8585 / 8595

VEHICLE-MOUNT COMPUTERS

User Manual

(Windows® XP Embedded or Professional)

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ISO 9001 Certified
Quality Management System

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1 INTRODUCTION

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1.1 Overview of the 8585 and 8595 Vehicle-Mount Computers

The 8585 and 8595 Vehicle-Mount Computers are multi-function industry computers designed for stationary and mobile use. Detailed information is listed in Chapter 8: "Device Description and Technical Specifications".

Due to its rugged design (aluminum housing), this vehicle-mounted computer provides effective protection against mechanical, electrical and chemical influences and extreme ambient temperatures.

In this manual, Psion Inc. strives to provide all the information required for using your 8585. However, because this is a versatile product that can be used in many different scenarios, we cannot guarantee that the information contained in this manual will cover every single aspect.

Should you require further information or if you have questions or issues needing clarification, please contact your nearest Psion agent or representative.

1.2 Device Models

This manual applies to the following models of this Vehicle-Mount Computer:

- The 8585 with 10.4" display.
- The 8595 with 12.1" display.

Note: The Model 8585 Vehicle-Mount Computer is used as an example throughout the manual, but all features are also applicable to the Model 8595.

Figure 1.1 The 8585 Vehicle-Mount Computer

1.3 Scope of Delivery

The delivery includes at least the following:

- 8585 or 8595.
- Cable cover.
- The assembly kit.
- Ignition or Screen Blanking power cable.
- Optionally ordered accessories.

Please verify the delivery contents immediately on receipt.

1.3.1 Packaging

The packaging material has been selected to optimally protect your device while simultaneously offering the best possible ecological compatibility. We therefore kindly request that you store the original packaging material or ensure it is used for another suitable purpose such as transporting the unit or returning shipment.

Caution: Property Damage ***If you repack the device, please ensure that the cling wrap in the cardboard frame is positioned towards the front of the device so that it can provide the proper protection.***

1.3.2 Removing the Protective Film from the Display

The front display of the 8585 is protected during transport by a transparent film. This film should remain on the front display during assembly to avoid damage to the front display surface.

Only remove the film once all of the assembly work has been completed.

1.3.3 Returning Your Device

Due care was exercised when putting together the contents of your delivery and dispatching your device. Nevertheless, if you still have cause for complaint, please contact your Psion representative.

Should you need to return the device, please use the original packaging.

1.4 About the 8585 / 8595 Vehicle-Mount Computer User Manual

This manual has been designed to make using the 8585 and 8595 Vehicle-Mount Computers as simple as possible and provide expert assistance if problems should occur. The manual generally refers to the 8585 model.

The manual contains important information on using the device safely, properly and efficiently. Adhering to this information helps to avoid dangers, reduces repair costs and breakdown times, and increases the reliability and lifespan of the device.

Psion Inc. will not assume responsibility for any damage caused by the improper use of the 8585 or 8595 and/or disregard of the instructions in this manual.

For Qualified Personnel

This manual was written for qualified personnel. The information is intended exclusively to complement the expertise of qualified personnel, not to replace it.

Keep this Manual

Please keep this manual in a safe place. It should always be at hand near the described device.

Warning: ***Before transporting, assembling, and starting the computer, please read this manual carefully and follow all the requirements in Chapter 2: "Approvals and Basic Safety Guidelines", as well as the safety guidelines in the individual chapters.***

Chapter 1: Introduction
provides a basic overview of the 8585 / 8595 Vehicle-Mount Computers User Manual.

Chapter 2: Approvals and Basic Safety Guidelines
describes the safety practices required for the operation of the 8585 and 8595.

Chapter 3: Basic Operation
describes the steps required to get the 8585 ready for operation, device features, connectors, power, and WLAN.

Chapter 4: Installing The Computer
describes the instructions for safely and effectively mounting the computer.

Chapter 5: Operation
describes the touchscreen, keys, operating system, ports, and internal devices.

Chapter 6: Accessories
describes the peripherals and accessories available for your computer.

Chapter 7: Maintenance and Troubleshooting
describes the care of the 8585, steps to investigate problems, and common usage mistakes.

Chapter 8: Device Description and Technical Specifications
lists the specifications for the 8585 and 8595 computers.

Appendix A: Psion Config Program
describes the detailed configuration information for the Psion Config program.

1.5 Text Conventions

Note: Notes highlight additional helpful information.

This symbol indicates hazards that pose a risk to life and limb (such as contacting the power supply), as detailed below.

Important: These statements provide particularly important instructions or additional information that is critical to the operation of the equipment.

Caution: Property Damage ***This statement warns you of any dangers or hazards that could potentially cause damage to the computer or system (such as malfunctions, data loss, equipment damage, etc.).***

Caution: Mild injury is possible.

Warning: There is a possible risk of death / serious injury.

Danger: There is an immediate risk of death / serious injury

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2.1 Always Install, Operate, and Maintain the Unit Properly

The Psion 8585 was designed and built according to modern technology and accepted safety regulations. However, the operation of the 8585 can endanger personnel or third parties and cause damage to the device and other material assets, when for example the device is:

- Installed incorrectly or improperly.
- Operated by untrained or uninstructed personnel.
- Improperly operated and maintained.
- Not used as intended.

The operator commitments in regards to safety (accident prevention regulations, work protection) are to be followed.

2.2 Safety

In order to prevent injury and damage, please read and observe the following safety guidelines *prior to assembly and commissioning*. The manufacturer assumes no liability for any and all damages that can be attributed to non-compliance with these guidelines.

2.3 Intended Usage

The 8585 is a multifunction terminal for stationary and mobile use in commercial applications (for example logistics, storage, manufacturing). Different or extraordinary usage is not permitted.

For resulting damage, the user/operator of the 8585 is solely responsible.

This also applies to any changes you make to the device.

Compliance with the contents of the safety guidelines is particularly important for the proper use of this device.

2.4 Initial Operation of the Device

Area of Application: Not for use in life-support systems or critical safety systems

The device is not designed for use in life-support systems or critical safety systems where system malfunction can lead to the direct or indirect endangerment of human life. The operator shall take full responsibility for using the device in these situations.

The device cannot be used in combination with safety functions for machines and equipment which have to conform to the requirements of EN 954-1.

Installation/Initial Operation

Installation of the 8585 on a vehicle must be performed in accordance with Chapter 4: "Installing The Computer". Specifically, special attention must be paid to the various electrical potentials of the vehicle. Some vehicles have a chassis that is connected to one of the battery supply lines (DC+ or DC-), while most electrically-driven forklift vehicles have floating chassis, connected to neither DC+ or DC-. Refer to "Vehicle Applications (such as forklifts)" on page 28 for required wiring of vehicle power and fusing for the 8585.

Risk of injury during transit or installation

The unit could fall during transit or installation and cause injury. Always ensure that there are two persons available when installing or removing the device.

Choice of Location: Observe the Protection Class

The ambient conditions at the point of installation must comply with the device's protection class.

Supply of Fresh Air: Avoid overheating the unit

The 8585 is based on a passive cooling concept. As a result, the waste heat which is produced inside the device is emitted over the surface of the housing. For this system to function properly, sufficient fresh air circulation is required. Never install the system in a closed environment where the cooling air is unable to dissipate accumulated heat to the outside.

If the 8585 is not able to draw in fresh cooling air, this may cause overheating and severe damage to the unit.

The maximum allowed ambient temperature for the system needs to be taken into account for the concrete application area.

Install an easily accessible disconnecting device

The device is not supplied with a disconnector (switch) that can be accessed externally. The power supply connector is therefore used as a disconnector. Therefore it needs to be easily accessible.

If it is necessary to establish a fixed connection, an easily accessible disconnecting device (e.g. a switch such as a circuit breaker) should be installed close to the device. Ensure that the power cable is laid so that it is mechanically protected.

Laying Power Supply Cables: Observe the local installation regulations

The power supply cables must be laid in accordance with the applicable local installation regulations.

Ensure that no persons are injured in case the mounting bracket breaks

The 8585 may in no case be installed in such a way that persons can be injured during a breaking of the mounting bracket (e.g. fatigue break).

If the device is mounted in a place where people can be injured if the bracket should break, appropriate safety measures must be put in place (e.g. install a security cable in addition to the device bracket).

Radio Performance: Do not exceed the maximum permissible transmitting power

Do not exceed the maximum permissible transmitting power which is specified by each separate country. 8585 users must verify this themselves.

2.5 Power Supply

The mains power cord shall comply with the national safety regulations of the country where the equipment is to be used.

Operation in an Emergency: Immediately disconnect the device from the power supply

In case of emergency (such as damage to the power cable, or housing, or ingress of liquid or other foreign bodies), the device must be disconnected immediately from the power supply. Contact technical support staff at once.

Protection of the power supplies

If, after replacement, the fuse fed by the internal power supply blows again, the device must be sent in for servicing immediately.

Danger of electrocution when cleaning/servicing the device

In order to avoid electrocution always disconnect the 8585 from the power supply before cleaning or servicing the device.

When charging the vehicle battery please note:

While charging the vehicle battery the 8585 has to be either disconnected from the battery or it has to be determined that the maximum allowed input voltage of the 8585 is not exceeded.

Do not switch on devices with damaged cables or plugs

Do not use the 8585 when a cable or plug is damaged. Have the damaged parts replaced immediately!

Do not connect or disconnect any cables during storms

Cables must never be connected or disconnected during an electrical storm.

2.6 External Devices

The use of additional wiring and other peripheral devices, which are not recommended or sold by the manufacturer can result in fire, electrocution or personal injury.

If a power supply is used, only use the power supply recommended by the manufacturer.

Before connecting or disconnecting peripheral devices (exception: USB devices), the 8585 must be disconnected from the power supply! Otherwise, this could seriously damage both the 8585 and the connected devices!

Make sure that external peripheral devices with their own power supply are switched on **at the same time or after** you start the 8585.

If this is not possible, please ensure that the 8585 is adequately protected from power leakage caused by an external device.

2.7 Repairs Only Through Psion

Never carry out repairs on the device yourself. Always contact Psion's technical support and send in your unit for repair if necessary.

On the back of the 8585 you will find the device's type plate which has important information about the device which you must quote for technical service. It provides important information about the configuration and manufacture of the device in abbreviated form.

Always provide technicians with the full model name and serial number.

2.8 CE Marking

Remark for CE class B products: Class B products may be used in residential environment but with the condition that the end user is informed about the possible consequence with a warning information in the user manual:

Warning: ***This is a class B device. This equipment may cause interference in a residential installation. In this case the user is encouraged to perform appropriate measures to correct the interference.***

2.9 RTTE Directive 1999/5/EC

With regard to the RTTE Directive 1999/5/EC the statements in the declaration of conformity for the 8585 apply.

Malti [Maltese]:	Dan l-apparat huwa konformi mal-?ti?iet essenzjali u l-provedimenti l-o?ra rilevanti tad-Direttiva 1999/5/EC.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 1999/5/EK irányelvben meghatározott vonatkozó rendelkezéseket.
Norsk Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 1999/5/EF.
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 1999/5/EC.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 1999/5/EC.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 1999/5/EC.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 1999/5/EC.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 1999/5/EY olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.
Svenska [Swedish]:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 1999/5/EC.

2.9.1 Special Rule/Restriction

For the 8585 with WLAN 802.11a/b/g/n, the following restrictions apply:

- WLAN 5 GHz band: 5.15 GHz – 5.35 GHz may only be used indoors.
- WLAN operation outdoors in France is only permitted in the 2454 – 2483.5 MHz range at max. 10 mW EIRP.

2.10 FCC User Information

2.10.1 Declaration of the Federal Communications Commission

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 and meets all requirements of the Canadian Interference-Causing Equipment Standard ICES-003 for digital apparatus. 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/T.V. technician for help.

Psion Inc. is not responsible for any radio television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Psion Inc. The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user. The use of shielded I/O cables is required when connecting this equipment to any and all optional peripheral or host devices. Failure to do so may violate FCC and ICES rules.

Warning: ***FCC warning: Any change or modification which is not expressly approved in the corresponding pages can lead to the withdrawal of the operating license for this device.***

In order to comply with the FCC requirements regarding radio frequency exposure from vehicle-mounted transmission devices the antenna has to be kept at least 20 cm away from people.

2.10.2 Transmission of Radio Frequencies

Use care in airplanes or in clinical/medical areas

Some devices in hospitals and airplanes are not protected from radio frequency energy. Consequently, do not use the 8585 in airplanes or hospitals without prior authorization. Here use of the 8585 is only permitted if authorization is obtained.

Caution with pacemakers

Do not use the 8585 near pacemakers.

The 8585 can affect the function of medically implanted devices such as pacemakers and create interference. Do not place the 8585 near such devices.

Keep a minimum distance of 20 cm between such a device and the 8585 in order to reduce the risk of interference.

If you have reason to assume that interference has occurred, then turn the 8585 off and consult a heart expert.

2.11 8585 Declaration of Conformity

Declaration of Conformity

Product:	**8585**	
Application of Council Directives:	R&TTE Directive: 1999/5/EC EMC Directive: 2004/108/EC	
Conformity Declared to Standards:	Article 3.1a (Safety): Article 3.1b (EMC): Article 3.2 (RF Spectrum):	EN 60950-1: 2006 EN 301 489-1 & -17 EN 300 328 & EN 301 893
Manufacturer's Address in the European Community:	PSION UK Ltd, Unit Q, Bourne End Business Park, Cores End Rd, Bourne End, Bucks SL8 5AS UK	
Equipment Class:	The Equipment will carry the Class 2 equipment identifier	

We the undersigned hereby declare that the equipment specified above conforms to the above directives and standards.

Manufacturer:	**Legal Representative in Europe:**
Signature	Signature
Mike Doyle Full Name	Guy-Franck Nakach Full Name
Vice President, Engineering Position	Vice Président, Worldwide Channel Sales Position
PSION Inc. Canada Place	PSION UK Ltd., UK Place
June 2, 2011 Date	June 2, 2011 Date

2.12 8595 Declaration of Conformity

Declaration of Conformity

Product:	**8595**	
Application of Council Directives:	R&TTE Directive: 1999/5/EC EMC Directive: 2004/108/EC	
Conformity Declared to Standards:	Article 3.1a (Safety): Article 3.1b (EMC): Article 3.2 (RF Spectrum):	EN 60950-1: 2006 EN 301 489-1 & -17 EN 300 328 & EN 301 893
Manufacturer's Address in the European Community:	PSION UK Ltd, Unit Q, Bourne End Business Park, Cores End Rd, Bourne End, Bucks SL8 5AS UK	
Equipment Class:	The Equipment will carry the Class 2 equipment identifier	

We the undersigned hereby declare that the equipment specified above conforms to the above directives and standards.

Manufacturer:	**Legal Representative in Europe:**
Signature	Signature
Mike Doyle Full Name	Guy-Franck Nakach Full Name
Vice President, Engineering Position	Vice Président, Worldwide Channel Sales Position
PSION Inc. Canada Place	PSION UK Ltd., UK Place
June 2, 2011 Date	June 2, 2011 Date

3 BASIC OPERATION

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Warning: ***Before operating the unit for the first time, carefully read Chapter 2: "Approvals and Basic Safety Guidelines".***

Note: Configure the computer before fastening it to machines or vehicles. Software configuration for the WLAN, shutdown automation, etc. is significantly simpler and more convenient on the desktop.

3.1 Removing the Protective Film from the Display

The front display of the 8585 is protected during transport by a transparent film. This film should remain on the front display during assembly to avoid damage to the front display surface.

Only remove the film once all of the assembly work has been completed.

3.2 Psion Config: Front Keys, WLAN, Automatic Switch-off

The program *Psion Config* can be found on your 8585. Use it for settings such as the following:

- Configuring the front keys of the 8585.
- Setting up the WLAN status display.
- Turning the 8585 on and off together with the vehicle ignition (automatic switch-off).

Figure 3.1 Psion Config Program Menu

Note: You can find detailed configuration information in Appendix A: "Psion Config Program" .

3.3 WLAN Settings

The settings and access data form must be defined for radio networks like WLAN depending on the optional equipment and intended use of the 8585.

Warning: ***Please pay attention to all basic safety guidelines for WLAN, especially "RTTE Directive 1999/5/EC" on page 11 and "FCC User Information" on page 11.***

3.3.1 Radio Performance

Warning: ***Do not exceed the maximum permissible transmitting power which is specified by each separate country. 8585 users must verify this themselves.***

Please keep in mind the configuration for the transmitting power:

- Wireless card (programmed driver capacity).
- Connecting cables.
- Antenna gain.

Help table for the correct setting:

Translation between mW and dBm																						
dBm	-1	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
mW	1	2	3	4	5	6	8	10	12	15	20	25	30	40	50	60	80	100	125	150	200	250

3.3.2 Psion Antenna Solutions for Use in Germany

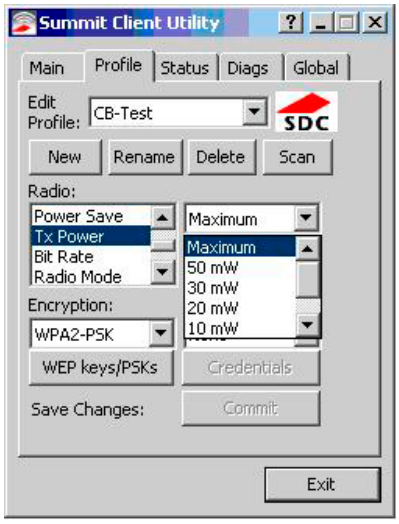
The integrated Psion antenna solutions are based on the prevailing IEEE 802.11 standard. This standard allows wireless data transfer at rates from 1 Mbps to 54 Mbps using the 2.4 GHz and 5 GHz frequency band (300 Mbps if using IEEE 802.11n).

