

# Windows® Embedded Compact 7 Image Version 3.8.1



## Imprint

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### **Original manual**

The German-language edition of this document is the original operating manual.

### **Translated instructions**

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# 1

## General

All touch panels with Windows Embedded Compact 7 have English as the operating system language.

**Note:**

This documentation applies to touch panels with the Windows Embedded Compact 7 operating system, **Image Version 3.8.1** or higher.

**Note:**

With Image Version 3.8.1, the operation of devices without display/touch interface, called "headless/blind node" devices, is supported. For information about the device-specific adaptations and enhancements, please refer to the [XB-393 «Headless/Blind node» – Adaptations and enhancements](#) chapter.

The current edition of this manual in other languages can be obtained from the Internet: [www.eaton.eu/doc](http://www.eaton.eu/doc) by entering XV300 in the Quick Search box.

For additional information on XV300 devices, please visit: [www.eaton.eu/XV](http://www.eaton.eu/XV)

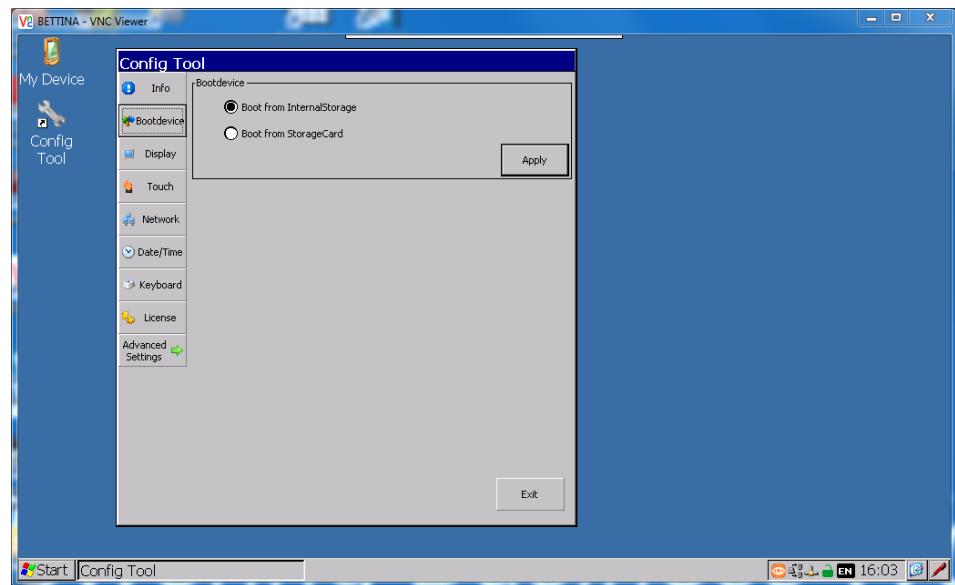
## 1.1

### Startup

In all XV300 touch panels with Image Version 3.1.0 or higher (please refer to [Register Info](#) as well), the operating system (**OS**) is booted from internal memory (**InternalStorage**) or from an SD card (**StorageCard**).

Depending on which option is used, the operating system will be located in the **OS** folder in **My Device\StorageCard** or in **My Device\InternalStorage**.

To select the boot device from which the touch panel will boot up in normal mode, open **Config Tool** and go to the **Bootdevice** tab.



If the touch panel is booted from the InternalStorage boot device, the OS will be copied from the **My Device\InternalStorage\OS** folder to the linear memory space. It will then be loaded into RAM and booted up.

If the device is booted from a StorageCard, the OS will be loaded from the **StorageCard\OS** folder into RAM and booted up.

