ADVANTECH DLOG

Competence in Mobile Computing

Industrial PCs applied in

- Logistics and Warehouse
- Heavy Duty
- Fleet Management
- Stationary and Automation

XMT 5 Series
User's Manual V2.10

This manual contains a detailed description of the product and we have made every effort to make it as accurate as possible. However, this is not a guarantee of the features or the functionality of the product.

We reserve the right to modify the contents of this document at any time and without prior notice.

Because we at DLoG are constantly striving to improve this product, we cannot guarantee that previous or subsequent releases of the product will correspond in every respect with the product description given in this manual.

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Technical customer support

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ADVANTECH DLOG
Competence in Mobile Computing

Konformitätserklärung/ Declaration of Conformity

... gemäß den Bestimmungen der EG-Richtlinie über elektromagnetische Verträglichkeit 2004/108/EG und der EG-Richtlinie über Niederspannung 2006/95/EG, sowie der RTTE EG-Richtlinie 1999/5/EG, falls Datenübertragungsgeräte, die im 2,4GHz Band arbeiten, von DLoG installiert wurden.

... in accordance with the EU-Directive of Electromagnetic-Compatibility 2004/108/EC of the council and the EU-Directive for Low Voltage 2006/95/EC of the council, as well as the EU-Directive for radio equipment 1999/5/EC in case of data transmission equipment operating in the 2,4GHz band is assembled by DLoG.

Jahr, in dem das CE Zeichen für das Produkt erstmals vergeben wurde/ Year CE marking was first affixed to declared product:
2010

Die Firma / The Manufacturer
DLoG Gesellschaft für elektronische Datentechnik mbH, Industriestr. 15, D-82110 Germering, Germany
erklärt hiermit, dass das Produkt / declares, that the product described in the following

Geräteart/Designation of device:	Gerätetyp/Type of device:
Computer	**XMT 5**

mit den oben genannten / folgenden Normen oder normativen Dokumenten übereinstimmt /
is conform to the aforementioned / following standards or normative documents.

EMC-Störaussendung (EMC-Emission) / EMC-Störfestigkeit (EMC-Immunity):

2004/108/EG EN 55022:2006+A1:2007 Class A	Information technology equipment – radio disturbance characteristics – limits and methods of measurement
EN 55024:1998 + A1:2001 + A2:2003	Information technology equipment – immunity characteristics – limits and methods of measurement
EN 61000-3-2:2006 + A1:2009 + A2:2009	Electromagnetic compatibility (EMC) – limits for harmonic current emissions (equipment input current <= 16 A per phase) – For AC only
EN 61000-3-3:2008	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to conditional connection For AC only
EN 61000-6-2:2005	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
EN 300 328 V1.7.1	Data transmission equipment operating in the 2,4GHz ISM band and using wide band modulation techniques
EN 301 489-17 V1.3.2	Specific conditions for 2,4GHz wideband transmission systems and 5GHz high performance RLAN equipment
EN 301 489-1 V1.8.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

Sicherheit (Safety):

2006/95/EG + EN 60950-1:2006+A1:2009	Information technology equipment - Safety - Part 1: General requirements

Germering, 24.07.2012

Ort, Datum/Place, Date

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1. About this manual

This manual has been designed to make using the XMT 5 as simple as possible and provide expert assistance if problems should occur. It contains important information on using the device safely, properly and efficiently. Adhering to the manual helps by avoiding dangers, reducing repair costs and breakdown times and increasing the reliability and lifespan of the XMT 5.

DLoG GmbH will not assume responsibility for any damage caused by the improper use of the XMT 5 and/or in disregard of the instructions in this manual.

WARNING

Before transporting, assembling, and starting the XMT 5, please read this manual carefully and follow all the safety guidelines listed. Follow all *Basic safety guidelines* and the safety guidelines in the individual chapters.

Within this manual, DLoG GmbH strives to provide all the information required for using your XMT 5. 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 DLoG agent or representative.

1.1. Please read documentation accompanying the product

Please take note of all documentation received for your industrial PC, such as safety information, assembly instructions, etc.

1.2. Current information on the internet

Find manuals and additional information on the internet at www.advantech-dlog.com.

1.3. 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.

1.4. Keep this manual

Please keep this manual. It should always be at hand near the described device.

1.5. Design method

1.5.1. Risk of injury or death

Personal injury

Hazardous voltage/electric shock

Electromagnetic radiation (non-ionizing)

Explosion hazard

NOTICE — This signal word is used to indicate the risk of physical damage.

1.5.2. Hints

This symbol indicates hints that help you to understand how to use the product or the manual.

2. Basic safety guidelines

2.1. Always install, operate, and maintain the unit properly

The XMT 5 was designed and built according to modern technology and accepted safety regulations. However, the operation of the XMT 5 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

XMT 5 industrial PCs are multifunctional terminals for stationary and mobile use in commercial environments (e.g. logistics, warehousing, fleet management, manufacturing, automotive).

Any other or additional use is not as intended.
The user/operator of the industrial PC is solely responsible for any resulting damage. This also applies to unauthorized modifications to the unit.

WARNING
Only use the XMT 5 if it is in perfect and undamaged condition! Please correct or have corrected by professionals any malfunctions which may compromise your security (e.g. faulty network cable) immediately.

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.

2.4. Preventing electrical hazards

Installing easily accessible separators

Industrial PCs are not equipped with separators (switches) that are accessible from the outside. To enable the devices to be quickly disconnected from the power supply in emergency situations:

- Install an easily accessible separator such as a switch or circuit breaker close to the device.
- Make sure that the separator separates all power supply lines.

Only connect industrial PCs to SELV circuits

Only connect industrial PCs to Safety Extra Low Voltage (SELV) circuits.

- Do not connect/disconnect any cables during thunderstorms
- Do not connect/disconnect industrial PC cables during a thunderstorm.

Servicing/cleaning the unit: Disconnect the industrial PC from the power supply

- Disconnect the industrial PC from the power supply before cleaning or servicing it.

Power pack fuse blows repeatedly: Send in the unit for repair

If after replacement of the integrated power pack fuse it immediately blows again, there is a risk of electrical shock.

- Send in the industrial PC immediately for repair.

Lines must be laid in accordance with national regulations

When laying cables, please follow the appropriate national installation regulations.

Use only original power supply cables from Advantech-DLoG

Advantech-DLoG power cables meet the specific requirements for low-temperature flexibility, UV resistance, oil resistance, etc.

- Use only original power supply cables from Advantech-DLoG.

If other power supply cables are used:

- The user/operator of the industrial PC is solely responsible for the resulting damage.
- All warranties by DLoG GmbH are voided.

Ensure that the power cable is laid so that it is mechanically protected.

Charging the vehicle battery: Disconnect the industrial PC from the battery

While the vehicle battery is charging:

- The industrial PC must be disconnected from the vehicle battery.
- Or it must be ensured that the maximum permitted input voltage of the device is not exceeded.

Do not use industrial PCs in locations where flammable gases or vapors are present

The operation of electrical equipment in explosive environments can be dangerous.

- Turn off the industrial PC when you are near gas stations, fuel depots, chemical plants or places where blasting operations take place.

2.5. When mounting please note the following

Risk of injury during transportation and installation

The device may fall down during transportation or installation and cause injury.

Ask for help from another person when installing/uninstalling the device.

Danger if mounting bracket breaks

- When installing the industrial PC, make sure that if the bracket breaks (e.g. because of a stress fracture) no-one will be injured.

- Alternatively please put appropriate safety measures in place (e.g. install a security cable in addition to the mounting bracket).

Position of the industrial PC on the vehicle: Driver‘s field of vision must be kept free.

Inside the vehicle the driver‘s field of vision must be kept free.

- If a keyboard and scanner are to be installed, allow space for them.

Installing industrial PCs with loudspeakers

Industrial PCs with loudspeakers must be installed by appropriately trained staff. Incorrect installation or servicing can be dangerous.

Deployment location: Note IP protection class and permissible ambient conditions

The permissible ambient conditions are described in the manual for your industrial PC (chapter Fehler! Verweisquelle konnte nicht gefunden werden. Fehler! Verweisquelle konnte nicht gefunden werden.).

Before use: Install cable cover

Ensuring the IP protection of industrial PCs:

- Before use the supplied cable cover for the external connections must be installed.
- Please follow the mounting instructions included with cable cover.

No fresh air supply / overheating causes material damage

The industrial PC operates on the basis of a passive cooling concept according to which internal waste heat is released via the housing surface. The prerequisite for the concept is a supply of fresh air.

- If no fresh cooling air is supplied to the PC, this can cause overheating and lead to the destruction of the unit.
- The installation environment should not result in a closed system that prevents passing cold air from releasing absorbed heat.

2.6. Connect / disconnect external devices

NOTICE: Property damage

Disconnect the industrial PC from the power supply before connecting / removing peripheral devices (this does not apply to USB devices)

Otherwise considerable damage could be caused to both the industrial PC and the peripheral devices.

- Make sure that peripherals with their own power supply are either switched on at the same time as the industrial PC or after the industrial PC is switched on.
- If you don‘t do this, you must ensure that a backflow from the external device to the industrial PC cannot take place.

Only use authorized accessories

- Only use the cables, power packs and other accessories that have been tested and approved for the respective industrial PC by DLoG GmbH.
- Ask your Advantech-DLoG sales representative about authorized accessories.

2.7. Transmission of radio frequencies

Note the permitted transmission power

The maximum permitted transmission power for the respective country must not be exceeded. Responsibility for this lies with the operator of the industrial PC.

Installation note: Keep a minimum distance of 20 cm between individuals and antennas

To ensure that the limits set by the FCC for exposure to radio waves are not exceeded:

- Install the industrial PC in such a way that the minimum distance between individuals and the PC antenna is 20 cm.

Do not use industrial PCs without permission in aircraft or hospitals

Some technical equipment in hospitals and aircraft are not immune to radio frequency energy.

- Do not use industrial PCs in aircraft or hospitals without receiving prior authorization. Use in both is only permitted if such authorization has been received.

Do not use an industrial PC near pacemakers

Industrial PCs can affect the functioning of implanted medical devices such as pacemakers and cause them to malfunction.

- Do not use an industrial PC near pacemakers.
- Always keep a distance of at least 20 cm between a pacemaker and an industrial PC to reduce the risk of interference.

2.8. Clean / maintain industrial PC

Servicing / cleaning the device: Disconnect the industrial PC from the power supply

- Disconnect the industrial PC from the power supply before cleaning or servicing it.
- Never clean the industrial PC with compressed air, a pressure washer or a vacuum cleaner.
- If necessary, clean the housing of the industrial PC with a damp cloth.
- Clean the touch-screen with a non-abrasive cloth dampened with water.

2.9. Modifications and repairs only by Advantech-DLoG

Modifications to the industrial PC are not allowed.
Opening the industrial PC is not allowed.

All warranties by DLoG GmbH relating to the industrial PC are voided by modifications / by opening the unit.

Do not carry out any repairs on the industrial PC yourself.

- Always contact the responsible technical service officer at Advantech-DLoG and send in your unit for repair if necessary.
- Refer to the nameplate on the back of the unit for important technical service information.

2.10. WWAN Notes

If your Industrial PC is equipped with WWAN:

- Do not operate the Industrial PC in the presence of flammable gases or fumes.
- Switch off the Industrial PC when you are near petrol stations, fuel depots, chemical plants or where blasting operations are in progress.
- Operation of any electrical equipment in potentially explosive atmospheres can constitute a safety hazard.
- Road safety comes first! Do not use your Industrial PC when driving a vehicle, unless it is securely mounted in a holder for speakerphone operation.

2.11. CE Marking

Remark for CE class A products: Class A 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 A 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.

2.12. RTTE Directive 1999/5/EC

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

Česky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 1999/5/EC.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 1999/5/EF.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 1999/5/EU.
Eesti [Estonian]:	See seade vastab direktiivi 1999/5/EÜ olulistele nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales asi como con otras disposiciones de la Directiva 1999/5/CE.
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιώδεις απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 1999/5/EC.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 1999/5/EC.
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 1999/5/EC.
Italiano [Italian]:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 1999/5/CE.
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 1999/5/EB Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.
Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiele eisen en andere van toepassing zijnde bepalingen van de Richtlijn 1999/5/EC.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-ħtiġiet essenzjali u l-provedimenti l-oħra 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.

2.7.1 Special rule/restriction

For the XMT 5 with WLAN 802.11bg, 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.

2.13. FCC user information

2.13.1. Interference declaration of the Federal Communications Commission

This equipment has been tested and found to comply with the limits for a Class A 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.

DLoG GmbH 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 DLoG GmbH. 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.

3. Device description

3.1. XMT 5 Models

This manual applies to all available models of the XMT 5. Any differences between the models will be clearly noted in this manual.

Figure 3.1: XMT 5/7
(with optional mounting bracket)

Figure 3.2: XMT 5/10
(with optional foot)

3.2. Abbreviations used for devices and accessories

Please note that to save space on the XMT 5 and supplied accessories, the following abbreviations have been used:

Abbreviation	Explanation
+	DC+
-	DC-
Ign	Ignition

3.3. Device type plate

The device type plate on the XMT 5 contains the following information: :

XMT 5/7 or XMT 5/10	Device type, 7“ or 10,4“ display
WVGA or SVGA	Display resolution
DC	Type of power supply, the following number indicate the exact type of power supply with input voltage
24/48 V 2,5 A / 1,2 A 806 MHz	Input voltage of the DC power supply with nominal current
S/N ...	12 digit serial number composed of: • DLoG specific device code • Week of manufacture • Year of manufacture • Six digits for internal DLoG identification

Examples of device type plates:

Figure 3.3: Device type plate XMT 5/7

Figure 3.4: Device type plate XMT 5/10

3.4. Technical data – System equipment

3.4.1. CPU, Cache, RAM	
CPU	Marvell PXA 320 up to 806 MHz integrated Marvell Wireless MMX2 Coprocessor
Cache	32 kB Instruction + 32 kB Data Level 1 Cache integriert
RAM	256 / 512 MB onboard (cannot be retrofitted) fully cacheable LPDDR-SDRAM technology
Flash	256 / 512 MB NAND-Flash onboard (cannot be retrofitted)
Real-time clock	Real-time clock with 3 V Li-battery (changeable)

3.4.2. Software	
Bootloader	Microsoft EBOOT
Operating system	Microsoft Windows CE 6.0

3.4.3. Housing	
Material	Rugged aluminum-cast housing with integrated heat sink ESD safe
Weight/Mass	XMT 5/7: 2.2 kg XMT 5/10: 3 kg

3.4.4. Display	
XMT 5/7	LED Display 7“ WVGA, 800 x 480 pixel Portrait and landscape use 500 cd/m² Luminance/brightness in Candela Manuelle Helligkeitsregelung
XMT 5/10	LED-Display, 10,4’’ SVGA, 800 x 600 pixel 400 cd/m² Luminance/brightness in Candela Manual brightness adjustment Option: Sun light readable

3.4.5. Touch screen (Standard + Option)	
Analog touch controller	Resistive touch screen Standard: 12 bit touch controller for 4-wire resistive touch screen, integrated in PXA 320, drivers integrated Option: Sun light readable 5-wire resistive touch screen, Hampshire A2 Touch Controller
Analog touch interface	Internal plug-in connector ESD Level 3 (according to EN 61000-4-2) protected

3.4.6. Audio interface for handset (Option – cannot be retrofitted)	
Audio handset connection	Microphone in Audio out 2 W @ 8 Ohm ESD Level 3 (according to EN 61000-4-2) protected More information in chapter *Audio*

3.4.7. Integrated speaker

Figure 3.5: Speaker on the side of XMT 5

XMT 5/7: Integrated speaker on the side of the device

XMT 5/10: Integrated speaker on the rear of the device

Features:

Wolfson Microelectronics WM97115L Audio-Codec
AC97 controller integrated into PXA 320
Codec with separate 2 W@ 8 Ohm audio amplifier
Frequency response 400 to 20,000 Hz
Driver integrated into image

Additional information found in section *Audio*.

3.4.8. I/O ports, LAN, USB, Service USB	
Serial port	COM1 max. 115.200 Baud (16550A/16750 compatible, 64 Byte FIFO) EIA-232-E with Rx/Tx/RTS/CTS ESD Level 3 (according to EN 61000-4-2) protected Optional: 5 / 12 V auf Pin 9 Optional: COM2 and 422/485, see chapter *Serial ports*
LAN	IEEE 802.3/802.3u compatible 10 BASE-T and 100BASE-TX support Full- and Half-Duplex support
USB	All USB ports ESD Level 3 (according to EN 61000-4-2) protected 2 x USB 2.0 Host USB-A Steckverbinder (USB 2.0 low / full / high speed) mit abgesicherten 0,5 A pro Kanal 1 x USB 2.0 Client USB-B plug-in connector (USB 2.0 full / high speed) (for Microsoft ActiveSync only)

USB Service	1 x USB 2.0 Host, service port; placed under the antenna cap; USB-A plug-in connector (USB 2.0 low / full / high speed) with protected 0.5 A. More information in chapter *5.6 Service-USB under the antenna cap*  Figure 3.6: Service USB port

3.4.9. CAN 2.0 B (Option)	
CAN 2.0 B	CAN V2.0B compatible, up to 1 Mbit/s Galvanically isolated ESD Level 3 (according to EN 61000-4-2) protected ISO 11898-compatible transceiver module See chapter *CAN (Option)* for more information.

3.4.10. LCD port	
Graphic controller	Integrated in PXA 320 Shared memory architecture internal plug-in connector LVDS transmission via FPGA Driver integrated in the image

3.4.11. Front key interface	
Keyboard controller	XMT 5/7: 4 or 17 front keys XMT 5/10: 4 or 25 front keys Integrated in PXA 320 SerDes transmission via FPGA Driver integrated in the image Configurable with neXtConfig software ESD Level 3 (according to EN 61000-4-2) protected

3.4.12. CompactFlash interface	
CF controller	Integrated in PXA 320 Driver integrated in the image resp. installable belated
CF port	1 x type I/II

3.4.13. SD /SDIO interface	
SD/SDIO controller	Integrated in PXA 320; Driver integrated in the image
SD/SDIO port	1 x Type 1 Push-Push mechanic with adjustment

3.4.14. Power supply

The device model is displayed on the device type plate.

DC power pack 12/24 VDC 30 W internal Type DC-11 and Type DC-13	12/24 VDC nominal Voltage range: 9 to 36 VDC The 12/24VDC power supply can provide the full output power for 20 seconds in a voltage range of 6 to 9 VDC. The following is bridged: Power failures of >3 ms at UiN = 12 V >8 ms at UiN = 24 V Galvanically isolated Maximum output: 30 W Withstands bursts up to 2 kV Nominal current of 4.2 / 2.1 A Connection to SELV circuit*) only
DC power pack 24/48 VDC 30 W internal Type DC-12 12 and Type DC-14	24/48 VDC nominal Voltage range: 18 to 60 VDC The following is bridged: Power failures of >3 ms at UiN = 24 V >10 ms at UiN = 48 V 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

*) 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.

3.4.15. Maximum power available for peripheral devices

Power supply	
DC-x, DC-y	2 x 2.5 W for USB-Host 1 x 2 W for Audio Out 12 V / 1 A resp. 5 V / 1 A @ 20 °C ambient temperature

3.4.16. Power supply fuses

Power supply	Fuse type
DC-x	5x20 mm T 10 A / 250 V
DC-y	5x20 mm T 4,0 A / 250 V

3.4.17. Ambient conditions	
Protection	IP 67 and IP 66 (IP 65 and IP 54 included)
Operating temperature	In accordance with EN 60068-2-1/2 -30° to +50° C Switch-on temperature >= -25 °C
Storage temperature	In accordance with EN 60068-2-1/2 -35 to +65 °C
Relative humidity	In accordance with EN 60068-2-3 10% to 90% @ 40°C, non-condensating
Mechanical vibration and shock-resistance	Class 5M3 according to DIN EN 60721-3-5 US Highway Truck according to MIL-STD 810F

3.4.18. Test marks	
	See “Declaration of Confirmity“

3.4.19. Integrated WLAN antenna (WLAN option)

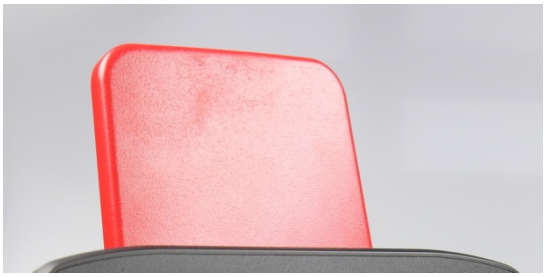


Figure 3.7: Integrated antenna

Gain (without cable lost): 3 dBi max.

Frequency band:
2400 to 2485 MHz / 5150 to 5875 MHz

Impedance: 50 Ω

VSWR (voltage standing-wave ratio): < 2

Polarization: vertical

Max. power: 1 W (CW) @ 25°C

3.4.20. Remote WLAN antenna(WLAN option)

Figure 3.8: Remote antenna

Gain: 4 dBi max.

Frequency band: 2400 to 5875 MHz

Dimensions: Ø 86 x 43 mm (Ø 3.39” x 1.69”)

Weight: 0,3 kg (0,66 lbs)

Polarization: linear, vertical

3.4.21. WLAN module (option)	
System interface	16-bit CF Type I with 50-pin connection
Antenna interface	Two U.FL (Hirose) connectors for antenna diversity
Chipset	Broadcom BCM4318E
Input power requirements	3.3 VDC +/- 5%
Typical power consumption (at maximum transmit power setting)	Transmit: 400 mA (1320 mW) Receive: 180 mA (594 mW) Standby: 10 mA (33 mW)
Network standards	IEEE 802.11b, 802.11g, 802.11i
Network architecture types	Infrastructure and ad hoc
Frequency band	2.4 to 2.4897 GHz
Wireless media	Direct Sequence-Spread Spectrum (DSSS) Orthogonal Frequency Divisional Multiplexing (OFDM)
Media Access Protocol	Carrier sense multiple access with collision avoidance (CSMA/CA)
Data Rates Supported	802.11b (DSSS): 1, 2, 5.5, 11 Mbps 802.11g (OFDM): 6, 9, 12, 18, 24, 36, 48, 54 Mbps
Transmit Power Settings *Maximum transmit power will vary according to individual country regulations. All values nominal, +/-1.5dBm*	DSSS: 19 dBm (80 mW) 17 dBm (50 mW) 15 dBm (30 mW) 10 dBm (10 mW) 0 dBm (1 mW) OFDM: 15 dBm (30 mW) 10 dBm (10 mW) 0 dBm (1 mW)

Typical Receiver Sensitivity	1 Mbps: -96 dBm 2 Mbps: -95 dBm 5.5 Mbps: -94 dBm 6 Mbps: -94 dBm 9 Mbps: -91 dBm 11 Mbps: -90 dBm 12 Mbps: -88 dBm 18 Mbps: -86 dBm 24 Mbps: -83 dBm 36 Mbps: -78 dBm 48 Mbps: -76 dBm 54 Mbps: -75 dBm
Delay Spread	1 Mbps: 600 ns 2 Mbps: 500 ns 5.5 Mbps: 400 ns 6 Mbps: 400 ns 9 Mbps: 400 ns 11 Mbps: 200 ns 12 Mbps: 350 ns 18 Mbps: 350 ns 24 Mbps: 250 ns 36 Mbps: 250 ns 48 Mbps: 150 ns 54 Mbps: 150 ns

3.4.22. GPS (option)	
General	L1 frequency (1575.42 MHz), C/A code (Standard Positioning Service), 12-channel, continuous tracking receiver
Update Rate	TSIP @ 1 Hz; NMEA @ 1 Hz; TAIP @ 1Hz
Accuracy	Horizontal: <5 meters (50%), <8 meters (90%) Altitude: <10 meters (50%), <16 meters (90%) Velocity: 0.06 m/sec. PPS (static): ±50 nanoseconds
Acquisition	(Autonomous Operation in Standard Sensitivity Mode) Reacquisition: <2 sec. (90%) Hot Start: <10 sec. (50%), <13 sec. (90%) Warm Start: <38 sec. (50%), <42 sec. (90%) Cold Start: <50 sec. (50%), <84 sec. (90%) (Cold Start requires no initialization, Warm Start implies last position, time and almanac are saved by backup power. Hot start implies ephemeris also saved. Optional (COCOM) Limits Altitude: 18,000 m Velocity: 515 m/s Either limit may be exceeded, but not both.

3.4.23. External magnetic Antenna for GPS, 5 m (Option)	
Antenna	
Frequency Range	1,575.42+/-1.023MHz
Gain	90°: 3.0dBi min.; 20°: -4.0dBi min. (mounted on the 65mm x 65mm square ground plane)
Polarization	RHCP
Axial Ratio	90°: 4.0dB max.; 10°: 6.0dB max. (mounted on the 65mm X 65mm square ground plane)

LNA	
Frequency range	1.575.42 ±1.023MHz
Gain	28 ±3 dB (-40°C to 85°C)
Noise	1.5dB max. (+25°C ± 5°C) 2.2dB max. (+85°C)
Out of band rejection	fo=1,575.42MHz fo±20MHz 7dB min. fo±30MHz 12dB min. fo+/-50MHz 20dB min. fo±100MHz 30dB min.
Output Impedance	50Ω
Output VSWR	2.0max.
Overall Specifications	
Frequency range	1,575.42 ±1.023MHz
Gain	27 ± 3dBi (+25°C ± 5°C) 27 ± 4dBi (-40°C to 85°C) (mounted on the 65mm x 65mm square ground plane)
Output Impedance	50Ω
VSWR	2.0MAX.
ESD	Antenna surface ± 15KV Connector pin ± 8KV
MTBF	5.13E+6Hr.

