellungen

Datenverwaltung

Werkzeuge

Testeprägung

Netzwerk-Konfiguration

Zerfallskontrolle

Drucker-Konfiguration

Diagnose-Konfiguration

VCI-Konfiguration

Touchscreen-Kalibrierung

Hardware-Installation

Drucker Drucker hinzufügen

Druckername	Pfad
qPDF	Lokal
HP LaserJet P1006	Lokal
HP LaserJet 1300 PCL 6	Lokal
HP LaserJet 1200 Series PCL 6	Lokal
HP LaserJet 1160	Lokal

Als Standard definieren

Druckereinstellungen anzeigen

Druckaufträge anzeigen

Drucker löschen

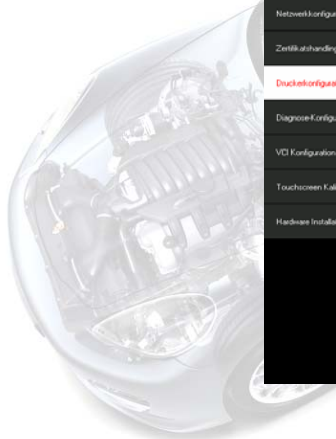
Testseite drucken

Schließen

Information for participants:

Installing a printer

It is also possible to install a printer that is **not** already pre-installed. To do this, follow the instructions on the Tester



The screenshot shows the Porsche Tester software interface. On the left is a sidebar menu with options: Testspiegelung, Netzwerk-Konfiguration, Zertifikatshandling, **Drucker-Konfiguration** (highlighted in red), Diagnose-Konfiguration, VCI Konfiguration, Touchscreen-Kalibrierung, and Hardware-Installation. The main window has a top bar with 'Informationen', 'Einstellungen' (highlighted in red), 'Datenverwaltung', and 'Werkzeuge'. Below this, the 'Drucker' section is active, with 'Drucker hinzufügen' circled in red. The 'Lokale Drucker' section contains instructions: 'Um einen lokalen Drucker zu installieren, schließen Sie den Drucker nicht an den Tester an, sondern klicken Sie auf "Lokalen Drucker installieren" und folgen Sie den anschließenden Anweisungen.' Below this is a 'Netzwerkdrucker' section with fields for 'Druckerspfad:', 'Benutzername:', and 'Passwort:', followed by a 'Drucker hinzufügen' button. At the bottom right is a 'Schließen' button.

Information for participants:

PIWIS Tester II - Tester imprinting

Generating request key
for Tester imprinting

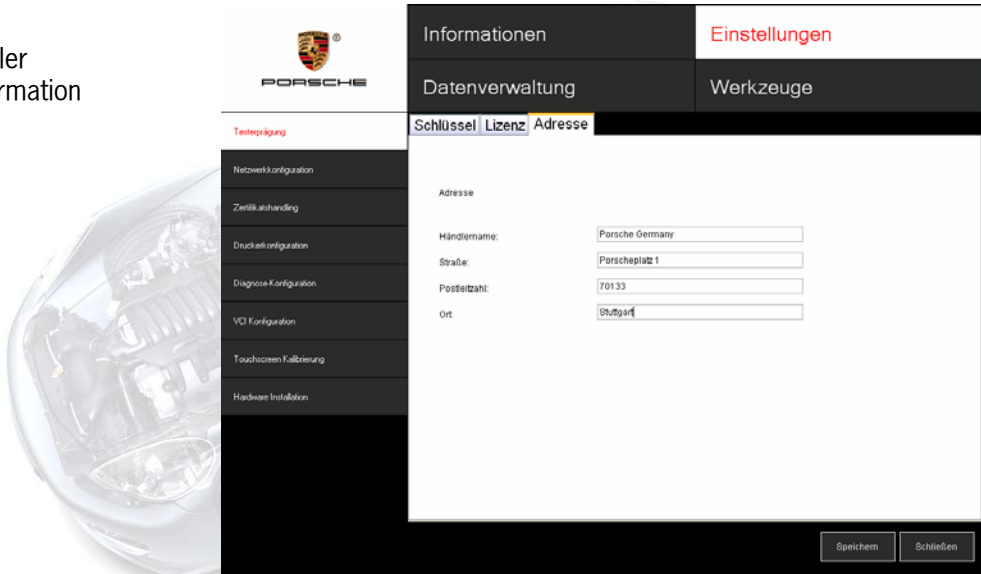


Information for participants:

PORSCHE

PIWIS Tester II - Tester imprinting

Entering dealer address information



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Service Training

Panamera

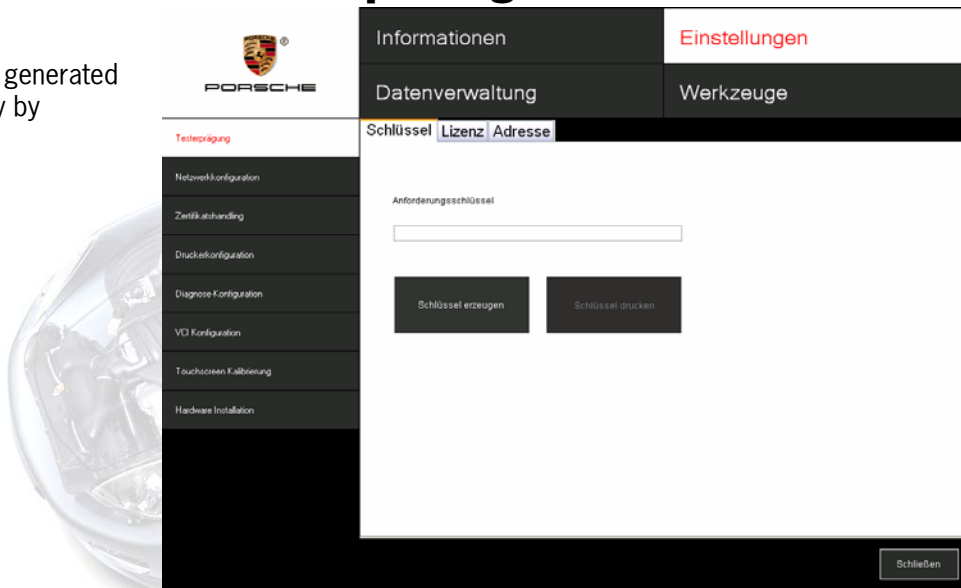
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Information for participants:

- Once you have allocated the password, configured the system, performed a DVD update, set the date and time and installed the required printer, PIWIS Tester II must now undergo imprinting. The imprinting process allocates a dealer number to PIWIS Tester II, while simultaneously enabling the diagnostic functions. It will not be possible to start the diagnostic software and other elementary software components of PIWIS Tester II unless imprinting is performed. Imprinting must be renewed at regular intervals (90 days). If PIWIS Tester II is not yet imprinted, it will jump automatically to the imprinting screen.
- Imprinting must be performed manually when using the Tester for the first time. Once the imprinting process has been run successfully and PPN access (a PPN certificate) has been set up, imprinting can also be renewed online using a licence update. The online licence update only takes a few moments. If Tester imprinting has expired or if an online licence update is not possible, the manual imprinting process will have to be repeated.
- To perform manual imprinting, a local printer must first be configured on PIWIS Tester II. This printer is then used to print the application form for licence key generation. Please enter your address information on the "Address" tab. This information is then printed in the corresponding lines on the application form.

PIWIS Tester II - Tester imprinting

Request key generated automatically by the Tester



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Information for participants:

- The “Generate key” button on the “Key” tab for Tester imprinting can now be used to create a request key. If a request key is already available, this is displayed in the corresponding field and the “Generate key” button remains greyed.
- The request key and the previously entered dealer address information are then printed using the “Print key” button. The other fields on the form must be completed in your own handwriting.