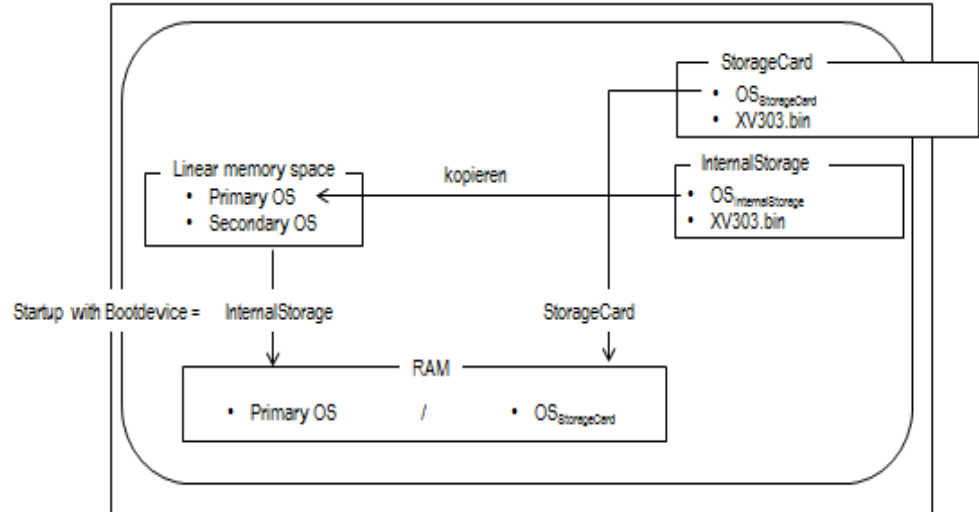
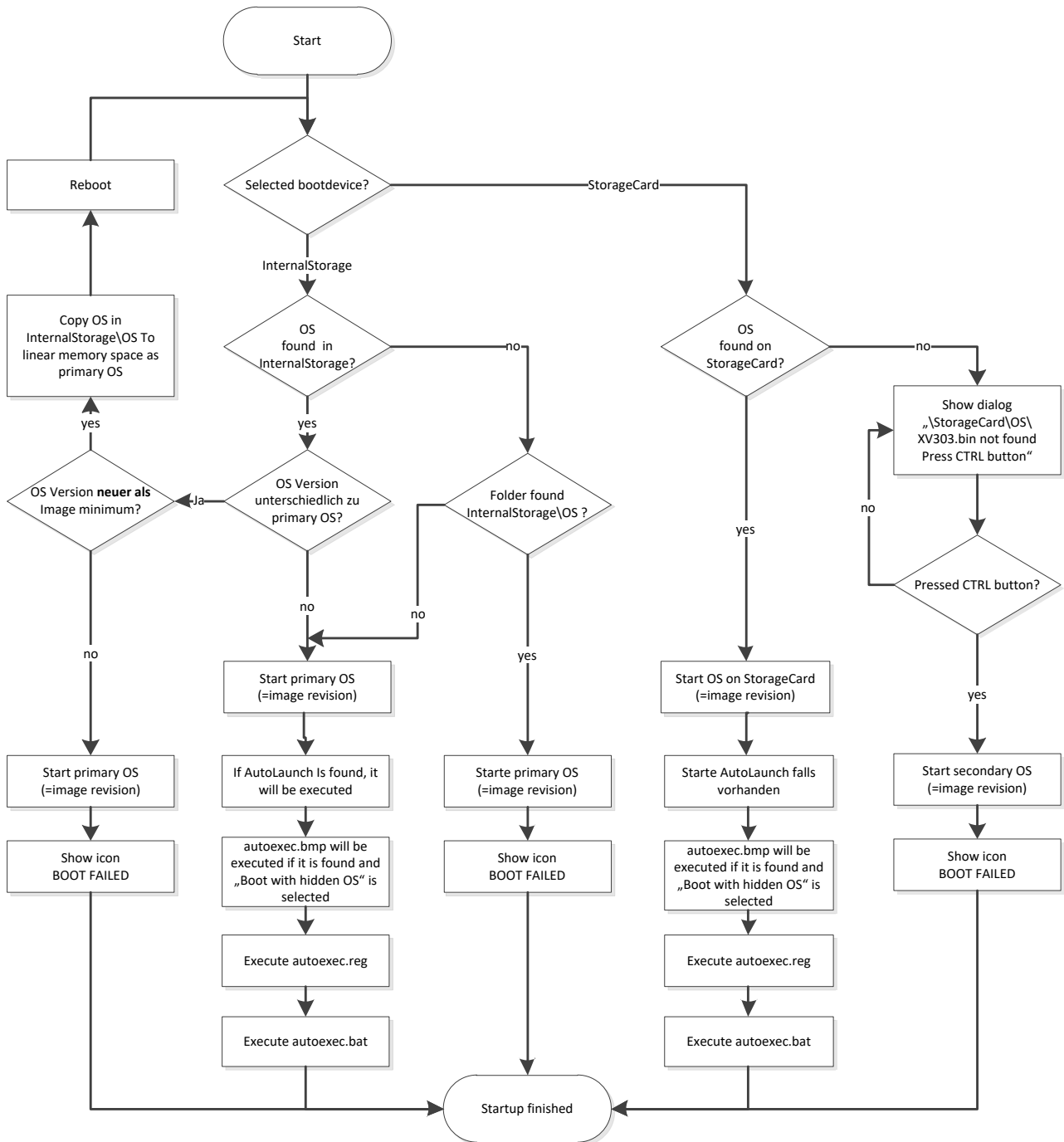