Warning: ***In Germany according to regulations published in the gazette 89/2003 of the RegTP (regulating body for telecommunications and mail), now: "Bundesnetzagentur" - Federal network agency for electricity, gas, telecommunications, post and railway - the maximum permissible transmitting power, EIRP (equivalent isotropically radiated power), in the 2.4 GHz frequency band is set at 20 dBm.***

The transmitting power of the integrated Psion antenna (Psion 3 dBi) must be set to 50 mW (17 dBm) so that the EIRP limit value is adhered to when using the antenna.

Example configuration of the transmission power using the Summit Client Utility program (you can find more information about this program on the following pages):

Figure 3.2 Configuring the antenna transmitting power with SCU (example)



3.3.3 Summit Client Utility for WLAN Configuration

The Summit Client Utility (called "SCU" below) is used to set up the WLAN configuration for the 8585.

Warning: ***WLAN configurations may only be modified by qualified IT technical staff.***

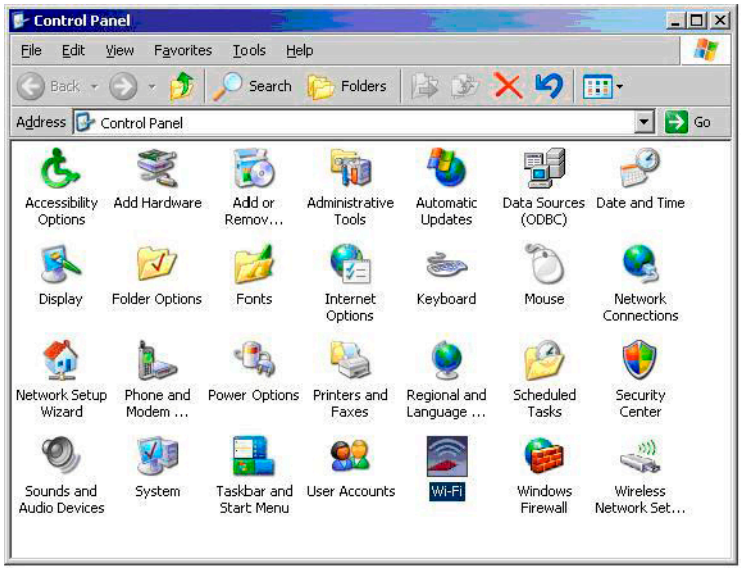
Start the SCU with a double tap on the **SCU** icon on the desktop:

Figure 3.3 Summit Client Utility icon

Alternatively, you can also start the SCU with one of the following procedures:

- From the *Start* menu: *Start›Programs›Summit›Summit Client Utility*.
- Or from the *Wi-Fi icon* on the Control Panel, which you can reach from *Start›Settings›Control Panel*:

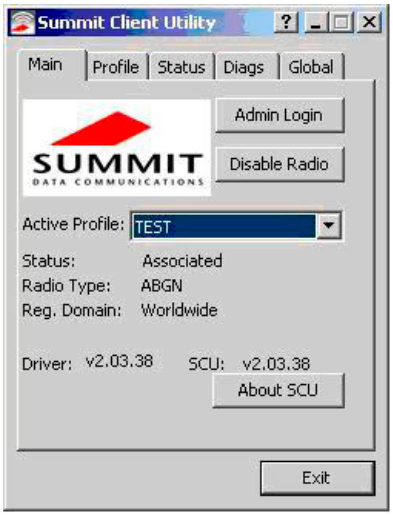
Figure 3.4 Wi-Fi icon in Control Panel



3.3.3.1 Password SCU

Depending on the configuration, it may be necessary to enter a password.

Figure 3.5 Summit Client Utility menu



1. To do so, click the **Admin Login** button. An input field appears for the password.

Figure 3.6 Summit Client Utility password input

The standard password is: **SUMMIT** (must be entered in capital letters!) You can find details about the configuration parameters in the **SCU** online help at:

http://www.summitdatacom.com/Documents/summit_users_guide_3_03.html

3.4 Protecting the TFT Display from the Memory Effect

The TFT display of the 8585 has to be protected from the burning in of a motionless image. An image that has remained motionless for too long can cause irreversible damage to the display. With TFT displays there no cathode rays burning in an afterimage as in old TV sets or monitors, but TFT displays still have a "memory effect". This is because with a still image the liquid crystal molecules align themselves in a certain way and become inert if they are not moved. Like burning in the effect is irreversible, but can be avoided by regularly turning off the display or by using a screensaver with changing content.

Define in the *power management centre* of the utilized operating system that the displays of the 8585 should be turned off when no user input occurs.

A motionless image can stay on the display for a maximum of 12 hours. After more than 12 hours there is the risk of the memory effect.

3.5 Connectors

3.5.1 Overview of External Connectors

Figure 3.7 Connectors overview

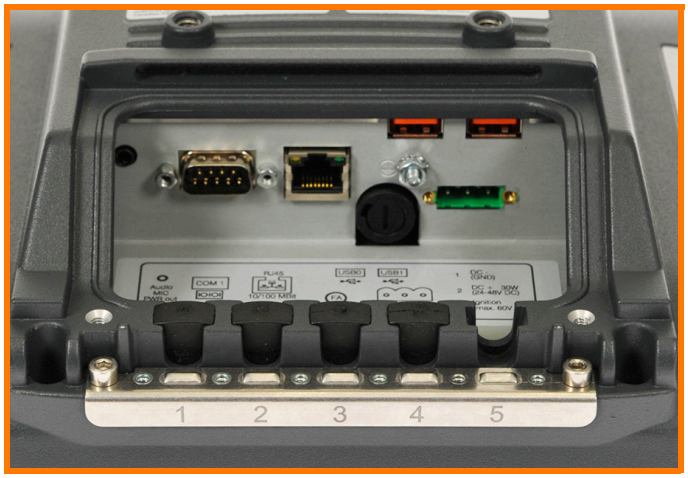
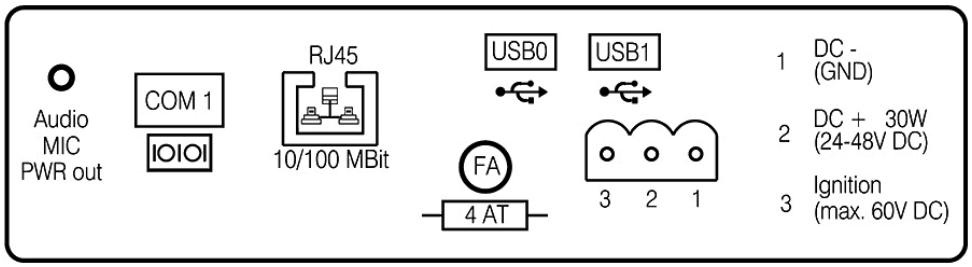


Figure 3.8 External connectors detailed view (example 24/48 VDC)



3.5.2 Adaptor Cables

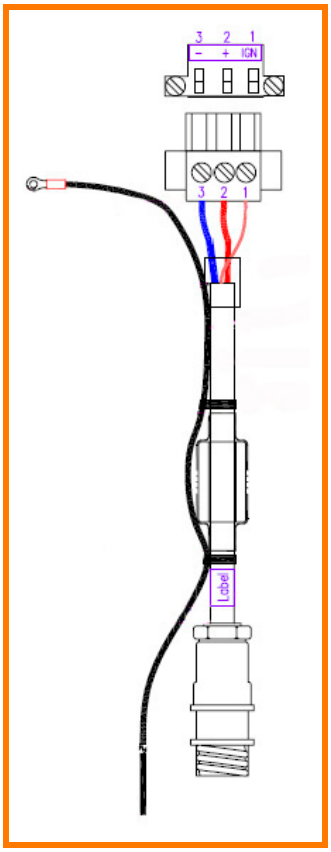
Two types of adaptor cables are available for use with the 8585/8595. An extension power cable (PN 13985-301) is available as an accessory. The power extension cable is connected to the vehicle on one side and the adaptor cable on the other side. All cables can be used with every voltage. Psion offers an 'ignition' and a 'screen blanking' (display-off) adaptor cable. The external wire of the adapter cable must be connected to the ground lug of the terminal and to the vehicle chassis.

Note: Refer to "Wiring Vehicle Power to the 8585/8595" on page 28 for details about 'ignition' and 'screen blanking' installation instructions.

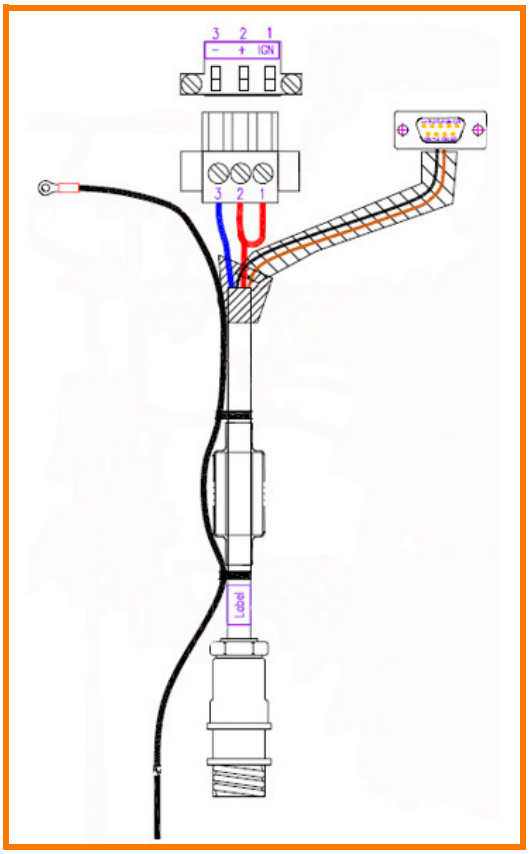
If you require Pre-Regulator or UPS installation instructions, please contact Psion personnel for assistance.

The 'ignition' adaptor cable is connected to the power input of the 8585/8595 only; the 'screen blanking' cable must be connected to the power input and COM1. If you require both the 'screen blanking and the 'ignition' options, you will need to contact Psion personnel for assistance.

Figure 3.9 Adaptor Cable Options



Ignition Adaptor Cable
PN 1616302-001

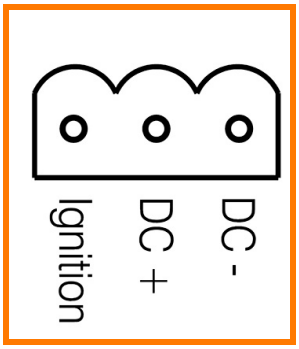


Screen Blanking Adaptor Cable
PN 1616303-001

3.5.3 DC Voltage Supply Connector

Version: Phoenix Combicon, 3-pin.

Figure 3.10 External view of the DC power supply connector



Explanation:

'Ignition on' means that a control signal has to be routed to this connection (e.g., ignition of a vehicle), that matches the supply voltage level and is able to supply at least 1 W to the 8585.

The signal reference is DC–.

3.6 Connecting External Devices

The 8585 must be disconnected from the power supply:

- Before external devices (e.g., scanner, keyboard) are connected or disconnected, and
- Before the 8585 can be connected to a network.

All connections and interfaces on the 8585 are located on the underside of the unit.

Caution: Property Damage ***Make sure that external peripheral devices with their own power supply are switched on at the same time as the 8585 or after you start the 8585. If this is not possible, please ensure that the 8585 is adequately protected from power leakage caused by an external device.***

Only power up the 8585 when all devices have been connected and the 8585 has been closed correctly (remember the cable cover!). Otherwise, you may damage the 8585.

3.7 Powering Up the 8585

Only power up the 8585 after connecting all of the devices.

The 8585 is powered up by connecting it to an appropriate power supply and then, depending on the version of the device, either using the [Power] key or the ignition signal.

You have to hold the [Power] key down for a short time.

Caution: Property Damage ***Make sure there is a suitable disconnecting device such as a power switch or circuit breaker in the power supply circuit.***

Figure 3.11 8585 Power key

3.8 Powering Down the 8585

Always shut down the 8585 as follows:

1. Power down the device using the ignition input or the [Power] key.
2. Remove the cable cover.
3. Disconnect the device from the DC supply voltage (pull the plug).

4 INSTALLING THE COMPUTER

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4.1 Overview

The 8585 can be installed in a variety of ways:

- It can be positioned horizontally on a desk or mounted on a steering wheel and vehicle console.
- Wall mounts are also available for mounting the unit on machines and operating panels.
- Roof mounting is also possible, for example under the vehicle roof.

Depending on the vibration resistance and pivoting demands, mounting brackets, clamp foots or RAM mount elements can also be used to attach the device. Please contact your Psion sales office to find out more about the whole range of installation options on offer.

Warning: ***The unit could fall during transit or installation/mounting and cause injury. Always ensure that there are two people available when installing or removing the device.***

4.2 Follow and Retain the Mounting Instructions

Please follow the mounting instructions included with assembly kit when installing your 8585. Please make sure that you retain the instructions.

Pay careful attention to Chapter 2: "Approvals and Basic Safety Guidelines".

4.3 Mechanical Dynamic Loading

Since the 8585 is a weighted structure, it is invariable that the unit will be subject to mechanical dynamic effects. Therefore optimizing the mounting is necessary.

4.4 Cooling Through the Supply of Fresh Air

The 8585 employs a passive cooling concept whereby the waste heat generated inside the device is emitted from the surface of the housing. For this system to function properly, sufficient fresh air circulation is required.

Never install the system in a closed environment where the cooling air is unable to dissipate accumulated heat to the outside.

Caution: Property Damage ***If the 8585 does not have access to fresh cooling air, it may result in overheating and severe damage to the unit. The maximum permissible ambient temperature for the entire system needs to be taken into account for the concrete application area.***

4.5 Power Supply

The 8585 is equipped with a galvanically separated, integrated DC power supply.

Power is connected to the underside of the unit using a Phoenix Contact plug. There is no power switch.

Caution: Property Damage ***The 8585 must only be connected to a SELV circuit.****

Ensure that there is a suitable disconnecting device such as a power switch or circuit breaker in the power supply circuit. Ensure that the disconnecting device isolates all supply voltage lines.

The DC+ connecting cable must be protected by a fuse (30 AT max.).

The ignition connecting cable must be protected by a fuse of the following type: 5x20 mm T 125 mA L / 250 V, for example, a Wickmann 195-125 mA / 250 V.

** The SELV circuit is a secondary circuit that is designed and protected so that its voltages will not exceed a safe value both when operating correctly or if a single error occurs.*

Warning: ***Use the connecting cables supplied by Psion to connect the 8585 to the power supply.***

Make sure that the connecting cables are laid without kinks and are protected.

4.6 Vehicle Applications (such as forklifts)

4.6.1 Electrical Installation

Pay special attention to the various electrical potentials when installing the unit on a vehicle (such as a forklift).

In the 8585, the logic ground and the shield ground are firmly linked.

The "logic ground" is the earth line (GND) for all of the internal electrical components, such as the display and the CPU.

The cable shielding and the housing are connected to the "shield ground".

Caution: Property Damage

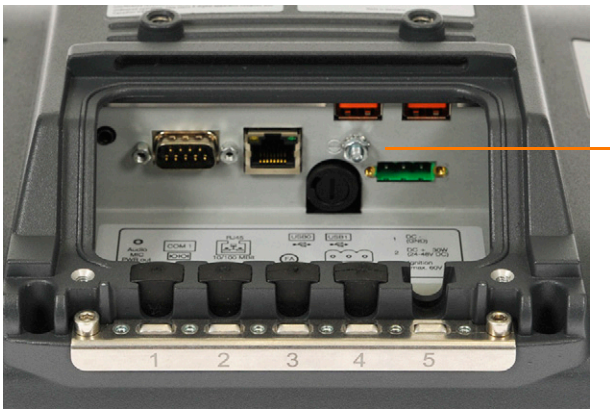
Pay attention to the following warnings!

Some forklifts have a chassis that is connected to DC+. Therefore, the 8585 chassis is also connected to DC+. However, if you use peripheral devices that supply DC- to the 8585 via an interconnector (such as a DC- serial port), this will cause a short circuit. This will inevitably lead to malfunctions or even a total system failure.

Always attach the ring tongue on the white supply voltage cable to the ground bolt situated on the connector bay.

Most electrically-driven forklift vehicles have floating chassis, connected to neither DC+ or DC-. However, electrical faults can cause the battery + or - to be connected to the chassis via low resistance paths. All connected peripherals must be completely isolated.

Figure 4.1 Position of the ground bolt



- The other end of the white supply voltage cable should be connected to the vehicle's chassis.
- Make sure that the 8585's connecting cable is attached as close to the battery as possible. Connecting the 8585 to large electrical loads, such as converters for the forklift motor may result in random restarts, malfunctions and/or irreparable damage to the device.
- If you want to connect devices fed by other power sources to the 8585, such as printers and so on, be sure to power up the peripheral devices at the same time or after the 8585. Otherwise, you may encounter start-up problems, malfunctions or even irreparable damage to the device.

4.6.1.1 Wiring Vehicle Power to the 8585/8595

Warning: ***Applying a voltage above the input voltage rating or reversing polarity may result in permanent damage to the 8585/8595 and will void the product warranty.***

A 1.8 meter (6 ft.) extension power cable (PN 13985-301) is available which should be used to wire the 8585/8595 to the truck battery. This cable needs to be ordered separately. This cable should be wired to a filtered, fused (maximum 10A) accessory supply on the vehicle. On negative chassis vehicles, the positive lead should be fused. On positive chassis vehicles, the negative lead should be fused. On floating chassis vehicles, the positive and negative leads must be fused. Any additional wiring (minimum 18 gauge), connectors or disconnects used should be rated for at least 90 VDC, 10 A.

When connecting PN 13985-301, ensure that the screen blanking wires (clearly labelled) and the power wires (red/black leads) are reliably secured away from each other, or are separated with reliably secured certified insulation. Minimum 2.8 mm distance, or 0.4mm distance through insulation is required for the separation.

The red lead of the power cable attaches to the positive vehicle supply. The black lead connects to the negative supply – this should be connected to a proper terminal block and not to the vehicle body. The external wire of the power adapter cable is connected to the ground lug of the 8585/8595 terminal connector bay and to the vehicle chassis.