3.4.24. WWAN module (option)	
General	
Frequency bands	GSM/GPRS/EDGE: Quad band, 850/900/1800/1900MHz UMTS/HSPA+: Five band, 800/850/AWS/1900/2100MHz
GSM class	Small MS
Output power (according to Release 99)	Class 4 (+33dBm ±2dB) for EGSM850 Class 4 (+33dBm ±2dB) for EGSM900 Class 1 (+30dBm ±2dB) for GSM1800 Class 1 (+30dBm ±2dB) for GSM1900 Class E2 (+27dBm ± 3dB) for GSM 850 8-PSK Class E2 (+27dBm ± 3dB) for GSM 900 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1800 8-PSK Class E2 (+26dBm +3 /-4dB) for GSM 1900 8-PSK Class 3 (+24dBm +1/-3dB) for UMTS 2100, WCDMA FDD BdI Class 3 (+24dBm +1/-3dB) for UMTS 1900,WCDMA FDD BdII Class 3 (+24dBm +1/-3dB) for UMTS AWS, WCDMA FDD BdIV Class 3 (+24dBm +1/-3dB) for UMTS 850, WCDMA FDD BdV Class 3 (+24dBm +1/-3dB) for UMTS 800, WCDMA FDD BdVI
HSPA Features	
3GPP Release 6, 7	DL 14.4Mbps, UL 5.7Mbps UE CAT. [1-6], 11, 12 supported Compressed mode (CM) supported according to 3GPP TS25.212
UMTS Features	
3GPP Release 4	PS data rate – 384 kbps DL / 384 kbps UL CS data rate – 64 kbps DL / 64 kbps UL
GSM / GPRS / EGPRS Features	
Data transfer	GPRS: • Multislot Class 12 • Full PBCCH support • Mobile Station Class B • Coding Scheme 1 – 4

	EGPRS: • Multislot Class 12 • EDGE E2 power class for 8 PSK • Downlink coding schemes – CS 1-4, MCS 1-9 • Uplink coding schemes – CS 1-4, MCS 1-9 • SRB loopback and test mode B • 8-bit, 11-bit RACH • PBCCH support • 1 phase/2 phase access procedures • Link adaptation and IR • NACC, extended UL TBF • Mobile Station Class B CSD: • V.110, RLP, non-transparent • 14.4kbps • USSD
GPS Features	
Protocol	NMEA
Modes	Standalone GPS Assisted GPS - Control plane - E911 - User plane - gpsOneXTRA™
General	Power saving modes Power supply for active antenna GPS tracking in parallel to 2G/3G diversity operation
Interfaces	
UICC interface	Supported chip cards: UICC/SIM/USIM 3V, 1.8V

3.5. Device dimensions

3.5.1. XMT 5/7

Front view

Dimensions without add-ons (in mm):

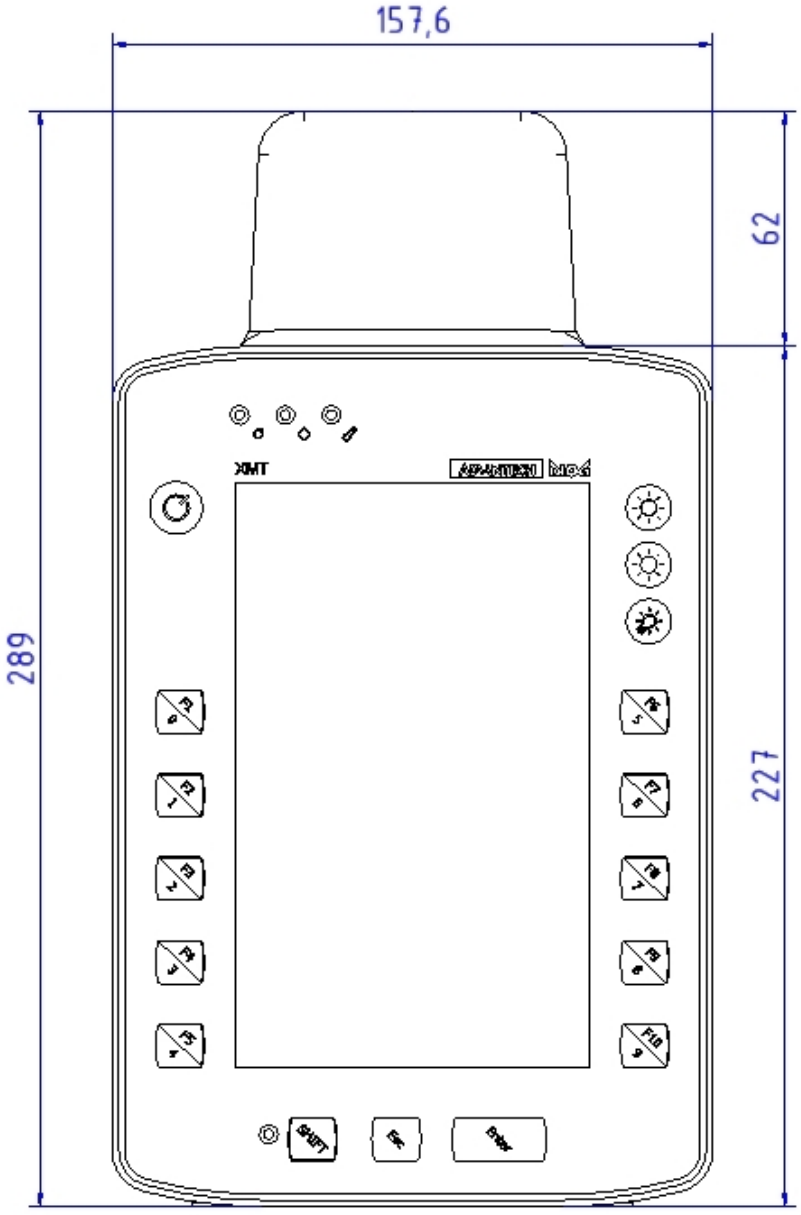


Figure 3.9: Dimensions XMT 5/7 front view

Side view

Dimensions without add-ons (in mm):

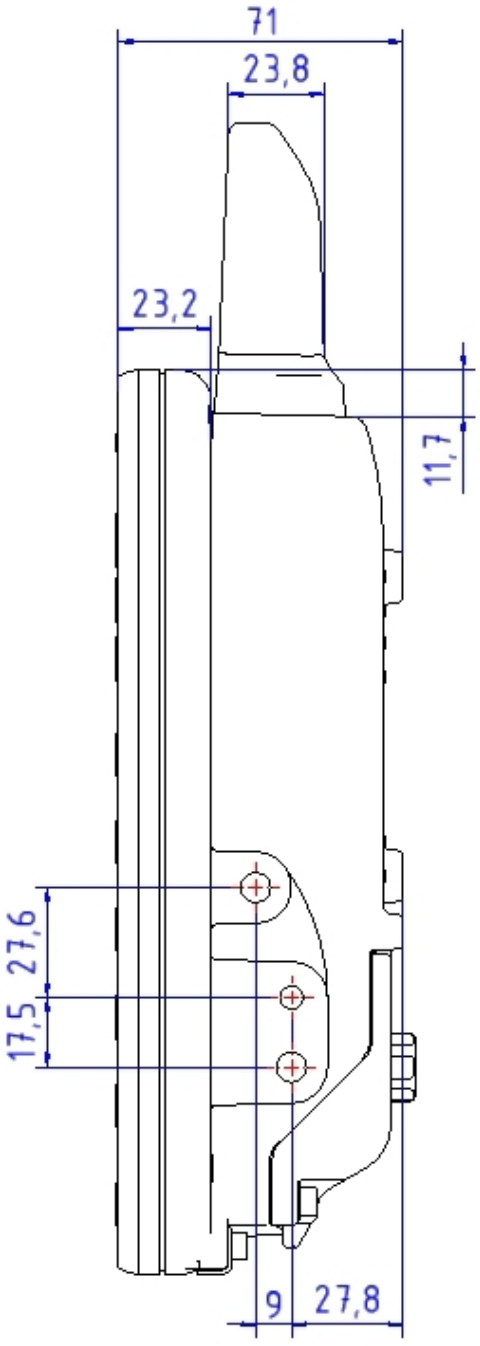


Figure 3.10: Dimensions XMT 5/7 side view

Top view

Dimensions without add-ons (in mm):

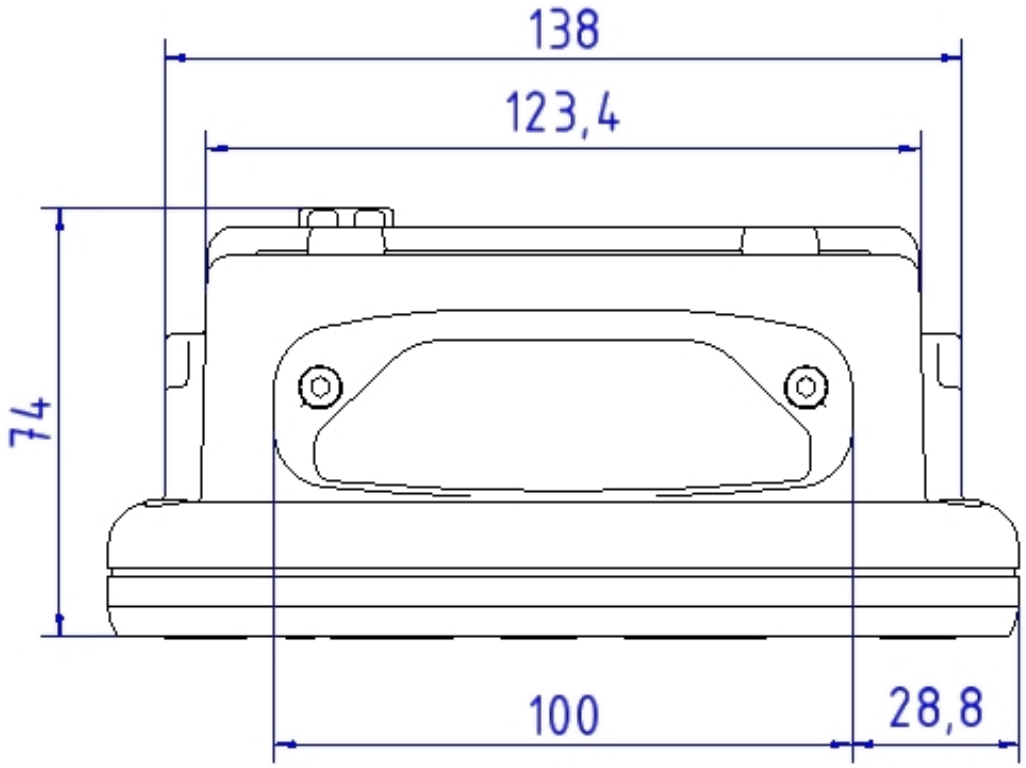


Figure 3.11: Dimensions XMT 5/7 top view

3.5.2. XMT 5/10

Front view

Dimensions without add-ons (in mm):

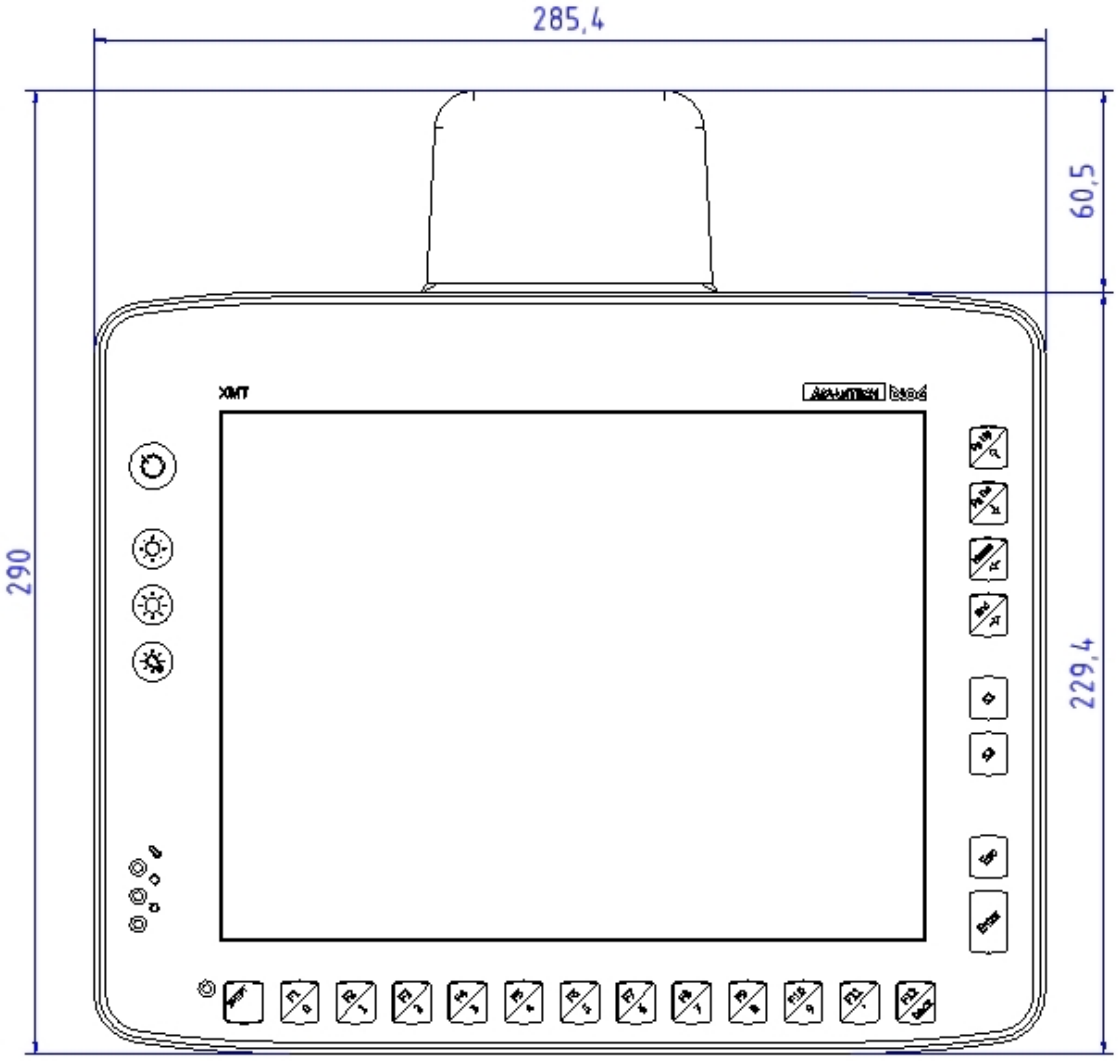


Figure 3.12: Dimensions XMT 5/10 front view

Side view

Dimensions without add-ons (in mm):

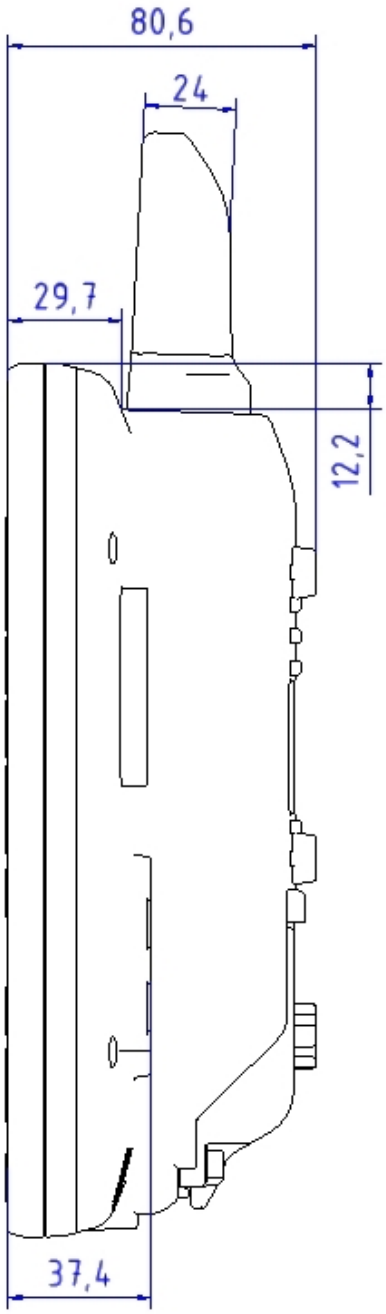


Figure 3.13: Dimensions XMT 5/10 side view

Top view

Dimensions without add-ons (in mm):

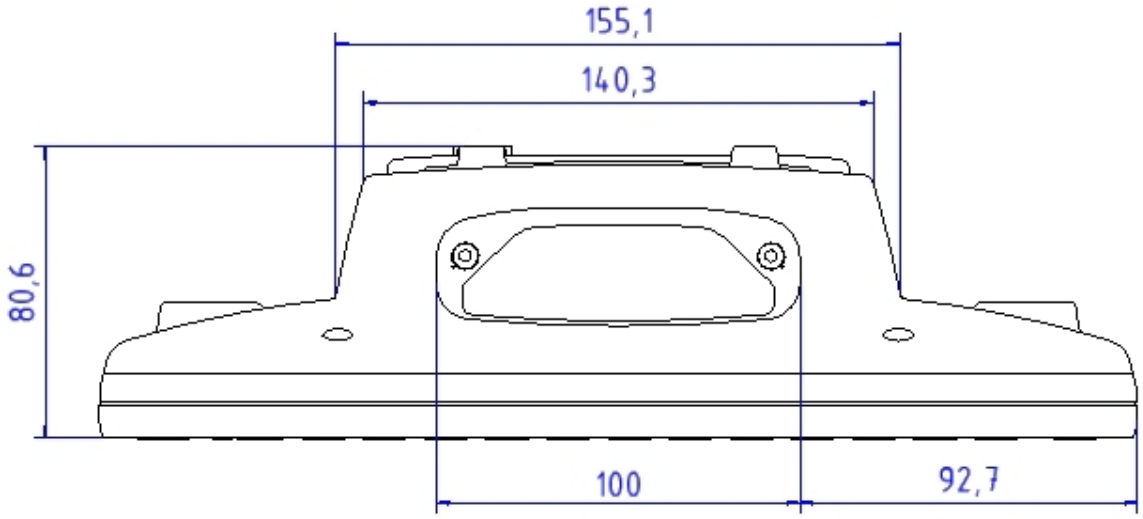


Figure 3.14: Dimensions XMT 5/10 top view

3.6. VESA drill holes

3.6.1. XMT 5/7

The VESA drill holes on the XMT 5/7 (mm):

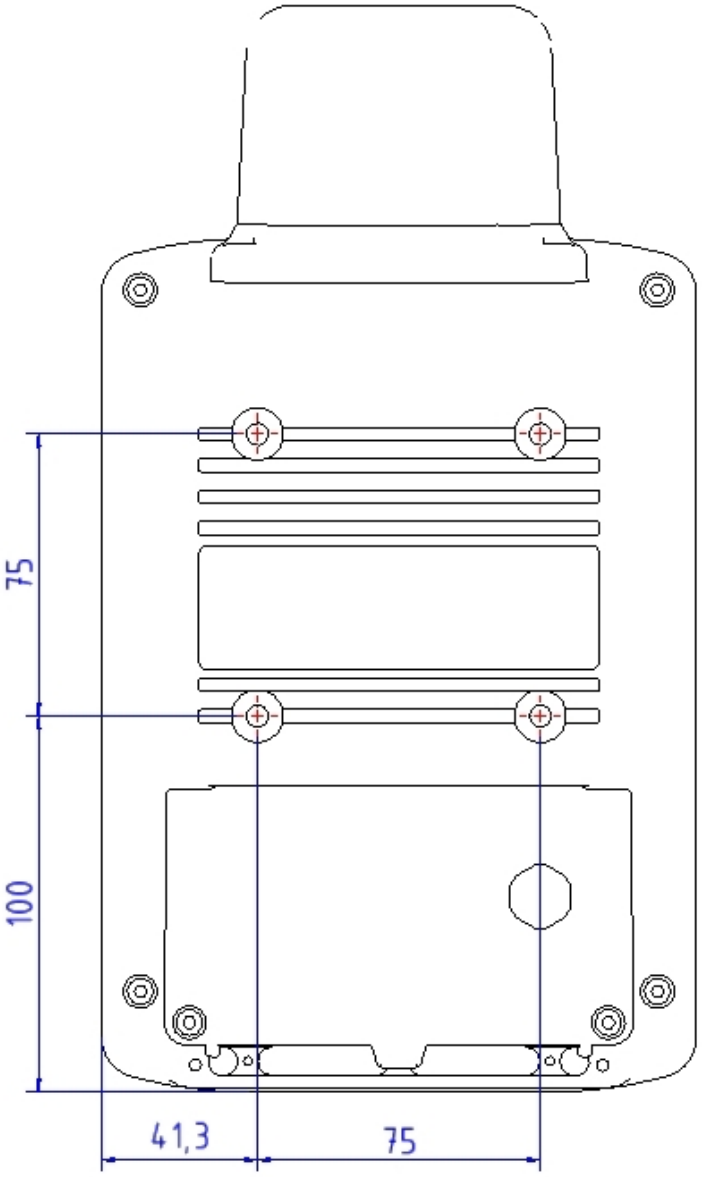


Figure 3.15: VESA drill holes on the XMT 5/7

3.6.2. XMT 5/10

The VESA drill holes on the XMT 5/10 (mm):

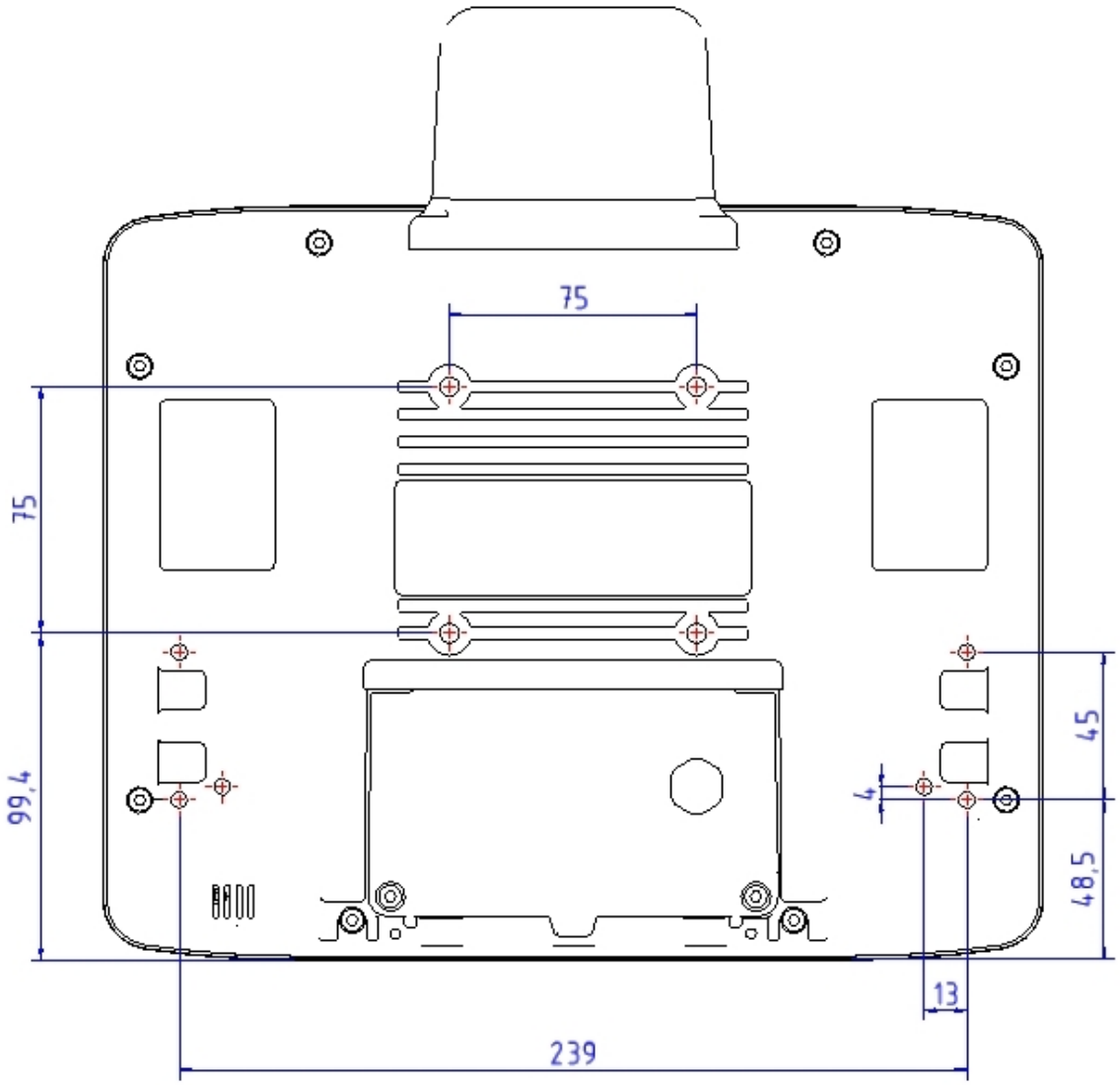


Figure 3.16: VESA drill holes on the XMT 5/10

4. Unpacking the device

4.1. Scope of delivery

The delivery includes at least the following:

- Ordered XMT 5 device
- Ordered assembly set
- Cable cover
- One connecting cable

Please verify the delivery contents immediately on receipt!

4.2. 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.

NOTICE: 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.

4.3. 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 complete the form included in the appendix.

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

5. Initial operation

WARNING

Before operating the unit for the first time, carefully read the *Safety Guidelines*.

5.1. Wireless networks

The following paragraph describes the software settings for the current driver version at the time the manual was compiled. The installation of subsequent driver versions will function similarly, but some of the individual items may deviate.

5.1.1. WLAN

Depending on optional equipment and installation purpose of the XMT 5, the settings/access data for a wireless network such as WLAN must be defined.

5.1.1.1. Summit Client Configuration (SCU)

Start the Summit Client Utility, referred to as SCU in the following, with a double finger tap on the SCU icon on the desktop:

Figure 5.1: Summit Client Utility Icon

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

- From the start menu: Start | Programs | Summit | SCU.
- Or with a double tap on the specific taskbar icon:

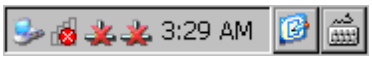


Figure 5.2: SCU Taskbar Icon

- Or with the Wi-Fi icon in the control panel, which is accessed from Start | Settings | Control Panel:

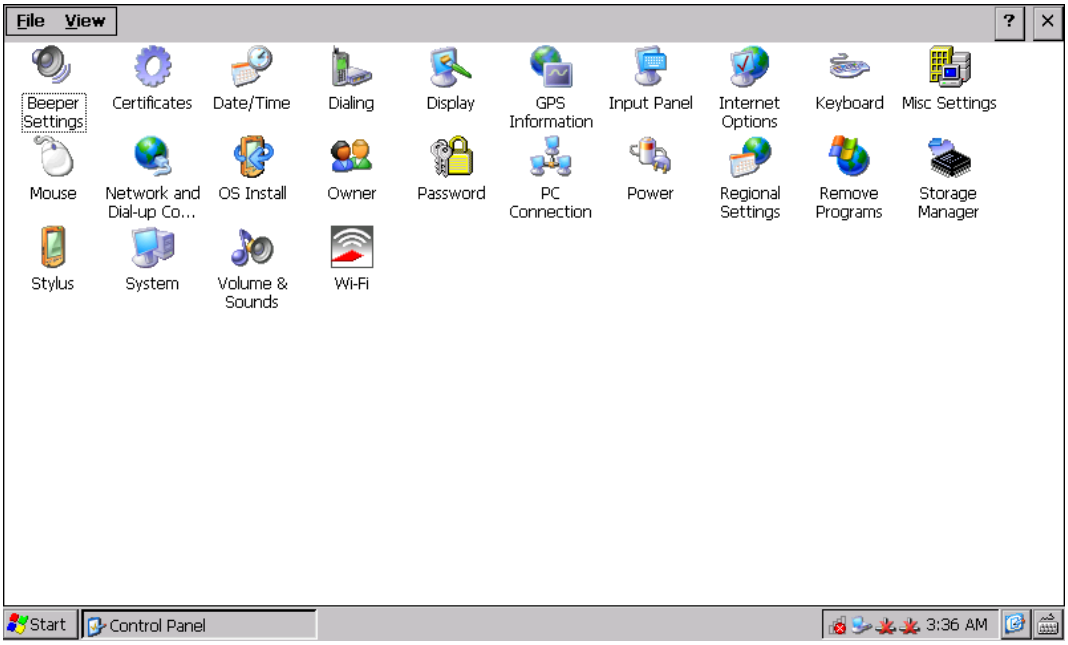


Figure 5.3: Wi-Fi icon in the control panel

Password

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

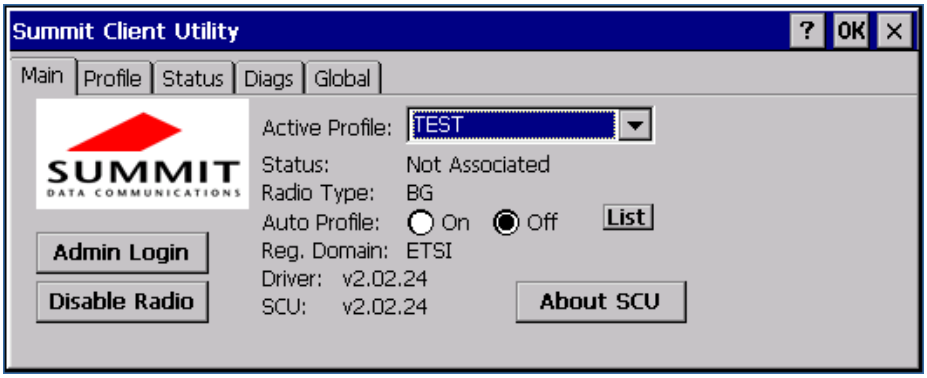


Figure 5.4: SCU menu

- Click on the Admin Login button.
  An entry field for the password appears.
- Enter the assigned password.
  The standard password is: SUMMIT

Figure 5.5: SCU menu – password entry

5.1.2. Summit Client Utility

Figure 5.6: SCU menu bar

Find more information on the WLAN settings in the online help of the menu Start | Settings | Network Dial-Up Connections.

Important: to permanently save these settings:

- Enter the command `saveregistry` in the Windows menu Start | Run | open, and confirm it with OK.

The TX Power settings for XMT5 with SUMMIT- WLAN card are:

Dual band antenna with diversity 50 mW

GGW Antenna: Maximum

5.1.3. GPS

The following paragraph describes the software settings for the current driver version at the time the manual was compiled. The installation of subsequent driver versions will function similarly, but some of the individual items may deviate.

Introduction

The XMT 5 can provide standardized data streams from the National Marine Electronics Association (NMEA) by integrating an optional GPS receiver.
This data stream is provided to GPS applications via the GPS intermediate driver (GPSID) in the operating system.

The GPSID is a software component of Microsoft that interacts between the GPS hardware and the GPS application.

The GPSID driver offers the option of using the virtual COM port with multiple applications.

The NMEA data stream can be read via the COM9 virtual port.

Open the shortcut “SERTEST9“.