PIWIS Tester II - Tester imprinting

Licence key entry screen

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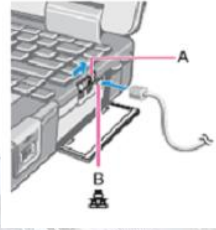
Created on: 26.03.2009
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Information for participants:

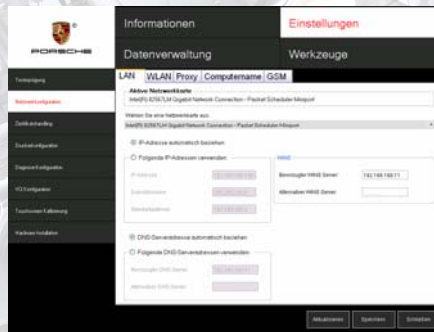
- The printed form must be sent by FAX or regular mail to your local importer.
- Your importer uses the **request key** and the **PIWIS II serial no.** to generate a licence key. The licence key is entered in the corresponding field on the application form and your importer then returns it to the dealership by FAX or regular mail.
- Once you have received the licence key, you must enter it in the entry fields on the **“Licence” tab**.
- Then click on **“Save”** to confirm all your entries.
- Once Tester imprinting has run successfully, the Dealer No., Tester ID, Country and Validity fields are **updated automatically**.

Setting up a network connection

LAN connection



LAN settings



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Information for participants:

To configure PIWIS Tester II for online updates, VAL data feedback and online teaching functions, you must set up a connection to the internet on the Tester. Depending on the workshop equipment available, a LAN or WLAN connection to the internet or a local network can be configured.

If your workshop is set up for a wireless connection over WLAN/WIFI (WPA2) or Cisco LEAP, you can also use this connection to connect PIWIS Tester II to your network or the internet.

It is also possible to set up an internet connection using a GSM connection. To do this, a corresponding GSM module produced by Option or the same version from a mobile phone provider is required (optional accessories).

Network configuration over LAN

- Network card is displayed automatically.
- Network configuration should be performed by IT specialists.

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Information for participants:

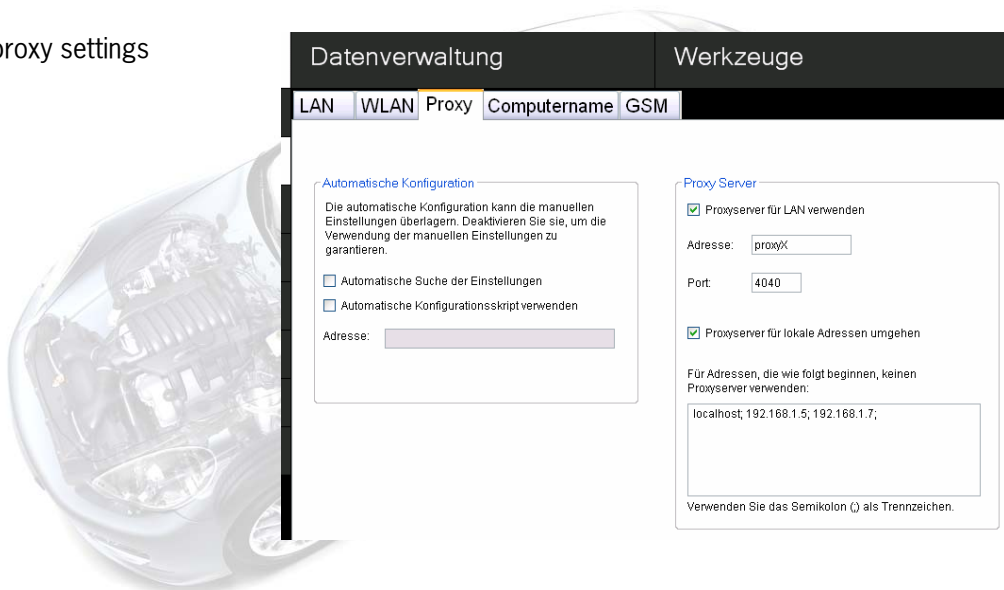
LAN setup:

- Connect the Tester to the dealer's LAN via a **LAN connecting cable** and the RJ45 connection (right flap).
- If a **proxy server** is installed in the **dealer network**, this must be configured according to the proxy settings on the "Proxy" tab.

Select Settings → Network configuration → LAN to display the corresponding screens.

Setting up the proxy server

Defining proxy settings



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Information for participants:

- You must enter the required **proxy settings** after you switch to the **“Proxy tab”**. Entries in **“Do not use a proxy server for addresses that start as follows”** must end with a semi-colon.

Changing computer name

The PIWIS Tester name can be changed freely as required.