You have the option of connecting power before or after the 'key' switch. The 8585/8595 should not be shut off by simply removing the power. If it is wired after the key switch, the operator must shut down the 8585/8595 using the Windows shutdown procedure before turning off the vehicle. If it is wired before the key switch, then to avoid excessive drain on the vehicle battery, either the operator should shut it down when the vehicle is to be left off for an extended period, or the ignition cable shutdown wire should be connected and the 8585/8595 configured to shutdown automatically.

If an unfused power source must be used, a fuse assembly (PN 19440-300) and diode/choke assembly (PN 30723-301A) must be added to the extension power cable (the fuse, diode/choke and instructions are supplied with the cable). Use only a 10A slow blow UL approved fuse in the fuse assembly. The fuse assembly must be located as close as practical to the DC supply, and shall connect to either the positive, or negative side of the DC supply, depending on the chassis grounding scheme. For floating chassis vehicles, an additional 10 A slow blow UL approved fuse (fuse assembly PN 19440-300) should be installed on both power supply lines.

To safely wire power to the 8585/8595, review these guidelines and follow the instructions that apply to your needs:

- When connecting the cable (PN 13985-301) to the screen blanking cable (PN 1616303-001), the wire pair on the 13985-301 labelled "screen blanking" connect to the screen blanking control device, which must provide an isolated relay closure across the pair.
- When connecting the cable (PN 13985-301) to the ignition cable (PN 1616302-001), the wire pair labelled "screen blanking" on the 13985-301 has a different function; the red wire must connect to a DC+ voltage source switched on by the ignition, while the black wire may connect to DC- or be taped off.
- Note that only the ignition function is supported by the UPS (models PS1110/PS1120), not the screen blanking. If both screen blanking and ignition are to be used on the same 8585/8595, contact Psion for details.

Contact Psion for details about the Pre-regulator, model number PS1320 and the Interrupted Power Supply (UPS), model numbers PS1110 and PS1120 (freezer unit).

4.6.2 Position of the 8585 in the Vehicle

In the vehicle, the driver's field of view must be kept free.

If a keyboard and scanner are installed on the 8585, please plan sufficient space.

No part of the 8585 system may project beyond the vehicle.

4.6.3 Overview of the Assembly Steps

Before fastening the 8585 to the vehicle:

- The shutdown automation must be configured.
- The forklift must be prepared (connection to ignition, correct voltage, etc.).

We recommend the following installation sequence:

1. Fasten the bracket to the vehicle.
2. Install 8585 to the bracket.

4.7 Cable Cover (splash guard)

Caution: Property Damage ***For safety reasons, the supplied cable cover for the external ports must be installed prior to using the 8585.***

Protection class

In order to comply with the certified protection class, please use the assembly kit included with the 8585.

Please observe the installation instructions included with this assembly kit.

4.8 Strain Relief

After the 8585 and bracket are fastened:

- Prepare the strain relief.
- Install the cables loosely on the strain relief rail.
- As far as possible, route cables leading to or away from the unit next to one another without crossing.

Completing:

- Fasten the cables to the strain relief rail.
- Be sure that the cables are fastened precisely at the positions at which the cable openings in the cable cover are located.

4.9 Minimum Distance to WLAN Antenna

Caution: ***In order to avoid exceeding the limits determined by the FCC for exposure to radio waves, you (and other people in your vicinity) should maintain a minimum distance of 20 cm from the antenna integrated into the computer.***

Please note this when mounting Psion industry computers with WLAN antennas.

4.10 Antenna Cap and Service USB Interface

Under the antenna cap (protective cap) of the 8585, there is a Service USB interface.

Figure 4.2 Antenna cap 8585

To access this Service USB interface, you need to remove the antenna cap from the unit.

Caution: Property Damage

Incorrect or improper removal and fastening of the antenna cap can impair the function of the entire 8585 system. These actions, or if the 8585 is operated with the antenna cap/service USB interface open for a longer period of time than required for service tasks, will invalidate any warranty provided by Psion Inc.

The service USB interface may only be used for maintenance purposes, e.g. to load software updates.

The antenna cap/service USB interface may only remain open for the duration of the service work. It may only be opened and closed by qualified technical personnel.

No objects or fluids may be introduced into the 8585 while the antenna cap and the USB interface are open.

Only when the antenna cap/service USB interface is properly closed again may operation be resumed; protection class is then ensured again.

Figure 4.3 Service USB under the antenna cap

Do not pull the antenna connection cable too far out of the unit, catch it, or cut it.

Unfasten antenna cap from unit and refasten it:

1. Unscrew the two screws from the antenna cap with an Allen key (size 3 mm).
2. Lift the antenna cap carefully to avoid pulling on the antenna connection cables (max. 2 to 3 cm).
3. Holding the antenna cap, making sure that no pulling tension is exerted on the antenna connection cables.
4. The Service USB interface is now accessible.

Caution: ***One end of the antenna connection cables is attached to the antenna cap, the other end to the internal WLAN unit of the 8585. The cables must not be pulled out of the 8585 too far and become detached from the WLAN unit! This might damage the WLAN unit or other components of the device.***

5. Place the antenna cap back onto the 8585.

Caution: ***Take care not to trap the antenna connection cables when doing this.***

The antenna cap seal must not be damaged; it must be seated correctly in the groove.

6. Reinsert and tighten the two screws of the antenna cap (1 Nm torque).

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5.1 Touchscreen

The 8585 is equipped with a resistive touchscreen.

Caution: Property Damage

Keep the panel surface clean.

Prevent any kind of adhesive from being applied to the surface.

Avoid high voltage and/or static charge.

Touchscreens may not be operated with ball-point pens or writing utensils, tools of any kind (e.g. screwdrivers) or with sharp objects (knives, scalpels, etc).

Touch the panel with your finger or stylus only to ensure normal operation. Any sharp-edged or hard objects are prohibited.

Operate the panel in a stable environment. Abrupt variation on temperature and humidity may cause malfunction of the panel.

Avoid applying excessive activation force or sudden impact on the panel surface.

5.1.1 Construction Type and Resistance

- 5-wire touch sensor using analog-resistive touch technology.
- Construction: Film-Glass (FG).
- Hardness of surface: 3H (ASTM D3363).
- Resistance: 35 million actuations.

5.1.2 Operation

Operation of the resistive touchscreen is recommended with:

- Clean, dry fingers.
- Clean, dry, soft gloves.
- Suitable touch stylus (plastic or wood, rounded tip).

5.1.3 Cleaning

Use neutral detergent or isopropyl alcohol on a clean soft cloth to clean the panel surface.

Prevent using any kind of chemical solvent, acidic or alkali solution.

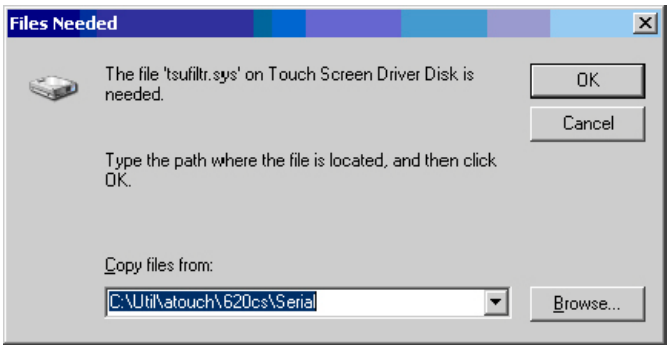
5.1.4 Touch for MS Windows XP Embedded

5.1.4.1 Installation

The touch drivers to be used can be found on the Flash medium under ***Util/atouch/<verNR>***.

1. Open the corresponding folder and run **Setup.exe**.
2. On the *Welcome* dialog click **Next**.
3. In the *Software License Agreement* window select: I accept all of the terms of the above License Agreement and then click **Next**.
4. On the *Select Controller* dialog choose serial **(RS/232)** and click **Next**.
5. On the *Serial Configuration* dialog choose **COM2** and **9600 Baud** and click **Next**.
6. Deselect the option on the *Configuration Complete* dialog and close by clicking **Finish**.
7. Two *Files Needed* windows will appear querying the path to the ***tsufiltr.sys*** file (see Figure 5.1).
8. Select **Browse** to navigate to the installation folder indicated above, then choose the *Serial* folder and click **OK**.

Figure 5.1 *Files Needed* touch installation dialog



9. Confirm the final message *Setup is now complete* by clicking **OK**.

The computer does not need to be restarted.

5.1.5 Calibration

The touchscreen must be calibrated so that it functions correctly.

1. Start the touch configuration tool under *Start/Programs/Hampshire TSHARC Control Panel*.
2. Select the *Calibration* tab and click the **Touch** field.
3. Once calibration is complete, finish by clicking **Accept**.
4. Select the **Click Settings** tab and select **Enable right click emulatio**n and enter the following values:
   Right-Click Area + Double-Click Area each to 13;
   Right-Click Delay + Double-Click Delay each to the third line.
5. Exit the tool with **OK**.

5.2 Front Keys and LEDs

The 8585 has the following front keys and LEDs:

Figure 5.2 8585 front keys and LEDs

5.2.1 Power Key

If you want to start the 8585 using the [Power] key:

- You must hold the [Power] key down for a short time.

5.2.2 Manual Brightness Control

Manual brightness control: brighter

Manual brightness control: darker

5.2.3 LEDs

Temp (red) LED indicates an excessively high or low temperature inside the unit.
Activity (green) LED indicates access of the flash drive.
Power (green) LED indicates an available internal power supply.

5.2.4 Special Keys

Special keys [S1] to [S8]

The special keys can be configured with the *Psion Config* program (select the *Front keys* menu).

5.2.5 Shift Key

Switch the keys [S1], [S2], [S3] and [S4] to [S5], [S6], [S7] and [S8].
The lucent LED indicates an activated [Shift] key.

5.3 Operating States

The following are the 8585 operating states.

Table 5.1

Status of Internal LEDs		8585 Status
Power (green)	**Temp (red)**	
OFF	OFF	Initial state, idle time - waiting for a new ignition signal after switch-off; no power supply
OFF	FLASHING	Temperature sensor malfunctioning
FLASHING	OFF	8585 is in stand by mode (S3).
OFF	ON	The computer will not start until the temperature inside the unit returns to between -30 °C and +62 °C.
ON	OFF	Computer is starting up; normal operational state; shutdown delay time is running

Table 5.1

Status of Internal LEDs		8585 Status
ON	ON	Temp. < -30 °C or Temp. > 70 °C
ON	FLASHING	Temperature sensor malfunctioning; automatic switch-off software configuration

5.4 Operating System

5.4.1 Pre-installed on Flash

When an 8585 with a pre-installed operating system is started, the operating system is loaded following the BIOS boot messages.

System-specific device drivers—such as those for graphic, sound, network and touchscreens—are also pre-installed.

In 8585 units with a pre-installed operating system, the system is located on the C partition.

5.4.2 Installing on Flash

When an 8585 is started up for the first time without a pre-installed operating system, the user needs to carry out a number of steps that will vary depending on the system to be installed. Refer to the relevant operating system manual for specific instructions.

Caution: Property Damage ***The installation and configuration of the operating system should only be carried out by professionals familiar with the system environment.***

5.4.3 Special Features of the Operating Systems

If the 8585 is running MS Windows XP Embedded, not all USB devices will be supported.

5.5 Serial Port

The 8585 is equipped with an externally accessible serial interface COM1.

Resources for the serial port are pre-defined in the system architecture and automatically managed by the BIOS.

5.5.1 COM1 as a Power Supply

The COM1 port can optionally supply externally connected equipment with +5 V of power.

The voltages are protected by internal fuses which limit the total consumed current to 1.1 A at 5 V.

Depending on the specific system configuration, the maximum current consumption may be significantly lower.

5.5.2 Serial Port Printers

Printers with a serial port can be connected to the 8585.

5.5.3 Serial Port Bar Code Scanners

To activate the integrated scanner software wedge under MS Windows XP Embedded:

1. Open the Start menu and navigate to *Settings›Control Panel›Accessibility*.
2. Select the **General** tab.
3. Select **Support accessibility options**.
4. Click **Settings**.
5. Configure the desired **COM1 port** and **BAUD rate**.
6. Confirm the change with **OK**.

7. Click **OK** again for the changes to take effect.

Caution: Property Damage ***Please note that you have to configure the scanner correctly to RS-232 and the above set BAUD rate following the scanner manufacturer's guidelines. Otherwise the software wedge will not function properly.***

5.5.4 Tips and Tricks

Note that according to the EIA-232-E specification, the maximum cable length is 15 m at 19,200 bps.

By using a correctly terminated twisted-pair cable, however, up to 1,200 m at 100 kbps can be achieved according to the EIA-422-A specification. With a data rate of 1 Mbps and a high-quality cable, it is possible to reach cable lengths of up to approximately 400 m.

Malfunctions in the RS-232 connections are frequently caused by ground loops. If both end devices establish a ground connection via RS-232 but do not share the same ground potential in their power supply circuits, then compensation currents may result. This is particularly noticeable with long cables.

These compensation currents, which are also present at the ground point of the RS-232 connection, may significantly degrade signal quality and effectively stop the data flow. In challenging environments, electrically-isolated connections (via external converters) or differential systems (RS-422/485 port) are strongly recommended.

5.6 Internal Devices

5.6.1 Chipset

The 8585 computer is equipped with a chipset which controls the communication between all function modules.

The chipset converts the signals it receives from the CPU into memory access, flash access and other similar actions. Likewise, it transmits requests from peripheral devices to the CPU. Input devices such as the mouse or keyboard also communicate with the system via this chipset.

5.6.2 VGA Adaptor

The 8585 is equipped with a VGA-compatible adaptor. This adaptor controls the integrated display.

5.6.3 Onboard Sound Controller

The 8585 is equipped with an onboard sound controller.

This controls the audio output via the internal speaker, or the optional Speaker/Mic with push-to-talk function (Model Number M1000).

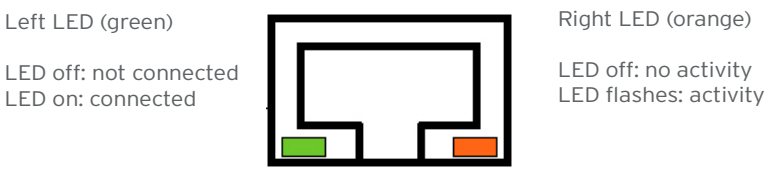
5.6.4 Network Adaptor (10/100/1000)

The 8585 is equipped with a 10/100 Mbit network adaptor. This adaptor features an RJ45 port.

The network controller undertakes the entire task of connecting the hardware to the network.

The RJ45 connection port features two integrated status LEDs. They display the following messages:

Figure 5.3 RJ45 network port



5.6.4.1 Problems with Data Transmission via LAN/Ethernet

If problems occur during data transmission over LAN/Ethernet (e.g. data is lost or not detected), the cause of these problems may be a cable which is too long.

Depending on the cable layout and interference from the environment, it may be impossible to use the cable length of 100 m given in the specification (IEEE 802.3 standard).

The solution here is the use of a shorter cable.

5.6.5 Automatic Switch-off

The 8585 is equipped with an automatic switch-off module.

5.6.5.1 Modes of Operation

If wired up accordingly, the 8585 conveniently switches off together with the vehicle's ignition.

As disconnecting the power supply during operation can lead to data loss, the operating system needs to be shut down normally using the appropriate hardware and software installed on the system when the ignition is switched off.

The 8585 is connected to the vehicle with three supply cables. DC+ and DC– are directly connected to the power supply of the vehicle, the connection is run through fuses. Therefore make sure that the cables are connected directly to the battery and not to high-interference supply lines (for example, motor supply) or to supply lines already used by other consumers.

The supply voltage connected is then linked to the 8585's ignition input via a switch, for example, the key switch of the ignition (also with a fuse).

5.6.5.2 Automatic Switch-off Process

When the ignition is switched on, the 8585 is supplied with power and begins checking its internal temperature and automatic switch-off function.

Once the ambient conditions have been verified as acceptable, the 8585 starts the operating system just like normal.

During the first three minutes of the start-up phase, none of the ambient conditions, such as the internal temperature or the *Ignition* input status, are checked. This allows the operating system and the operating software for the automatic switch-off module to fully load without interruption.

Following this three-minute period, the internal temperature of the unit and the status of the *Ignition* input are checked continuously.

If the inner temperature of the 8585 reaches a critical range, the operating system is shut down normally and the computer remains switched off until the temperature is back in the permitted range.

If the *Ignition* input is switched to earth potential or a potential-free source during normal operation, the unit switches to shutdown delay time.

In this state, the device continues to operate normally until the delay time (for example, 15 minutes) has elapsed.

- If the ignition is triggered again during this time, the 8585 resumes normal operation.
- If, however, the delay time elapses, the operating system is shut down normally by the Psion operating software and the unit is automatically switched off (for example, after three minutes, or after a signal from the operating software).

5.6.5.3 Configuration with Psion Config Program

The *Psion Config* program must be installed for the automatic switch-off module to function correctly.

If the *Psion Config* has not been started, the 8585 will carry out a hard shutdown once the delay time and shutdown time set by the hardware (e.g. via MPCCOM.EXE) has elapsed. In this case, the operating system is not shut down normally before the power is switched off. The current application is unable to save its data, and the file system becomes increasingly unstable and inconsistent.

If the *Psion Config* has been started, the program can recognize when the operating system needs to be shut down. Firstly, the Windows message ***WM_QUERYENDSESSION*** is sent to all running applications to inform them of the impending shutdown.

Now every application has to respond within the time that is set in the registry (see the "Automatic Switch-off Configuration Dialog" on page A-8). If a response is not sent in the specified time, the application is forced to quit.

If there are any open programs with unsaved changes, it may not be possible to automatically quit them (for example, an unsaved document in WORDPAD.EXE, a program supplied with Windows). In this case WORDPAD.EXE responds to the Windows message ***WM_QUERYENDSESSION*** with a user query to confirm if the current file is to be saved. Applications that can be quit with the key combination [ALT] and [F4] (that is, without a final user query) generally send the required response to the ***WM_QUERYENDSESSION*** message and are not shutdown "hard".