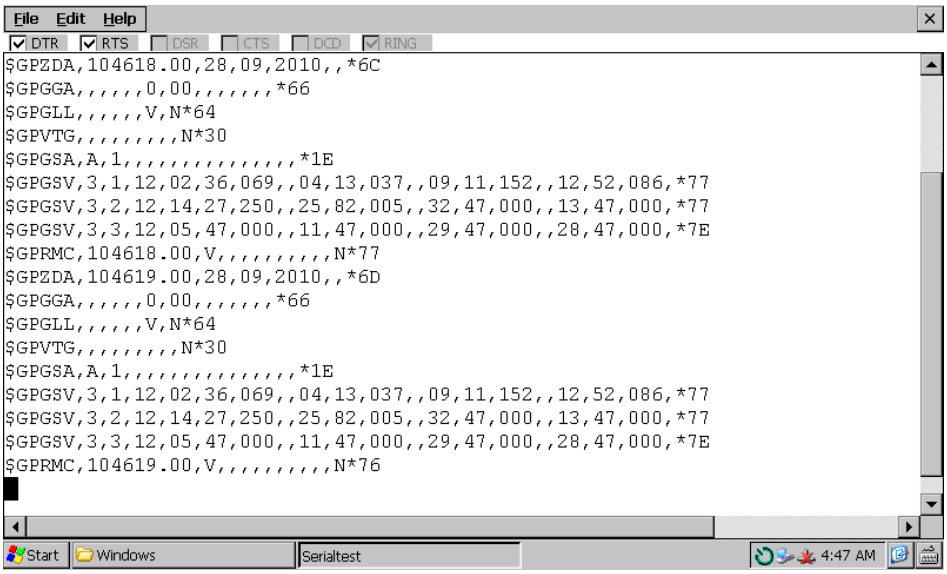


Figure 5.7: GPS, NMEA data stream, SERTEST9

To open the port in an individual program, use the following settings for the virtual COM port.

Port Name:	COM9
Baud rate:	38400
Data bits:	8
Parity:	None
Stop:	1
Flow:	None

The GPS receiver outputs the following NMEA sentence information via the virtual COM port.

(GGA, GSV, RMC, GLL, GSA, VTG, ZDA)

The GPS receiver sends the data stream every second.

5.1.4. GPS Information Applet

The GPS Information Applet shows the following when the active GPS antenna is connected and during GPS reception:

- the current position
- time of day
- speed
- satellite info
- DOP's
- mode info
- as well as the reception strength of the currently used and seen satellite in the SNR tab.

The applet is found in the Control Panel of the XMT 5.

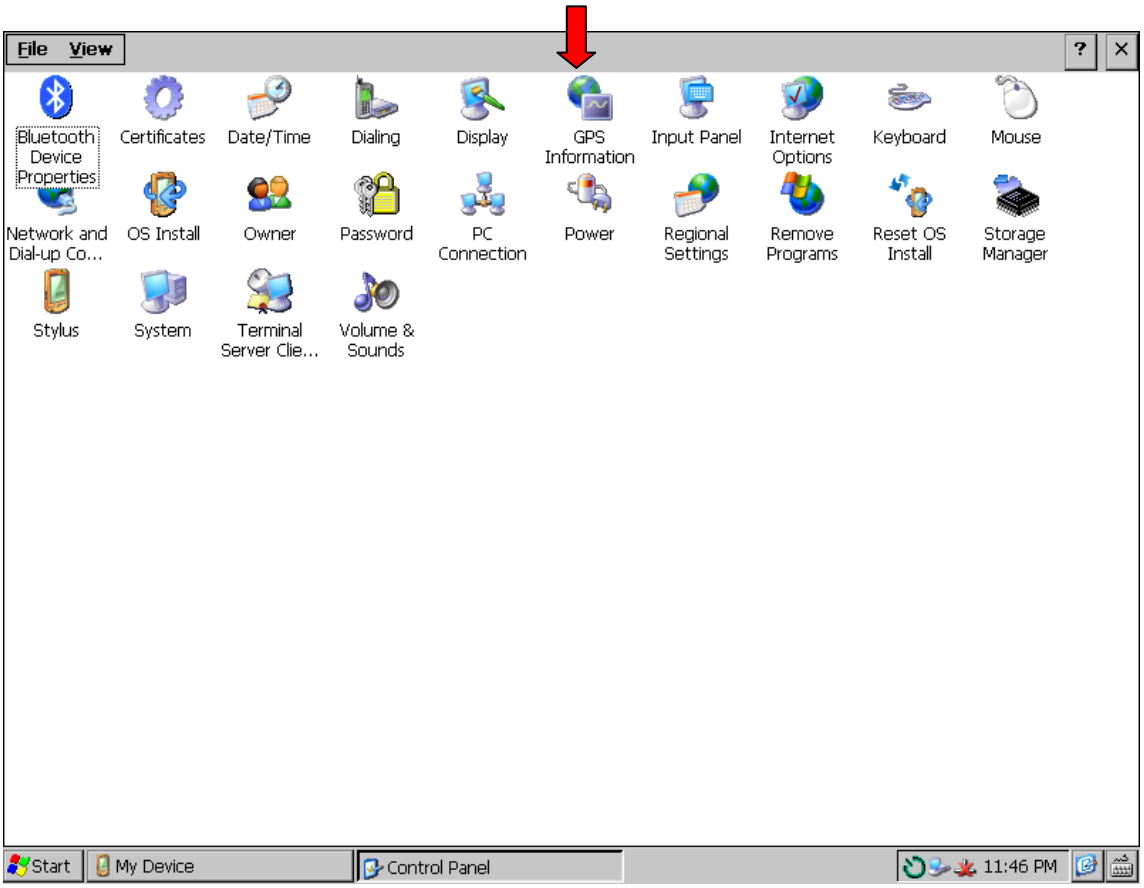


Figure 5.8: GPS Information Applet in the Control Panel

The GPS Information Applet displays the current position.

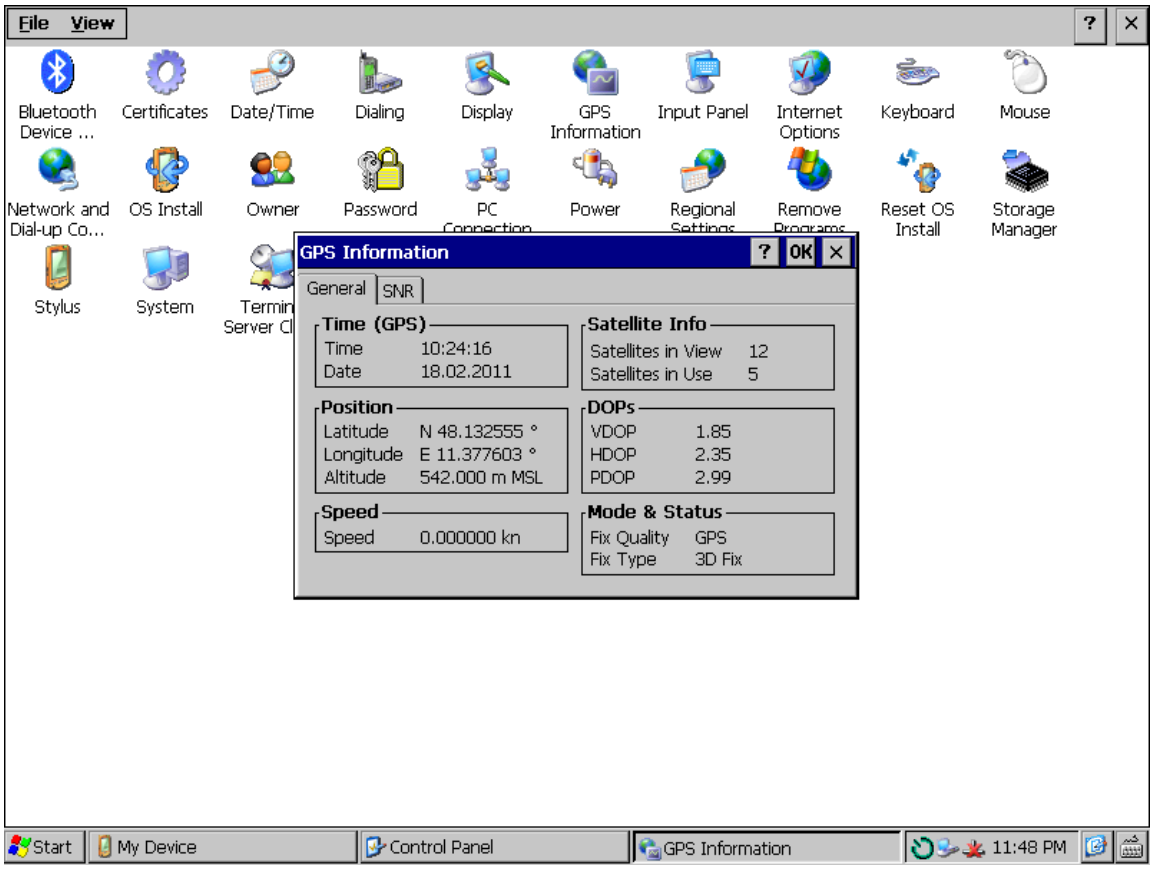


Figure 5.9: GPS information display of current position

The GPS Information Applet displays the signal strength of satellites.

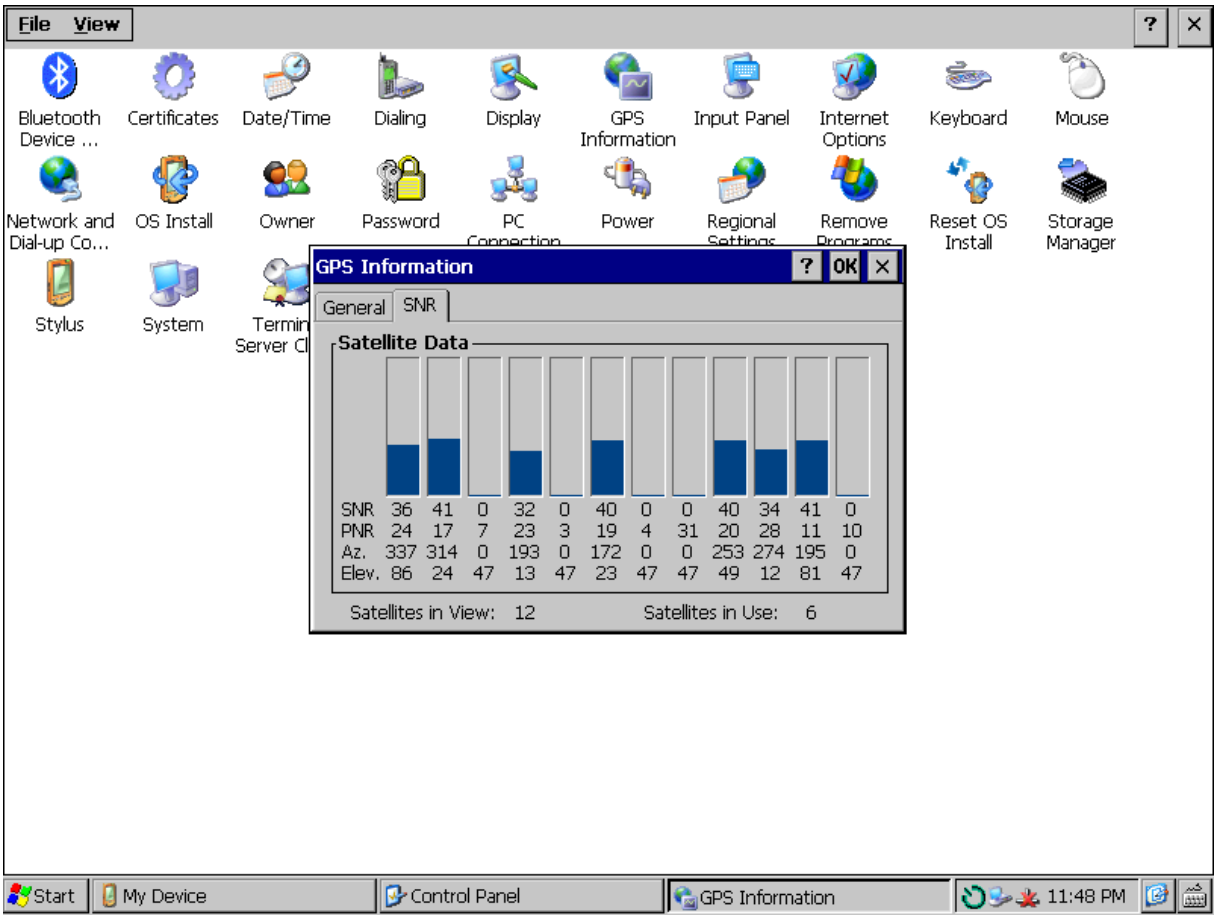


Figure 5.10: GPS information display of signal strength of satellites

5.1.5. GPS Receiver Configuration (GPS Config)

Support for the GPS module is a basic component of Standard XMT5 DLoG CE6.00 Images. Perform the following steps only if the GPS module was not a component of the supplied terminal.

- Open the folder \Windows.

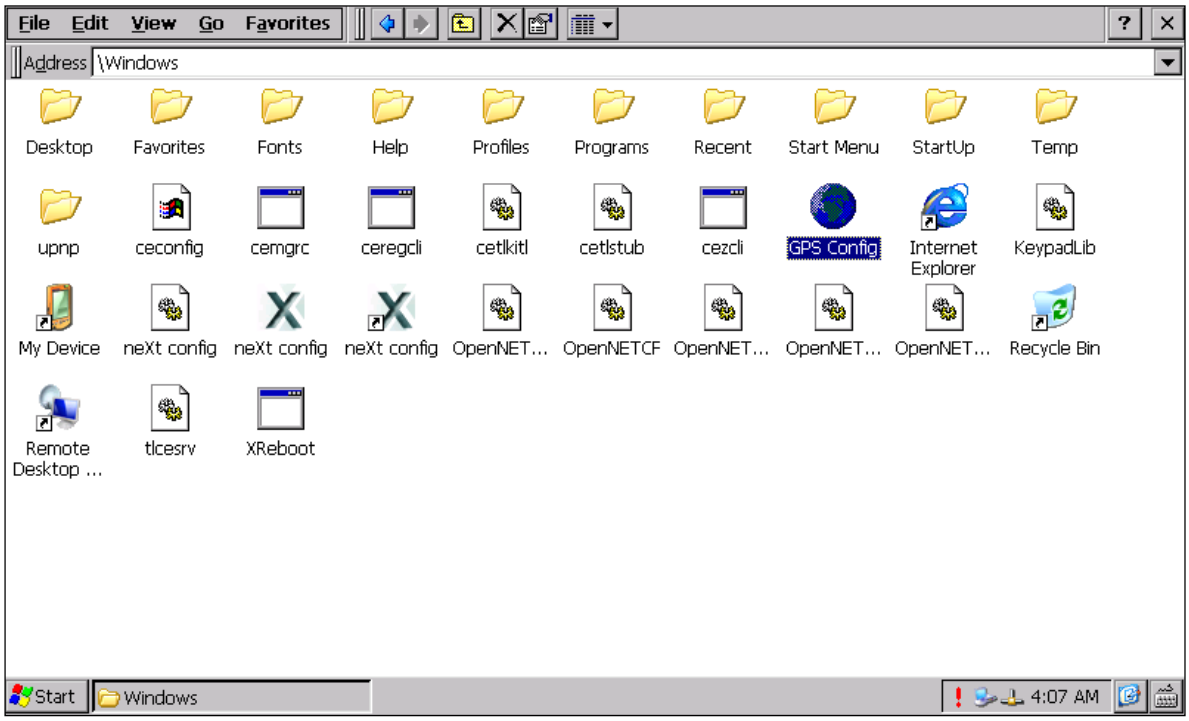


Figure 5.11: \Windows file

- Start the GPS Config program.

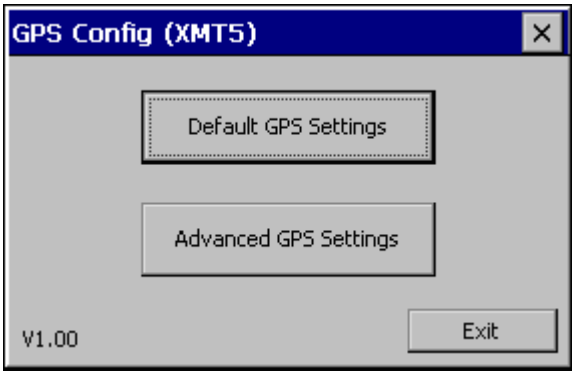


Figure 5.12: GPS Config XMT 5

The GPS config program provides a basic configuration for the GPS module.

- Click on the Default GPS Settings button.

  The following message is displayed:

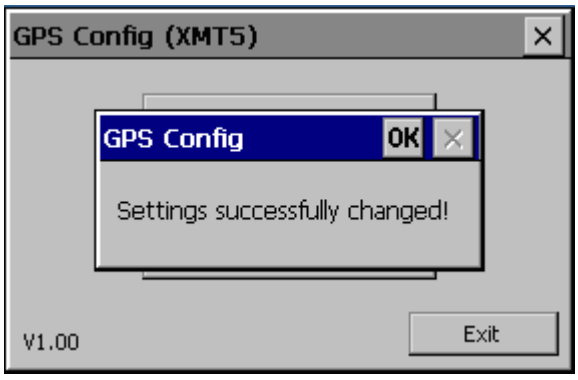


Figure 5.13: GPS Config: Settings successfully changed

The configuration sent is selected via a verification process. If the configuration is successfully matched, the Success message appears and the GPS module configuration is closed.

- Repeat this step or contact Support if the configuration fails and the message "FAILED!" is displayed!

"Default GPS Settings" Fault

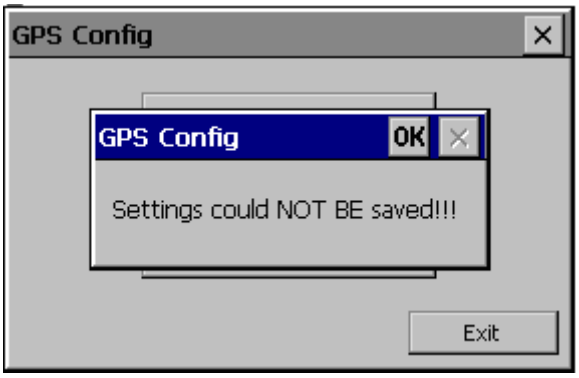


Figure 5.14: GPS Config: Settings could not be changed

This message is displayed if the written configuration is sent back incorrectly from the module.

Since the GPS module permanently sends data via the COM port, it can happen now and then that the configuration cannot be properly read.

In this case, repeat the process described above and make sure that the "Success" message is displayed before you use the GPS module.

Trouble-shooting GPS receiver

Problem:

No GPS reception or GPS information applet doesn't have the 2D/3D GPS fix, even after a long wait time of approx. 10-15 minutes.

Solution:

Perform a “Hard Reset” with the "GPS Config" and discard the saved GPS data.

- Open the “\Windows”folder.

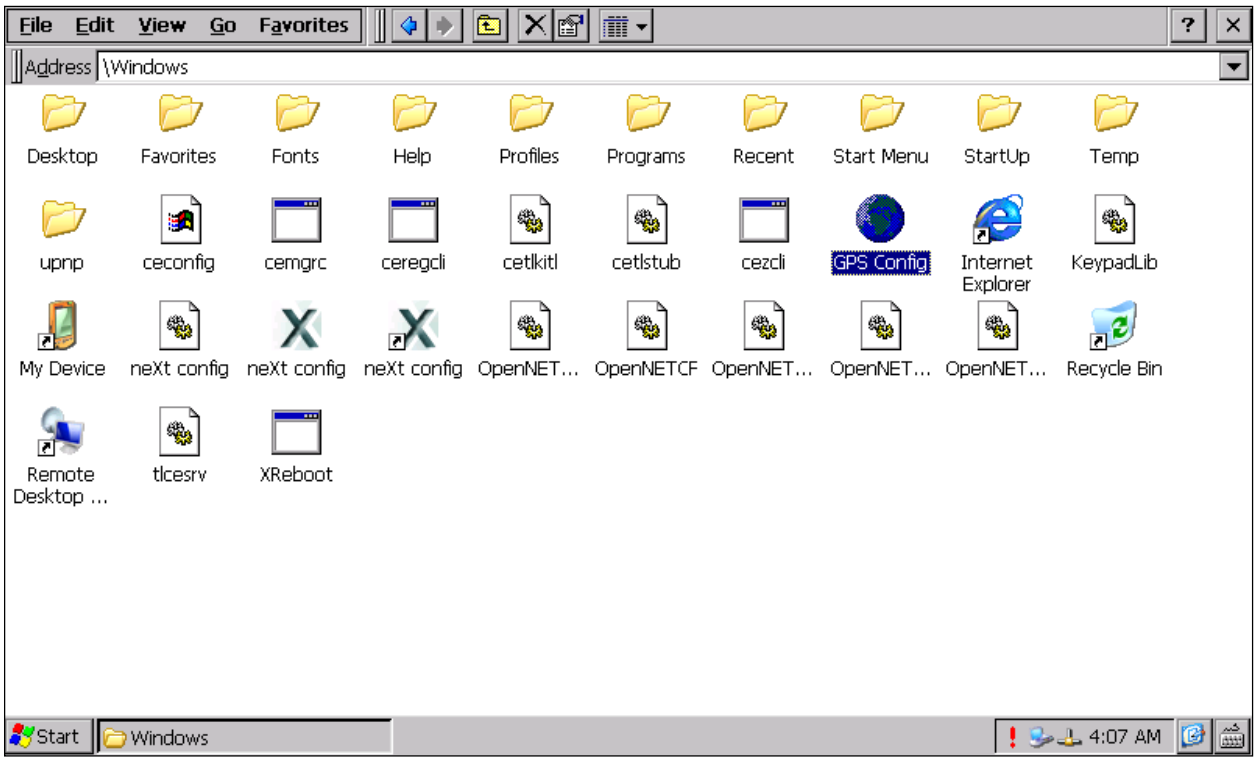


Figure 5.15: \Windows file

- Open the GPS config program.
- Click on the Advanced GPS Settings button.

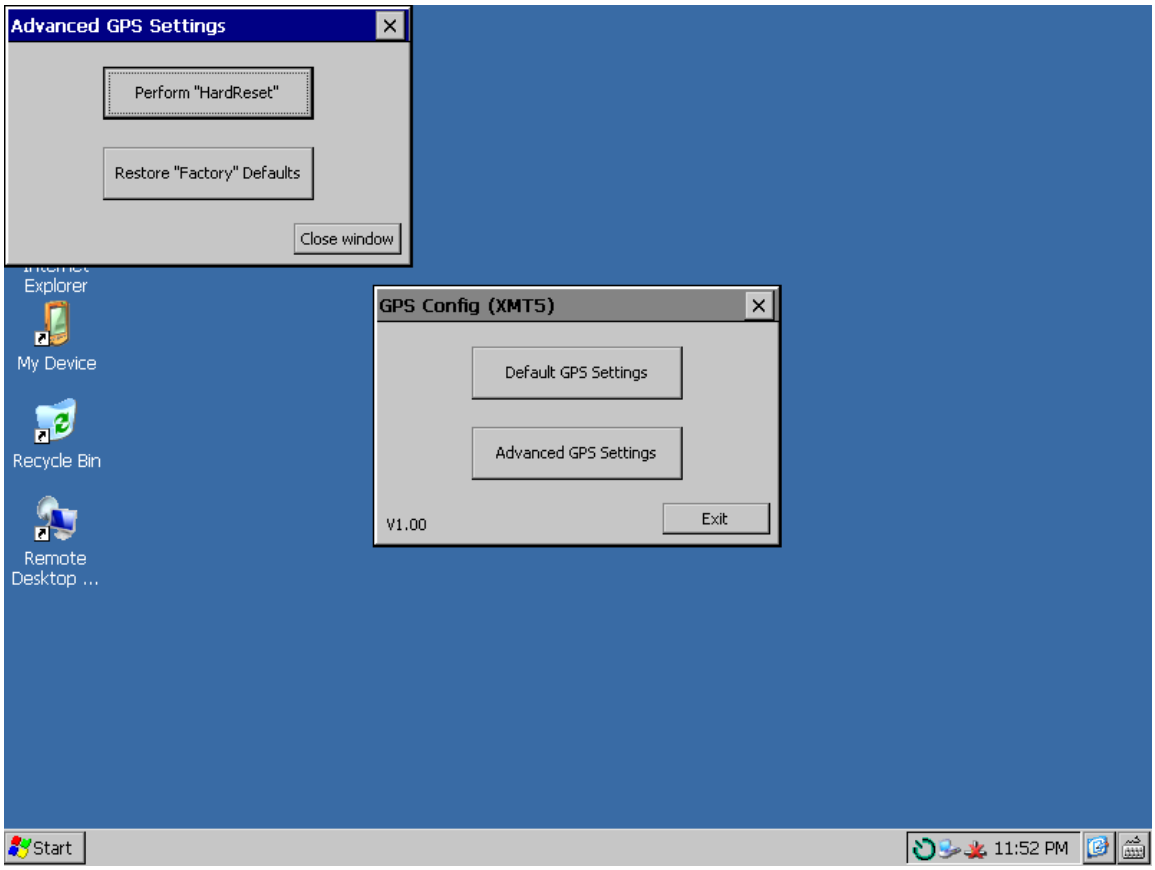


Figure 5.16: Advanced GPS Settings

- Click on the "Perform Hard Reset" button in the Advanced GPS Settings.

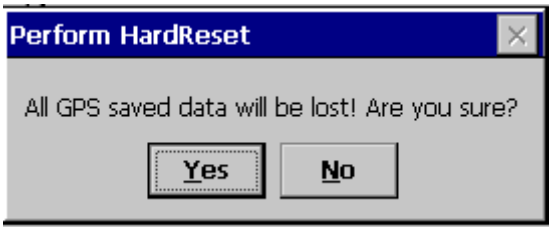


Figure 5.17: Perform HardReset

- Confirm the warning to perform the "Hard Reset"
  Or:
  Select "No" to interrupt the process.

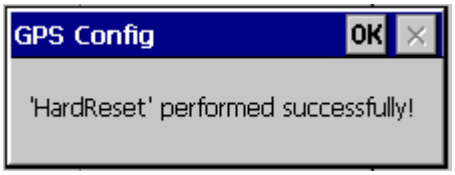


Figure 5.18: HardReset performed successfully

- The "Hard Reset" was successfully performed.
- Press OK to confirm the message.
- End the application with Exit .

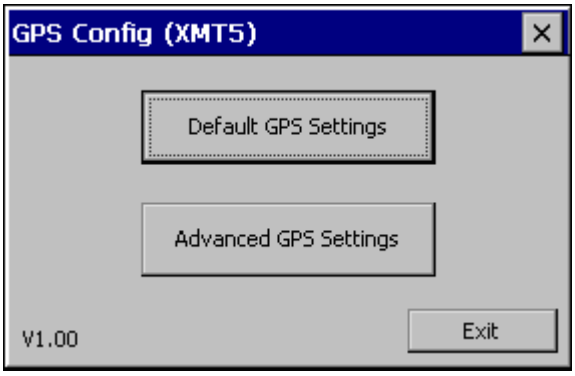


Figure 5.19: Exit GPS Settings

- You should now receive the 2D / 3D Fix in the GPS information applet within 5 minutes.
- If you still do not have GPS reception, please contact Support.

If no GPS module is installed or the module is not responsive, you will receive the following fault message when you access GPS Config:

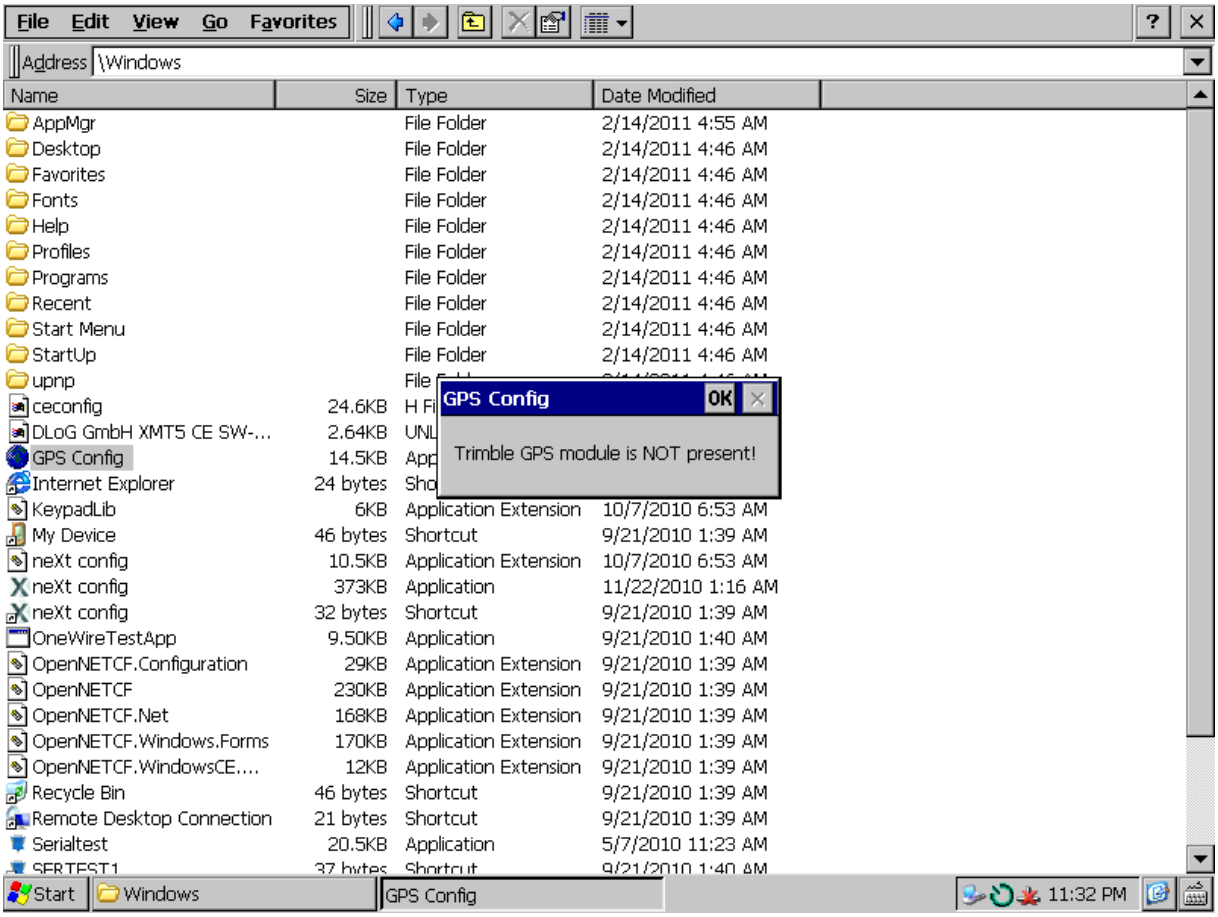


Figure 5.20: GPS module is not present

5.2. Protecting the TFT display from the memory effect

The TFT display of the XMT 5 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.