Figure 1: How the operating system will boot up depending on the selected boot device

1.1.1

Boot process flowchart



1) Image minimum and OS Version (Image revision) information will be displayed by the boot loader during the boot phase. Please refer to the following figure: [Fig\\_Boot loader during boot phase.](#)

For more information and details, please refer the flow charts to the [Appendix](#) chapter.

1.1.2

**Booting from InternalStorage**

If the touch panel is booted from InternalStorage, the operating system version in the linear memory space (primary OS) will be compared with the operating system in InternalStorage\OS.

If the versions are the same, the operating system will be loaded from the linear memory space. The first time this operating system version is stored on the touch panel is during production.

If the versions are different, the operating system in **InternalStorage\OS\XV303.BIN** will be copied to the linear memory space and the device will be rebooted; please refer to [Boot process flow diagram](#).

During the boot phase, at least the following screen will be displayed:

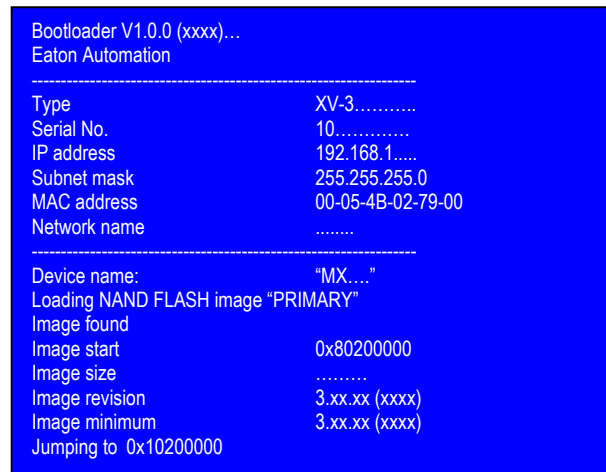


Figure 2: Boot loader during boot phase

"Image revision" refers to the version of the operating system that is currently being booted up. This version will depend on the boot device that has been selected and on whether the boot process was completed without any errors; please refer to [Boot process flow diagram](#).

Note:  
The actual screen that is displayed may vary depending on the specific touch panel model!

**InternalStorage\OS folder not found**

If an InternalStorage\OS folder is not found, the device will boot up with the operating system (primary OS) found in the linear memory space.

This version will include all of the operating system's basic functions, but not the additional components in XV303.BIN.

**BIN file not found in InternalStorage\OS folder**

If an **InternalStorage\OS\** folder is found, but there is no XV303.BIN file in it, the device will boot up with the operating system (primary OS) found in the linear memory space.

Autoexec.\* files will not be run, and the "BOOT FAILED" icon will appear on the screen. This will give you the opportunity to configure the device correctly.

Either change the setting in Bootdevice, use GALILEO or XSOFT-CODESYS (for example) to copy the OS you want to the device, or delete the OS folder.

### Operating system in linear memory corrupted

There are two operating systems in the linear memory space. The primary OS, which can be replaced with the use of batch files, and the secondary OS, which is loaded at the factory and cannot be replaced.

If the device is booted from the InternalStorage boot device, the OS in the linear memory space will be used and copied to RAM.

If the operating system (primary OS) in the linear memory space is corrupted, the backup operating system (secondary OS) will be loaded instead. This backup operating system is primarily designed to allow users to reconfigure the touch panel, and accordingly has limited functionality. More specifically, Autoexec.\* files will not be run, and the "BOOT FAILED" icon will appear on the screen.

The following batch files, which are located in the \Windows folder, can be used to load a functioning operating system (primary OS) into the linear memory space.