LAN

WLAN

Proxy

Computername

GSM

PT2G-CF30-15123

Geben Sie einen neuen Namen für Ihren Computer an.
Wichtig: Damit die Änderungen übernommen werden können, ist ein Neustart erforderlich.

Hinweis:

Der Rechner muss neu gestartet werden, da der Computername geändert wurde.
Möchten Sie den Rechner jetzt neu starten ?

Yes

No

Aktualisieren

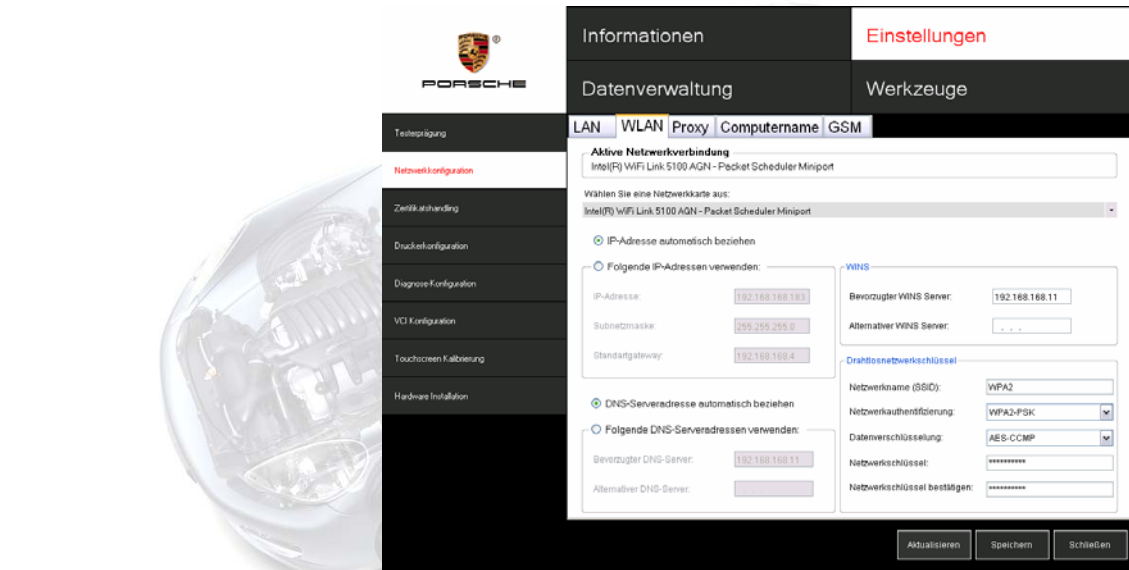
Speichern

Schließen

Information for participants:

- Once you change the computer name, click on **“Save”** to accept the new name. Click **“Yes”** if you want to restart the PIWIS Tester immediately so that the change can take effect.

WLAN configuration



The screenshot displays the Porsche Panamera's internal configuration menu. The 'WLAN' tab is selected, showing options for network configuration. The 'Aktive Netzwerkverbindung' section allows selecting the network card (Intel(R) WiFi Link 5100 AGN - Packet Scheduler Miniport). Below this, there are radio buttons for 'IP-Adresse automatisch beziehen' (selected) and 'Folgende IP-Adressen verwenden'. The IP address fields are pre-filled with 192.168.168.193, 255.255.255.0, and 192.168.168.4. The 'DNS-Serveradresse automatisch beziehen' option is also selected. The 'WLAN' section includes fields for 'Bevorzugter WINS Server' (192.168.168.11), 'Alternativer WINS Server', 'Netzwerkname (SSID)' (WPA2), 'Netzwerkauthentifizierung' (WPA2-PSK), 'Datenverschlüsselung' (AES-CCMP), 'Netzwerksschlüssel', and 'Netzwerksschlüssel bestätigen'. At the bottom right are buttons for 'Aktualisieren', 'Speichern', and 'Schließen'.