5.3. Installing application software

You can install the required software, depending on the application, via WLAN or via the USB client interface (ActiveSync).

5.4. Calibrate touch screen

The XMT 5 is precalibrated for delivery.
To fine tune, use the DLoG Admin Tools program, see section *14 DLoG Admin Tools*.

5.5. External Connectors

5.5.1. XMT 5/7

Figure 5.21: Connectors XMT 5/7

The connectors are assigned as follows:

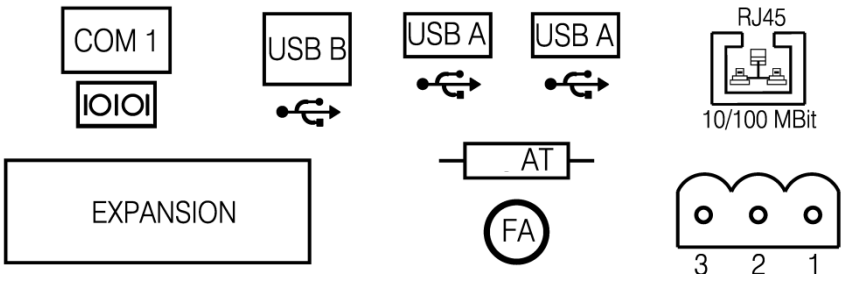


Figure 5.22: Connector assignemet XMT 5/7

5.5.2. XMT 5/10

Figure 5.23: Connectors XMT 5/10

The connectors are assigned as follows:

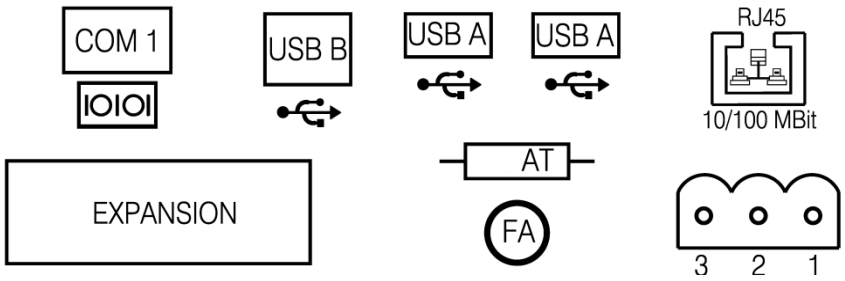


Figure 5.24: Connector assignemet XMT 5/10

5.6. Service-USB under the antenna cap

A service USB interface is arranged under the antenna cap of the XMT 5.

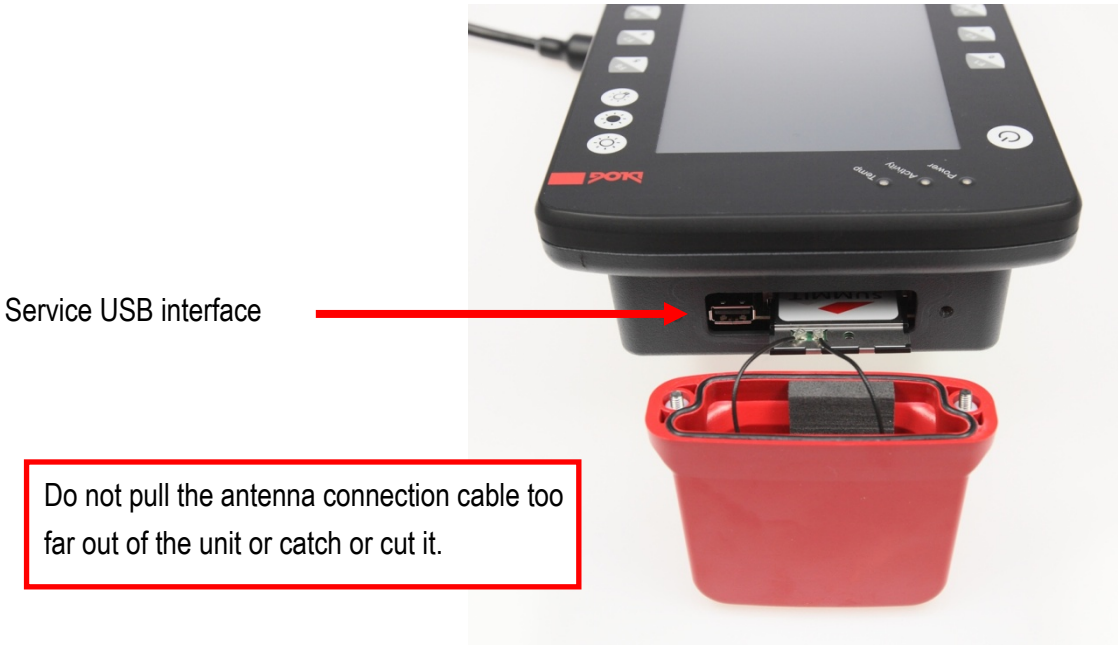


Figure 5.25: Service USB under the openend antenna cap

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

NOTICE: Property damage	Incorrect or improper removal and fastening of the antenna cap can impair the function of the entire XMT 5 system and in particular the WLAN functionality! Incorrect or improper changes made to the XMT 5 will invalidate any warranty provided by DLoG GmbH.

Unfasten antenna cap from unit and refasten it:

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

   NOTICE: One end of the antenna connection cables is attached to the antenna cap, the other end to the internal WLAN unit of the XMT 5. The cables must not be pulled out of the XMT 5 too far and become detached from the WLAN unit! This might damage the WLAN unit or other components of the device.
4. Place the antenna cap back onto the XMT 5.
5. 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).

5.7. Power supply units 12/24 VDC and 24/48 VDC

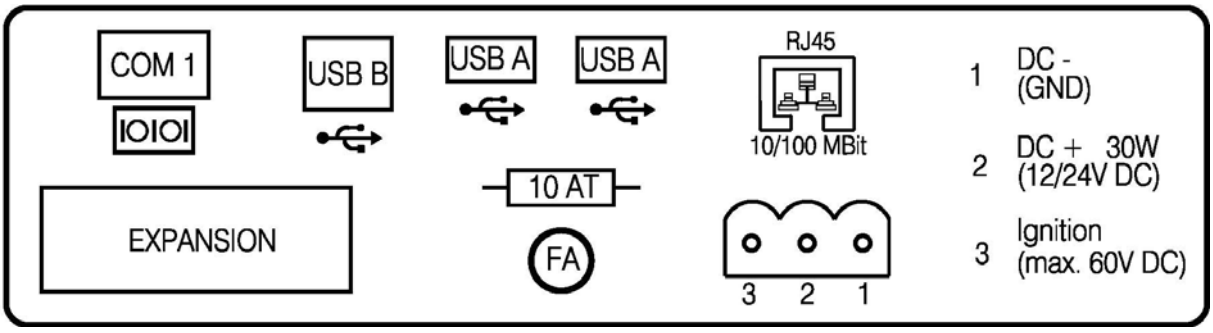


Figure 5.26: External connectors XMT 5, DC 12/24 V, 30 W

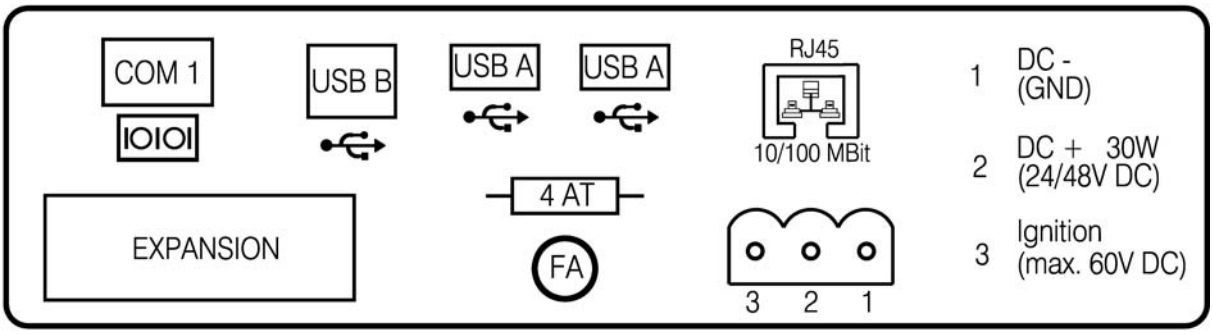


Figure 5.27: External connectors XMT 5, DC 24/48 V, 30 W

5.7.1. DC voltage supply connector

Version: Phoenix Combicon, 3pol.

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 2 W.

The signal reference is DC-.

5.8. Audio (Option)

Read information in chapter:

19 Audio

5.9. Connecting external devices

5.9.1. USB Connection

For connecting/removing USB devices, you must consider the maximum voltage that the USB connection can supply.

Additionally, note whether the cable is provided with strain relief.

Otherwise no specific arrangements are required for the XMT 5.

5.9.2. COM Connections

Before connecting/removing devices on a COM interface, the current must be switched off to the XMT 5.

Warning: Use only ferrite wire type 74271131 from Würth Elektronik in order to comply with emissions norm

If you connect wires to the serial interface, please use a ferrite wire from Würth Elektronik of type 74271131. You can purchase these directly from Würth Elektronik or via DLoG. This step is necessary in order to comply with the limit values in relation to EN 55022 ("radiated emission").

5.9.2.1. External devices, accessories

NOTICE: Property damage	XMT 5 must be disconnected from the power supply before external accessories/devices are connected or disconnected to/from the COM interface. Otherwise, you may damage the XMT 5 and the external accessories/devices. Make sure that external peripheral devices with their own power supply are switched on at the same time as the XMT 5 or after you start the XMT 5. If this is not possible, please ensure that the XMT 5 is adequately protected from power leakage caused by an external device.

Powering down the XMT 5

- Power down the operating system (using the ignition input and/or the <Power>-key.
- Disconnect the device from the supply voltage (pull off 3-pole Phoenix screw with appropriate tools).

Powering up the XMT 5

After all devices are connected and XMT 5 is properly closed, then the device may be switched on.

Please note that the connector for voltage supply and the connector in the COM socket (if present) are screwed on.

Otherwise, you may damage the XMT 5.

	Please observe also the mounting instructions delivered with your XMT 5 device.

5.10. Removing the protective film from the display

The front display of the XMT 5 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.

1. Only remove the film once all of the assembly work has been completed.
2. Pull the foil slowly and carefully to avoid static charge. The terminal could be damaged by high voltage.

6. Accessories

NOTICE: Property damage	Only use accessories that have been tested by DLoG GmbH and approved for the XMT 5. You can get more information about approved accessories from your DLoG sales representative.

6.1. Keyboard

On the XMT 5 any USB keyboard with USB-A connector can be connected.

6.1.1. SMALL keyboard

A mountable SMALL keyboard with protection class IP 65(German/English) is available.

Figure 6.1: SMALL keyboard

6.1.2. 24-key keypad

A 24-key keypad which can be mounted onto the device, with a protection class IP 65 is available for the XMT 5

The 24-key keypad is only suitable for the assembly of devices with portrait display.

Figure 6.2: 24-key keypad XMT 5

6.2. Mouse

Any USB mouse with USB-A can be connected to the XMT 5. Only two mouse keys are supported.

6.3. USB stick

You can connect a USB stick to the XMT 5 with a USB-A connector.

6.4. Scanner

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 (optionally). Be sure to only use scanners approved by DLoG GmbH.

6.5. WLAN cards

The WLAN card is connected via the CF card slot. In general, only drivers for WLAN cards approved by DLoG GmbH can be integrated.

6.6. SD memory cards

SD memory cards can be inserted in the SD/SDIO slot.

Standard delivery: 1 GB; other sizes upon request.

NOTICE: Property damage	Be sure to only use SD memory cards that have been approved by DLoG GmbH and that are released for the XMT 5. Find out about released SD memory cards from your DLoG sales representative.

6.7. Adapter cables

Various adapter cables are available, for example to change USB-B to USB-A format.

7. Installation/Mounting

WARNING

The unit could fall during transit or installation/mounting and cause injury. Always ensure that there are two persons available when installing or removing the device.
Before mounting the unit, carefully read the *Basic safety guidelines*.

The XMT 5 can be mounted 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 DLoG sales office to find out more about the whole range of installation options on offer.

7.1. Follow and retain the mounting instructions

Please follow the mounting instructions included with assembly kit when installing your XMT 5. Please make sure that you retain the instructions.

7.2. Monting the device

7.2.1. Cooling through the supply of fresh air

The XMT 5 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.

NOTICE: Property damage	If the XMT 5 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.

7.3. Power supply

The XMT 5 series devices are available with an integrated, galvanically isolated power supply for DC voltage.

If the device will be operated on AC, a converter is required. Please contact your DLoG sales representative if needed.

The power from the power supply unit is designed for operating the device over the entire range of operating temperatures. Additionally, expansion modules and/or external devices can be operated.

7.3.1. Power supply 12/24 V and 24/48 V

The following integrated DC power supplies are available:

- DC power supply with 12/24 VDC input voltage, maximum output 30 W
- DC power supply with 24/48 VDC input voltage, maximum output 30 W

NOTICE: Property damage	The DLoG XM 5 must only be connected to a SELV circuit. 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. 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 (16 AT max.). The ignition connecting cable must be protected by a fuse of the following type: 5 x 20 mm T 125 mA L / 250 V, for example, a Wickmann 195-125 mA / 250 V.

7.3.2. Connecting cables

Use the connecting cables supplied by DLoG GmbH to connect the XMT 5 to the power supply.

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

7.4. Vehicle applications (such as forklifts)

7.4.1. Electrical installation

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

On the XMT 5, 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 isplay and the CPU.

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

NOTICE: Property damage	Pay attention to the following warnings!

- When connecting the XMT 5, please ensure that the on-board voltage of the vehicle and the terminal input voltage match.
- The terminal input voltage can be found on the device nameplate and on the sticker for the pin assignments.
- Some forklifts have a chassis that is connected to DC+. Therefore, the XMT 5 chassis is also connected to DC+. However, if you use peripheral devices that supply DC– to the XMT 5 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.
- Please note that faults could occur in the power supply on forklifts with inverter drive which are well over the tolerance potential of the XMT 5. This could cause damage to the XMT 5. In such environments, the installation of a line filter is required. Please contact your DLoG sales representative if needed.

- Always attach ring tongues on the supply voltage cable to the ground bolt situated on the connector bay

Figure 7.1: Position of the ground bolt

- The other end of the yellow-green supply voltage cable should be connected to the vehicle's chassis.
- Make sure that the XMT 5's connecting cable is attached as close to the battery as possible.
- Connecting the XMT 5 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 XMT 5, such as printers and so on, be sure to power up the peripheral devices at the same time or after the XMT 5. Otherwise, you may encounter start-up problems, malfunctions or even irreparable damage to the device.

7.4.2. Position of the XMT 5 in the vehicle

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

If a keyboard and scanner should be installed on the XMT 5, please plan sufficient space.

No part of the XMT 5 system may project beyond the vehicle.

7.5. Cable cover (splash guard)

For safety reasons, the supplied cable cover for the external ports must be installed prior to using the XMT 5.

7.5.1. Protection class

Please use the installation kit available as an option from DLoG to comply with the IP protection rating. Please follow the installation instructions that are supplied with this installation kit.

After completing assembly, the cables must be fixed to the strain relief rail with the enclosed cable ties or strain relief clamps.

7.6. 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 while mounting DLoG industrial computers with WLAN antennas.

8. Operation

8.1. Touch Screen

The XMT 5 is equipped with a resistive touch screen.

NOTICE: Property damage	If operated incorrectly, such as with sharp objects like screwdrivers, the touch screen can be irreparably damaged.

Operation of the resistive touch screen is recommended with:

- clean, dry fingers
- clean, dry, soft gloves
- suitable touch stylus (plastic or wood, rounded tip, hardness 3H max.))

Resistive touch screens may not be operated with:

- ball-point pens or writing utensils,
- unsuitable touch styluses with a hardness greater than 3H (corresponds to pencil hardness of 4H)
- tools of any kind (e.g. screwdrivers)
- sharp objects (knives, scalpels, etc).

8.2. Front keys and LEDs

8.2.1. XMT 5/7 with 4 or 17 front keys

XMT 5/7 is available with 4 or 17 front keys.

The picture shows the 17-key-version:

Figure 8.1: XMT 5/7, 17 keys

8.2.1.1. Horizontal and vertical

The XMT 5/7 can be installed horizontally or vertically (convertible design). The front keys and LEDs are aligned for both.

The alignment of the display is adjusted with the DLoG Admin Tools program.
See section *14 DLoG Admin Tools*

8.2.2. XMT 5/10 with 4 or 25 front keys

The XMT 5/10 is available with 4 or with 25 front keys.

The picture shows the 25-key-version:

Figure 8.2: XMT 5/10, 25 keys

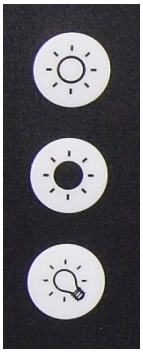
8.2.3. Brightness control

Even after manually turning off the backlighting, the XMT 5 will continue to respond to interaction via the keyboard, mouse or touch screen. This means that you can continue to enter commands and data even if the display lighting is off.

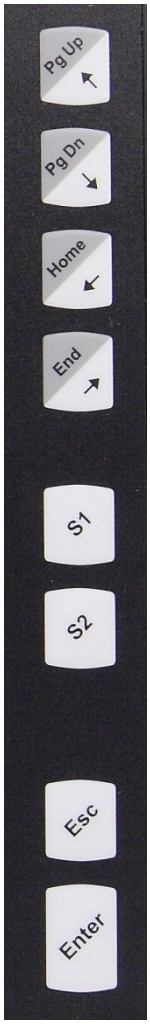
8.2.4. Function of front buttons and LED

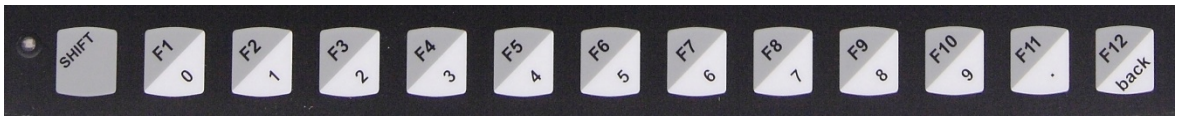
Important when operating the <Power> button:
To turn the device on or off, press the <Power> button only briefly (max. 1 sec.) and immediately release it.

If you hold the <Power> button down for longer or press it again the on/off process can be delayed.

<table>
<tr><td rowspan="3">  </td><td colspan="2">Turning the XMT 5 on and off. This button has been preconfigured by DLoG GmbH by default:</td></tr>
<tr><td>XMT 5 with automatic switch-off:</td><td><Power> key is not used for powering up the unit.</td></tr>
<tr><td>XMT 5 without automatic switch-off:</td><td><Power> key is used to power up the unit. If the button is pressed while the unit is operating, this results in a HARD shutdown. This may lead to data loss!</td></tr>
<tr><td>  </td><td colspan="2">Manual brightness control/backlighting:
<+> button for manual brightness control (increase brightness)
<-> button for manual brightness control (reduce brightness)
Turning the backlighting ON/OFF</td></tr>
</table>

	Temp (red) LED for displaying high/low temperatures in the device. Temp too low: LED blinks -> 0.5 sec ON, 0.75 sec OFF, repeats 5 times, then 2 sec pause and repeat… Temp too high: LED blinks 0.25 sec ON, 0.375 sec OFF, repeats 4 times, then 2 sec pause and repeat… Temperature sensor defective: LED blinks 0.25 sec ON, 0.25 sec OFF, repeats 10 times, then 1.25 sec pause and repeat…
	Activity LED (yellow) lights when there is activity on the I/O interface.
	Power LED (green) to display an existing supply voltage; this LED is constantly lit as soon as the CPU is started.

	Scroll keys: Page up Page down Home End Special keys <S1> and <S2>; Define this keys with the Next Config Software. See section *12 DLoG neXt Config* <Esc>-key <Enter>-key



LED: indicates the status of the <Shift> key

<Shift> key

<F>-keys are double-allocated:

- Digit 0 to 9, point and backspace
- If the <Shift> key is pressed:
  Function keys F1 to F12

Define the keys with the Next Config Software.
See section *12 DLoG neXt Config*

9. Bootloader

The bootloader of the DLoG XMT5-Series initializes, configures and tests the Hardware about current configuration settings. Afterwards the operating system is loaded.

The XMT 5's Windows CE 6.0 Bootloader is based on the EBOOT from Microsoft.

10. Operating System

The terminals of the DLoG XMT5-Series are offered with the Windows CE 6.0 operating system.

The ordere operating systems is factory pre-installed. It is loaded after finished EBOOT initialization.

System specific device drivers such for (display, sound, network, touch) are pre-installed as well.

The operating system is programmed in an Onboard Flash-Memory. Free memory that is not in use by the operating system can hold user specific data.

Memory expansion is also available via USB. An SD card with 1 GB memory is included and installed in the standard scope of supply (other sizes available upon request).

11. Memory Management

The XMT 5 Series contains two installed Windows CE operating systems on two separated Flash-Memory areas.

11.1. NOR-Flash Memory

The NOR-Flash (32 MByte) contains next to the EBOOT and it's configuration the BootSplashScreen and the "GenericBootMode" CE Image.

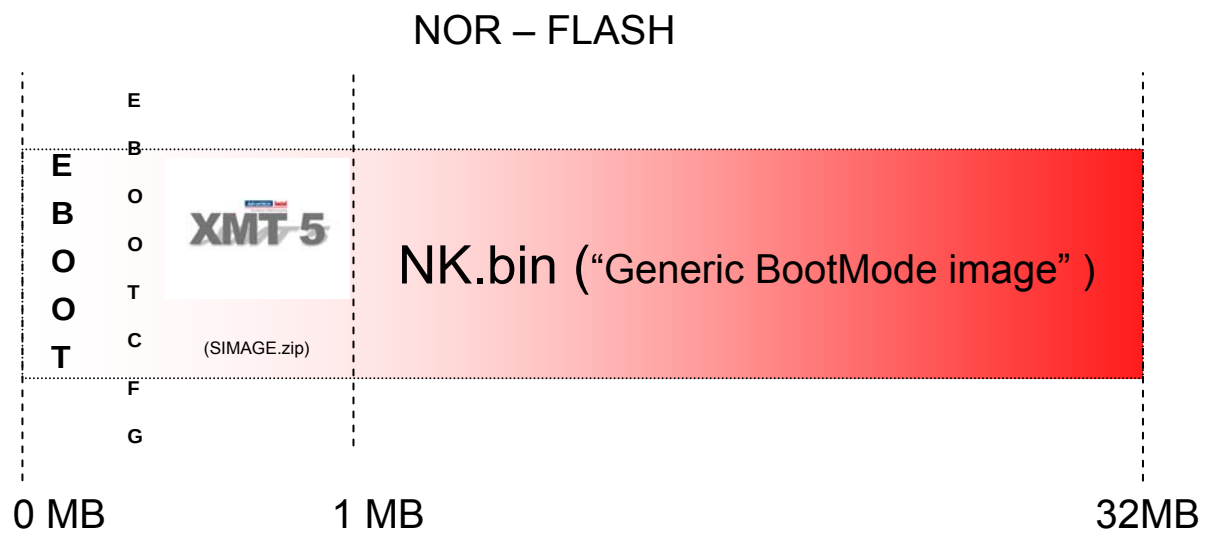


Figure 11.1: NOR-Flash Memory

The NOR-Flash area and its content can not be changed during normal operation. Perform updates only after clearance with the DLoG Service and according to the DLoG Service's instructions.

The „Generic BootMode" CE Image will be loaded/run during a Backup/Restore process of the NAND user based Windows CE image.

11.2. NAND-Flash Memory

The NAND-Flash contains the user Windows CE image file, additional installed programs, drivers and settings.

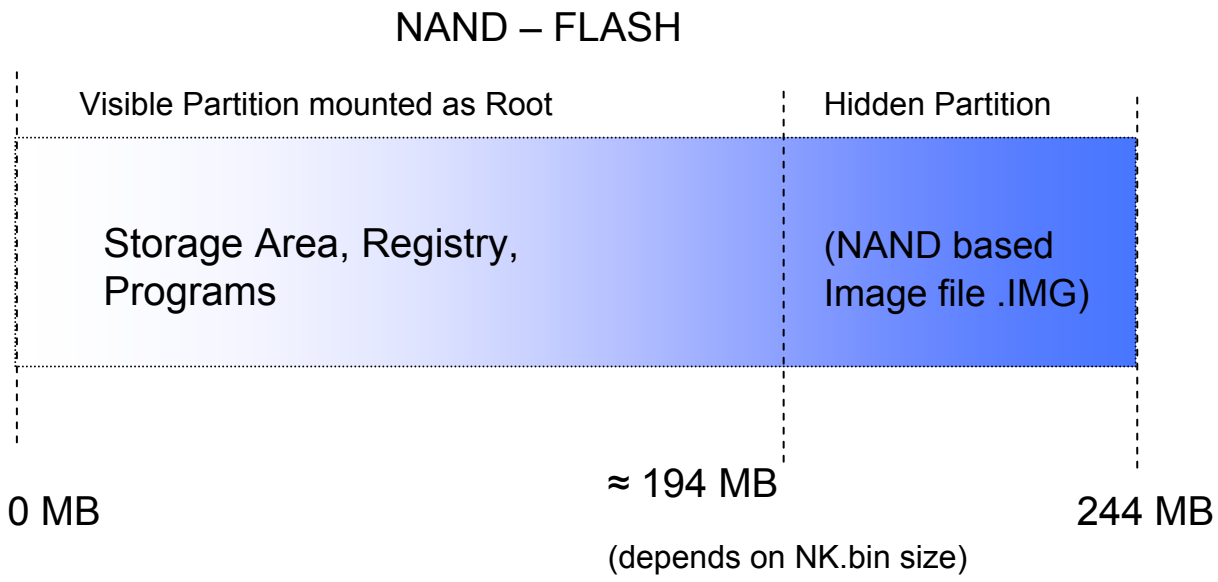


Figure 11.2: NAND-Flash Memory

The OS **Install** functionality for Backup/Restore purpose saves the complete content of the NAND-Flash area.

11.3. CE Image (Backup/Restore)

The function OS Install offers the functionality to perform a Backup/Restore process of an CE Image file (NAND Flash area)

There a two different ways to perform a Backup/Restore process: automatic or manual.

In most cases the automatic sequence is recommended to use, described in the next part.

An SD-Card (delivery standard: 1 GByte) is required to perform the automatic Backup/Restore process of an CE image file.

11.3.1. How to create an Image Backup file

During the process the following parts will be saved in an image file:

- The Windows CE operating system
- Additional installed programs and drivers
- Changed System settings and the Registry

Requirements:

An SD-Card must be present.

The folder SDCard\Install has to be exist.