- RepINT2Primary.bat Copies the OS from **InternalStorage\OS** to the linear memory space
- RepSD2Primary.bat Copies the OS from **StorageCard\OS** to the linear memory space

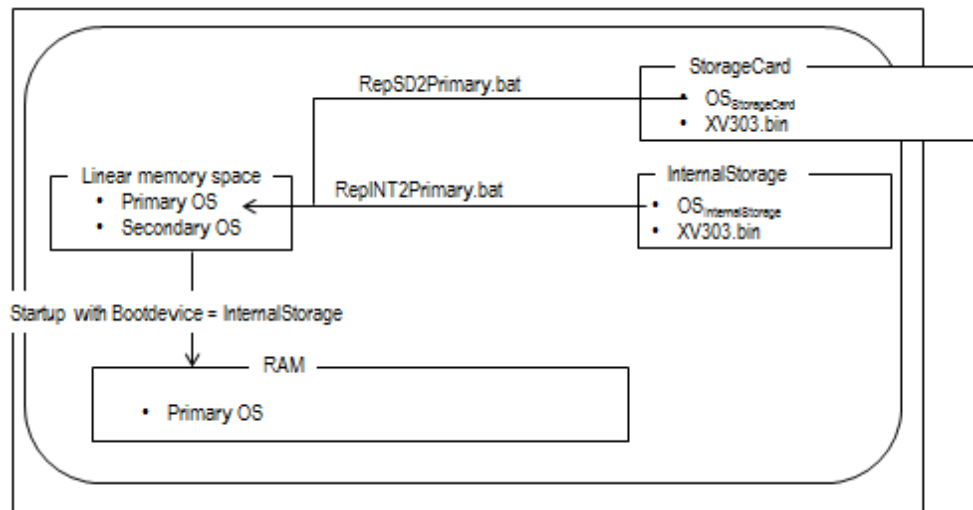


Figure 3: Batch files that can be used to copy an operating system to the linear memory space

### Obsolete BIN file in InternalStorage\OS folder

If the primary OS and OS<sub>InternalStorage</sub> operating system file versions are different from each other, the system will first check whether OS<sub>InternalStorage</sub> is older than the "image minimum" version. If it is not, OS<sub>InternalStorage</sub> will be copied from the **InternalStorage\OS** folder to the linear memory space and the device will be rebooted. In other words, if the operating system version in InternalStorage\OS is older than the primary OS version, it can still be copied to the linear memory space, provided the following condition is met:

OS<sub>InternalStorage</sub> is newer than or has the same date as the "image minimum" version

If the check reveals that OS<sub>InternalStorage</sub> is older than the "image minimum" version, OS<sub>InternalStorage</sub> will not be copied to the linear memory space. In this case, the existing operating system (primary OS) will boot up, but Autoexec.\* files will not be run and the "BOOT FAILED" icon will appear on the screen.

After this, an operating system version that is newer than the "image minimum" version should be loaded onto the device so that the latter will be able to boot correctly. The "image minimum" version

will be displayed by the boot loader during the boot proces; please refer to [Figure Boot loader during boot phase.phase](#).

### 1.1.3

#### Booting from StorageCard

If the touch panel is booted from the SD card, the operating system file (XV303.BIN) will be loaded directly from the **StorageCard\OS** folder on the SD card into RAM.

**Note:**

The SD card must first be selected as the boot device. For more information, please refer to the [Startup\\_XV300](#) chapter.

During the boot phase, at least the following screen will be displayed:

```
Bootloader V1.0.0 (xxxx)
Eaton Automation
-----
Type                XV-.....
Serial No.          10.....
IP address           192.168.1....
Subnet mask          255.255.255.0
MAC address          00-06-48-02-E9-58
Network name         .....
-----
Device name "EA-02-E958"
Loading \StorageCard\OS\XV303.BIN
Image found
Image date DD.MM.YYYY HH:MM
Image start 0x80200000
Image size .....
Image revision      3.xx.xx (xxxx)
Image minimum       x.xx.xx (xxxx)
Jumping to 0x10200000
```

**Note:**

The actual screen that is displayed may vary depending on the specific touch panel model!

#### StorageCard not found or BIN file not found in StorageCard\OS folder

If the SD card is not found when booting up, the boot loader will get stuck in an endless loop. A message saying that the StorageCard was not found will flash on the screen and instruct the user to press the CTRL button.

```
Bootloader V1.0.0 (xxxx)
Eaton Automation
-----
Type                XV-.....
Serial No.          10.....
IP address           192.168.1....
Subnet mask          255.255.255.0
MAC address          00-06-48-02-E9-58
Network name         .....
-----
\StorageCard\OS\XV303.BIN not found
Press CTRL button
```

Pressing the CTRL button will load the backup operating system (secondary OS) from the linear memory space. This backup operating system is primarily designed to allow users to reconfigure the

device, and accordingly has limited functionality. More specifically, Autoexec.\* files will not be run, and the "BOOT FAILED" icon will appear on the screen.