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Information for participants:

- If an access point for **WLAN** (Wireless LAN) is installed in the dealership, PIWIS Tester II can also be connected by wireless connection to the company network or the internet.
- To do this, first press the small switch below the power switch. This switches on the internal WLAN module (switch-on position: switch is to the right and is pointing to "on"). If the WLAN module is switched on (antenna), this will be indicated by a small, green flash symbol next to the WLAN switch.
- Now, select "Intel WiFi Link 5100 AGN - Pocket Scheduler Miniport" in the device itself as the active network card.
- Enter the SSID, network authentication, data encryption code and the network key twice.
- Only **WPA2** will be accepted as the network authentication. Then click on the "Save" button.

Checking network connection

Network system status

The signal strength of a WLAN connection must also be checked.



Systemstatus

- Versionsinformation
- Neuzugaben
- Anleitungen
- Hilfe
- PPN-Zugang

Informationen
Einstellungen

Datenverwaltung
Werkzeuge

Tester
Netzwerk
Geräte

Verbindung

☒ Verbindungstatus WLAN

Wireless Network Connection

IP-Adresse: 192.168.168.183

DNS-Name: dc1.gl.local

Subnetzmaske: 255.255.255.0

Standardgateway: 192.168.168.4

SSID: WPA2

Signalstärke: 100

☒ Verbindung PPN

Ping Standardgateway

Ping wird ausgeführt für [192.168.168.4] mit 32 Bytes Daten:

Response of 192.168.168.4

Bytes=32 Zeit=1ms TTL=128

Response of 192.168.168.4

Bytes=32 Zeit=1ms TTL=128

Response of 192.168.168.4

Bytes=32 Zeit=1ms TTL=128

Pakete gesendet: 3

Pakete empfangen: 3

Proxy-Einstellungen

Name: proxy2.gl.local

IP-Adresse: 10.0.5.50

Fernzugriff

Inaktiv

☐ Automatische Aktualisierung

30 Aktualisierungsintervall

Aktualisieren

Schließen

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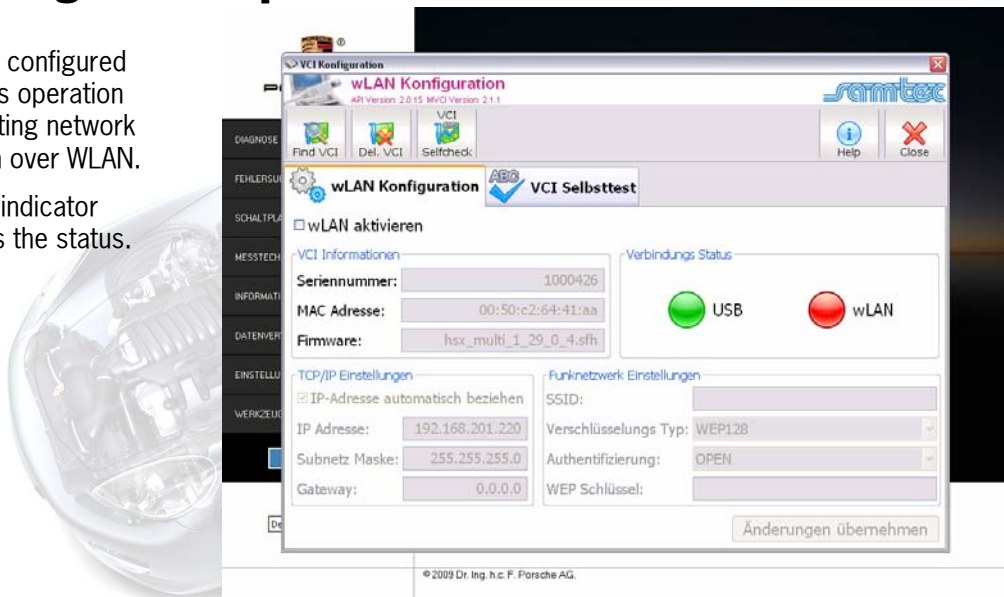
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Information for participants:

- The **network connection** can now be checked using the function: **Information** → **System status** → **Network**.
- A green ☒ must be set for the connection status if the network connection is active.

Configuring VCI for operation

- VCI can be configured for wireless operation for an existing network connection over WLAN.
- The green indicator light shows the status.