Perform the following tasks to create a CE image file:

- Open Control Panel Option called OS Install:

Figure 11.3: OS Install option symbol

The OS Install Settings dialogue is opened:

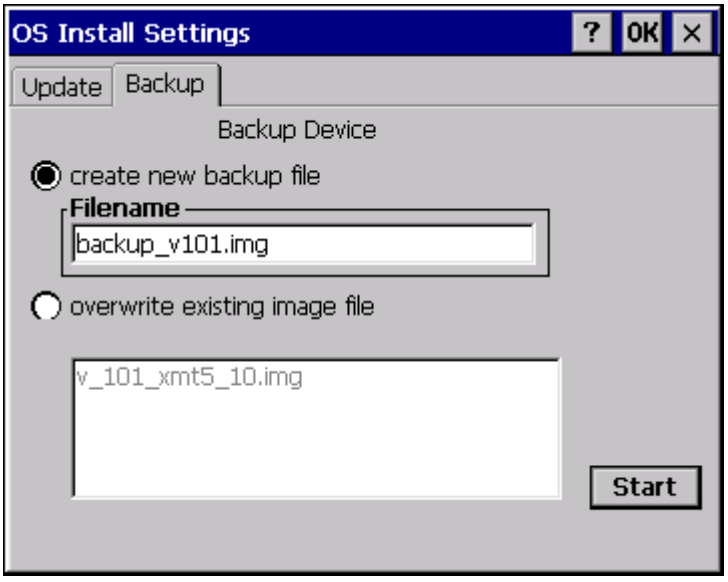


Figure 11.4: OS Install Settings dialogue

- Activate option create new backup file and enter a valid filename for the image file. Be sure to enter the file extension ".img"!
- Alternatively, an already existing image file can be overwritten by choosing the option overwrite existing image file.
- Confirm with Button Start, the following system message will appear:

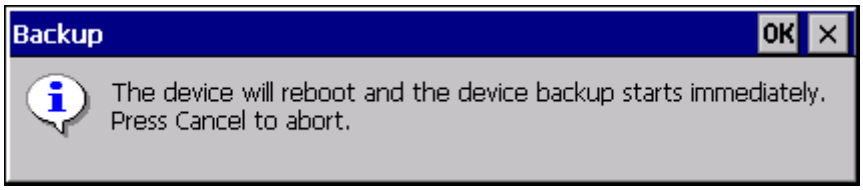


Figure 11.5: System message before backup

- Press Button OK to proceed or button X to abort process.

Afterwards, the terminal will be started automatically, the NOR based Generic BootMode CEImage will be loaded and the NAND user CE image will be saved.

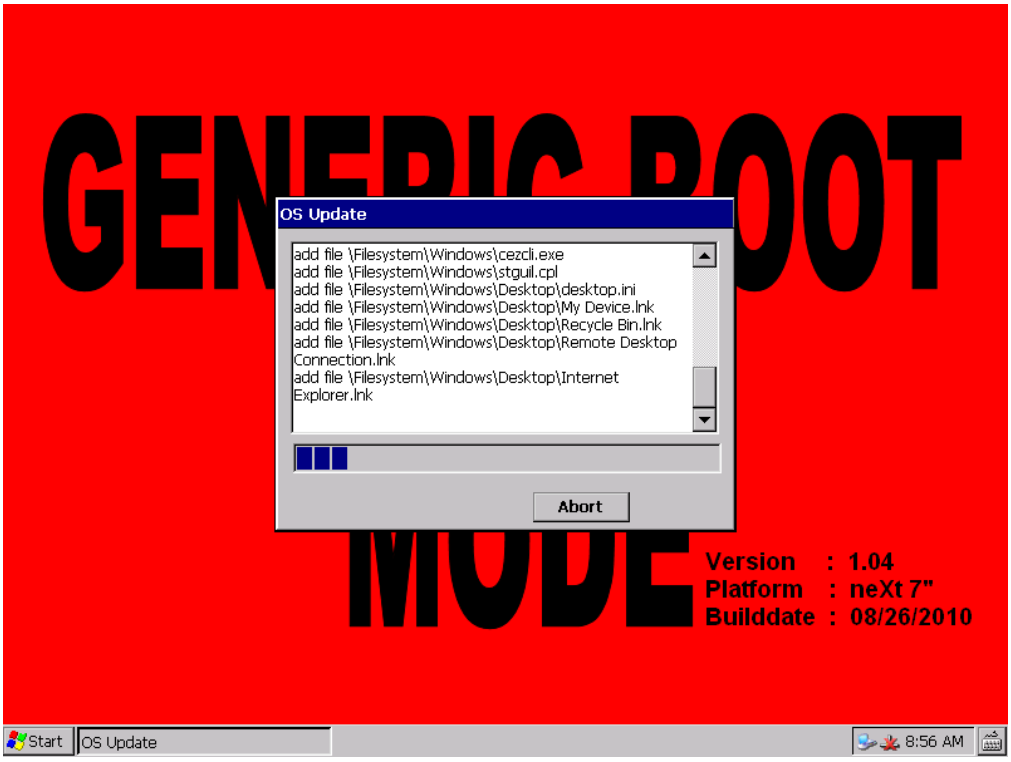


Figure 11.6: Reboot after loading/saving the .IMG file

An automatic terminal reboot will be performed, after the image backup process was finished. The Backup file was saved successfully on the SD-Card:

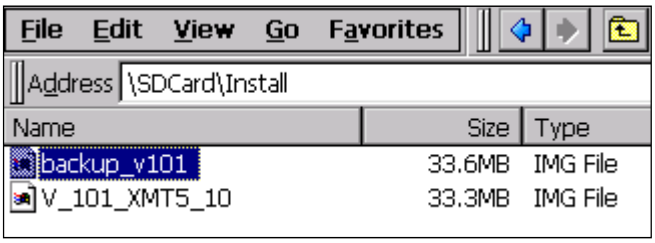


Figure 11.7: Backup file successfully saved on the SD-Card

11.3.2. How to restore an Image Backup file

The Restore contains the following parts:

- The Windows CE operating system
- Additional installed programs, drivers
- Changed System settings and the Registry

Requirement:

An SD-Card must be present.

The folder SDCard\Install has to be exist.

Perform the following tasks to restore a CE image file:

Figure 11.8: OS Install option symbol

- Open Control Panel Option called OS Install:

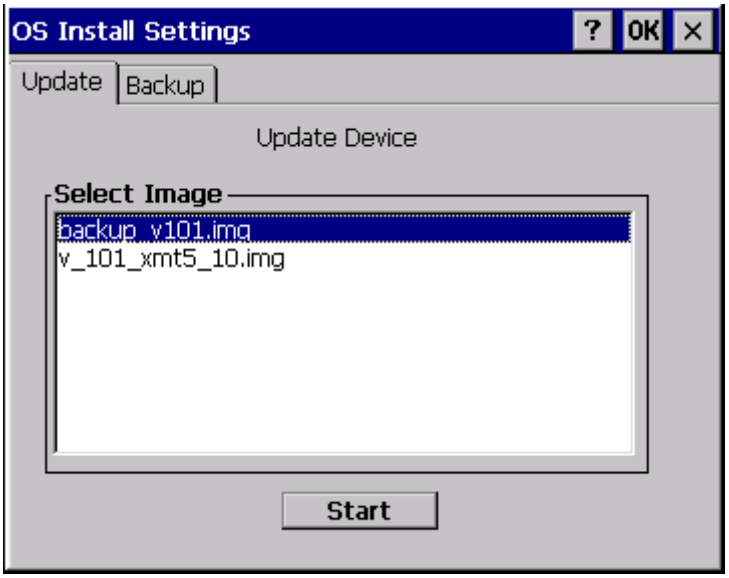


Figure 11.9: OS Install Settings dialogue

- Choose the image file you want to restore from the list.
- Confirm with Button Start, the following system message will appear:

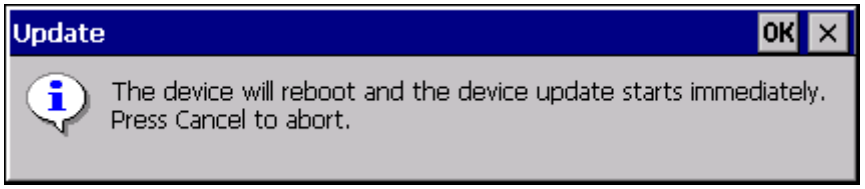


Figure 11.10: System message before restore

- Press OK to start.

In case, that the selected image file is not valid for this terminal type a system message will be shown:

Figure 11.11: Error message: Image file is not compatible

- Close the error message dialogue with Button OK.
- Select a compatible image file.
- Press button OK to start.

Afterwards, the terminal will be started automatically, the NOR based Generic BootMode CEImage will be loaded and the NAND user CE image will be restored.

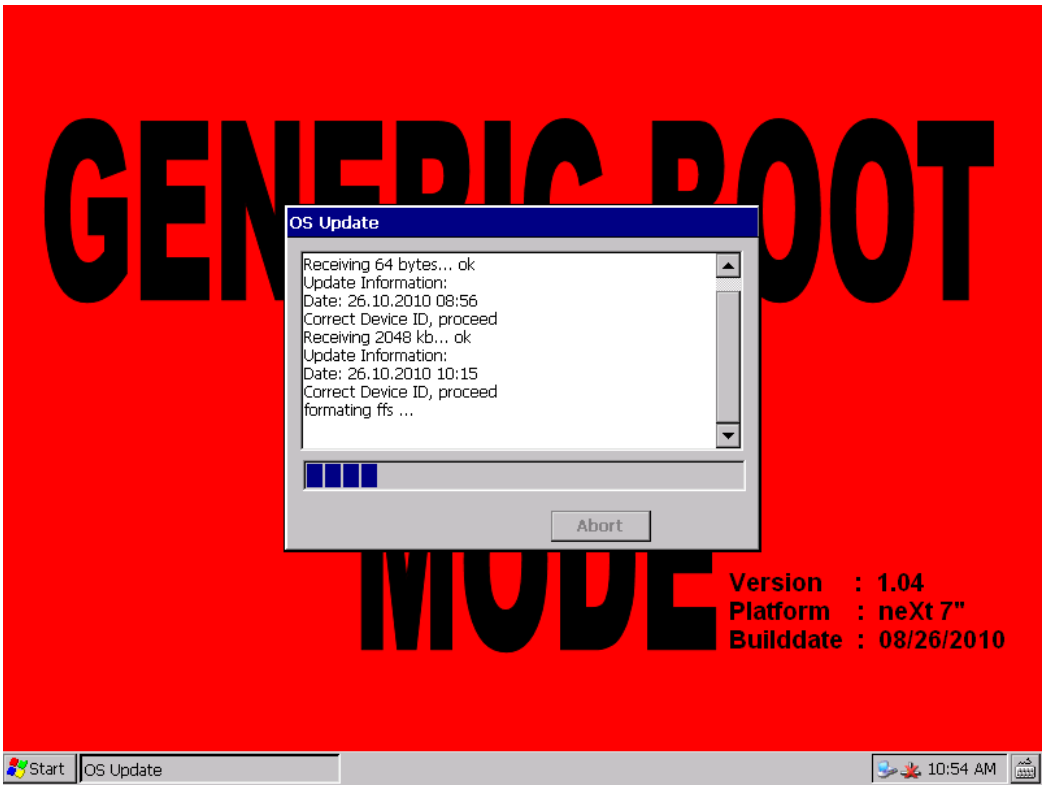


Figure 11.12: Automatic terminal reboot

An automatic terminal reboot will be performed, after the image restore process was finished.

11.3.3. Manual interaction (Generic-Boot-Mode) image

Next to the already described automatic Backup create/restore process there is also the way to perform the required steps manually.

NOTICE: Property damage	The following description was designed for Administrators with experienced knowledge using the Windows CE system.

As preparation, the Generic BootMode image must be started manually.

The Control Panel Option Reset OS Install offers the required functionality.

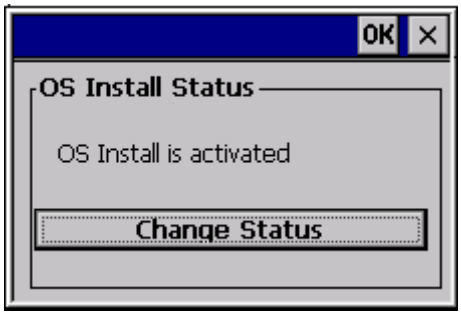


Figure 11.13: Reset OS Install dialogue

By changing the status (Button Change Status), the next Boot-up command can be defined:

Normal System startup	At next Boot-up, the user specific NAND-Flash based Windows CE image will be loaded.
OS Install is activated	The Generic-Boot-Mode image will be loaded to perform a Backup/Restore process.

- After changing the value to OS Install is activated, perform a reboot of the system.

The following message will appear after the startup:

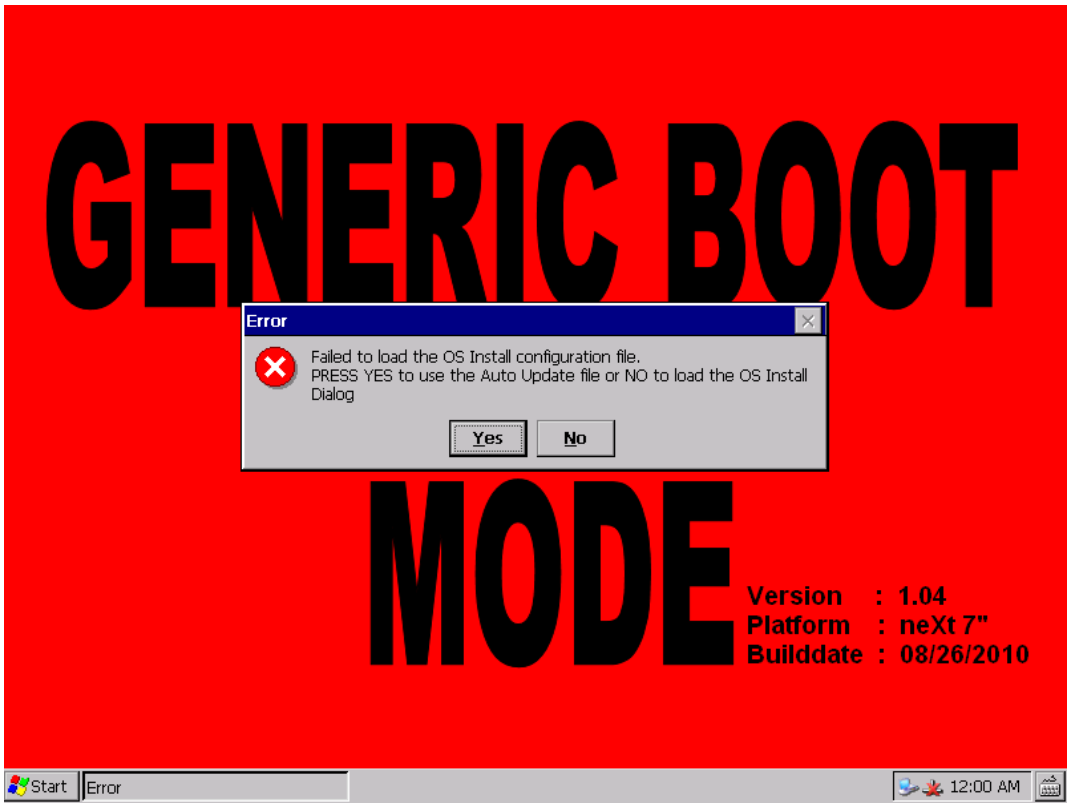


Figure 11.14: Error message/OS Install

- Confirm this message with No.

The OS Install Settings dialogue for manual interaction will be opened.

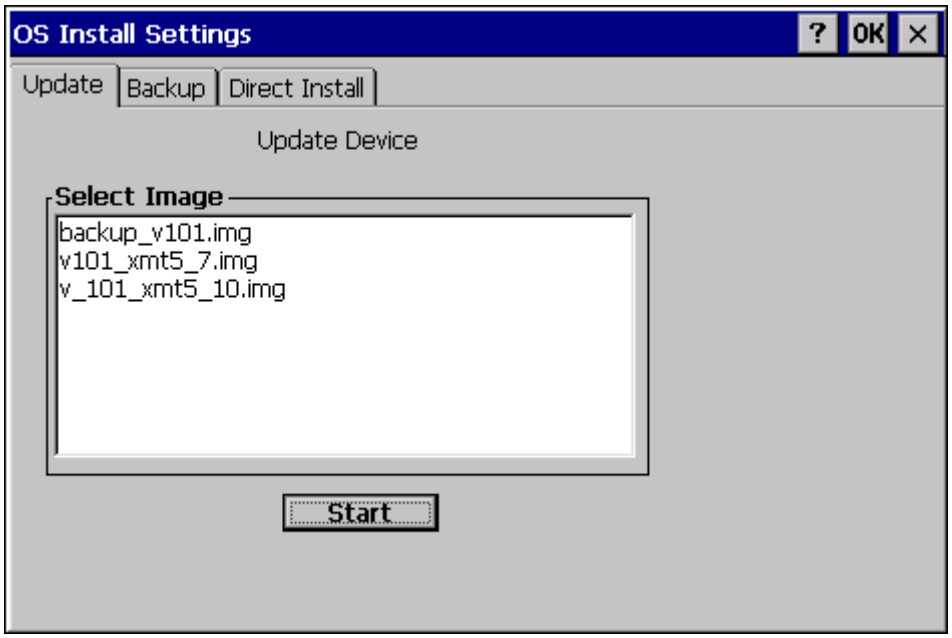


Figure 11.15: Dialogue for manual OS Install Settings

The first two tabs Update and Backup are identical to the automatic sequence dialogues. They require an SD-Card for the Backup/Restore process.

The manual sequence Direct Install tab offers the functionality to perform a Backup/Restore process from an SD-Card as well as other removable storage media like an USB stick. (Option: File)

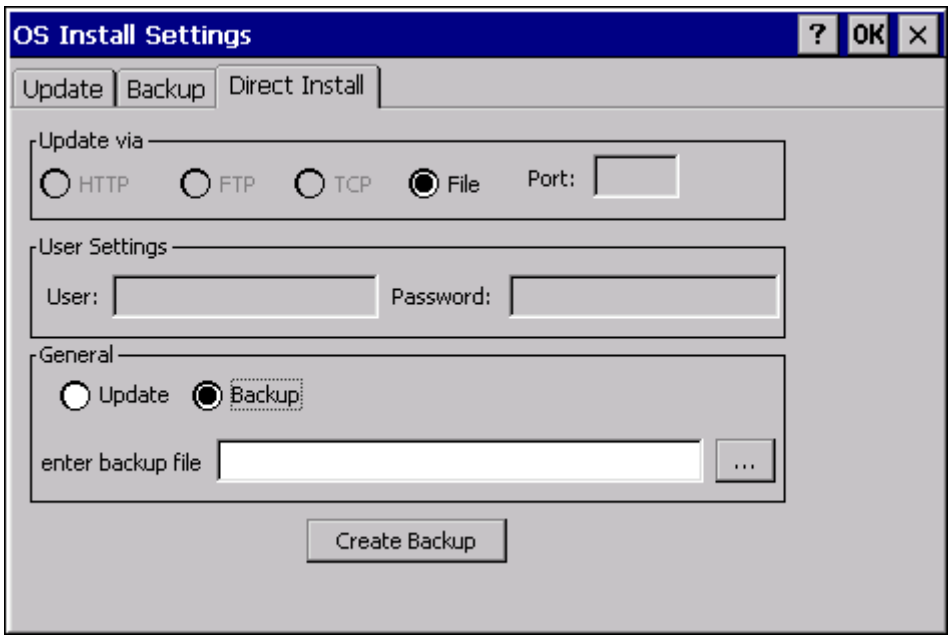


Figure 11.16: Dialogue OS Install Settings: Direct Install

To create/restore an image file just change the corresponding dialogue controls called Update/Backup.

After a successful finished Update/Backup process and the following reboot, the NAND based user Windows CE image starts again atomatically. You have to set the Reset OS Install ControlPanel Applet each time the Generic-BootMode image should be loaded instead of the NAND based user CE image.

In case that no Backup/Update process was performed, a manual interaction must be done to reset the OS Install Flag (Control Panel Applet). Otherwise, the Generic-BootMode CE image starts every time the terminal is switched on.

Note the following description for further information.

11.4. Generic-BootMode CE Image operation

The NOR-Flash based „Generic-BootMode“ CE image main purpose is to maintenance the system and to restore NAND based user Windows CE image files.

The DLoG Security Shell option is always enabled while executing the Generic-BootMode image. The NAND specified password can not be used here. The system access is only possible with default password (4653).
Changes can not be saved and will be flushed after a system reboot.

Check chapter *13 DLoG Security Shell* for further information regarding the DLoG SecurityShell option.

11.4.1. Reset of the OSInstall Flag

As already described in former parts that explained the Backup/Restore process of an Windows CE .IMG file, it can be necessary to reset the OSInstall Flag manually to restore the normal Windows CE startup process:

Perform the following steps in order:

- Desktop right click option Admin Tools – Enter Admin Mode
- Enter default password 4653

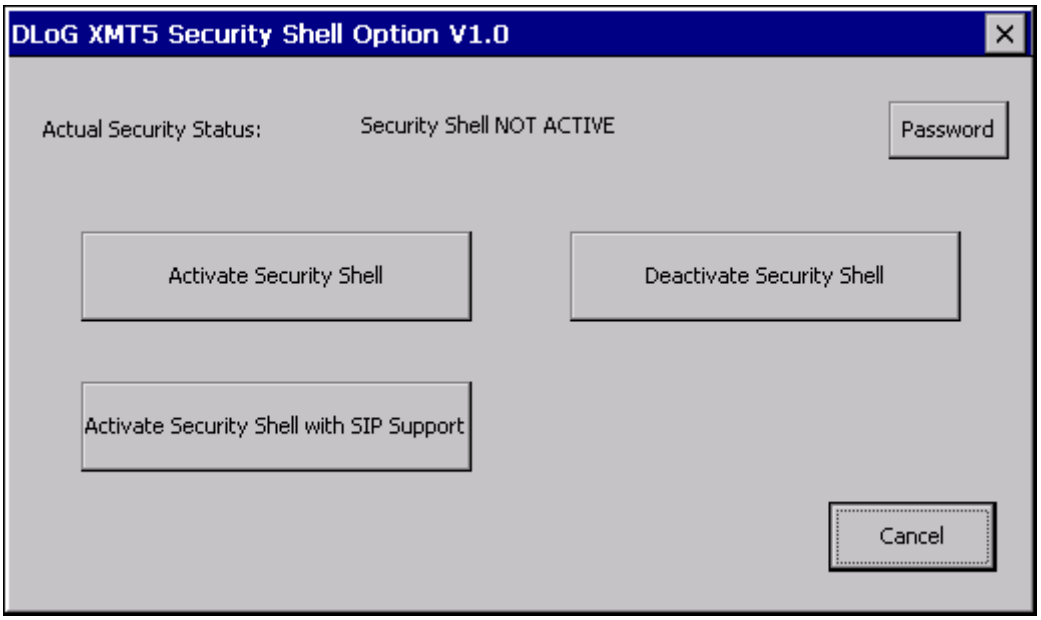


Figure 11.17: DLoG Security Shell dialogue

- Execute option Deactivate Security Shell and confirm upcoming message with OK.
- Open ControlPanel Option Reset OS Install and change by button Change Status the next Boot-up command to Normal System startup.

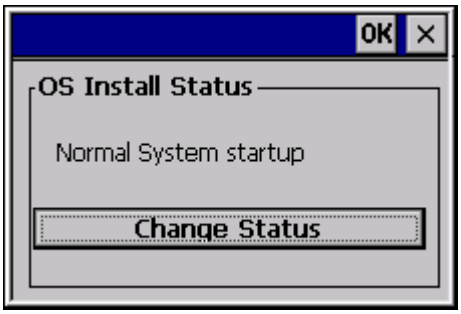


Figure 11.18: OS Install Status dialogue

At next startup the NAND-Flash based user Windows CE image will be loaded.

12. DLoG neXt Config

12.1. Overview

12.1.1. Display brightness, automatic switch-off etc. configuration

Important settings for the XMT 5 series with Windows CE, e.g. for display brightness, automatic switch-off and possibly front key configuration are done with the neXt Config.EXE software.

12.1.2. Dialogue in neXt Config.EXE in portrait or landscape format

Depending on the display setting selected on the XMT 5 the neXt Config.EXE dialogue will be displayed in landscape or portrait format.

12.1.3. Saving neXt Config.EXE settings

To save neXt Config.EXE settings, it is sufficient to quit the corresponding program dialogue with OK. It is not necessary to use the “saveregistry“ command.

12.1.4. Starting neXt Config.EXE

Due to special interaction between the hardware and software the neXt Config.EXE-software can only be started once simultaneously (only one instance). A second start will fail.
Firstly ensure that no program symbol is displayed in the taskbar. If you can see the symbol the program is already running.

Figure 12.1: Symbol for started neXt Config.EXE in the taskbar

12.1.4.1. Automatic Start

As a rule the XMT 5 device is configured from the factory so that the neXt Config-software starts automatically when the computer is started up.

Programs which start automatically are under Windows | Startup.

12.1.4.2. Manual Start

Manual start is necessary if the neXt Config program was closed by clicking on the menu item Advanced | Exit.

If this menu item is deactivated you might possibly not be authorized to end the program. You must be in Administrator mode in order to be able to close the program. You can find more detailed information on this under the menu item Advanced | Change Mode.

By clicking on the cross in the top right-hand corner the program won't be closed, the software window is merely minimized.
By clicking on the program symbol in the taskbar the appropriate software window will be displayed again.

Requirements for manual start:

- The hidden data and folders
  My Device -> Windows -> StartUp must be displayed.
- And the protected operating system files must be displayed.

If the files are not displayed on your XMT 5 device:

- Click on the menu item View and then on Options.
- Deactivate the small control boxes. Do not show hidden files and folders and Hide protected operating system files.
- Then click on OK. Now the Windows file will be displayed.
- Now go to the StartUp file.
- You can start the neXt Config.EXE by double clicking on the program symbol.

12.1.4.3. Start Screen

The basic initialization will run by starting the neXt Config-software.

Until activation of the software the following tasks will be performed:

- Establishing communication with the Environment Controller
- Request setting information from Environment Controller. (Switch-off automatic settings, etc.)
- Loading Setup

After successful start-up the program symbol will be displayed in the taskbar.

If a test fails the software does not start and an appropriate error message is given. In this case contact DLoG support.

If you try to start the software a second time an error will occur and the second attempt will be aborted.

12.1.5. neXt Config Menu Bar

If any menu items in the menu bar are deactivated it is possible that you do not possess the necessary rights for changing these settings. You can find more detailed information on this in the menu item Advanced | Change Mode.

12.2. “Options” menu

In the menu Options the following functions are available:

- Backlight Control
- Set Front Keys
- Switch-off Automatic
- Network Startup (neXt Config V1.11 and higher)

12.2.1. Backlight Control

Used for configuring the display brightness. All front keys up to the <Power> key, independently of the setting selected, are inactive with open dialogue and cannot be used. The keys cannot be used again until the configuration screen is closed.

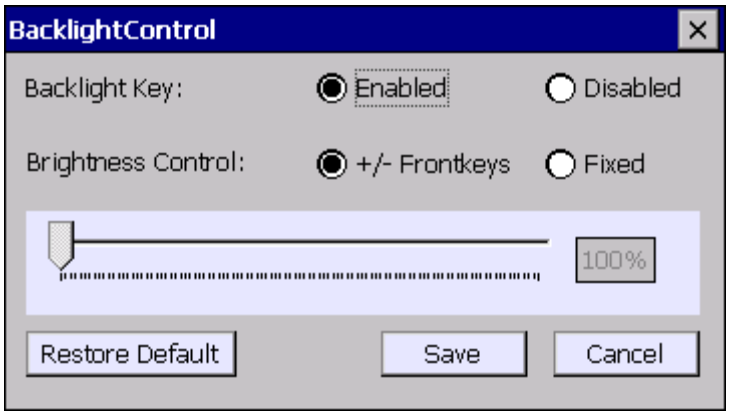


Figure 12.2: Set-up dialogue for display brightness

Backlight Key Setup (key configuration for backlight):

Backlight Key	Activates or deactivates the backlight key on the front of the device.

Brightness Control (Display brightness):

Only one mechanism can be selected for brightness control

+/- Front keys	Activates or deactivates the + and – keys on the front of the device.
Fixed	Sets a fixed brightness for the display. Use the slide control to adjust to the brightness required. (The saved value will be automatically set on system restart.)
Restore Default	Sets the standard values: (Backlight key Enabled) (Brightness control +\- Front keys)
Save	Saves and activates the settings made. The settings can also be saved by clicking on OK. However, with this button you can test various settings without having to close the dialogue window first. (Provided that the Brightness Control is set to the Fixed value)

In case the Front Key based brightness control functionality works not as expected, a "fallback" scenario was integrated.

By press and hold the Backlight Key for around 10 seconds the actual brightness value will be set to 100% (highest possible brightness).

This function works independent of the current Brightness Control configuration settings (active / inactive).