To ensure that vital data is always saved correctly, applications need to be able to properly respond to the ***WM_QUERYENDSESSION*** message, that is, without user queries and within the set time period.

Further information on the *Psion Config* program can be found in Appendix A: "Psion Config Program".

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6.1 Keyboard

Any USB keyboard can be connected to the 8585.

6.1.1 SMALL Keyboard

A mountable SMALL keyboard with protection class IP 65 is available for the 8585.

Figure 6.1 SMALL keyboard

6.1.2 24-key Keypad

A 24-key keypad which can be mounted onto the 8585 is available, with a protection class IP 65.

Figure 6.2 24-key keypad

6.2 Scanner Bracket

Scanner brackets are available for the 8585 for current scanners (optional). Scanner brackets can be fastened to the left or right of the unit.

6.3 Mouse

Any USB mouse or any mouse with a RS-232 port can be connected to the 8585.

6.4 USB Stick

You can connect a USB stick to the 8585 with a USB-A connector.

6.5 USB Recovery Stick

With the optional Psion recovery stick, images can be backed up and restored on the 8585 if necessary (backup and recovery). Please consult your Psion sales representative if necessary.

6.6 Scanners

You can connect scanners to either the USB port or the serial port. If connected to COM1, the scanner can be powered through the port (optional, 5 V).

Be sure to only use scanners that have been approved by Psion.

6.7 WLAN Card (PCIe MiniCard)

The WLAN card is integrated into the unit by Psion at the factory (internal PCIe MiniCard slot).

In general, only drivers for WLAN cards approved by Psion can be integrated into operating system images.

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7.1 Maintenance

Warning: ***Danger due to electric shock when cleaning and maintaining the device.***
To avoid electric shock, turn the 8585 off and disconnect it from the power supply before cleaning or maintaining it.

7.1.1 Cleaning the Housing

The housing of the 8585 is best cleaned with a damp cloth.

Do not use compressed air, a high-pressure cleaner or vacuum cleaner, as this can damage the surface.

Using a high-pressure cleaner poses the additional risk of water entering the device and damaging the electronics or display.

7.1.2 Touchscreen Cleaning

Use neutral detergent or isopropyl alcohol on a clean soft cloth to clean the panel surface.

Prevent using any kind of chemical solvent, acidic or alkali solution.

7.2 Troubleshooting

7.2.1 Data Transmission via LAN/Ethernet

If problems occur during data transmission over LAN/Ethernet (e.g. data is lost or not detected), the cause of these problems may be a cable which is too long.

Depending on the cable layout and interference from the environment, it may be impossible to use the cable length of 100 m given in the specification (IEEE 802.3 standard).

The solution here is the use of a shorter cable.

7.3 Common Mistakes in Usage

7.3.1 Power Supply

- Do not connect 8585 computers to an AC power supply.
- Observe correct voltage ranges.

7.3.2 Powering Up/Down

- Please note that the function of the 8585's [Power] key varies depending on how the device is configured.
- Only disconnect the computer from the power supply after the computer has been properly shut down and switched off. Otherwise file errors may occur on the storage device (in operating systems that have no activated write protection filter).

7.3.3 Cable Cover

- The supplied cable cover for the external ports must be installed prior to using the 8585.
- In order to comply with protection class, please use the assembly kit from Psion.

7.3.4 Mounting/Installation

- Only use suitable mounting brackets and screws permitted by Psion.
- Ensure that ball-and-socket bases and fastening arms are securely attached.
- Follow the instructions carefully when attaching all outgoing cables to the strain relief rail.
- The WLAN antenna should not be used as a handle when turning the terminal.
- All fastening brackets and mounting parts supplied by Psion are only intended for use in the mounting of terminals and peripheral devices and may not be used for other purposes.

- When mounting peripheral devices, follow the manufacturer's instructions. This is particularly important when welding or drilling supporting parts.
- To avoid any accidents, make sure your field of vision is not restricted in any way when mounting peripheral devices. Observe all accident prevention regulations.

7.3.5 Mobile Application on Vehicles

- Observe correct voltage ranges.
- Ensure that supply lines are fused correctly.
- Lay the supply cable so that it will not get crushed or frayed.
- Read the labeling on the cable and connect the supply cable with the correct polarity.
- Cut the supply cable as short as possible. This avoids tangled cables and improves the quality of the power supply.
- Observe the vehicle manufacturer's instructions for connecting additional loads, for instance, in conjunction with an emergency shut-off switch.
- Be sure that the connection of the line is as directly as possible to the battery and not to power supply lines with a great deal of interference (e.g. the engine power supply) or otherwise affected by consumers.
- Connect the supply cable to a suitable place. Ensure that the connecting cable has an adequate cross section and ampacity at the connection point.

7.3.6 Using the Touchscreen

- Keep the panel surface clean.
- Prevent any kind of adhesive applied on the surface.
- Avoid high voltage and/or static charge.
- Touchscreens may not be operated with ball-point pens or writing utensils, tools of any kind (e.g. screwdrivers) or with sharp objects (knives, scalpels, etc).
- Touch the panel with your finger or stylus only to assure normal operation. Any sharp edged or hard objects are prohibited.
- Operate the panel in a steady environment. Abrupt variation on temperature and humidity may cause malfunction of the panel.
- Avoid applying excessive activation force or sudden impact on the panel surface.

7.3.7 Cleaning the Touchscreen

- Use neutral detergent or isopropyl alcohol on a clean soft cloth to clean the panel surface.
- Prevent using any kind of chemical solvent, acidic or alkali solution.

7.4 Disposal

The Psion general terms and conditions set out the obligations for disposal in accordance with official electronics regulations.

8 DEVICE DESCRIPTION AND TECHNICAL SPECIFICATIONS

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8.1 General

The 8585 and 8595 Vehicle-Mount Computers are multi-function industry computers designed for stationary and mobile use.

- Due to its rugged design (aluminum housing), the device provides effective protection against mechanical, electrical and chemical influences and extreme ambient temperatures.

Note: The Model 8585 Vehicle-Mount Computer is used as an example throughout the manual, but all specifications, other than dimensions, are also applicable to the Model 8595.

Figure 8.1 The 8585 Vehicle-Mount Computer

8.2 Device Models

The following models of this Vehicle-Mount Computer are available:

- The 8585 with 10.4" display.
- The 8595 with 12.1" display.

8.3 Abbreviations Used for Devices and Accessories

Please note that to save space on the 8585 and supplied accessories, the following abbreviations have been used:

Table 8.1

Abbreviation	Meaning
+	DC+
-	DC-
Ign	Ignition

8.4 Device/Type identification

8.4.1 Device Type Plate

The device type plate on the 8585 contains the following information:

Table 8.2

8585 or 8595	Describes the vehicle-mount computer with a 10" display Describes the vehicle-mount computer with a 12" display
SVGA or XGA	Display resolution
DC	Type of power supply, the following number indicate the exact type of power supply with input voltage
e.g. 24/48V with 2.5 A / 1.2 A	Input voltage of the DC power supply with nominal current
1.1 GHz	Clock rate of the CPU
S/N	12 digit serial number composed of: • Psion specific device code (41 stands for the 8585 model range) • Week of manufacture • Year of manufacture • Six digits for internal Psion identification

8.5 Technical specifications

8.5.1 Mechanical

Table 8.3

Housing	Rugged aluminum-cast housing with integrated heat sink
	Protection class IP 65, IP 66 and IP 67
	ESD safe
	Dimensions/Weight: 10.4" : 285 x 230 x 79.5 mm, approx. 2.8 kg 12.1" : 325 x 258.5 x 79.5 mm, approx. 3.5 kg
Display **8585** **8595**	 10.4" SVGA, 400 cd/m2, resistive 5-wire touchscreen, with brightness adjustment 12.1" XGA, 500 cd/m2, resistive 5-wire touchscreen, with brightness adjustment
Bottom	Cable cover (splash guard)
Top	Antenna for WLAN

8.5.2 Motherboard

Table 8.4

CPU Chipset Cache	CPU and Chipset combinations: Intel® Atom™ processor Z510 1.1 GHz, 400 MHz FSB and 400 MHz memory bus speed, 512 k L2 cache, 45 nm Chipset Intel SCH US15W
RAM	1 GB RAM DDR2-Technology
BIOS	AMIBIOS8® – Flash BIOS with ACPI, PnP Programmable in the system BIOS POST self test
Real-time clock	Real-time clock with a power reserve of up to 5 years.
Mass storage	2 GB Flash media, based on SLC technology (single level cell). Advantages: Longer retention time for the data, longer lifetime (by a factor of 1) and a broader temperature range in comparison with MLC technology (multi-level cell).
Audio	1 combined speaker output and microphone input.
Model No. M1000 Speaker/Mic	Optional Speaker/Mic with push-to-talk function.

8.5.3 Operating System Software

Table 8.5

Software compatibility	MS Windows XP Embedded MS Windows XP Professional

8.5.4 Serial Port

Table 8.6

Serial port	COM1 Max. 115.200 Baud (16550A compatible, 16 byte FIFO), supports RS-232 on an external 9pin D-Sub connection ESD level 4 protected (acc. to EN 61000-4-2) COM1 optionally 5 V

8.5.5 USB-connection, Service USB

Table 8.7

USB connection	1 USB 2.0 service (protected under antenna cap) 2 x USB 2.0 host Properties: • USB 2.0 HiSpeed • Fused at 0.5 A per channel • Fused for ESD level 4 (compliant with EN 61000-4-2). For example for mouse, keyboard, USB stick.

8.5.6 LCD Interface

Table 8.8

VGA Controller	Intel Graphics Media Accelerator 500 (Intel GMA 500), up to 256 MByte frame buffer supporting Direct X 9.0E and Open GL 2.0 Shared Memory architecture Resolution up to 1366 x 768 pixels Up to 24 bit colour depth, depending on which LCD is used Multiple LCDs are supported Drivers available for: • MS Windows XP Professional • MS Windows XP Embedded

8.5.7 Touchscreen Interface

Table 8.9

Analog Touch Controller	12bit touch controller for 4/5/8-wire resistive touchscreens with RS232 interface. Drivers available for: • MS Windows XP Professional • MS Windows XP Embedded

8.5.8 Network Interface

Table 8.10

Network Controller	Ethernet Realtek RTL8111 10/100/1000 MB/s Drivers available for: • MS-DOS 6.2x • MS Windows XP Professional • MS Windows XP Embedded and Linux
Network Connection	RJ45 plug-in connector Integrated transmitter Two integrated status LEDs

8.5.9 Power Supply

The device model is displayed on the device type plate.

Table 8.11

DC Power Pack 12/24 VDC 30 W internal Type DC-11	12/24 VDC nominal Voltage range: 9 to 36 VDC Voltage drops of up to 5 V and up to 20 seconds can be bridged Bridging of power failures of 5 ms at 12 VDC Start voltage at least 9 VDC Galvanically isolated Maximum output: 30 W Withstands bursts up to 2 kV Nominal current of 4.2 / 1.0 A Connection to SELV circuit* only
DC Power Pack 24/48 VDC 30 W internal Type DC-12	24/48 VDC nominal Voltage range: 18 to 60 VDC Voltage drops of up to 5 V and up to 20 seconds can be bridged Bridging of power failures of 5 ms Galvanically isolated Maximum output: 30 W Withstands bursts up to 2 kV Nominal current of 2.5 A / 1.2 A Connection to SELV circuit* only
Power Consumption	8585/10: typically 20 W Standby: typically 1 W (8585/10 with DC power pack in standby mode)

** The SELV circuit is a secondary circuit that is designed and protected so that its voltages will not exceed a safe value both when operating correctly or if a single error occurs.*

8.5.10 Power Supply Fuses

The symbol for the fuse is FA. You will find the exact position on the sticker located on the connection plate.

Table 8.12

Power Supply	Fuse Type	Examples
DC-11	5 x 20 mm T 10 A H / 250 V	Bussman S505-10A Wickmann 181-10A Littelfuse 215 10 Siba 70 007 65 10A Elu 179200 10A or similar devices produced by other manufacturers

Table 8.12

DC-12	5 x 20 mm T 4 A H / 250 V	Bussman S505-4A Wickmann 181-4A Littelfuse 215 04 Siba 70 007 65 4A Elu 179200 4A or similar devices produced by other manufacturers

8.5.11 Ambient Conditions

Table 8.13

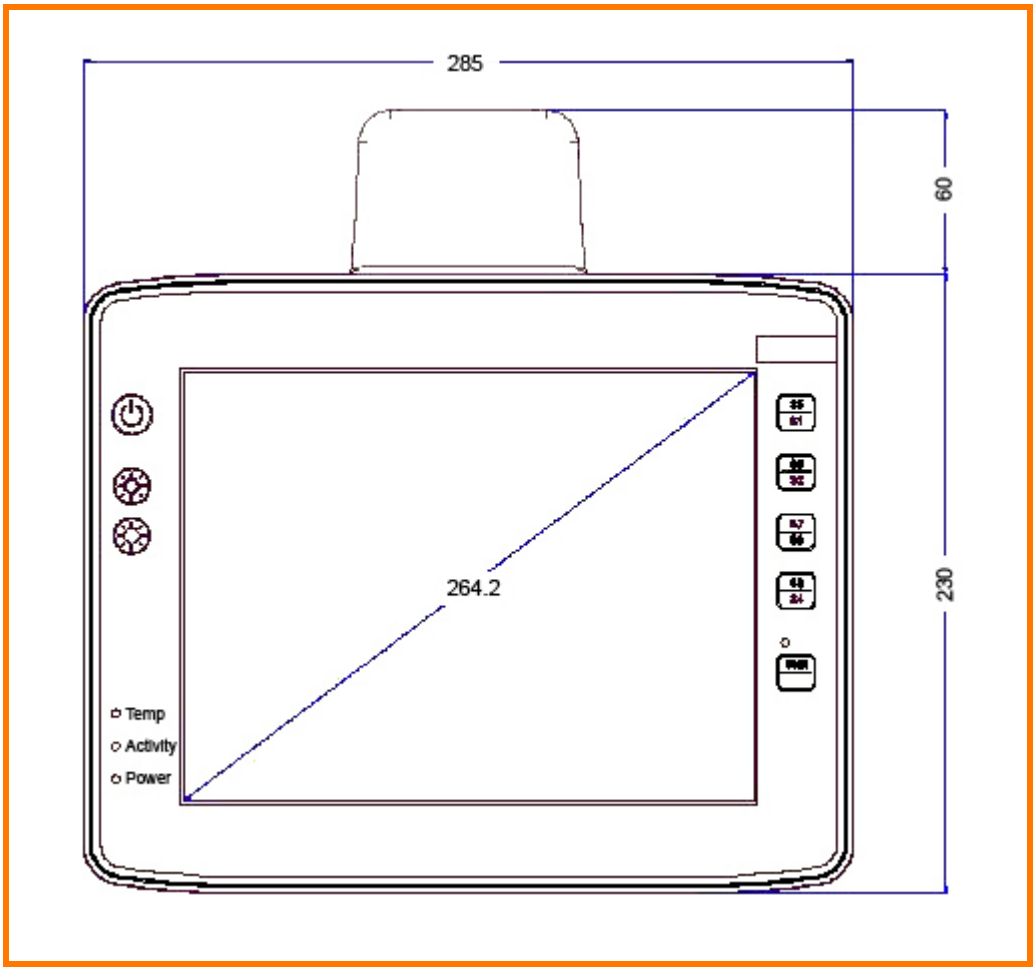
Operating Temperature	-30° to +50° C In accordance with EN 60068-2-1/2
Storage Temperature	-30° to +65 °C In accordance with EN 60068-2-1/2
Relative Humidity	10% to 90% @ 40°C non-condensing In accordance with EN 60068-2-3
Mechanical Vibration And Shock-Resistance	Class 5M3 according to EN 60721-3-5: 1998 (Land vehicles), 5 hrs. noise 3.6 g effective and 36 vibrations with 30 g peaks Or: US Highway Truck according to MIL-STD 810 G: 2000 (Department of Defense), 3 hrs. noise 1 g effective and 600 vibrations 20 g peaks in operation

8.6 Dimensions 8585/10

8.6.1 Front View

Dimensions without add-ons (in mm).

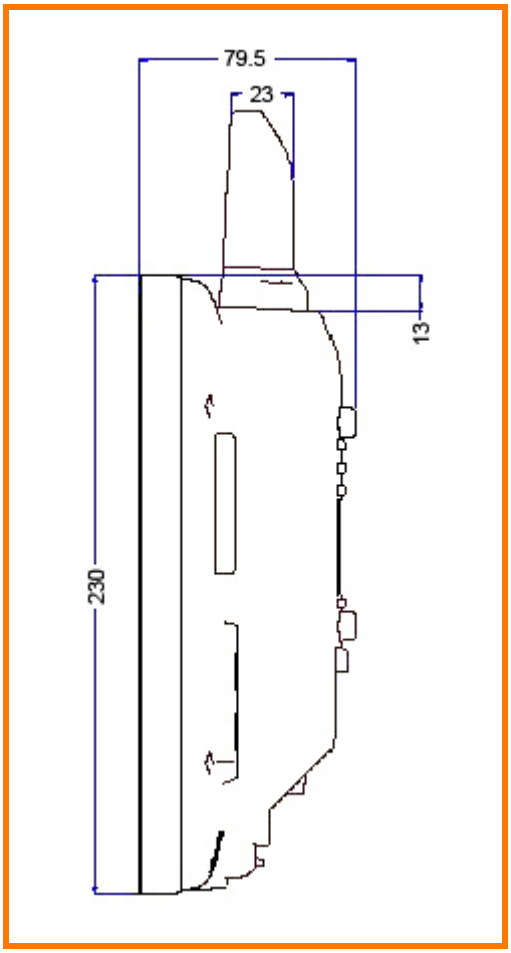
Figure 8.2 Dimensions 8585 front view



8.6.2 Side View

Dimensions without add-ons (in mm).