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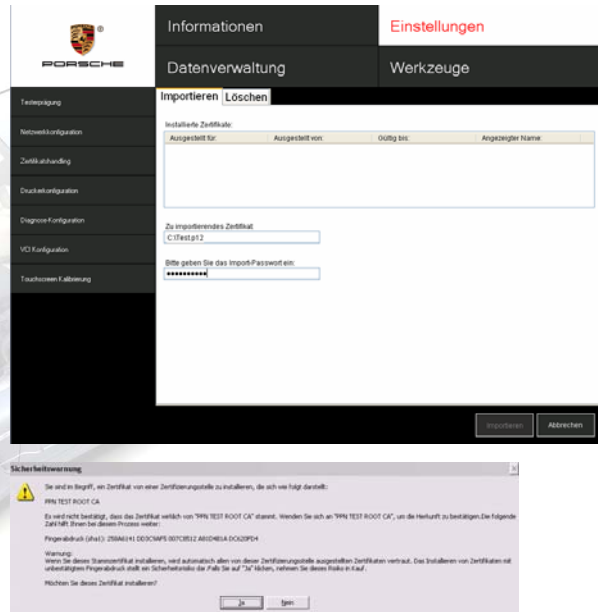
Information for participants:

- Connecting the VCI to the Tester over WLAN allows you to communicate online with the vehicle from a more remote workplace via the PIWIS Tester. To do this, the Tester must have a functioning WLAN connection.
- VCI can then be set up as shown on the chart.

Installing PPN certificate

Entry screen after downloading certificate using PIWIS browser

Security prompt when installing a certificate



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Information for participants:

- **Handling** instructions for **generating a certificate**, **downloading a certificate** and **subsequently** installing the **certificate** can be obtained from the detailed description (stored under menu item → **Information** → **Instructions** → **Operating instructions for handling certificates** on PIWIS Tester II).

PIWIS online update

The online update can be performed once you have entered the PPN user name and the password.



PIWIS Online Update Service 2.0.1.0


PORSCHE

Willkommen zum Online Update Service!

PPN Benutzername

PPN Passwort

Information for participants:

- After installing the certificate, you can now check to see whether a new **online update** is already available for **updating** the Tester **software**.
- To do this, select **Tools → Online Update** to go to the Online update screen.
- **Make sure** that the **power supply unit** is connected to the **mains**.
- The PIWIS browser opens with the screens for entering the PPN user name and the password.

Display of basic components: Graphic user interface

The Tester's diagnostic application has a graphic user interface with various elements as shown in the illustration.

- 1 Title bar
- 2 Info area
- 3 Menu bar
- 4 Work area
- 5 Control bar
- 6 Scroll bar



The screenshot shows the Porsche diagnostic software interface. At the top is a black title bar (1) with white text: 'G1_14_27', 'Anzeigemodus', 'Programmstand', and 'VG2-00.200.09.03.13'. Below the title bar is an info area (2) with the text 'Steuergeräteauswahl:' and 'Steuergerät(e) auswählen und zur Steuergerätesuche mit [F12]'. A menu bar (3) is below the info area, containing tabs: 'Übersicht', 'Fehlerhafte Steuerfunktionen', 'Fehlerspeicher', 'Istwerte', 'Schalteingänge', 'Stellglieder', 'Prüfungen', 'Codierungen', and 'Anpassungen'. The main work area (4) is a table with columns: 'DTC', 'Status', 'Steuergerät', 'DSN', and 'Teilenummer'. The table lists components: Gateway, TV-Tuner, PCM, PDCC, Verstärker extern, PDK, DME, Rückfahrkamera, and ParkAssistent. A vertical scroll bar (6) is on the right side of the table. At the bottom is a control bar (5) with icons for 'Ende', 'Multimeter', 'Oscilloskop', 'Speichern', 'Filter', 'Zusatzmenü', 'Protokolle', and 'Weiter'. The car model 'Panamera' is displayed at the bottom center.