12.2.2. Set Front Keys

With **Set Front Keys** you can allocate specific button commands or program requests to the front keys on the XMT 5. On starting the function an interactive graphic appears with all the available keys of the XMT 5.

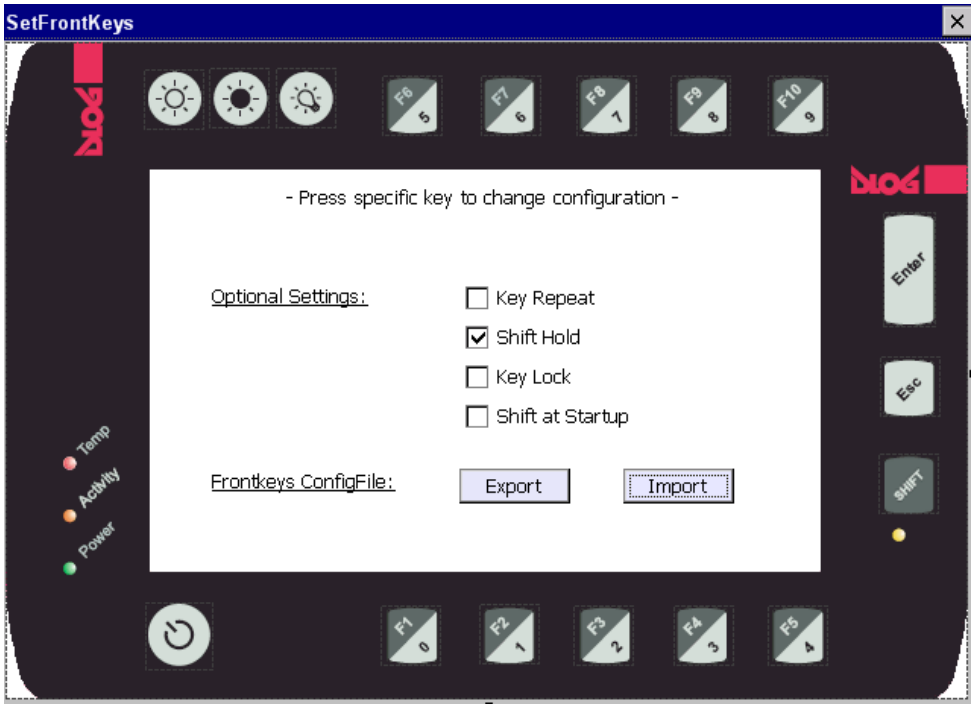


Figure 12.3: Dialogue for front key settings

The following apply for the description below:

Active means: checks set.

Inactive: checks not set.

The main window offers the following options:

Optional Settings

Key Repeat — **Active**: the function will be repeated if the front key is held down after a short start delay, until the key is released again.
Inactive (standard): the function will only be performed once even with the key held down.

Shift Hold	Active: (standard): the shift status still remains active after any function key is pressed. Inactive: the shift status is turned off after any function key is pressed
Key Lock	Active: all front keys with the exception of the <Power>-key are locked to the user. This setting works independently of the other configuration options such as Backlight Control, for example. Standard = Inactive
Shift at Startup:	Active: the shift status will be automatically activated at program startup. Standard = Inactive

Frontkeys ConfigFile

The option exists here to save or import an adapted FrontKey ConfigFile with the help of the two Export and Import buttons.

A saved file can thus be installed on multiple terminals in a short time, without having to be individually keyed in by hand each time.

With Export the file FrontKeys_Config.txt is generated by the path \My Device\.
An information message follows to confirm successful processing:

Figure 12.4: Front keys programming (Export) Success Message

Sample view: (FrontKeys_Config.txt)

```
0=V{30}
1=V{31}
2=V{32}
3=V{33}
4=V{34}
5=V{35}
6=V{36}
7=V{37}
8=V{38}
9=V{39}
Enter=V{0D}
Esc=V{1B}
F1=V{70}
F2=V{71}
F3=V{72}
F4=V{73}
F5=V{74}
F6=V{75}
F7=V{76}
F8=V{77}
F9=V{78}
F10=V{79}
KeyRepeat=0
ShiftHold=0
KeyLock=1
ShiftAtStartup=0
```

Figure 12.5: Front keys programming (Export) ConfigFile view

The example shown above corresponds to the standard configuration of 17 front keys.

NOTICE: Property damage	ATTENTION: The file is not intended for external processing. Manual changes which are not supported by neXt Config, can lead to program errors in the front key configuration and so to runtime errors during execution! Creation or amendment of the key arrangement may only be done in neXt Config in order to exclude operating errors!

With Import the file \MyDevice\FrontKeys_Config.tx is sought. After successful import the following system message is issued:

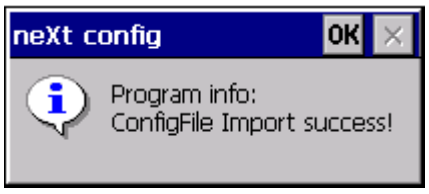


Figure 12.6: Front key programming (import) Success Message

If the file is not found or has already been opened by a different program such as “WordPad” for example, the following message will be displayed with the import attempt:

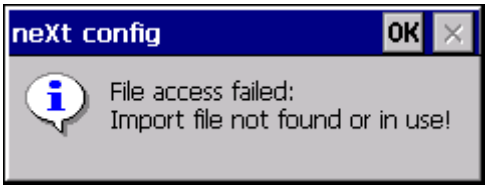


Figure 12.7: Front key programming (Import - File access failed) Message

12.2.3. Allocating Front Keys with Functions

- Type into the graphic on a front key in order to configure it.
- When typing on the **Backlight** keys the Backlight setting dialogue will be opened.
- When typing on the **PowerKey** the **Switch-off Automatic** setting dialogue will be opened.
- With all other function keys the following dialogue is opened

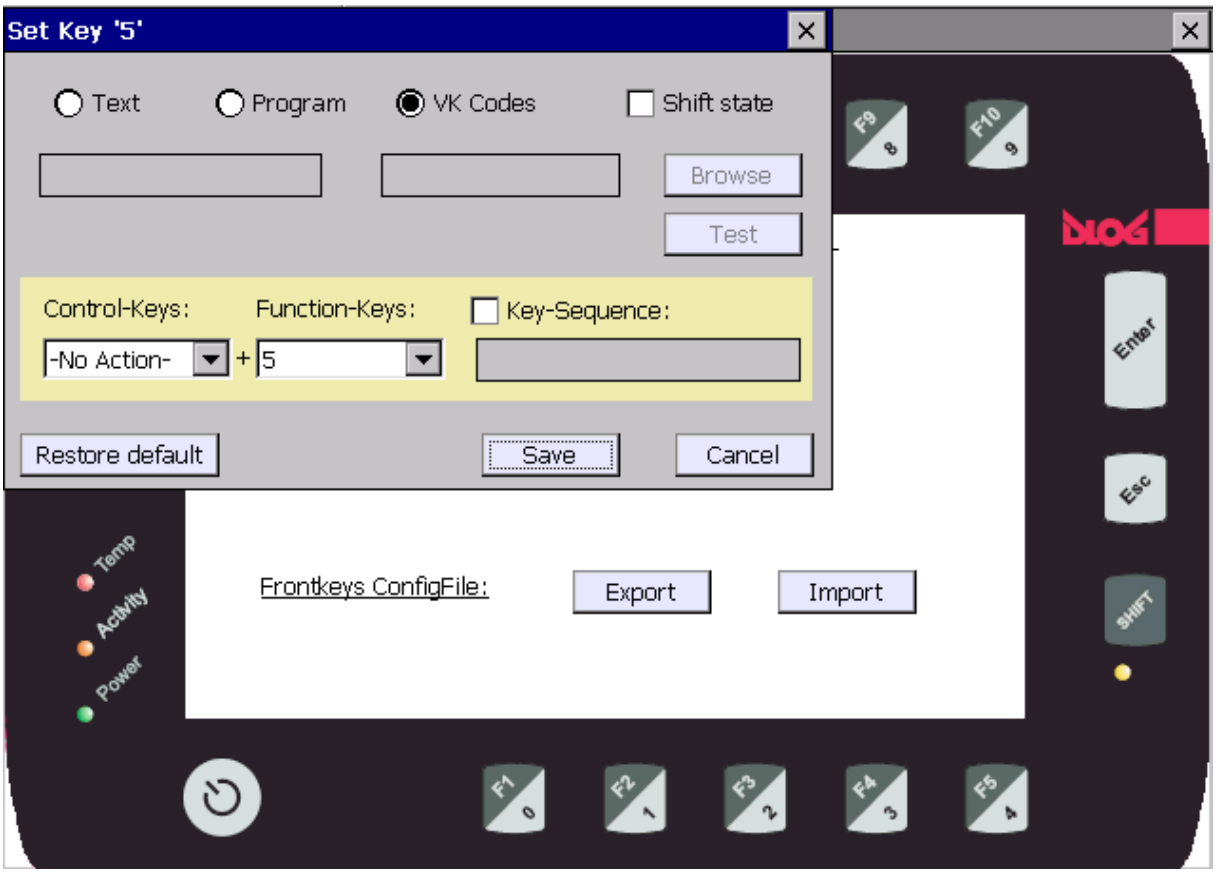


Figure 12.8: Set-up dialogue for front key programming

All front keys up to the <Power> key cannot be used with open dialogue. The keys can only be used again once the configuration screen is closed.

The function of the <Shift> key is predetermined and cannot be amended or configured.

In principle three different modes are provided for key configuration:

Text	For typing a freely configurable character sequence.
Program	To start a predefined program (including retrieval parameters, if necessary)
VK Codes	Used for menu-controlled selection of key commands. In addition to this you also have the option of programming your own key combination based on VK codes.

A more precise description of the individual options follows after the description of the general buttons:

The general buttons:

Shift state	Activate or deactivate <Shift> key.
Restore default	To reset the original “standard” configuration of the respective key. Can be used in standard and also “shift mode”.
Save	Save the configuration made.
Cancel	Reject changes and close dialogue.

“Text” setting mode

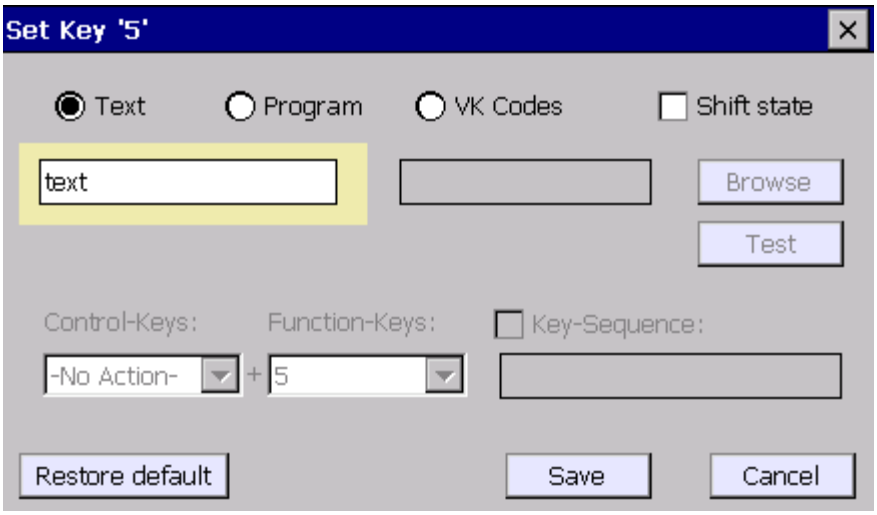


Figure 12.9: Set-up dialogue for front key programming (Option: “Text”)

In Text Mode a free input text line can be programmed which is displayed accordingly on key confirmation.

Due to a known function restriction of the .NET compact framework environment, it is not possible to include the following special characters within the text: % ^ ( ) + { } ~ &

In this case the special character must be appropriately programmed using the VK Codes option.

"Program" setting mode

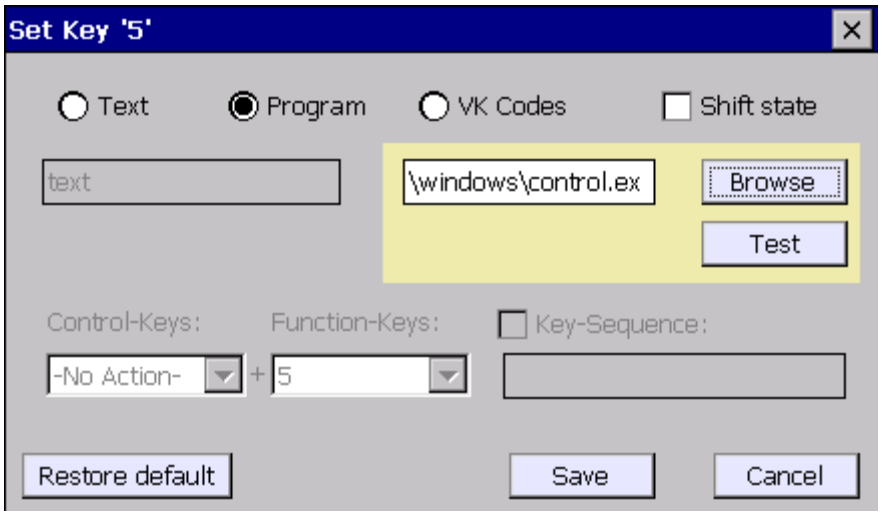


Figure 12.10: Set-up dialogue for front key programming (Option: "Program")

The Program function can be used when starting a program (including retrieval parameters).

For this purpose use the <Browse> button to select the program to be started.

Where retrieval parameters are used these must be denoted by using a space after the program name.

Buttons:

Browse	For selection of the program to be started.
Test	For a function test of the selected program.

“VK Codes” Setting Mode

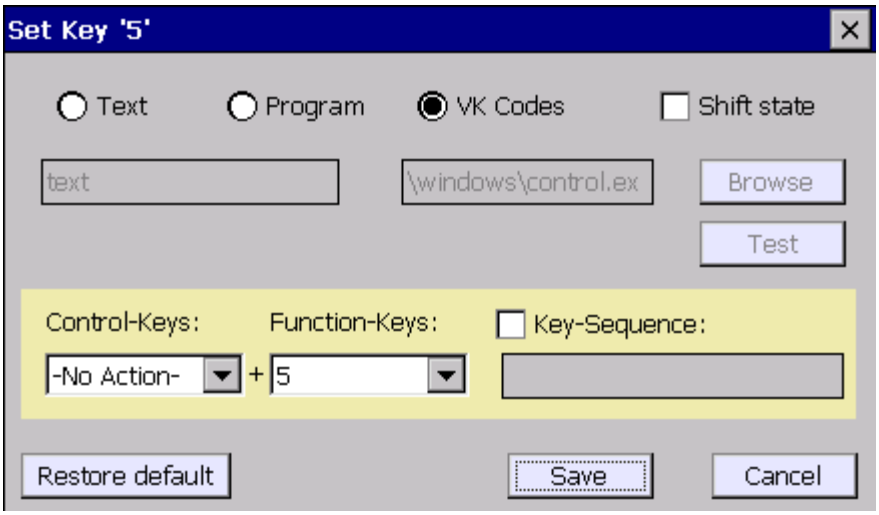


Figure 12.11: Set-up dialogue for front key programming (Option: “VK Codes”)

Here standard key combinations such as (“Ctrl+Alt+Del”) can be configured with the help of the selection menu provided for this

However, self-defined “key sequences” can also be hidden behind these.

Menus / buttons:

Menu: Control-Keys	The following standard Control Keys are supported: (Shift, Ctrl, Alt, AltGr, WinButton, AppButton, (Ctrl+Alt), (Ctrl+Shift))
Menu: Function-Keys	Here all standard Function-Keys can be selected. Above all this includes the standard keys (0-9, A-Z) as well as the F keys. Special keys (VK_OEM_X) can also be selected but independently of the keyboard layout. The “EN-US” keyboard layout is supported by default.
Check Box: Key Sequence	This is used to change between the key sequences input manually and from the menu.

The action keys can also be programmed manually with Windows Virtual Key Codes. The Virtual Key Codes are entered after activation of the option Key Sequence into the editor line and saved with Save.

Up to three key combinations can be programmed. With two or three keys the + character is used as a logical separator.

Example: (Ctrl+Alt+Del)

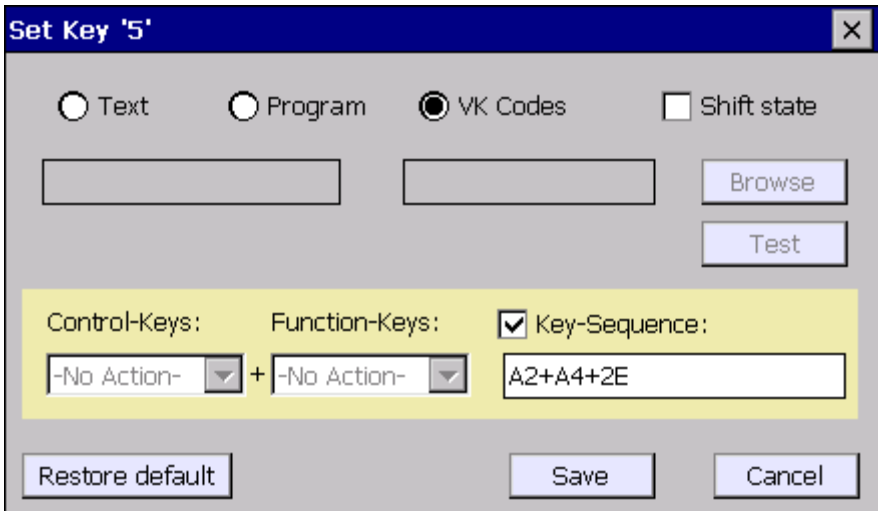


Figure 12.12: Set-up dialogue for front key programming VK Code

Entry for (Ctrl+Alt+Del) is as shown above “A2+A4+2E”. The Plus sign must be input as a so-called “separator” between the individual VK Codes.

The Virtual Key Code names can be found on the Microsoft MSDN homepage (Microsoft Developer Network), for example.

An information message appears upon incorrect entry or command:

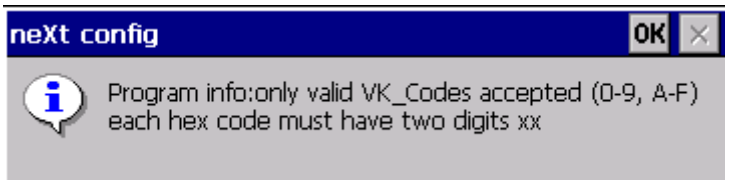


Figure 12.13: Front key programming VK Codes - Invalid Input Message

12.2.4. Switch-off Automatic

Functionality controls the Switch-ON and Switch-OFF behaviour of the terminal.

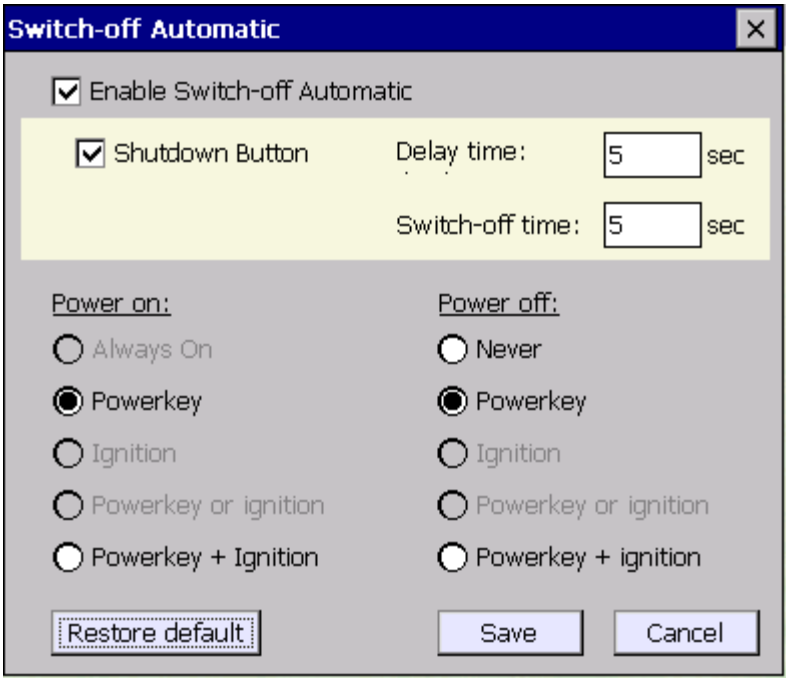


Figure 12.14: Set-up dialogue for Switch-off Automatic in neXt Config.EXE

Menus / buttons:

Enable Switch-off Automatic	Enables or disables the Switch-off Automatic. In disabled state the system shutdown will be initiated after a few seconds when the defined Power-off behaviour was fulfilled. During that time running applications will be informed about the planned Shutdown that made changes can be saved in time.
Shutdown Button	Displays the Shutdown Button on the Countdown-Dialogue to initiate an “immediate” shutdown.

Delay time	Time between switching off ignition signal and starting shutdown. If the Ignition signal is restarted, the system will return to standard operation. The Delay time is only valid in combination with the Ignition. In case the Powerkey is used to switch off the terminal the delay time will be skipped.
Switch-off time	Time until the terminal will be switched off. This time interval starts directly at ending of the Delay Time and can not be aborted. Short until the "Switch off" timer reaches the end running applications will be informed about the planned "Shutdown" that made changes can be saved in time.
Restore default	Restores the default PowerOn \ PowerOff settings to the following values: • Enable Switch-off Automatic • Enable Shutdown Button • Delay / Switch-off time → 5 sec. • PowerOn \ PowerOff → PowerKey
Save	The actual configuration will be saved.

12.2.4.1. System Messages (Shut-Down)

During Shutdown preparation two BROADCAST system messages will be send to inform running applications that the actual session is about to end.

Right after finished Delay Time	`WM_QUERYENDSESSION`
Short time before Switch-off Time ends	`WM_ENDSESSION`

These standard Windows CE messages can be integrated in own software application projects to save current progress in time before a system shutdown is initiated.

12.2.4.2. Power on

Proceed carefully with these settings! These definitions determine which action starts the DLoG XMT5-terminal.

NOTICE: Property damage	Do NOT select Ignition if an ignition cable has not been connected. If you select Ignition and an ignition cable has not been connected, the DLoG XMT5-terminal will no longer start. Do NOT select Power key + Ignition if an ignition cable has not been connected. If you select this setting and an ignition cable has not been connected, the DLoG XMT5-terminal will no longer start.

Always On	The DLoG XMT5-terminal switches on as soon as it is supplied with power. It is not necessary to press the <Power> key or start the ignition.
Power key	The computer can be switched on with the <Power> key.

Important when operating the <Power> button:
To turn the device on or off, press the <Power> button only briefly (max. 1 sec.) and immediately release it.

If you hold the <Power> button down for longer or press it again the on/off process can be delayed.

Ignition	The computer switches on automitcally when the ignition is started. It cannot be switched on with the <Power> key.
Power key or Ignition	The computer can be switched on with the ignition signal or the <Power> key.
Power key + Ignition	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.

12.2.4.3. Power off

Proceed carefully with these settings! These definitions determine which action switches off the DLoG XMT5-terminal.

NOTICE: Property damage

Do NOT select Ignition if an ignition cable has not been connected. If you select Ignition and an ignition cable has not been connected, the Switch-off behaviour can not be initiated and the terminal will not be switched off.

Do NOT select Power key + Ignition if an ignition cable has not been connected. If you select this setting and an ignition cable has not been connected, the Switch-off behaviour can not be initiated and the terminal will not be switched off.

Never	The DLoG XMT5 switches off as soon as it is no longer supplied with power.
Power Key	The computer is shut down or switched off with the <Power> key.

Important when operating the <Power> button:
To turn the device on or off, press the <Power> button only briefly (max. 1 sec.) and immediately release it.

If you hold the <Power> button down for longer or press it again the on/off process can be delayed.

Ignition	Switching off the ignition activates the automatic switch off function. The terminal will switch off after defined “Delay time”.
Power key or Ignition	The computer can be switched off with the ignition signal or the <Power> key.
Power key + Ignition	Automatic switch off is activated when the ignition is switched off. The Shutdown Button can be used to skip the defined Switch-off time and initate the “direct” Shutdown.

12.2.5. Network Startup (V1.11 and higher)

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).

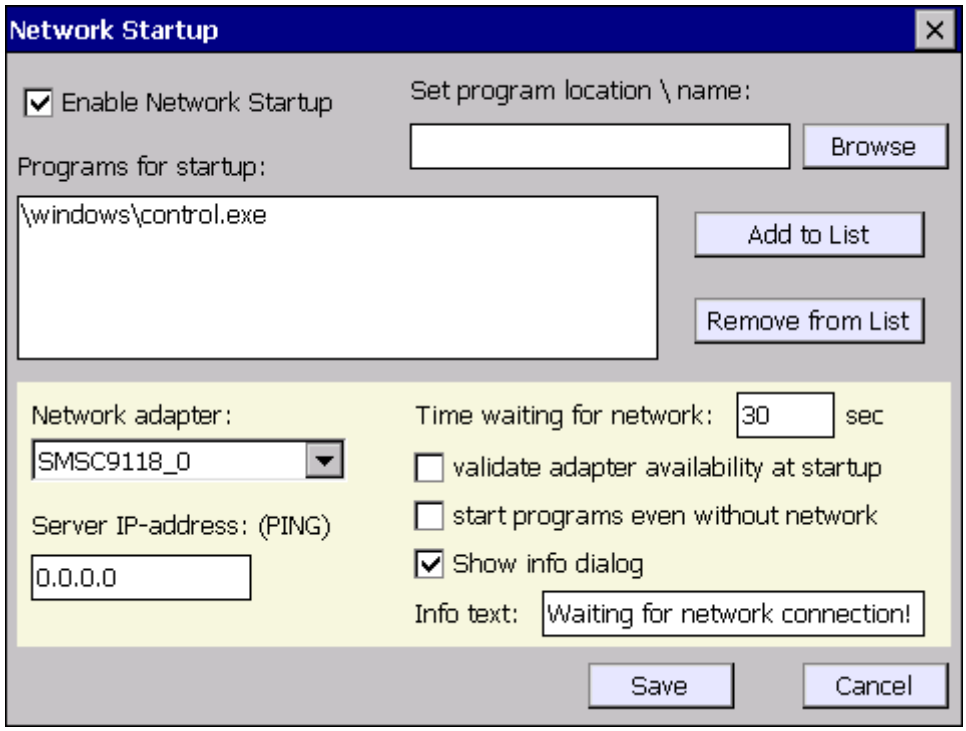


Figure 12.15: Dialogue: Options – Network Startup

Enable Network Startup

Enables or disables the **Network Startup** function.

Set program location \ name

Browse	The Windows file selection dialog is shown and you can select a program. The file extensions (.exe, .bat, .lnk and .rdp) are supported. Additional startup parameters can be defined behind the program name separated by space.

Programs for startup

A maximum of 10 programs can be set. The programs will be started in the defined order.

Add to List	To add a „Set program location \ name“ specified program.
Remove from List	Remove a selected program.

Network settings

Network adapter	Select an avilable system network adapter here. In case of two active network adapters at the same time choose the primary one. Programs will be started in case one of the active adapters establishes a network connection.
Server IP-address	The server IP address is specified here. The programs are only started when the DLoG computer has established a connection to that IP address.
Time waiting for network	If no network connection has been established, the wait can be stopped after the time (in seconds) given here.

Validate adapter availability at startup	Network startup functionality will be disabled in case of missing network adapter at program startup followed by a user message.

Please notice that this option must be DISABLED if the Summit SDIO wireless radio (SDCSD40N) or the Cinterion PH8 WWAN (PH8 MODEM ON VCA) network adapter is selected.

Start programs even without network	The programs can also be started without a network connection.
Show info dialog	A waiting dialog in full-screen mode can be shown.
Info text	The text entered here will be displayed on the waiting dialog.

12.3. “Advanced” menu

In the Advanced menu the following functions are available:

- Change Mode
- PIC Environment → Change EEPROM Data
- Production Set
- Exit

12.3.1. Change Mode

In the Change Mode menu item the execution mode of the neXt Config programs can be amended.

There are three different levels of authorization:

- User
- Admin (administrator)
- and Service

Dialogue view:

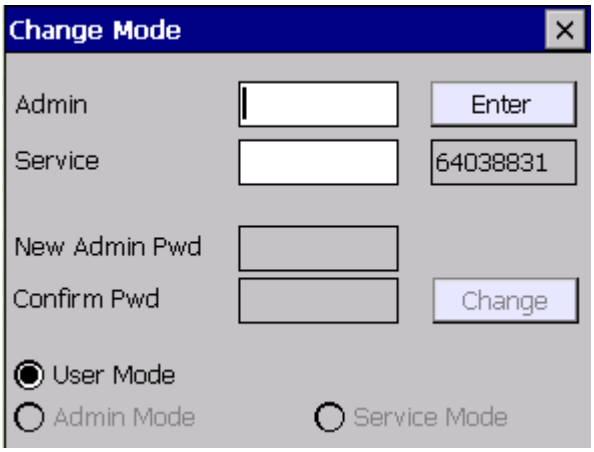


Figure 12.16: Dialogue: Advanced – Change Mode

The program is started at the User level by default. This can be seen from the green program symbol on the taskbar. 