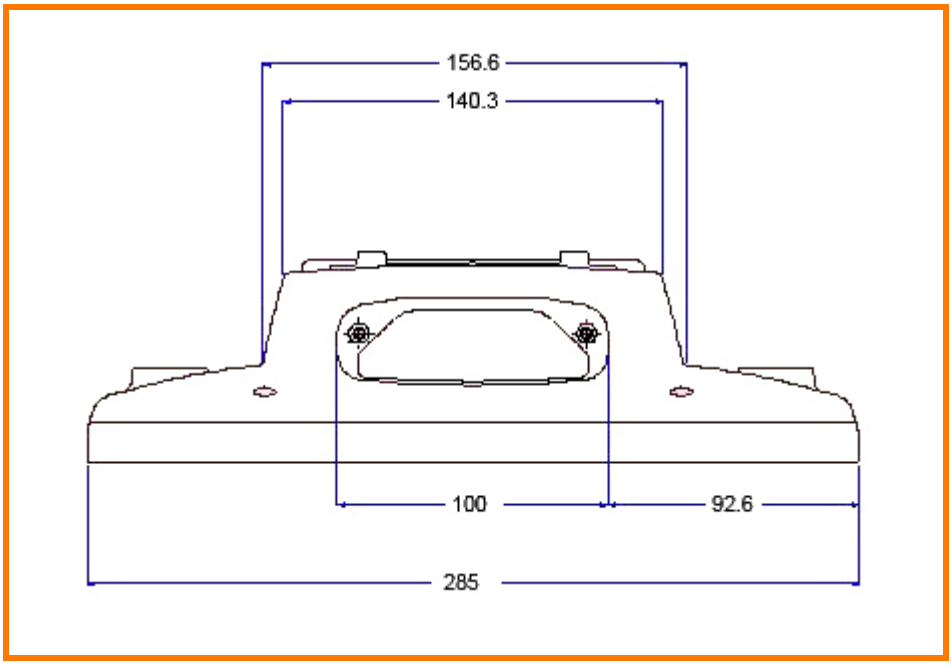
Figure 8.3 Dimensions 8585 side view



8.6.3 Top View

Dimensions without add-ons (in mm).

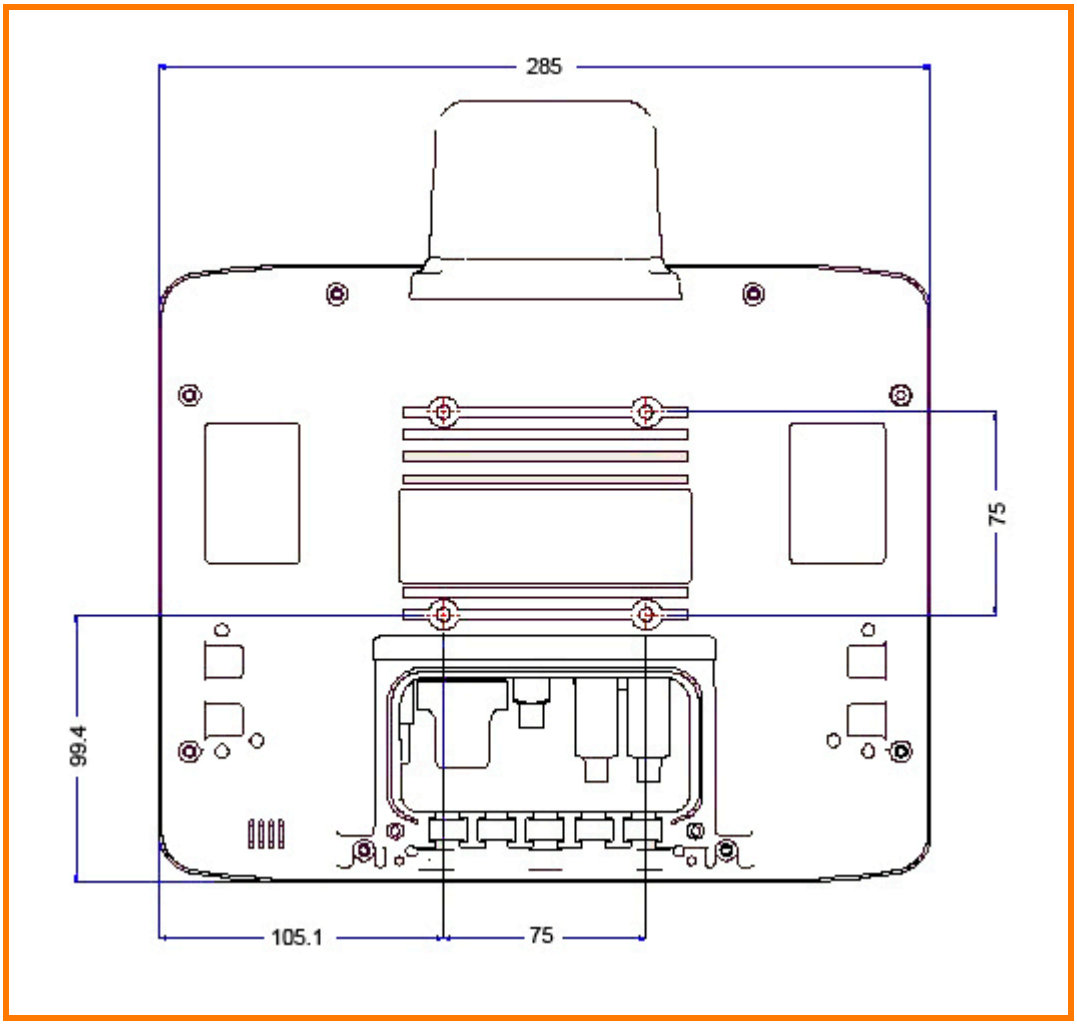
Figure 8.4 Dimensions 8585 top view



8.6.4 VESA Drill Holes

The VESA drill holes on the 8585 are visible on this diagram. Dimensions without add-ons (in mm).

Figure 8.5 Position of the VESA drill holes



8.7 Approvals

Please see "8585 Declaration of Conformity" on page 13 and "8595 Declaration of Conformity" on page 14 for the list of regulatory approvals.

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A.1 Basic Safety Guidelines

Caution: Property Damage

Psion Config contains important settings for your 8585 and 8595. Incorrect settings, such as those in the Automatic Switch-off menu, can disable the functions of your computer. Only qualified technical personnel, e.g. persons qualified in computer/network/system administration may perform Psion Config settings.

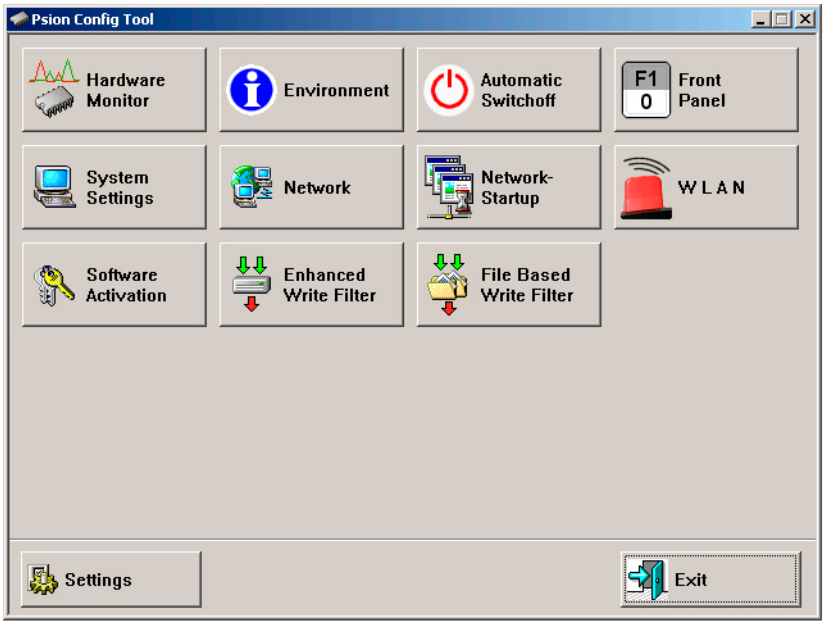
If improper changes of the Psion Config settings are performed by the customer, this releases Psion from all liability for warranty claims.

A.2 Overview of Functions

Note: The Psion Config software automatically recognizes the 8585 type and the installed operating system. The configuration dialog differentiates the various systems and is displayed according to the device.

The functions in overview (operating system example—Windows Embedded Standard 7 (WES 7) with File Based Write Filter in the image):

Figure A.1 Psion Config main menu with operating system WES 7



Windows 2000, XP, and 7 do not work with *File Based Write Filter*. This button is omitted with these operating systems.

Menu	Function
Hardware Monitor	Information display: e.g. serial number of the device and current operating temperature.
Environment	Information display: Statistics and data on the environment controller, such as 'hard' switch-offs.
Automatic Switch-off	Configures the automatic switch-off behaviour (delay time, ignition, etc.).
Front Panel	Defines the assignment of 8585s optional front panel keys.
System Settings	Configures Windows logon, taskbar display etc.

Menu	Function
Network	Manages IP address and DNS server.
Network Startup	Start programs automatically when booting the device.
WLAN	Configuration of the WLAN Status Window.
Software Activation	Activates licenses for automatic switch-off and software keyboard and releases them for use on this computer.
Enhanced Write Filter	Exclusively for MS Windows Embedded operating systems: administers write protection function.
File Based Write Filter	Exclusively for MS Windows Embedded operating systems: administers write protection function.
Settings	Sets password, language and further default settings for the Psion Config program.
Exit	Exit Psion Config program.

A.3 Installation

A.3.1 System Requirements

The following operating systems are supported:

- MS Windows 2000, Service Pack 4
- MS Windows XP
- MS Windows XP Embedded
- MS Windows Embedded Standard 7 (WES 7)

A.3.2 Pre-installed on Psion Computers

In most cases Psion Config is pre-installed on each 8585 and 8595.

A.3.3 Subsequent Installation

An installation program, *Psion config.exe,* is available from the Psion HelpDesk for subsequent installation.

Start the *Psion config.exe* from the directory into which it was installed.

Restart the computer once installation is complete. Psion Config will only be operable following rebooting.

A.3.4 Automatic Installation of Software Keyboard

Psion software keyboard is automatically installed as part of the Psion Config installation. If no license is available for this software, the keyboard will only function for three minutes. It then stops working. For further information about the software keyboard, please refer to the instruction manual of the same name.

A.3.5 Files

The following important files are located in the Psion Config installation directory:

Table A.1 Installation directory files

PsionCfg.exe	Main program for configuration
Config_Local.cfg	Configuration file with Psion Config settings - all local settings that are not saved directly in the hardware are saved here. More information: See "Write WLAN Log File" on page A-20.
PsionKEYBOARD.EXE	Software keyboard main program
KEYBOARD.CFG	The layout and functionality of the software keyboard are set here.

Supported language codes

The following language codes are supported during text file loading. Currently only ENG and GER are available. Other languages can be created as needed (refer to Command line parameters below).

ENG	English	CHS	Chinese
GER	German	KOR	Korean
FRA	French	DNK	Danish
ESP	Spanish	JPN	Japanese
SWE	Swedish	GRC	Greek
ITA	Italian		

Only ASCII files can be loaded at this time. UNICODE is not supported.

Loading language files

Text files for Psion Config are loaded when the program is started. If a text file is not available in the desired language, the system default text (in English) is used for the dialogs.

Command line parameters

The parameter *MAKETEXT* is available to translate software into foreign languages. This means text resources can be exported to **.txt* files. Each time a file is created, a message appears prompting the user to confirm it. Simply add the language code to the end of this newly generated text file. For example, *PsionCfg_.txt* would then be *PsionCfg_ENG.txt* if it contained the English text. During text file generation, files with the same name are automatically overwritten. English is the system default language. It does not need to exist as a text file. The program terminates once the text files have been generated.

A.3.6 Starting the Program

Start Psion Config via the Windows *Programs* menu under *Start*.

A.3.6.1 Password Check

If a password was entered in the Psion Config *Settings* menu, this will be requested when starting the program. The password is case-sensitive; the program terminates after three incorrect entries.

The default password ex works is **gold**. Please change this in the *Settings* menu to suit your requirements.

A.3.6.2 Accessing Config with WES 7

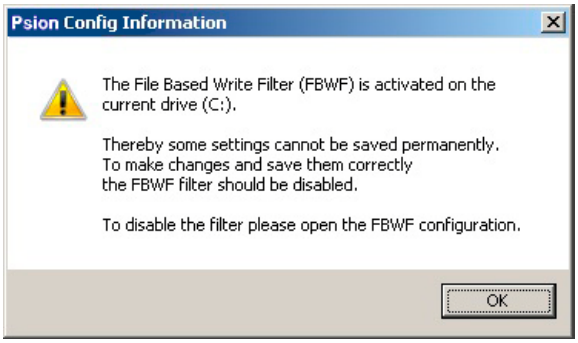
As of software version 3.10, there are two different ways to access Psion Config from the *Start* menu in WES 7 based on User Account Control (UAC).

Read only	start program, read-only access
Run as Administrator	start program, full write access

A.3.6.3 FBWF Advice at the Start of the Program

If the hard drive on which the config files are saved is enabled for *FBWF*, the following message appears at the Psion Config start-up:

Figure A.2 Psion Config information: FBWF is activated



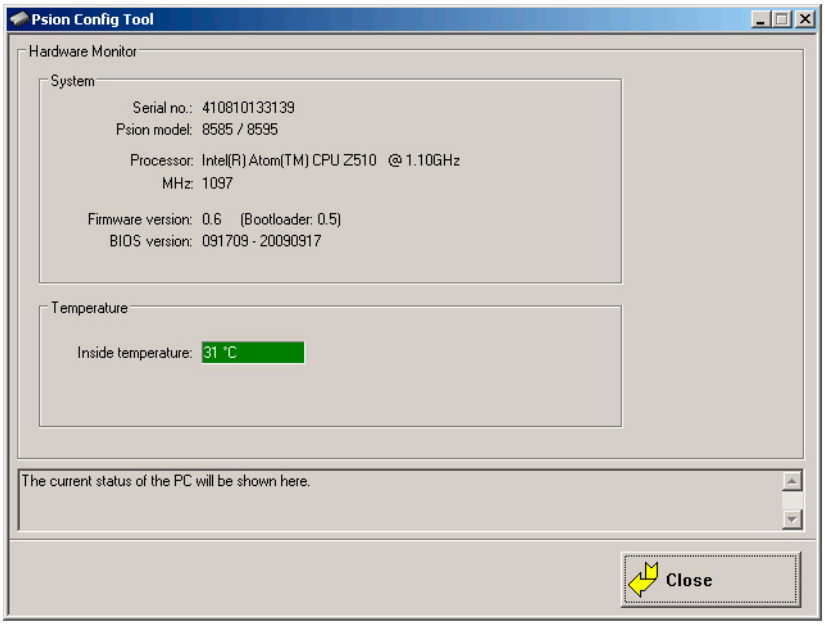
De-activate the **FBWF Filter**, if necessary.

A.4 Hardware Monitor

In the *Hardware Monitor* menu, 8585 system information is displayed:

- 8585 serial number
- Psion model
- Installed processor
- Firmware version
- BIOS version
- Inside temperature of the 8585

Figure A.3 8585 Hardware monitor menu



A.5 Environment

The environment controller in the 8585 features monitoring and statistics functions. The *Environment* menu provides information on the measured values.

A.5.1 Information on 8585

Figure A.4 8585 Environment menu

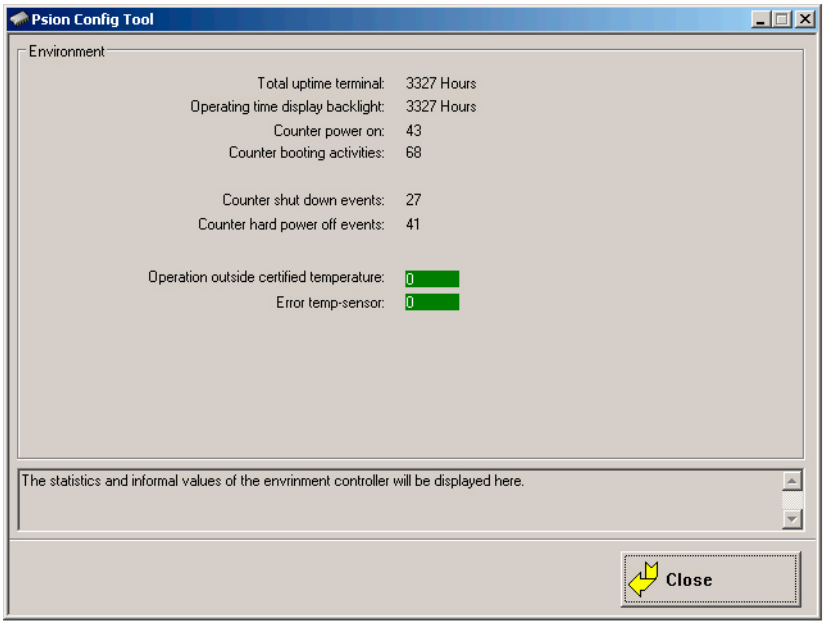


Table A.2 Environment controller

Parameter	Description
Total uptime terminal	Total time the device was on
Operating time display backlight	Total time that backlighting was on
Counter power on	Shows how often the computer was switched on with the power key
Counter booting activities	Shows how often the computer was switched on via the vehicle ignition
Counter shut down events	Shows how often the computer was switched off via the ignition
Counter hard power off events	Shows how often the computer was turned off using 'hard' switch-off
Operation outside certified temperature	Shows how often the computer switched off due to excess temperature
Error temp sensor	Shows how often temperature sensor errors occurred. If this error message occurs frequently, please send your unit in to be serviced.