DTC	Status	Steuergerät	DSN	Teilenummer
		Gateway		
		TV-Tuner		
		PCM		
		PDCC		
		Verstärker extern		
		PDK		
		DME		
		Rückfahrkamera		
		ParkAssistent		

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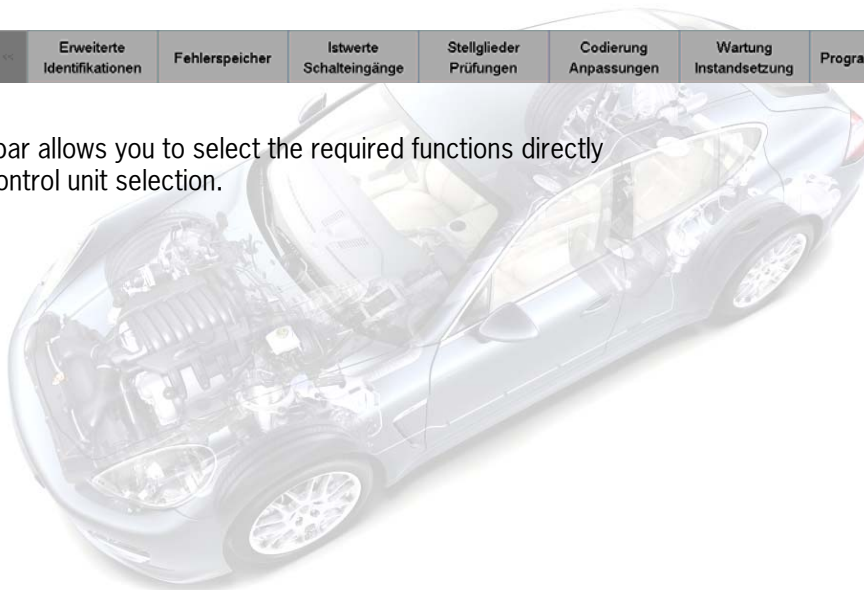
Information for participants:

- When you start the diagnostic software, the Tester interface is redesigned. A detailed description of the interface and its functions can be found under **Information → Instructions → Operating instructions for diagnosis**.

Display of basic components: The menu bar



The menu bar allows you to select the required functions directly following control unit selection.



Information for participants:

Function group	Description
Overview	When you select the Overview function group, the result of the last control unit search is displayed in a table.
Extended identification	When you select the Extended identification function group, the extended identification of previously selected control units is displayed.
Fault memory	Within the Fault memory function group, you can display the fault memory entries and the environmental data for each fault memory for a selection of control units. It is even possible to delete all or individual fault memory entries of the control units here.
Actual values/Input signals	The actual values and/or input signals of control units are displayed within the Actual values/Input signals function group.
Drive links Checks	Within the Drive links/Checks function group, you can change drive links parameters or run test routines. The results of this change are also logged and displayed.
Coding/Adaptations	Within the Coding/Adaptations function group, you can read control unit coding and change this coding, provided you have the required user rights.
Maintenance/Repairs	Within the Maintenance/Repairs function group, you can run processes that are needed for starting to use certain control units and functions.
Programming	Within the Programming function group, you can use flash jobs to program a control unit. This is only available to users who have the required user rights.

Measuring equipment for PIWIS Tester II

- The measuring equipment includes the following functions:

- Multimeter
- Digital storage oscilloscope (DSO)



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Information for participants:

Starting the measuring equipment:

- Before taking measurements, the measuring leads (one black and one red measuring lead per channel) must be plugged into socket (7) (channel 1) or (8) (channel 2) on the measuring equipment interface.
- The "Multimeter" screen always opens when you start the measuring equipment. You can switch to the DSO using the "Jump" button.



Setting the multimeter:

- The "Multimeter" screen appears in the "Voltage at probe tip 1" basic setting when you start the application.
- The last used setting remains effective when you return to the multimeter from the DSO.
- Once the screen appears, automatic calibration is performed using the current setting.
- The "Multimeter" screen is used to operate the multimeter. Here, you can adjust measurement functions, take measurements and read off the results.
- The upper area of the working window contains a digital and (for single-channel measurements) an analogue measured value display, which is continuously updated during measurements. The measuring range limits below the analogue display are shown without units.
- Located below this are the control buttons for the measurement functions for channel 1 (yellow) and channel 2 (green), the coupling and the measuring range. On the right are buttons (blue) for selecting default functions.

Measuring equipment for PIWIS Tester II

- The measuring equipment includes the following functions:

- Multimeter
- Digital storage oscilloscope (DSO)



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Information for participants:

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