The functions described here in the manual can be amended at the administrator level. The service password is only intended for DLoG support and is not accessible by the standard administrator.

In order to change the Administrator or service levels, you must enter a specific password in this dialogue:

Enter Password

Admin	The Administrator password must be entered here. The standard ex-factory password for the Administrator is “gold”.
Service	The service password must be entered here. The service password is only intended for DLoG support.

- Click on the<Enter> button to confirm (entry).
  The color of the program symbol changes to yellow. 

By pressing the input key on the keyboard the process will be aborted for security reasons. The existing execution mode will remain unchanged.

Change Admin Password

New Admin Pwd	To change the Administrator password you must identify yourself as Administrator and enter the new password in the box New Admin Pwd.
Confirm Pwd	To confirm enter the same password here. Both passwords must be identical.

- Click on Change to accept the change. If the boxes for the password are cleared their input was different. You must enter the password again and will receive a program message to this effect.
- Click on X to close the dialogue.

12.3.2. PIC Environment → Change EEPROM Data

NOTICE: Property damage	This option is ONLY available to DLoG technical support. Incorrect settings may damage the hardware.

12.3.3. Exit

The neXt Config program will be exit after confirming the following message:

Figure 12.17: Exit neXt Config - Warning

Please note when canceling: the Backlight Control, Automatic Switch-off, Temp Control, XReboot command and the front keys require the neXt Config software in order to function correctly.

12.4. “Info” menu

In the Info menu you can:

- Display the software version of neXt Config.EXE About
- Retrieve some system-specific information System Info
- Generate a terminal status report file Make Report

12.4.1. About

If you click on the menu item About, a small dialogue with the DLoG GmbH software version and copyright will be displayed.

Figure 12.18: Dialogue: Info – About

12.4.2. System Info

If you click on the menu item System Info system-specific information will be displayed. The information can be grouped into the following five areas:

- Version
- Hardware
- Expansion Boards
- Network
- Temperature
- PIC Info

Rubric: Version

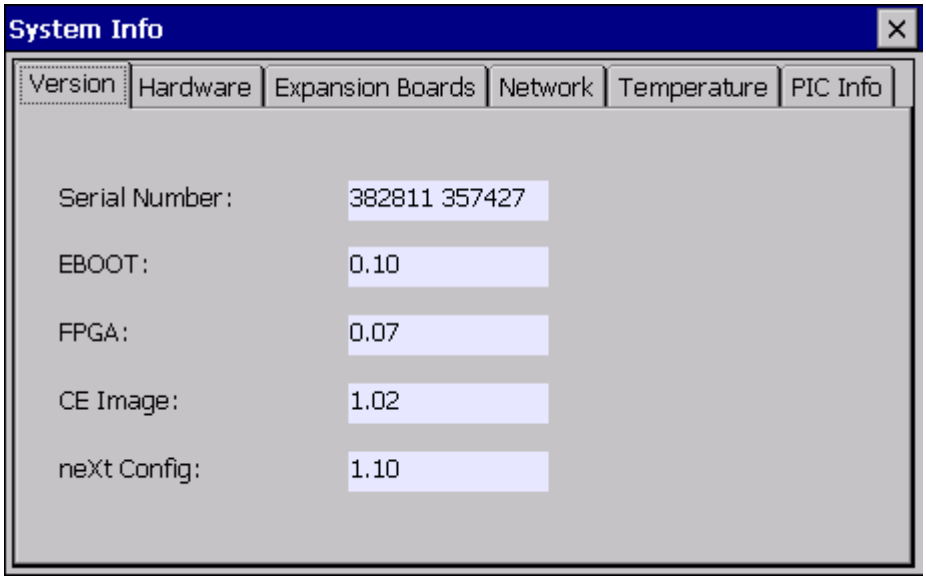


Figure 12.19: Dialogue rubric: Info – System Info – Version

The dialogue displays the respectively programmed versions of the individual software or firmware groups: (Serial Number, EBOOT, FGPA, CE Image, neXt Config)

Rubric: Hardware

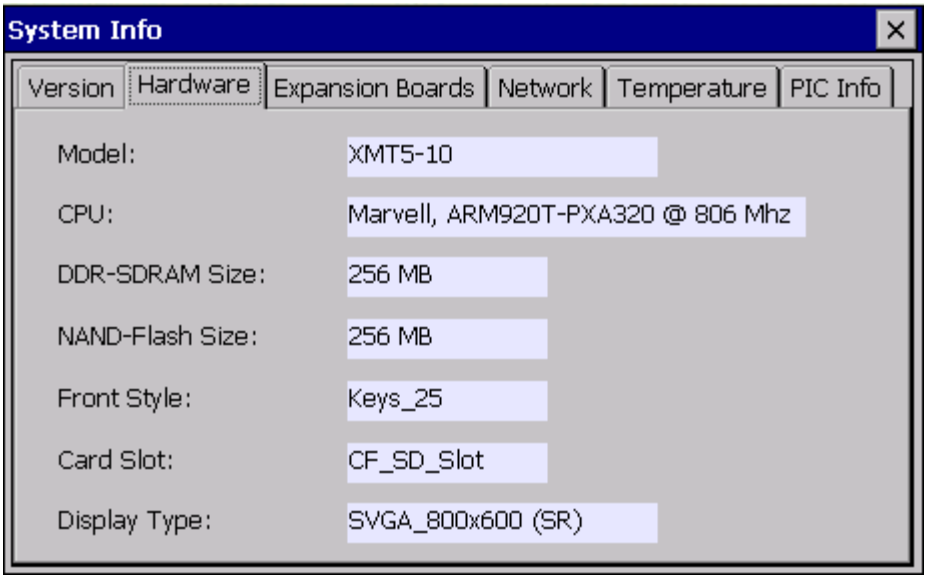


Figure 12.20: Dialogue rubric: Info – System Info – Hardware

The most important hardware-relevant information can be seen here (Model, CPU, DDR-SDRAM \ NAND-Flash Memory, Front Style, Card Slot, Display Type).
The “Front Style” option displays the available front keys, which can be programmed accordingly using the option “Set Front Keys”.

Rubric: Expansion Boards

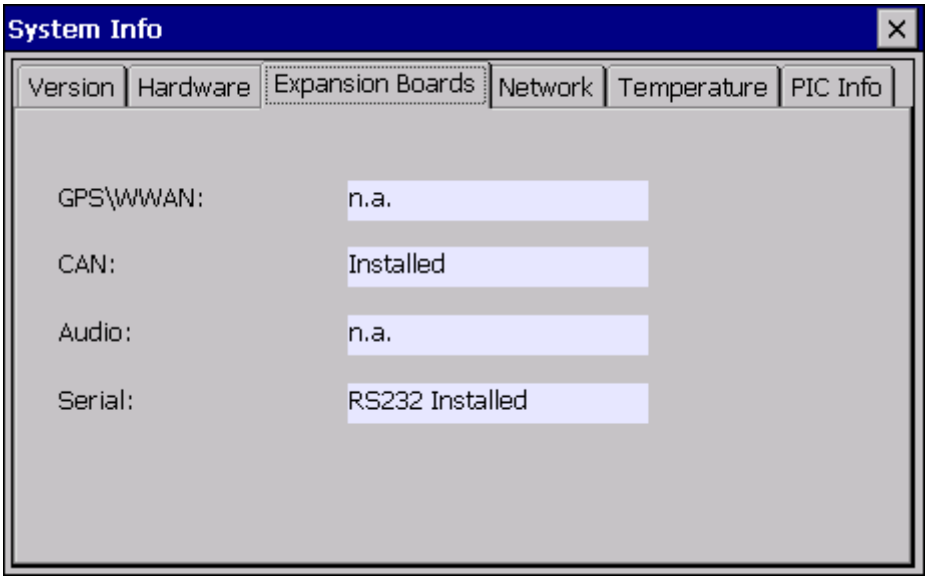


Figure 12.21: Dialogue Rubric: Info – System Info – Expansion Boards

Additional installed Expansion Boards (GPS \ WWAN \ CAN \ Audio \ Serial) information is shown here. If the specific option is not installed, the default string “n.a.” is displayed.

Rubric: Network

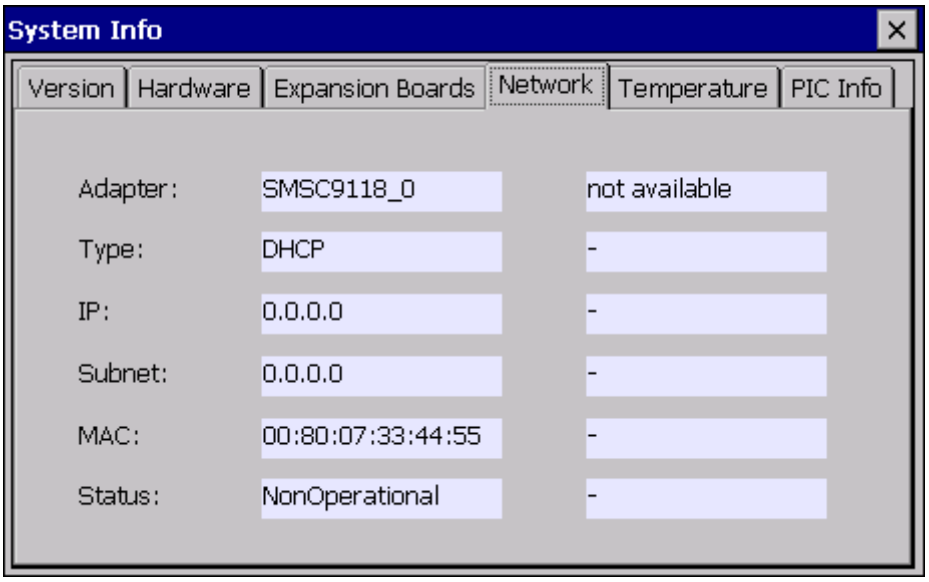


Figure 12.22: Dialogue Rubric: Info – System Info - Network

The current active System network controllers are displayed in this rubric. LAN and also WLAN controllers are supported.

Rubric: Temperature

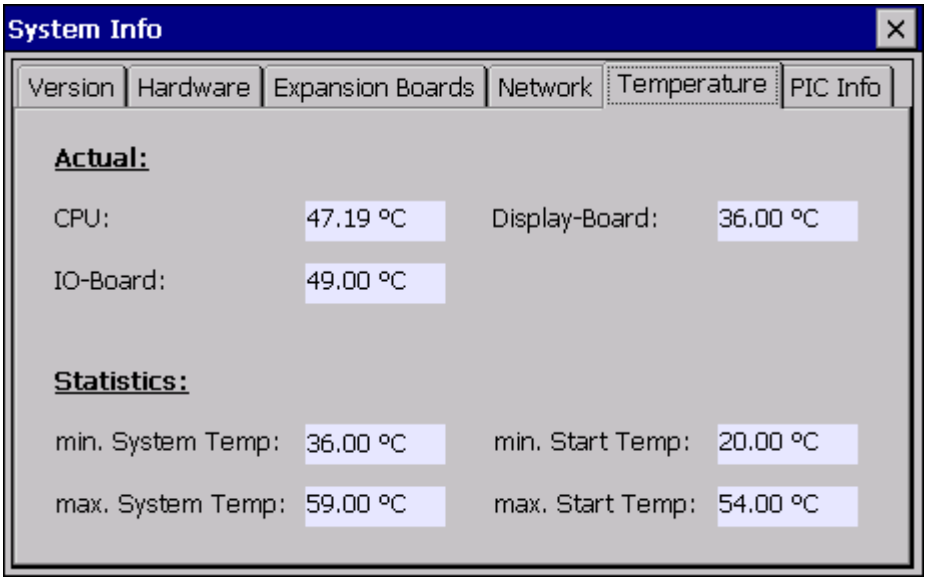


Figure 12.23: Dialogue rubric: Info – System Info – Temperature

The current temperatures measured in the device are displayed in this rubric. The values are dynamically updated as long as the input screen remains open longer.

In the lower section of the dialogue all temperature relevant static values are displayed. These values are based on the total running time of the unit with the following descriptions.

Min. System Temp	The minmal reached temperature during System operation.
Max. System Temp	The maximum reached temperature during System operation.
Min. Start Temp	The minimal reached temperature at System startup.
Max. Start Temp	The maximum reached temperature at System startup.

Rubric: PIC Info

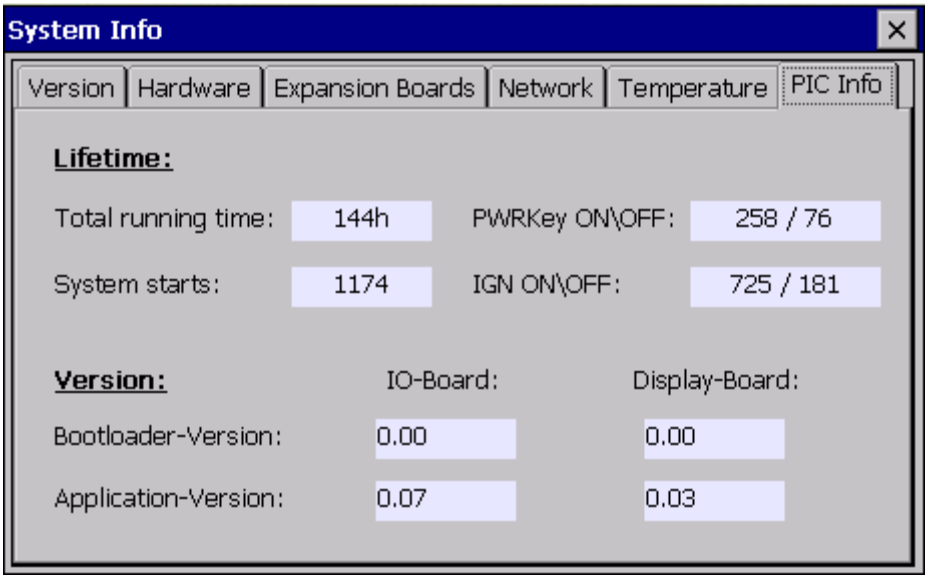


Figure 12.24: Dialogue Rubric: Info – System Info – PIC Info

The upper area of the dialogue shows environmental controller (PIC) lifetime information.

Description:

Total running time	Total running time of the terminal in hours.
System starts	Performed system starts.
PWRKey ON\OFF	Counter, how often the terminal was switched-on \ off by <Power> key.
IGN ON\OFF	Counter, how often the terminal was switched-on/off by Ignition signal.

The lower area displays the programmed PIC software versions (Bootloader, Application).

12.4.3. Make Report

This functionality generates a status report of the current terminal configuration and statistic values.

After execution the following system message will be displayed:

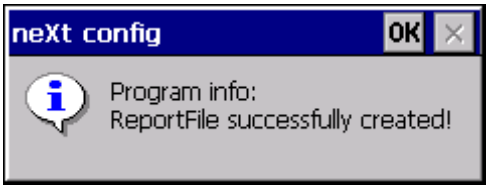


Figure 12.25: Dialogue Rubric: Info – MakeReport – status message

The file called “report.txt” will be created in the Root file directory.

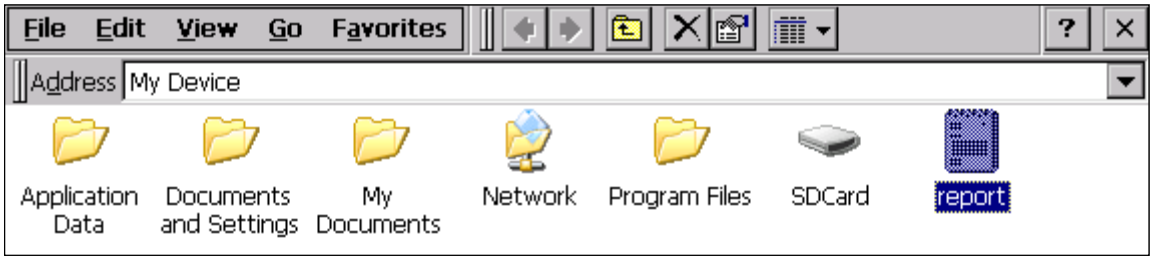


Figure 12.26: Dialogue Rubrik: Info – MakeReport – Explorerview

Example view of file content (report.txt):

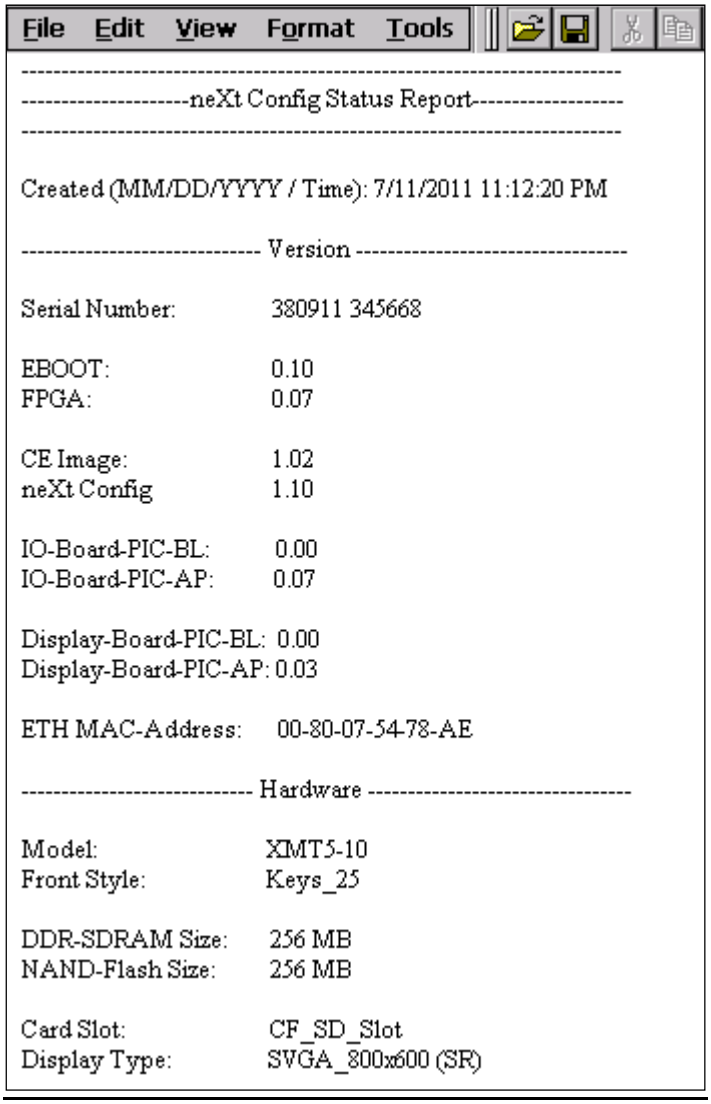


Figure 12.27: Dialogue Rubrik: Info – MakeReport – Fileview

13. DLoG Security Shell

The DLoG Security Shell is a fixed element of the DLoG Standard CE 6.0 images.

13.1. Overview

The DLoG Security Shell is used to protect the system appropriately from unintentional amendments by standard users.

There are three different modes for this:

NOT ACTIVE	Standard when system is delivered. The system has unrestricted access.
ACTIVE	The system is in protected mode.
SIP ACTIVE	The system is in protected mode. However the Windows CE SIP input keyboard can be opened/used with the taskbar.

13.2. Configuration of the DLoG Security Shell

Configuration of the DLoG Security Shell is done by using the Admin Tools, which can be found by right-hand click on the menu entry.

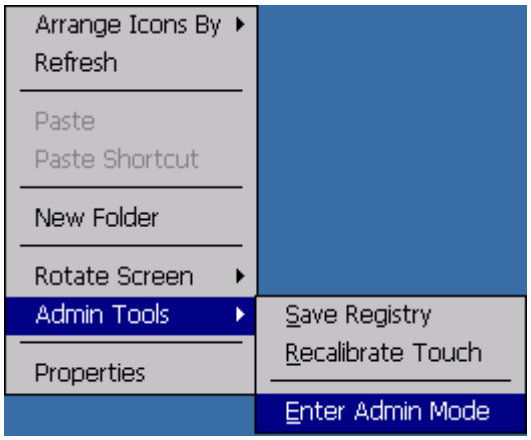


Figure 13.1: DLoG Security Shell: Right click – Admin Tools – Enter Admin Mode

The program requires a password which by default is “4653” on delivery:

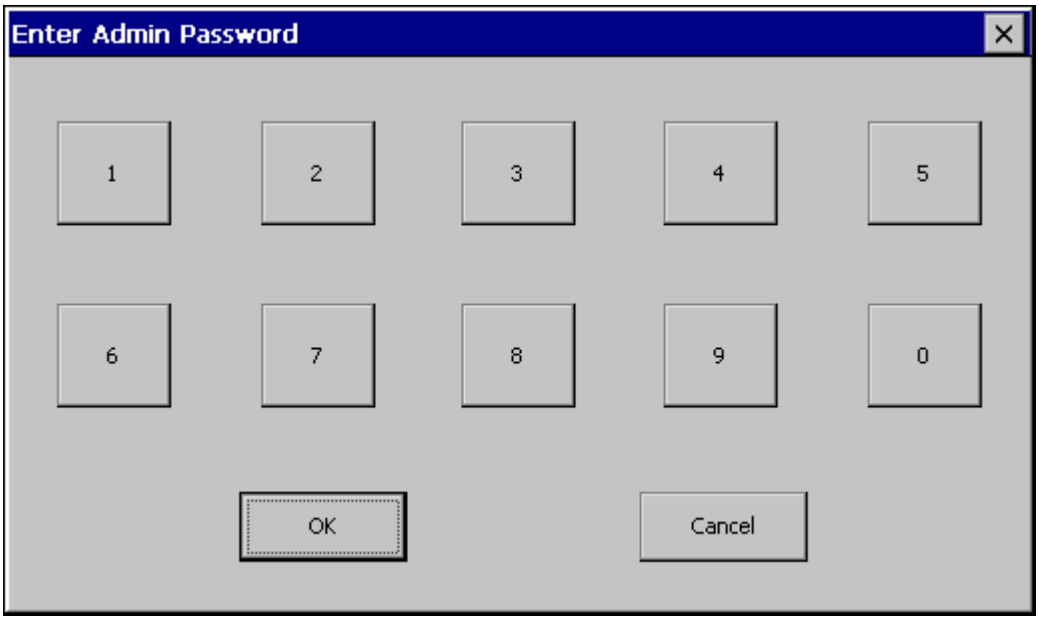


Figure 13.2: DLoG Security Shell Dialogue: Enter Admin Password

After entering the password, you access the main menu for configuration:

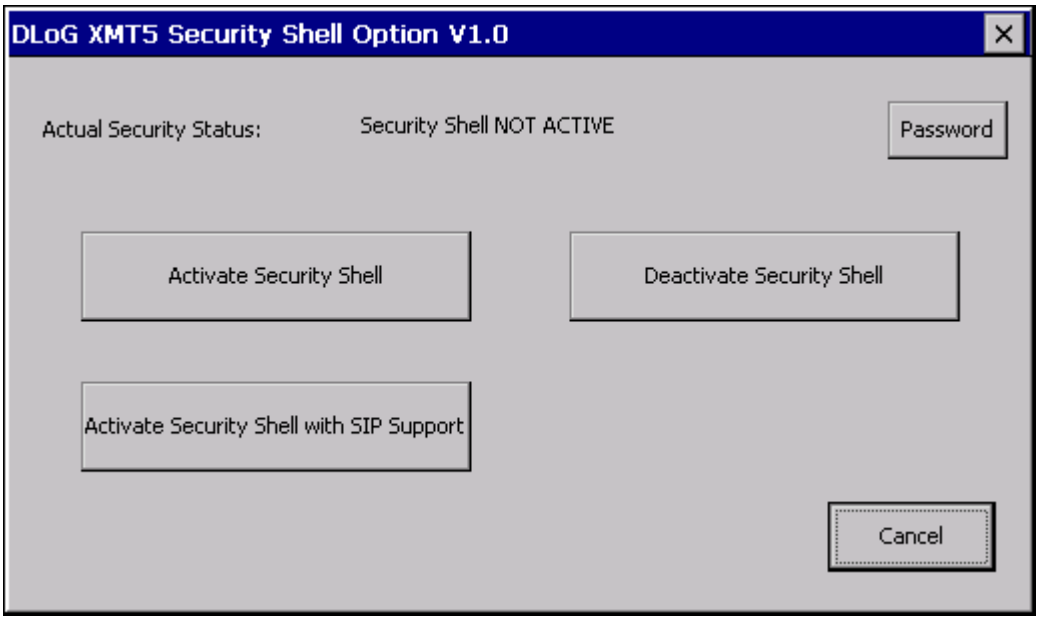


Figure 13.3: DLoG Security Shell Dialogue: DLoG Security Shell Option

Explanation:

Actual Security Status	Displays the current status of the DLoG Security Shell. NOT ACTIVE in the example shown.
Activate Security Shell	The system is set in the ACTIVE mode. (Changeover requires a new system start)
Activate Security Shell with SIP Support	The system is set in SIP ACTIVE mode. (Changeover requires a new system start)
Deactivate Security Shell	The system is set in the NOT ACTIVE mode.
Password	Here the access password can be changed. The password only applies for the DLoG Security Shell. Other DLoG software tools such as neXt Config.exe are not affected by this password change.

13.2.1. DLoG Security Shell Features

In both the ACTIVE and the SIP ACTIVE states the following points are restricted or deactivated:

- The START button can no longer be opened.
- All standard Keyboard shortcut entries are suspended. (Open Explorer Window, display Run-Dialogue, etc.)
- All Standard desktop links are no longer displayed. This includes (My Device, Internet Explorer, Recycle Bin and also Remote Desktop Connection). Other self-created links are not automatically deleted by this and must be manually removed.
- The right-hand click option (Touch\USB mouse) can no longer be used. The only remaining option is Arrange Icons By.
- The Windows Wireless Zero Configuration can no longer be opened without password entry.

With the SIP ACTIVE option all the points already mentioned are effected until the user can open and use the Windows SIP keyboard with the taskbar.

13.2.2. Administrator Password change \ reset

It is possible to change the standard password “4653” from the main program window accordingly. To do so, click on the **Password** button. The following program window will open:

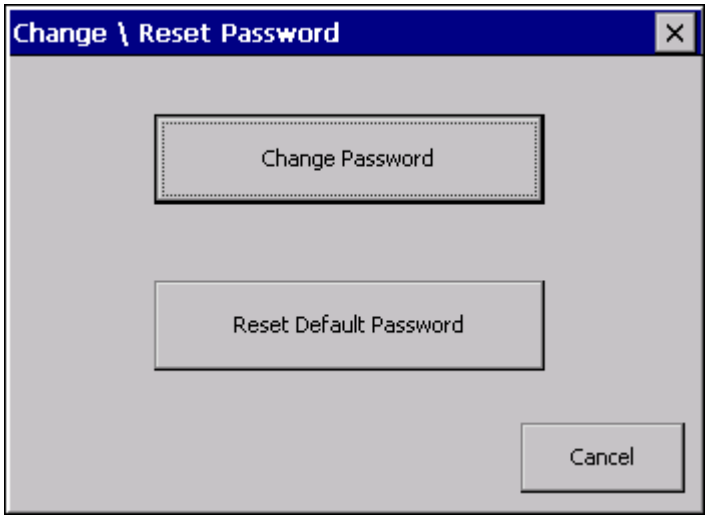


Figure 13.4: DLoG Security Shell Dialogue: Change \ Reset Password

Explanation:

Change Password	Option to change the current access password.
Reset Default Password	Option to reset the standard password “4653”.

To change the password, click on the **Change Password** button.

The following input screen will open:

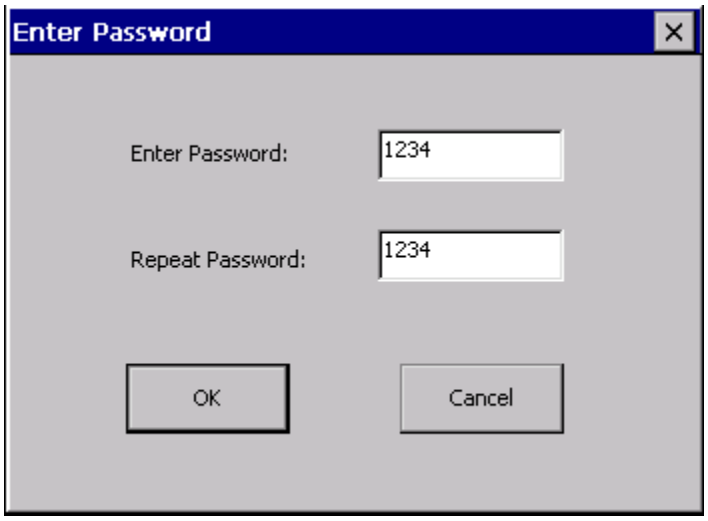


Figure 13.5: DLoG Security Shell Dialogue: Enter Password

To change the password enter the new one twice and confirm with OK. For security reasons the password must contain exactly four digits when doing this.