A.6 Automatic Switch-off Configuration Dialog

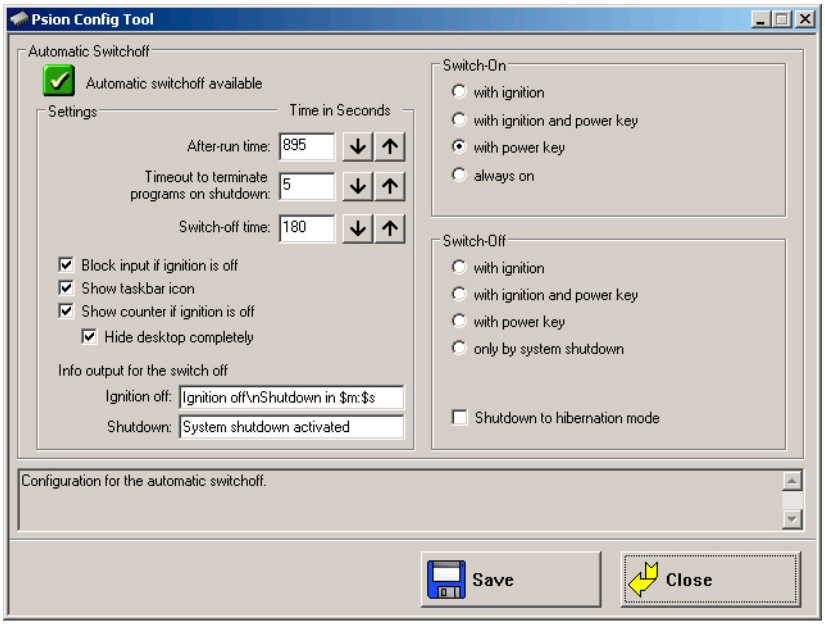
In the *Automatic Switch-off* menu, the behaviour of computer switch-on and switch-off is defined. The top left of the menu shows whether the option *Automatic Switch-off* is available and activated. The option can be activated in the *Software Activation* menu (after purchasing the option).

Caution: Property Damage

Each 8585 has been equipped with an automatic shutdown function. This function has been pre-configured for vehicle use already and governs the power-up and shutdown procedures for the 8585 connected to a car ignition.

The automatic shutdown settings for 8585 devices that are not going to be installed into a vehicle must also be correctly set for the device type!

Figure A.5 Automatic Switch-off menu on 8585



Don't forget to save these settings with the **Save** button.

A.6.1 Settings

Table A.3 Automatic Switch-off settings

Parameter	Description
After-run time and Timeout to terminate programs on shutdown	If you do not want the computer to shut down immediately after switching it off using the ignition or power key, but rather it should remain on for a time, then enter an after-run time (in seconds) here. **Shutdown times** The length of time until shutdown consists of two counters: **1. After-run time** The after-run time begins with the switching off of the ignition. The shutdown counter is displayed on the monitor (according to the settings). In this countdown the after-run time is counted downwards. If the after-run time has elapsed, a message for the shutdown will be displayed in the Shutdown dialog. During this time, the computer can be returned to normal operating status with the ignition. **2. Timeout to terminate programs** Next, all applications are informed that Windows will shutdown. After this, the timeout begins counting down—but a counter is no longer displayed in the Shutdown dialog. When the timeout elapses, there will be a 'hard' switch-off of all applications that were still running. Then the system shutdown is started.
Switch-off time	In order to allow enough time for the system shutdown after the program timeout, set the switch-off time to at least 20 s plus the program timeout. Settings lower than this value will cause a warning to appear when data is being saved.
Block input if ignition is off	If the ignition of the connected vehicle is off, all input to the computer may be blocked.
Show taskbar icon	Selecting this options creates a symbol for Psion Config in the taskbar. The symbol indicates the power status as follows:  Green: Power status is OK; ignition is on.  Flashing yellow and red: The ignition has been switched off and the after-run time is counting down.  Red: The computer is in shutdown or switch-off mode.  Unable to read power status. Double-click or right-click with the mouse to open a popup menu where Psion Config can be started.
Show counter if ignition is off	A small dialog is displayed in the foreground where a counter counts down the after-run time until shutdown. Depending on the option *Block input*, a *Shutdown* button is also shown that allows the user to immediately start the shutdown.
Hide desktop completely	The displayed counter dialog is opened in Fullscreen mode, covering the entire desktop. Large, easy-to-read text is displayed automatically.
Info output for the switch-off	Enter any text here for the after-run time counter and the shutdown process. A line break in the text can be entered with '\n'. The after-run time counter is defined in '$m' for minutes and '$s' for seconds. These text codes are case-sensitive.
Ignition off	Text for the display time
Shutdown with ignition	Text for the display time

A.6.2 Switch-On

Table A.4

Parameter	Description
with ignition	The computer switches on automatically when the ignition is started. It cannot be switched on with the power key.
with ignition and power key	The computer can be switched on with the power key if the ignition is on. It cannot be switched on with the power key alone.
with power key	The 8585 can be switched on with the power key.
always on	The 8585 switches on as soon as it is supplied with power. It is not necessary to press the power key or start the ignition.

A.6.3 Switch-Off

Table A.5

Parameter	Description
with ignition	Automatic switch-off is activated when the ignition is switched off.
with ignition and power key	Automatic switch-off is activated when the ignition is switched off. The power key shortens the defined after-run time and initiates computer shutdown.
with power key	The computer is shut down or switched off with the power key (if no automatic switch-off is available, a 'hard' switch-off takes place).
only by system shutdown	The computer cannot be switched off using the ignition or the power key; it has to be shut down in the *Start* menu.
Shutdown to hibernation mode	If the computer is switched off using the ignition or the power key, it goes into hibernation mode. When this happens, a copy of the main memory is written to a file, accelerating the startup of the computer. This option must be activated in the *power management centre* of the computer (*Power Properties*).

A.7 Front Panel

In the *Front Panel* menu, the keys (also called soft keys) located on the 8585 front panel can be programmed.

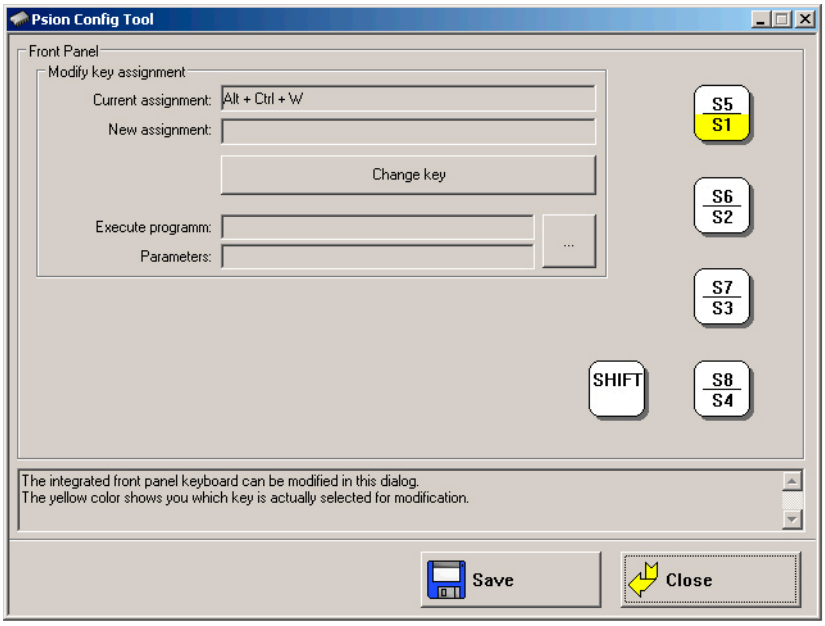
This does not apply to the keys **Power on/off**, **+/- Brightness,** and **Backlight on/off**!

All keys depicted in grey/white can have two assignments. Use [SHIFT] to switch between the assignments.

Character strings cannot be assigned to single keys. Only one character per key is possible. The keys [Alt], [Ctrl] and [Shift] may be used in combination, e.g. [Ctrl] [Alt] [F1].

A.7.1 Configuration Dialog

Figure A.6 8585 Front Panel Keyboard menu



A.7.2 Assigning Front Panel Keys

1. Select the key to be changed, it appears in the *Current assignment* field.
2. Press the **Change key** button. The *Define key* input dialog appears.
3. Press the desired key assignment. The selected key assignment appears in the *New assignment* field.
4. Save these settings with the **Save** button.

If an assignment is given twice to the same key, a corresponding warning message appears.

A.7.3 Deleting Front Panel Key Assignment

To delete a front panel key assignment, delete the contents of the field and save it with the **Save** button.

A.7.4 Starting an External Program with the Front Panel Keys

A front panel button is assigned with a program call by using the *Execute program* and *Parameter* settings.

1. Open the file selection and select a program file (.exe).
2. Now the *Parameter* field can be edited.
   If necessary, input the desired call parameter.
3. Save the settings.

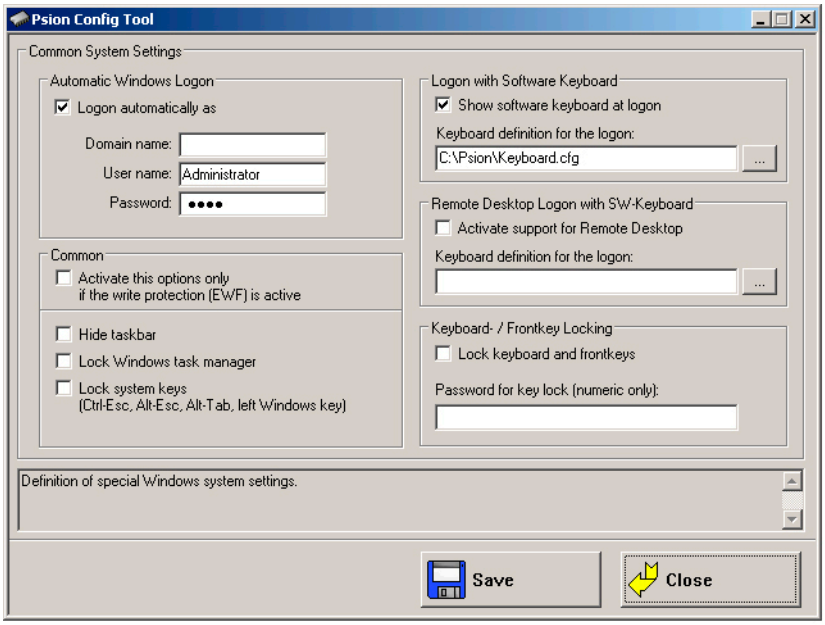
The front panel button is now assigned the program call; restarting the computer is not necessary.

A.8 Common System Settings

In the *Common System Settings* menu, parts of the Windows System can be configured. The content of this menu differs depending on the operating system.

A.8.1 Windows 2000, XP, XP Embedded

Figure A.7 Common System Settings MS Windows 2000, XP, XP Embedded



A.8.1.1 Automatic Windows Logon

Parameter	Description
Logon automatically as	Enable or disable the Automatic Windows Logon.
Domain name User name Password	Logon data for the Automatic Windows Logon must be entered.

A.8.1.2 Logon with Software Keyboard

Parameter	Description
Show software keyboard at logon	If this check box is selected, the software keyboard is already available to the user upon logging in.
Keyboard definition for the logon	A CFG file and hence a particular keyboard layout can be specified for the logon (it may differ from the default keyboard). Changes to this setting are activated only after the computer has been restarted.

A.8.1.3 Common

Parameter	Description
Activate this option only if the write protection (EWF) is active	**This setting is only useful for Microsoft Windows XP Embedded!** Here you can define whether the following options relating to the taskbar, task manager and system keys are to be valid only when EWF write protection is active. For example: When the system administrator is working on the computer and has deactivated EWF write protection, the taskbar, task manager and system keys are available. These cannot be accessed by users working with EWF write protection.
Hide taskbar	Taskbar is hidden.
Lock Windows task manager	Task manager cannot be accessed.
Lock system keys	The keys [Ctrl-Esc], [Alt-Esc], [Alt-Tab] and the left Windows key are locked.

A.8.1.4 Remote Desktop Logon with SW-Keyboard

Parameter	Description
Activate support for Remote Desktop	After a remote access to the current computer, the software keyboard can be activated for logging back in.
Keyboard definition for logon	The CFG file for the software keyboard is specified, e.g. "C:\Psion\Keyboard.cfg"

A.8.1.5 Keyboard / Front Key Locking

Parameter	Description
Lock keyboard and front keys	Using this setting, all keyboard inputs/key inputs on the 8585 can be locked. • Front panel buttons • External keyboard • Software keyboard (via touch screen) Locking is only active after restarting the computer.
Password for key lock (numeric only)	Locking is only activated if a max. 20 character long keyword is defined. For this only numbers are used. During activated lock, the password dialog for releasing the keyboard appears when pressing (or creating) any key (except for power/brightness keys). The password can only be entered using the touch screen and the keys displayed in the dialog. **Password request for locked keyboard lock**  Only the administrator can remove the lock during successful locking.

A.8.2 WES 7

A.8.2.1 Automatic Windows Logon

Parameter	Description
Logon automatically as	Enable or disable the Automatic Windows Logon.
Domain name User name Password	Logon data for the Automatic Windows Logon must be entered.

A.8.2.2 Common

Parameter	Description
Activate this option only if the write protection (EWF) is active	**This setting is only useful for MS Windows XP Embedded and WES 7!** Here you can define whether the following options relating to the taskbar, task manager and system keys are to be valid only when EWF write protection is active. For example: When the system administrator is working on the computer and has deactivated EWF write protection, the taskbar, task manager and system keys are available. These cannot be accessed by users working with EWF write protection.
Hide taskbar	Taskbar is hidden.
Lock Windows task manager	Task manager cannot be accessed.
Lock system keys	The keys [Ctrl-Esc], [Alt-Esc], [Alt-Tab] and the left Windows key are locked.

A.8.2.3 Software Keyboard

Parameter	Description
Show software keyboard at logon	If this check box is selected, the software keyboard is already available to the user upon logging in.
Keyboard definition for the logon	A CFG file and hence a particular keyboard layout can be specified for the logon (it may differ from the default keyboard). Changes to this setting are activated only after the computer has been restarted.
Display in user session	If this checkbox is activated, the software keyboard for the system in operation is displayed.
Keyboard definition for the user session	A CFG file and hence a particular keyboard layout can be specified for the user session (it may differ from the default keyboard). Changes to this setting are activated only after the computer has been restarted.

A.8.2.4 Keyboard / Front Key Locking

Parameter	Description
Lock keyboard and front keys	Using this setting, all keyboard inputs/key inputs on the 8585 can be locked. • Front panel buttons • External keyboard • Software keyboard (via touch screen) Locking is only active after restarting the computer.
Password for key lock (numeric only)	Locking is only activated if a max. 20 character long keyword is defined. For this only numbers are used. During activated lock, the password dialog for releasing the keyboard appears when pressing (or creating) any key (except for power/brightness keys). The password can only be entered using the touch screen and the keys displayed in the dialog. **Password request for locked keyboard lock**  Only the administrator can remove the lock during successful locking.

A.9 Network Settings

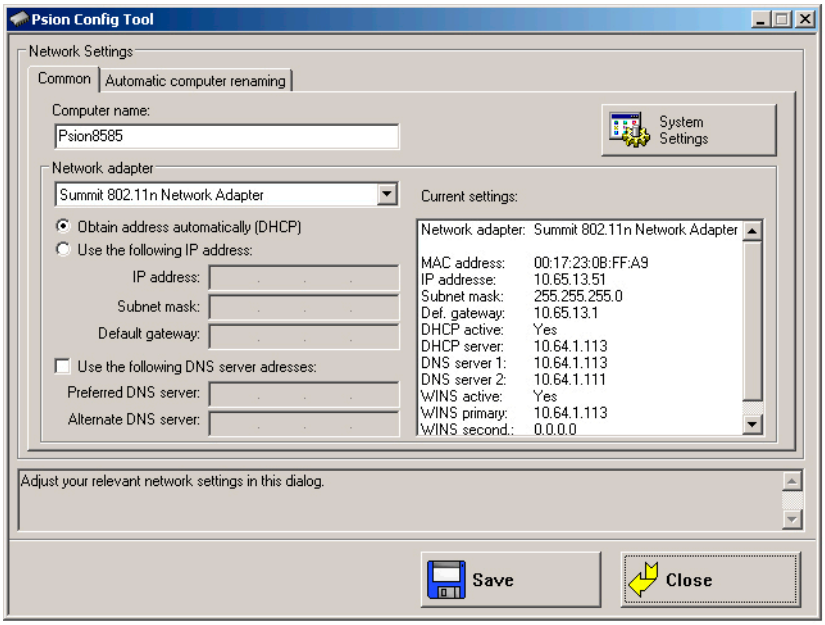
A.9.1 Common

In the *Common* menu under *Network Settings*, you can make settings for the network adapter (LAN and WLAN).

Find information about settings for the network adapter currently selected in the *Current Settings* window.

The *System Settings* button opens the Windows dialog for networks.

Figure A.8 Network Settings: Common menu



A.9.1.1 Computer name

The 8585 host name can be changed.

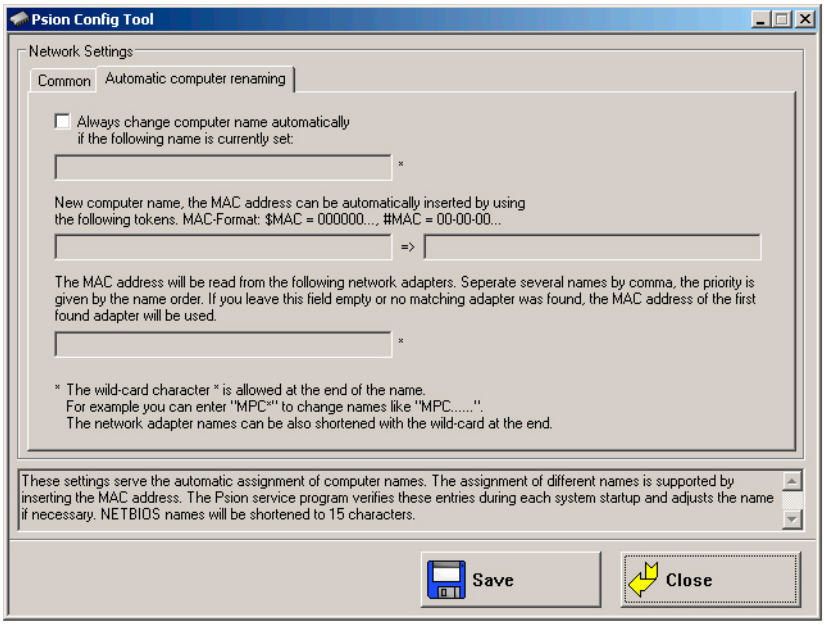
A.9.1.2 Network Adapter

Parameter	Description
Selection list	Select the Network adapter
Obtain address automatically (DHCP)	With this setting, the network configuration is obtained from a DHCP server.
Use the following IP address	Here the IP address, subnet mask and default gateway can be entered manually.
Use the following DNS server addresses	Here the DNS servers to be used can be entered manually.