Messages will appear if the password is not suitable or is longer\ shorter than four digits.

13.2.2.1. Service Case (Administrator Password not recognized)

If it happens that for any reason the Administrator Password set is no longer recognized then there is a special service password. With this service password access to the DLoG Security Shell is always guaranteed.

The service password is: “6234”

13.2.3. "Retrieval parameter" Program

The "Security.exe" program can be started with retrieval parameters.

Security.exe i = (Internal), displays the currently programmed "Administrator" password.

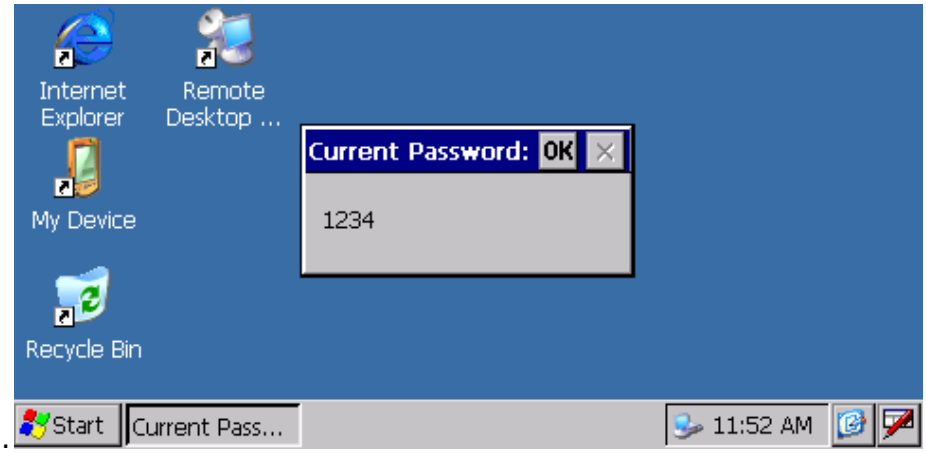


Figure 13.6: DLoG Security Shell Service-Dialogue: Current Password

Security.exe r = (Restore) resets the password to the standard "4653".

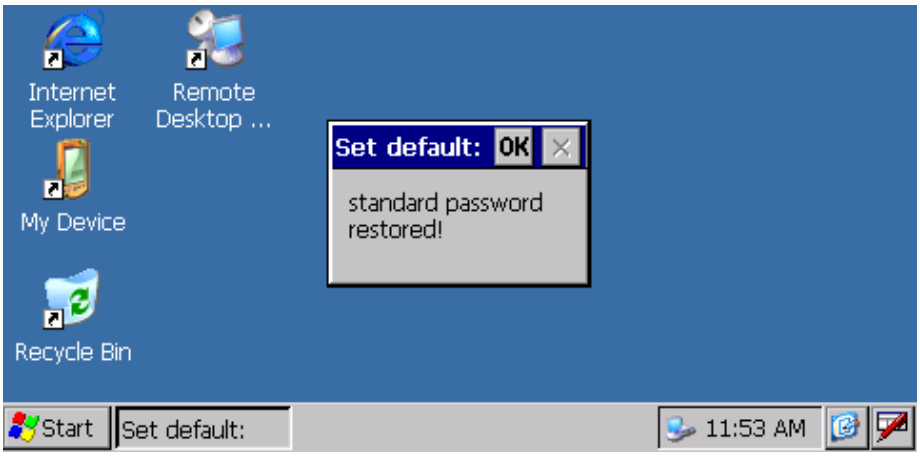


Figure 13.7: DLoG Security Shell Service Dialogue: Set default:

13.2.4. “Registry” Program Messages

Should the associated registry entry of the DLoG Security Shell option be changed or deleted then the standard registry key and the password “4653” will automatically be regenerated next time the application is started up:

Figure 13.8: DLoG Security Shell Service dialogue: “Restore standard password”

After the process a message appears confirming successful “regeneration”.

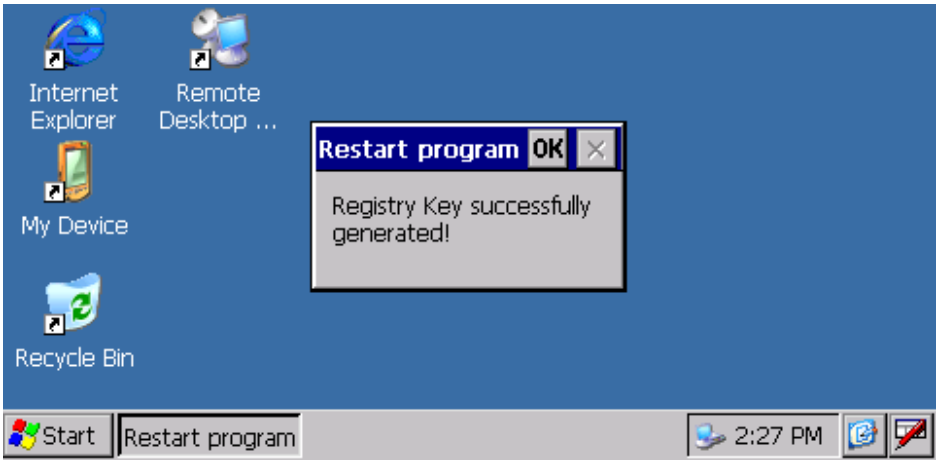


Figure 13.9: DLoG Security Shell Service dialogue: Restart program

14. DLoG Admin Tools

The DLoG Admin tools offer the option of performing the following functions (by means of a right-hand click by touch or USB mouse).

14.1. Rotate Screen

This is used to change the current display orientation. Here we differentiate between Portrait (vertical) and Landscape (horizontal). In addition there is the option of rotating the display screen in 90 degree stages.

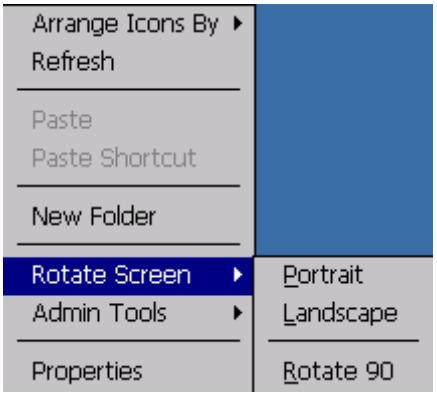


Figure 14.1: DLoG Admin Tools dialogue: Rotate Screen

14.2. Save Registry

For saving the current amended “Registry” entries. It is imperative that this option is performed after configuration changes to the terminal. A message appears after successful execution:

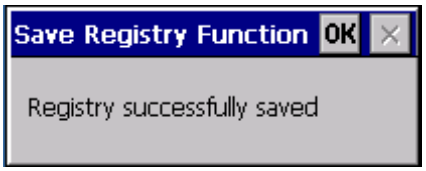


Figure 14.2: DLoG Admin Tools dialogue: Save Registry

Recalibrate Touch	For recalibrating the touch function. The command Save Registry must then be performed to save the newly calibrated data.
Enter Admin Mode	Is used for configuration of the DLoG Security Shell.

15. Active-Sync (XP Professional)

The following section explains the necessary steps for connecting the DLoG XMT5 terminal to a standard PC using a USB Active-Sync cable.

15.1. Components Required (Software)

DLoG XMT5:

- The software for the Active-Sync connection is already pre-installed. No other adjustments are necessary by the client.

Standard PC:

- Microsoft Active Sync 4.5. The program can be downloaded free of charge from the Microsoft homepage www.microsoft.com.

15.2. Establishing Active-Sync Connection

The cable between the PC and the XMT5 terminal can be connected according to the set-up described. The connection will be automatically established.

After successful connection the file content of the DLoG XMT5 can be viewed accordingly using an Explorer Window and adapted if necessary. (Copying files, etc.)

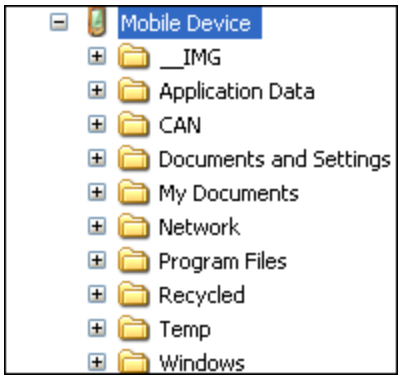


Figure 15.1: Active Sync dialogue: Explorer – Mobile Device

16. Software / Driver Installations (.CAB Files)

The DLoG XMT5 series supports the retroactive installation of “third party” software and drivers too.

For this purpose the CAB-Manager is a default element of the DLoG CE 6.0 image.
An ARM architecture processor is used with the XMT 5-Series (Marvel PXA320).

It must be ensured that the respective .CAB file to be installed has been compiled for ARM and is thus compatible for the processor architecture of the DLoG XMT5.

16.1. CAB File Installation

To install a .CAB file no specifics are to be observed provided that the .CAB file was approved or tested by DLoG GmbH. (For example the SUMMIT® WLAN driver V2.3.47 for subsequent installation on the XMT 5 series)

- Copy the .CAB installation file on to the DLoG XMT5 with a SD-Card, USB stick or an active Active-Sync connection.
- Open the.CAB File by double clicking and carrying out the installation in accordance with the dialogue requirements.
- To finish do a right-hand click on the desktop and the option (Admin Tools – Save Registry) to save and confirm the changed registry data.
- Restart the terminal on completion.

NOTICE: Property damage	The company DLoG gives no guaranty or warranty whatsoever on .CAB File installation which is unprofessionally carried out or is incompatible with the DLoG XMT5 series!

16.2. CAB File De-Installation

The ControlPanel Option Remove Programs can be used to delete installed .CAB file installations.

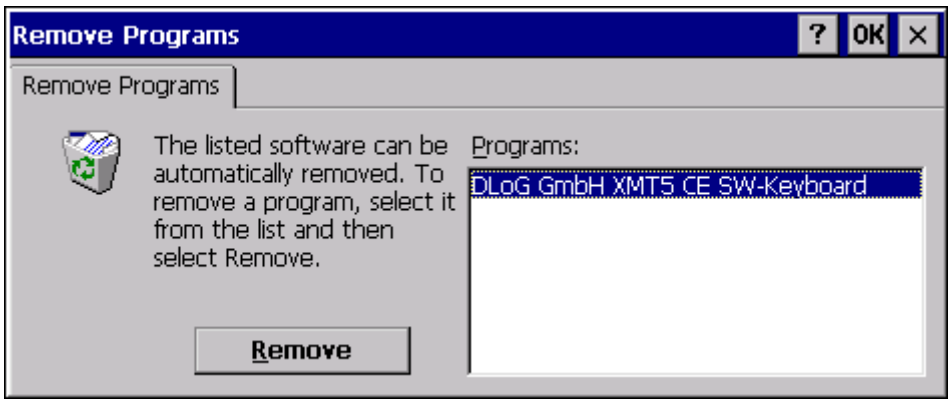


Figure 16.1: CAB File De-Installation

- Choose specific program from list and select the Remove button.

If warning messages appear on screen, (File in use \ etc.) manual interaction is required to remove all installation files after general de-installation routine finished.

17. Storage Manager ControlPanel Applet

The Storage Manager displays the free remaining NAND-Flash memory and offers functionality to prepare removable storage devices like SD-Cards, USB sticks for usage under Windows CE.

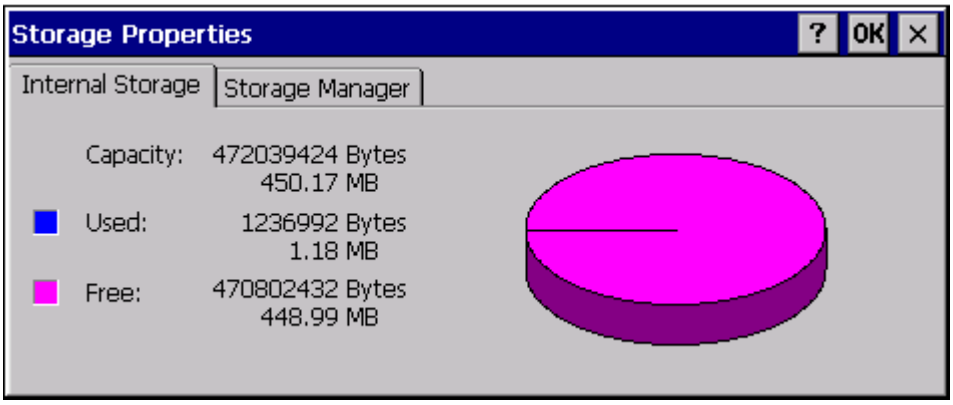


Figure 17.1: Storage Manager ControlPanel Applet

18. Serial ports

XMT 5 devices are equipped with a serial interface EIA-232-E as a default. Additional optional COM equipment is available.

Warning: Use only ferrite wire type 74271131 from Würth Elektronik in order to comply with emissions norm

If you connect wires to serial interfaces, please use a ferrite wire from Würth Elektronik of type 74271131. You can purchase these directly from Würth Elektronik or via DLoG. This step is necessary in order to comply with the limit values in relation to EN 55022 ("radiated emission")

18.1. COM1

A basic function (RX, TX, RTS, CTS) EIA-232-E interface is integrated as COM1 (default).

18.1.1. COM1 interface as voltage supply for external devices

When using the COM1 interface as voltage supply for external devices, the following must be considered:

- COM1 can optionally supply externally connected devices with +12 V or +5 V.
- The current drain is limited to 1 A with an individual fuse. The maximum current drain can be considerably lower depending on the system equipment, and is the responsibility of the operator.

18.2. COM2 (option)

A basic function (RX, TX, RTS, CTS) EIA-232-E interface can be integrated optionally as COM2.
This option cannot be retrofitted. It must already be included in the order for the XMT 5 since the terminal must be equipped with an audio slot at the factory.

18.3. 422/485 (option)

A basic function (RX, TX, RTS, CTS) EIA-422/485 interface can be integrated optionally into the XMT 5.

A sample application is available upon request.

This option cannot be retrofitted. It must already be included in the order for the XMT 5 since the terminal must be equipped with an audio slot at the factory.

Pin assignement 4xx

Pin	Signal
1	nc
2	nc
3	RX-
4	TX-
5	GND
6	nc
7	nc
8	RX+
9	TX+

18.4. Cable length and ground loops

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 422/485 Option) or differential systems (EIA-232-E to EIA-422/485) are strongly recommended.

19. Audio

19.1. Internal speaker

The XMT 5 is equipped with an internal speaker as standard.

Figure 19.1: Speaker on the side of XMT 5/7

The system messages from the terminal are transmitted over the speaker.

The configuration for the internal speaker is done in the Control Panel menu "Volume & Sounds" of the Windows CE system.

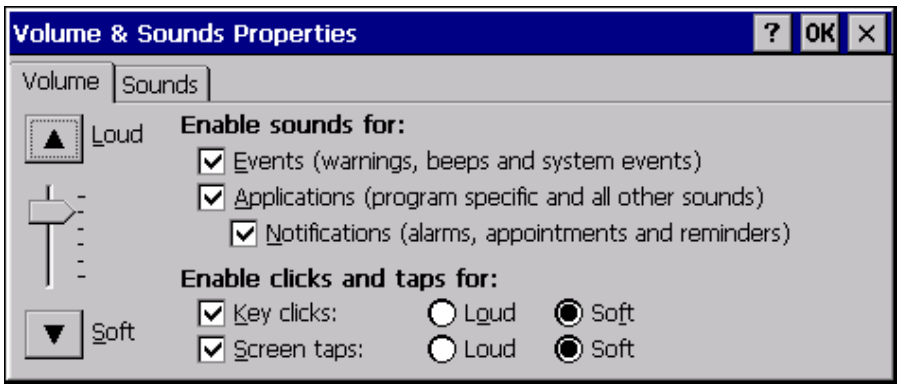


Figure 19.2: Speaker volume configuration

The sounds to be reproduced can be adjusted according to the event in the tab "Sounds".

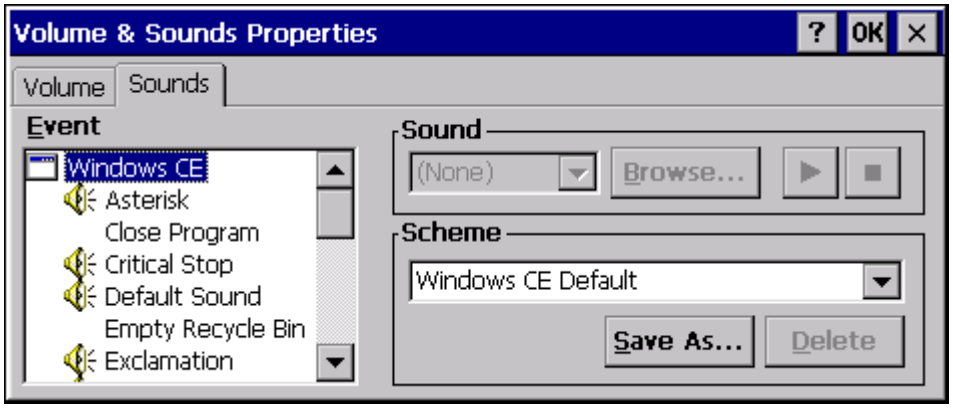


Figure 19.3: Speaker Sounds Configuration

To deactivate the internal speaker and regulate the audio amplifier, there is a menu in the Control Panel called "Audio Settings".

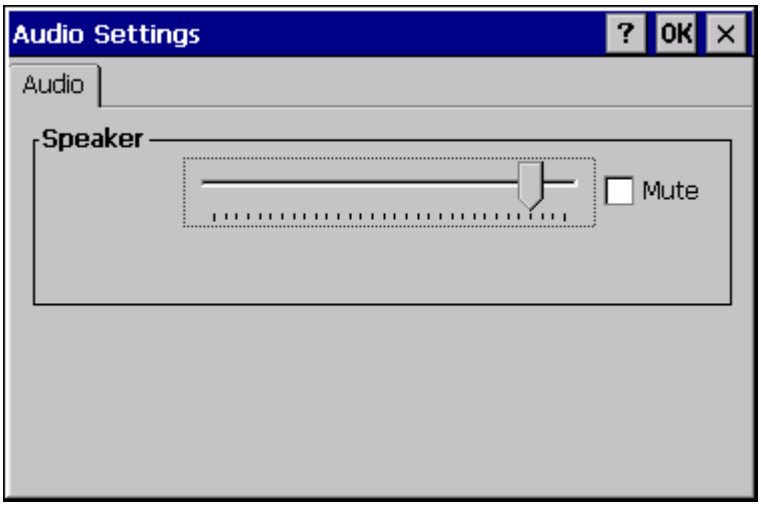


Figure 19.4: Speaker Configuration Audio Settings, Speaker

19.2. Handset (optional)

The XMT 5 is optionally available with a connector for a microphone/speaker (handset).

This option cannot be retrofitted. It must already be included in the order for the XMT 5 since the terminal must be equipped with an audio slot at the factory.

Suitable Handsets

- Please use only handsets from OTTO Communications.
- Please contact your DLoG sales representative if needed.

Configure handset

To configure the handset, use the Control Panel menu "Audio Settings".

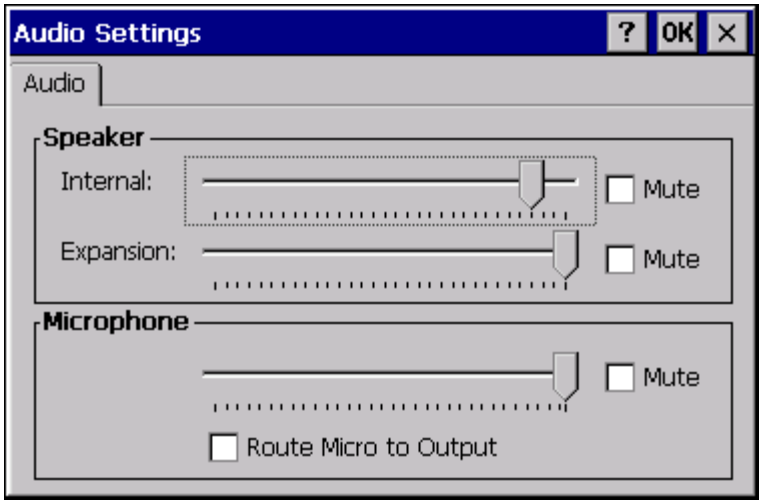


Figure 19.5: Handset configuration, Control Panel menu Audio Settings

In the expanded view, the internal speaker can be configured as well as the external handset speaker ("Expansion") and the microphone.

With the "Mute" button it is possible to activate/deactivate the speaker and the microphone individually.

The option "Route Micro to Output" can be used for testing and sends the microphone signal directly to the speaker.

20. CAN (Option)

XMT 5 devices are optionally available with CAN interface. The CAN interface is galvanically isolated from the system.

A suitable driver is integrated into the operating system. An API description is available upon request. Please contact your Advantech-DLoG salesperson if needed.

The CAN option cannot be retrofitted since the terminal must be equipped with a CAN slot at the factory.

20.1. Interface

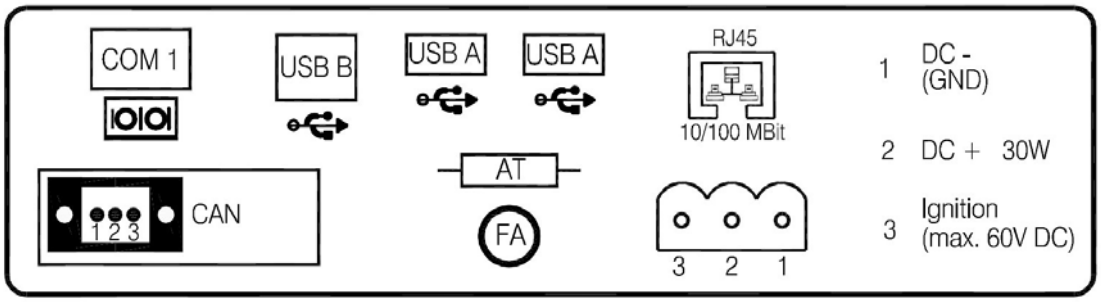


Figure 20.1: CAN interface (Option)

20.2. Pin assignement

pin	signal
1	CAN_H
2	SHIELD
3	CAN_L

Figure 20.2: Pin assignement CAN interface

21. Touch-Screen

21.1. Design

21.1.1. Standard: 4 wire touch screen

- 4 wire touch sensor in analog resistive two-tail technology
- Degree of hardness of surface JIS-K-5400: 3H
- Construction: film-film-glass (FFG) with buffer layer, chemically hardened glass

21.1.2. Optional: 5 wire touch screen suitable for sunlight

- 5 wire touch sensor in analog resistive two-tail technology
- Degree of hardness of surface JIS-K-5400: 3H
- Construction: film-glass (FG), chemically hardened glass

21.2. Resistance

The touch sensor surface is not affected by the following substances (following DIN 42 115, part 2, 2 hours contact time at room temperature):

Food and drink:

tea, coffee, ketchup, mustard, vinegar, soy sauce, beer, red wine, white wine, cola, cooking oil

Household and industrial chemicals

Detergent, all-purpose cleaner, dishwashing liquid, glass cleaner, hydrogen peroxide (3%), Lysol, ethanol, isopropanol, acetone, methyl ethyl ketone, toluol, concentrated hydrochloric acid, petroleum, benzine, motor oil, diesel, gear oil, brake fluid, anti-freeze, hydraulic oil

21.3. Operation

To operate, use a finger or suitable stylus.

Sharp or hard objects must not be used.

Unsuitable objects like ball-point pens, screwdrivers, etc., damage the sensor and lead to total failure of the touch screen.

21.4. Cleaning

- Clean the touch screen with a soft cloth and isoproponal.
- Apply the isopropanol to the cloth and not directly to the surface of the touch screen.
- The cloth used must be soft, lint-free and non-abrasive.
- Do not use a cleaning solution with ammonia or sulfur!
- Do not use abrasive cleaners as they will scratch the touch screen.

21.5. Storage and Handling

The resistive touch screen is a glass product and thus must be handled with care. To avoid scratching the touch screen, the surface should be kept clean and free of dust and dirt.

To avoid accidentally damaging the touch screen, follow these instructions:

- Store in accordance with device-specific temperature and humidity.
- Do not place heavy objects on the touch screen.

21.6. Fine Tuning

The XMT 5 is precalibrated for delivery.

To fine tune, use the DLoG Admin Tools program (see section *14 DLoG Admin Tools*)

Procedure:

1. To calibrate, start the XMT 5 and briefly wait until the operating system has started.
2. Press the touch screen until the context menu is displayed (functions like a right mouse button).
3. Open the Admin Tools menu.
4. Start the Recalibrate Touch function and follow the instructions on the screen (repeat items 2 and 3).
5. Then execute the Save registry command. Confirm with OK. The settings are now saved.

22. Internal devices

22.1. CF WLAN/memory cards (option)

Only use CF WLAN/memory cards that have been tested by DLoG GmbH and approved for the XMT 5. You can get more information about approved accessories from your DLoG sales representative.

22.2. Automatic switch-off

The XMT 5 is equipped with Automatic switch-off function as a default.

The program neXt Config is integrated into Windows CE Image for configuring an Automatic switch-off.

Read more in *chapter 12 DLoG neXt Config* .

23. Common mistakes in usage

23.1. Power supply

XMT 5 terminals are available with an integrated, galvanically isolated power supply for DC voltage.

- Please note the voltage range of the device. It must not be exceeded or fall below.
- Be sure that the correct polarity is used for the power supply cords.

23.2. Powering up/down

- Please note that the function of the XMT 5'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).

23.3. Cable cover

- The supplied cable cover for the external ports must be installed prior to using the XMT 5.

23.4. Mounting/Installation

- Only use suitable mounting brackets and screws permitted by DLoG GmbH.
- 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 DLoG 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.

23.5. Mobile application on vehicles

- Take care to correctly mount the device, also considering vehicle vibrations.
- Do not connect a 12/24 VDC device to a vehicle with ≥ 48 VDC.
- Do not connect a 24/48 VDC device to a 12 VDC vehicle.
- Do not connect a 24/48 VDC device to a vehicle with more than 60 VDC voltage.
- Take care that the correct fuse is used for the supply lines
- Lay the supply cable so that it cannot be squeezed or abraded.
- Make sure that the cables are labeled and do not connect the supply cable with polarity reversed.
- Shorten the supply cable to the minimum required length. This will help to avoid a tangle of cables and improve the quality of the power supply.
- Make sure to follows the vehicle manufacturer's instructions for connecting additional electrical assemblies, such as for connecting with an emergency stop switch.
- Connect the power cable to a suitable spot. Make sure the supply to the terminals has a sufficient cross-section and current carrying capacity.
- Please note that faults could occur in the power supply on forklifts with inverter drive that are well over the tolerance potential of the XMT 5. This could cause damage to the XMT 5. In such environments, the installation of a line filter is required. Please contact your DLoG sales representative if needed.

23.6. Using the touch screen

- Touch screens 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).

24. Troubleshooting

Problem: Touch screen does not react accurately.

The XMT 5 is precalibrated for delivery.

To fine tune, use the DLoG Admin Tools program.

25. Maintenance

WARNING: Danger due to electric shock when cleaning and maintaining the device.

To avoid electric shock, turn the XMT 5 off and disconnect it from the power supply before cleaning or maintaining it.

25.1. Cleaning the housing

The housing of the XMT 5 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.

25.2. Touch screen 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.

25.3. Cleaning cooling fins

To guarantee minimal heat generation of the XMT 5, the cooling fins must be free of dirt and dust. It is best to clean the cooling fins with a soft brush.

NOTICE! Property damage	Do not use compressed air or a vacuum cleaner, as they can damage the surface.

26. Disposal

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

27. Return packing slip

Return packing slip (please fill in once per return shipment):

Company	
Street	
Zip code, town	
Contact	
Phone number	

Type(s) of unit(s) returned:

Serial number(s) of the unit(s) returned:

[ ] The units have not been returned, as they are currently being used. However, the following parts are missing:

[ ] Unit was already damaged on delivery (please enclose a copy of the delivery note)

[ ] Delivery was incomplete

Missing parts:

[ ] The following error occurs when operating the unit:

[ ] Separate error report is enclosed

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