A.9.2 Automatic Computer Renaming

The settings in the *Automatic Computer Renaming* menu under *Network Settings* are used for the automatic assignment of computer names. Allocation of different computer names is supported by entering the MAC address.

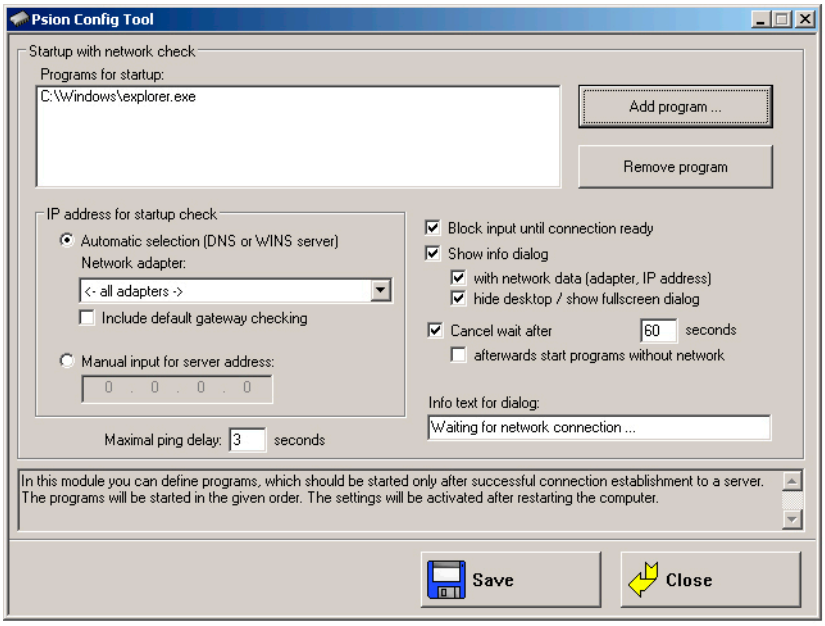
Figure A.9 Network Settings: Automatic Computer Renaming



A.10 Network Startup

You can define programs in this menu which should be started after a network connection is successfully established with a server (after every boot of the operating system).

Figure A.10 Network Startup



A.10.1 Autostart Programs

Multiple programs can be specified. The programs are started in the order given. The settings are activated only after the computer is restarted.

Parameter	Description
Add program	The Windows file selection dialog is shown and you can select a program.
Remove program	Remove a selected program.

A.10.2 IP Address for Startup Check

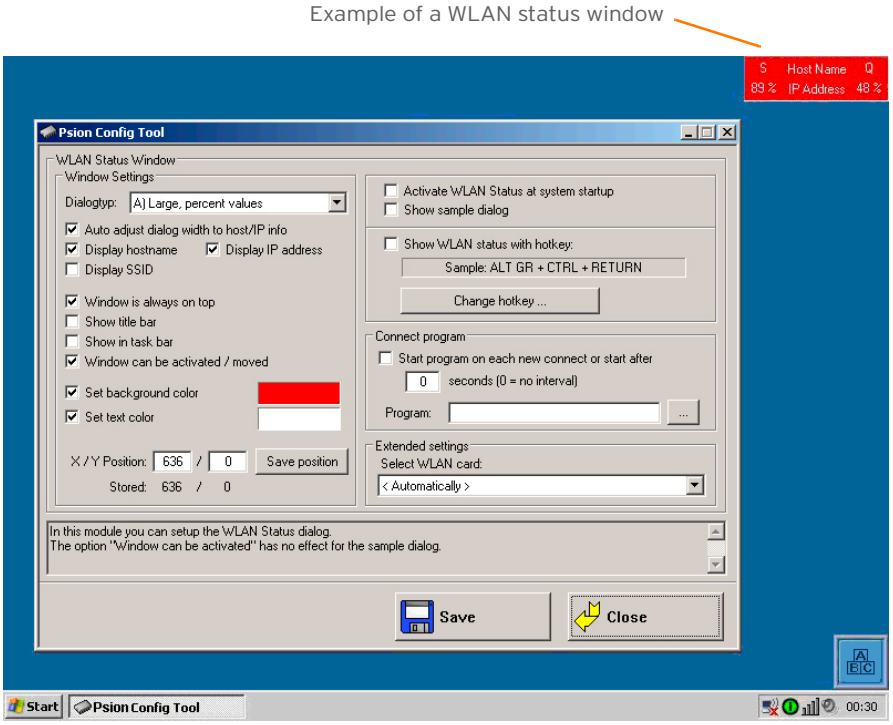
Parameter	Description
Automatic selection (DNS or WINS server) of network adapter	The desired network adapter can be specified here. Possible selections are: • All adapters • COM2 VPN adapter • IntelR PRO / 100VE Network Connection
Include default gateway in check	If this checkbox is checked, then the default gateway is also included when searching for an IP address.
Manual input of the server address	If a server address is specified here, the programs are only started when the computer has established a connection to that IP address.
Maximum ping time	Time to wait for a response after running a ping.
Block input until connection established	Until the network connection is established, no input can be performed on the computer.
Show waiting dialog	A waiting dialog can be shown, optionally with network information and in full-screen mode.
Stop waiting after ... seconds	If no network connection has been established, the wait can be stopped after the time given here.
Then start programs without network	The programs can also be started without a network connection.
Info text in waiting dialog	The text entered here will be displayed on the waiting dialog.

A.11 WLAN

In this menu, you can configure whether a *WLAN status window* will be displayed on the 8585, with information about signal strength and quality of the WLAN connection.

A.11.1 Information on the WLAN Status Window

Figure A.11 WLAN Status Window



Color Legend for Signal Strength	Color Legend for Quality
Red = signal strength poor	Yellow = signal strength fair
Green = signal strength good	Red = poor quality
Yellow = fair quality	Green = good quality

A.11.2 Signal Strength and Quality

Parameter	Description
S = Signal strength	This value provides information about the strength of the signal received by the computer. The signal strength can be displayed as a dBm value, in percentages, or as a diagram, depending on the configuration selected in the WLAN dialog.
Q = Quality	This value provides information about the quality of the signal received by the computer. The quality can be displayed as a dB value, as a percentage, or as a diagram, depending on the configuration selected in the WLAN dialog.
Host name	The host name is displayed according to the setting in the WLAN menu.
IP address	The IP address of the 8585 is displayed according to the setting in the WLAN menu.

A.11.3 Basic Legend for Signal Strength

Signal strength alone says nothing about the quality of the signal. The quality depends on the ratio of signal to noise (SNR = Signal/Noise Ratio = RSSI, Radio Signal Strength Indicator).

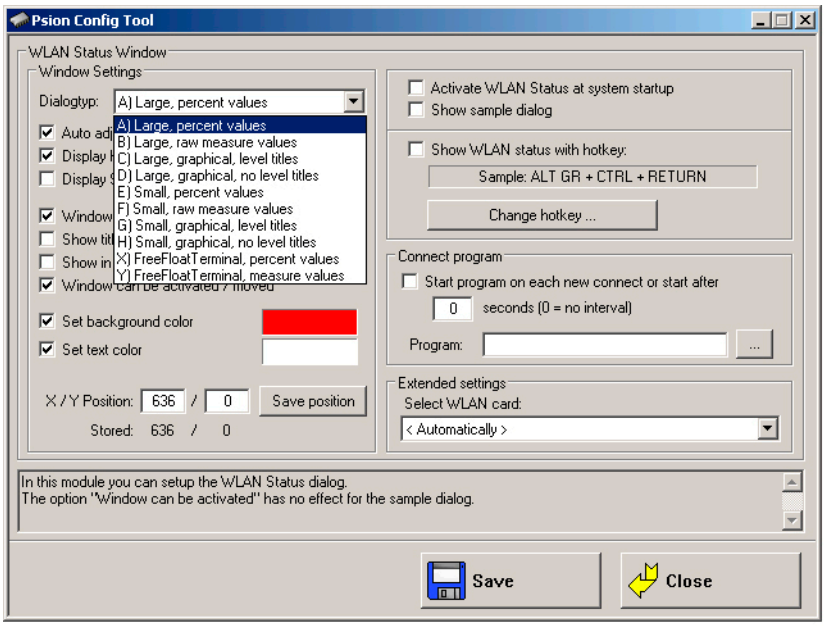
The following values are a good rule of thumb:

- Signal strengths less than -70 dBm are good.
- Quality between 10 and 20 dB is good.

Important: These values are only approximate and depend on many factors (different sensitivity of receivers, data bandwidth, etc.)

A.11.4 WLAN Status Window Settings Dialog

Figure A.12 WLAN Status Window dialog type



A.11.4.1 Window Settings

Parameter	Description
Dialog type	In the selection list, select the desired design for the WLAN status window. The signal strength and quality can be displayed as dBm values, percentages, or a bar chart.
Auto adjust Dialog width to host/IP info	The width of the WLAN status window can be defined as a fixed value. Otherwise, it depends on the length of the host name and the IP address.
Display host name	Shows the host name in the WLAN status window.
Show IP address	Shows the IP address in the WLAN status window.
Display SSID	SSID (Service Set Identifier) is displayed in the WLAN Status Window.
Windows is always on top	The WLAN status window will always be displayed on top of other windows.
Show title bar	Display the WLAN status window with a title bar.
Show in task bar	The WLAN status window will appear in the task bar.
Window can be activated / moved	The position on the WLAN status window on the screen can be moved. If the title bar is displayed, the window can be activated.
Set background color	The background color of the WLAN status window is selected. Click the color field to see a palette of all available colors.

Set text color	The text color of the WLAN status window is selected. Click the color field to see a palette of all available colors.
X/Y position	The position of the WLAN status window on the screen is defined here. The window will appear at this position after every program start. If you move the example dialog around the screen using the mouse pointer, the current coordinates will automatically be entered. Then click on **Save position**.
Activate WLAN status at system startup	This checkbox must be activated for the WLAN status window to be displayed.
Show sample dialog	If clicked, the settings made in the dialog will be demonstrated in an example window.
Show WLAN status with hotkey	The WLAN status window can be turned on and off with a 8585 front panel key defined here. To be able to use this setting and as a result the front panel key (Hotkey), the 8585 must be restarted.

A.11.4.2 Connect Program

Parameter	Description
Start program on each new connect or start after ...	This setting is used to start any arbitrary software program. The program may optionally be started: • after every entry into the WLAN area • or periodically; if necessary, enter the time interval. If a WLAN connection exists, the program is started at the specified intervals. ***Note: The prerequisite is that there is a functioning WLAN connection!*** An application example: The 8585 on a forklift has an online connection to the warehouse management database. If the forklift leaves the WLAN area, this online connection is interrupted. To receive updated data immediately after entering the WLAN area again, the *Connect Program* function is used to start a database update automatically.
Program	Enter the program to be started here.

A.11.4.3 Extended Settings

Parameter	Description
Select WLAN card	Detect the radio card automatically or select it from the list (see also WLAN status window and radio cards next page).

Finally, don't forget to **Save**!

A.11.5 WLAN Status Window and Radio Cards

The WLAN status window works exclusively with radio cards which support WMI. The WMI class is configured in "config_local.cfg" in the line "Noiseselect_01".

The WMI selection string in the format: NoiseSelect_XX=Card-Name,SELECT * ....

For XX, substitute a number from 01 to 20; at most 20 different WLAN cards can be supported.

For the card name, a few characters at the start of the WLAN adapter name are enough (not case sensitive).

The full SELECT string is then specified, separated by a comma.

A.11.6 Write WLAN Log File

To optimize the WLAN network, or e.g. to analyze errors in roaming, a WLAN log file can be generated using the Psion Config program.

1. For this, edit the **Config_local.cfg** file in the *Psion* directory of the 8585 (e.g. with Notepad).
2. The entry

   "Debug_Logging=0"entry is located by default in section *CfgWLANStatus*

   0 means: no log file will be generated.

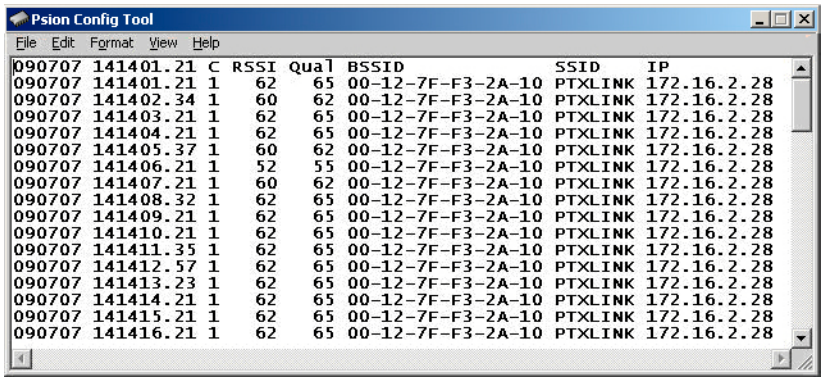
   1 means: a log file will be generated and written to the Psion directory. Filename of the log file: WLAN_DebugLog.txt.
3. Restart the computer to activate the setting and generate the log file.

Caution: Property Damage

Only generate WLAN log files temporarily for analysis purposes. Afterwards make sure to set the "Debug_Logging" entry to "0".

Otherwise system errors are a threat, since if the EWF is deactivated storage media will be filled with log files (size of a WLAN log file: up to 50 MB. When this size is reached, the Psion Config automatically creates BAK files, which are sequentially numbered.)

Figure A.13 Example of a WLAN log file



A.11.6.1 Information in the WLAN Log File

The following basically applies:

- Only the information which is displayed in the WLAN status window is written in the WLAN log file (according to the definition in the Psion Config menu *WLAN Status Window*).
- The maximum size of the WLAN log file is 50 MB. When this size is reached, the Psion Config automatically creates BAK files, which are sequentially numbered.

The WLAN Log file contains eight columns with the following information

The column heading is displayed after every 100 lines.

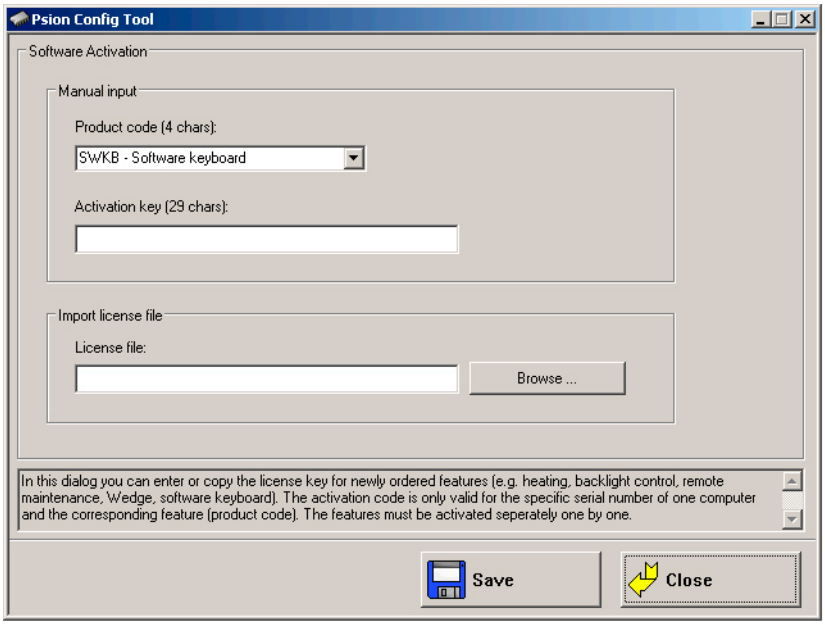
- Date
- Time (to one-hundredth of a second)
- C= Connected
  0 means no, 1 means yes
- RSSI signal strength
- Signal quality
- BSSID Mac address of current connected access point
- SSID of WLAN network
- IP address of 8585

A.12 Software Activation

In the *Software activation* menu, options such as *automatic switch-off* and *software keyboard* can be activated. If these options are purchased at a later date (after the 8585 delivery), customers receive an activation key or a license file, which must be entered here.

Note: The automatic switch-off function in the 8585 is always available and does not need to be activated.

Figure A.14 Software Activation menu



A.12.1 Activate Automatic Switch-off

Activate the automatic switch-off as follows:

1. Activate the **Product code** in the line *AOFF Automatic switch-off*.
2. Enter the activation key you received with the purchase of the option.
   Or: Click **Search file** under *Import license file* and load the license file that contains this key.
3. **Save** the settings.

A.12.2 Activate Software Keyboard

Activate the software keyboard as follows:

1. Activate the **Product code** in the line *SWKB Software keyboard*.
2. Enter the activation key you received when you purchased the option.
   Or: Click **Search file** under *Import license file* and load the license file that contains this key.
3. **Save** the settings.

After licensing, a *Keys* file is automatically created for the software keyboard and is stored in the *Keys* directory. If this file is accidentally deleted, the software keyboard will no longer function. After three minutes running time it switches itself off.

A.13 Enhanced Write Filter

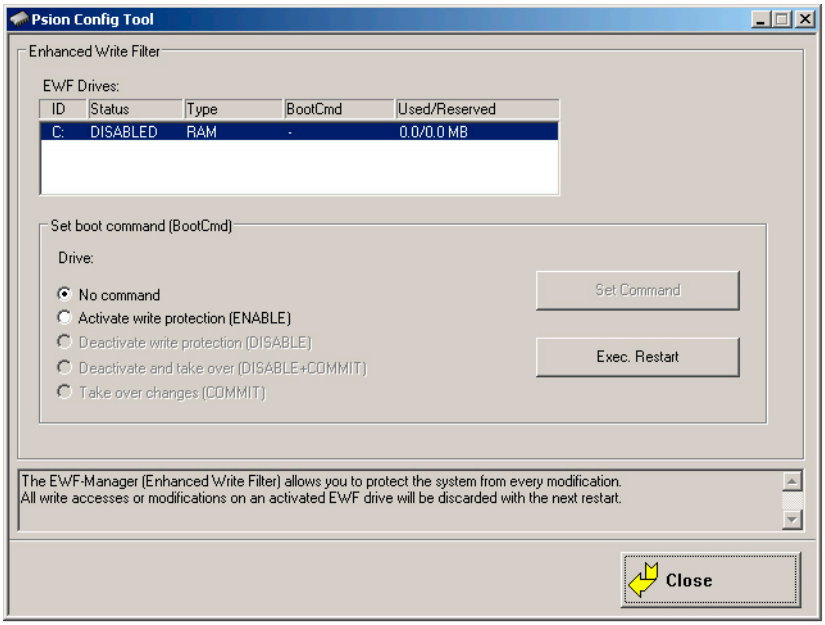
Note: The Enhanced Write Filter menu is only relevant for the embedded operating systems (Microsoft Windows XP Embedded and WES 7)!

If EWF is not installed, no changes can be performed.

Write protection is enabled and managed in the *Enhanced Write Filter* menu. This allows you to protect the system against modification of any kind. All write accesses or modifications on an activated EWF drive will be discarded with the next restart.

EWF settings are not saved or loaded to import/export configurations (see "Settings" on page A-27).

Figure A.15 Enhanced Write Filter menu



The computer's EWF drives are displayed in the *EWF Drives* field (there is usually only one). The settings below apply to the EWF drive selected here.

A.13.1 Set Boot Command (BootCmd)

Parameter	Description
No command	The set boot commands are deactivated again.
Activate write protection (ENABLE)	Activates write protection: All system changes are written exclusively to the main memory; they are discarded when the computer is restarted. To activate this setting, reboot the computer!
Deactivate write protection (DISABLE)	Disables write protection. To activate this setting, reboot the computer!
Deactivate and take over (DISABLE+COMMIT)	This setting is a combination of *Deactivate write protection* and *Take over changes*: Write protection is deactivated; changes are applied.
Take over changes	Temporarily deactivates write protection in order to commit current changes to the system. Once finished, write protection is immediately active again.

- Click **Set Command** to apply the settings.
- Click the **Exec. Restart** button to restart the computer and activate the settings.

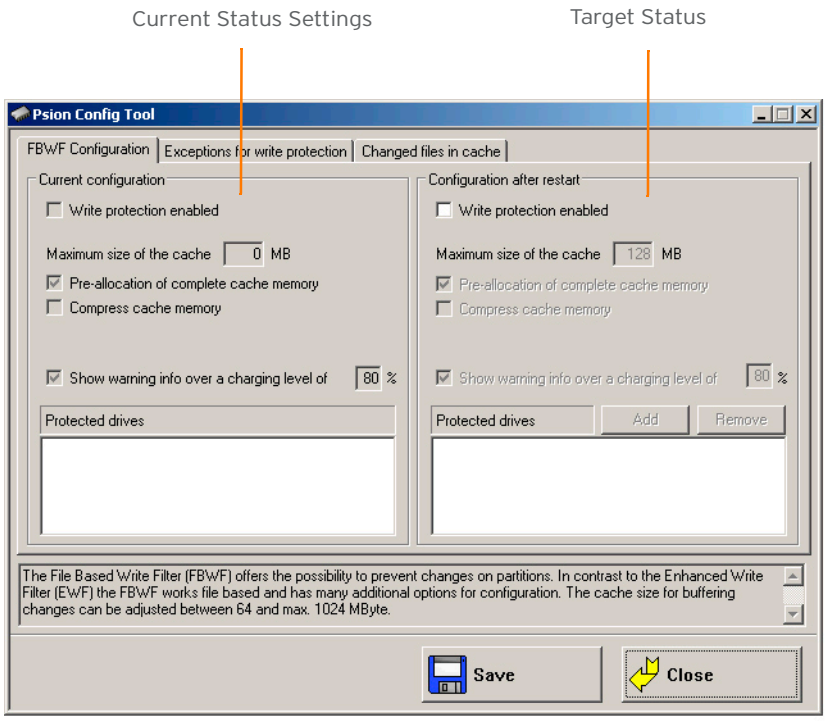
A.14 File Based Write Filter

Note: The File Based Write Filter *menu is only relevant for the embedded operating systems (XP Embedded and WES 7) XE "Windows XP Embedded"!*

A.14.1 The FBWF Menus: Current and Target Status of the Installation

The left column of the FBWS menu always shows the currently installed FBWF configuration; the right column shows the newly defined configuration after the computer is restarted.

Figure A.16 FBWF configuration menu



- When the desired configuration is complete: Don't forget to **save** the settings.

A.14.2 FBWF Configuration

The *File Based Write Filter* (FBWF) offers the possibility to protect a partition from changes. In contrast to the *Enhanced Write Filter* (EWF), the FBWF filters on a file basis and offers many additional options for configuration. The cache for intermediate storage of the changes can be set for between 64 and 1024 MB.

A.14.2.1 Current Configuration

The currently valid FBWF settings are displayed.

Table A.6 Configuration after restart

Parameter	Description
Write protection enabled	Enable FBWF; the computer must be rebooted to activate the settings.
Maximum size of the cache	Memory size available for the overlays. Entries between 64 and 1024 MB are possible.
Pre-allocation of complete cache memory	Maximum memory is not dynamic, but statically reserved in advance.

Table A.6 Configuration after restart

Parameter	Description
Write protection enabled	Enable FBWF; the computer must be rebooted to activate the settings.
Compress cache memory	Memory content is compromised
Show warning info over a charging level of	Enter the percentage load factor of the reserved memory at which the warning message should be displayed.
Protected drives Add/Remove	The hard drives listed here are protected from changes. After clicking on **Add** or **Remove**, a list of hard drives is displayed.

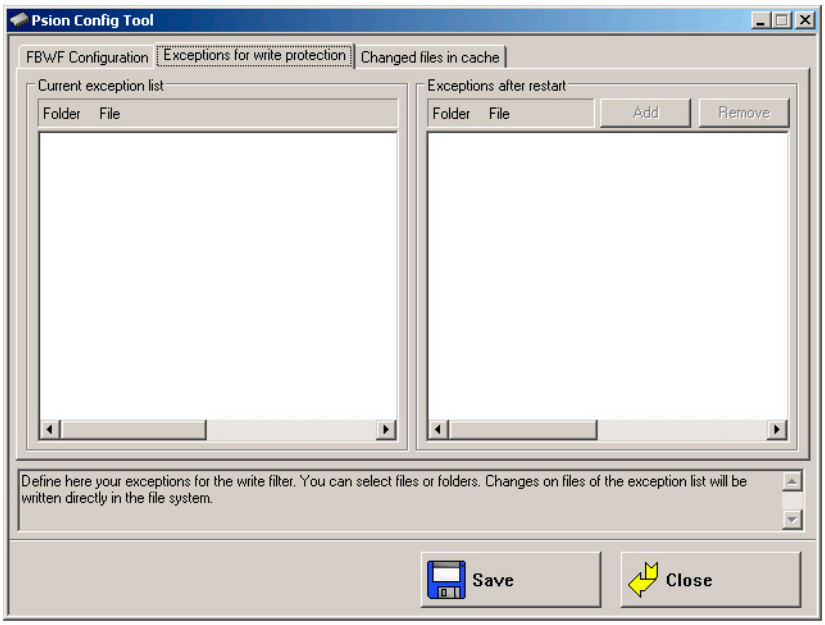
- When the desired configuration is complete: Don't forget to save the settings.

A.14.2.2 Exceptions for Write Protection

Here you can define exceptions for write protection. Entire directories or individual files can be specified. Changes to files on the exception list are written directly to the file system, as usual.

The left column of the menu shows the currently set FBWF configuration; the right column shows the newly defined configuration after the computer is restarted.

Figure A.17 Exceptions to write protection



Current Exception List

The currently valid settings are displayed.

Table A.7 Exceptions after Restart

Parameter	Description
Add/remove	After clicking on **Add** or **Remove**, a list of hard drives and files is displayed.

- When the desired configuration is complete: Don't forget to **save** the settings.

A.14.2.3 Modified Files in the Cache

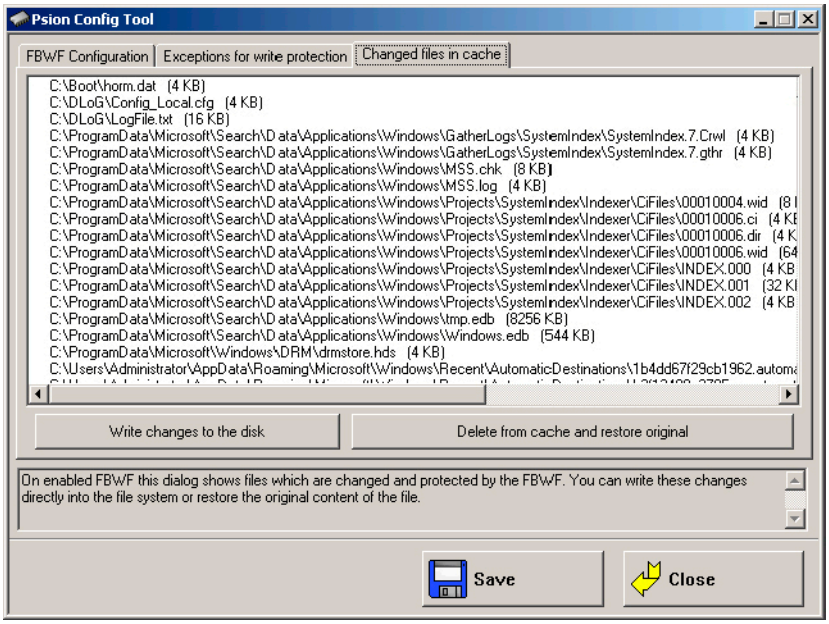
When FBWF is active, files are shown here that are protected by FBWF and that were changed during the run time.

The following is possible here:

- apply changes and write them to the file system

- or restore the original status of the file and delete it from the cache.

Figure A.18 Modified files in the cache



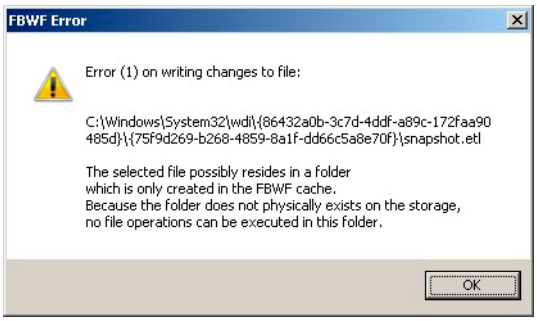
Procedure:

- Select the individual lines in the list.
- Press the **Write changes to the disk** button if the changed data that is still in the cache is to be written to the respective hard drive.
- Or select **Delete file from cache and restore original** if the modified file in the cache should be deleted.

Error messages

FBWF Error (1)

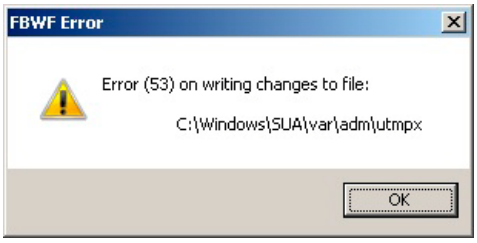
Figure A.19 FBWF error: File is in the FBWF cache



Explanation:	Files could not be written to the files, as they did not physically exist. With **OK** the file is skipped, the procedure *Write changes to data media* is carried out for the next file on the list. With **Cancel**, the procedure *Write changes to data media* is interrupted.

FBWF Error (53)

Figure A.20 FBWF error: For files that are currently being accessed

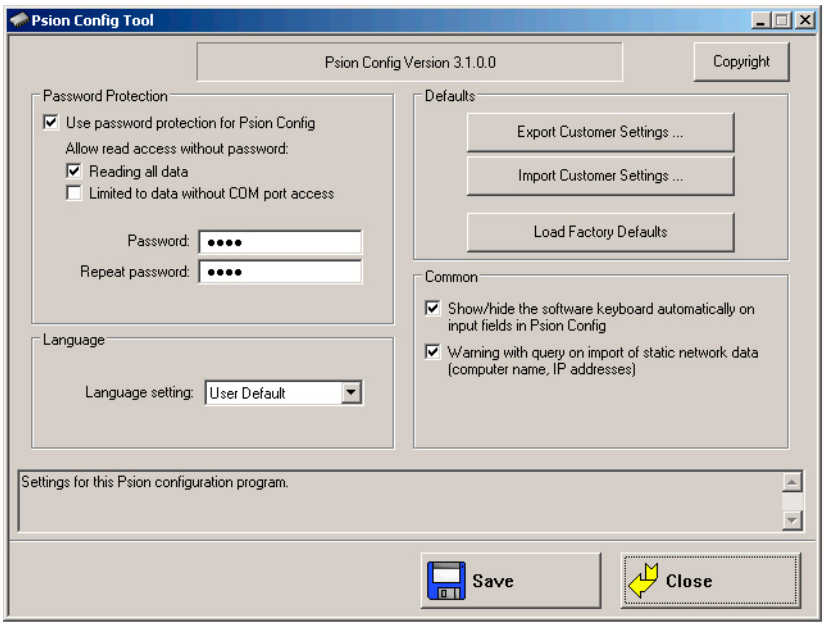


Explanation:	Files which are currently being accessed cannot be written to data media. With **OK** the file is skipped, the procedure *Write changes to data media* is carried out for the next file on the list. With **Cancel**, the procedure *Write changes to data media* is interrupted.

A.15 Settings

In this menu, Psion Config is configured with respect to password, language etc.

Figure A.21 Settings menu



Password Protection

Parameter	Description
Use password protection for Psion Config	A password can be activated to allow access to programs. Enter a password and repeat the entry in the *Repeat password* field. This is case-sensitive.
Allow read access without password:	
Reading all data	Psion Config can be started without a password. It is possible to read all data, but no changes may be made to the settings.
Limited to data without COM port access	A password is not required to start Psion Config. Reading of data is limited: The *Environment*, *Automatic Switch-off* and *Front Panel* menus are not available.

Language

Parameter	Description
Language setting	The language of the Psion Config menus is defined. The default is always the system language of the computer. If no language file is available for this language, texts will be displayed in English. Only those languages may be selected for which language files (PsionCfg*_*.txt) are available in the Config EXE directory.

Defaults

Parameter	Description
Export customer settings	With this function, all Psion Config settings can be exported to a Config text file. Each export file is displayed with an info header (see 17.2 Info header). The export file can be imported to other 8585 to maintain identical settings on all computers.
Import customer settings	Those files generated with the export function can be selected for import. It is not possible to import the local Config_Local.cfg. Before the import, a message tells you not to mix AC-DC configurations, as this can block the device. In the event that a mandatory software key for activating diverse options on a PC is missing, this is reported in a corresponding error message. ***Please note: If options are released in the imported Config setting, which are missing on this computer, a corresponding error message is displayed.*** ***Caution: Property Damage*** ***During import not all data is checked for validity; rather the data is saved in the way that it is defined in the import file. False information could lead to failure of 8585 (such as malfunctions, data loss, equipment damage etc.).***
Load factory defaults	Here default settings can be loaded that are saved in a file named: *FactoryDefault_<Serial number>.cfg*. This file can only be generated by Psion service with an internal program. The AC-DC configuration warning does not appear, as it is assumed that this is taken into account at installation. If the file is not available, an error message about a 'defect' file appears.

Common

Parameter	Description
Show/hide the software keyboard automatically on input fields in Psion Config	The software keyboard starts automatically when Psion Config is started. When the cursor is placed in an input field, it is always displayed. A file named *Keyboard.cfg* must exist in the software keyboard installation directory; otherwise an error message appears. If the keyboard is started by Psion Config, it is also terminated when Psion Config is closed. The software keyboard version 1.5 or higher is mandatory for this. An error message is displayed when errors occur. The message is only visible after logging on.
Warning with query on import of static network data (computer name, IP addresses)	If static *IP addresses* (when DHCP is disabled) and/or a *computer name* are imported, a warning with corresponding security query may appear.

A.15.1 Command Lines Parameter IMPORT (only for administrators)

The parameter IMPORT is available for import using batch job (Psion Config V 2.3 and higher).

Example: PsionCfg IMPORT=<Path>AnyExportedData.cfg

The CFG file to be imported must be generated using export from Psion Config.

The CFG filename must contain the entire path (or at least ".\" for the current directory).

Other parameters for control of the batch import are:

NONET	The data from the config module "network" will NOT be imported
STATNET	Static IP addresses will be imported and set during batch import. Default: Static IP addresses will NOT be imported.

Please note:

- To activate the imported data the computer must be restarted.
- Output redirection functions in a file with ">", however the output is still additionally written to the console window.

Caution: Property Damage

NO warning/request appears when using the COM2!

NO warning appears with information about the non-permitted mixing of configurations between AC and DC devices.

A.15.2 Info Header of an Export File

The info header of an export file contains the following information:

```
;-------------------------------------------------------------
; Psion Config export file
; Exported from computer: MPC5XPEMBSP2
; Hardware serial-number: 205004056587
; Export timestamp (YMD): 2005/06/18 20:30:13
;-------------------------------------------------------------
[General]
PsionCfgExportVer=1
PsionCfgExportSNR=205004056587
```

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