#### 1.1.4

#### Actions after booting

After Windows Embedded Compact 7 starts, the following actions will be performed independently of the selected boot device:

- 1** The system will look for an AutoLaunch.inf file on the SD card.  
If it finds this file, the function configured in Autolaunch.inf will be run. For more information, please refer to the [AutoLaunch](#) chapter.
- 2** If the "Boot with hidden OS shell" option is enabled, the system will look for an AUTOEXEC.BMP file in the boot device's root directory. If it finds the file, the file will be loaded and shown on the screen. For more information, please refer to the [Autoexec.bmp](#) chapter.
- 3** If an AUTOEXEC.REG file is found in the boot device's root directory, e.g., in *My Device\InternalStorage*, the corresponding registry keys and values will be copied. For more information, please refer to the [Autoexec\\_reg](#) chapter.
- 4** The system will also look for an AUTOEXEC.BAT file in the boot device's root directory, e.g., in *My Device\InternalStorage*.  
If this file is found, it will be run. For more information, please refer to the [Autoexec.bat](#) chapter.

The boot device is selected with Config Tool, in the "Bootdevice" tab.

If the [CTRL button](#) is pressed during the boot process, the actions listed in steps 2 through 4 will not be performed.

## 1.2

### Autoexec.reg

The AUTOEXEC.REG file can be used to configure customer-specific registry keys and values when the touch panel boots up. The file must be stored in the boot device's root directory for this purpose.

The boot device is selected with Config Tool, in the "Bootdevice" tab.

The registry is used for a variety of settings (please refer to the [Registry Editor](#) chapter as well). When the touch panel boots up, the registry will be automatically set up as required for device-specific requirements and based on the last settings configured in Config Tool. Any other registry keys and values that are needed must be included in the AUTOEXEC.REG file.

A description of the file format is given in chapter «[Registry Editor – File .REG](#)».

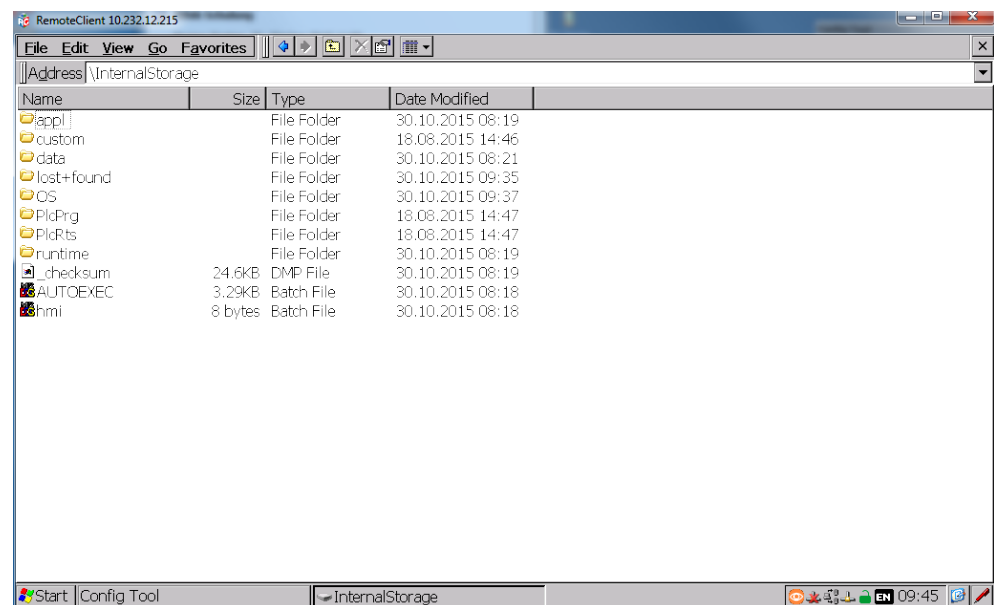
Note:

The AUTOEXEC.REG file will not be run if the [CTRL button](#) is pressed during the boot process!

## 1.3

### Autoexec.bat

The AUTOEXEC.BAT start file can be used to configure a customer-specific touch panel boot process. More specifically, it can be used to run command line commands without the use of a keyboard. This file should be located in the boot device's root directory under **My Device\InternalStorage** or **My Device\StorageCard**.



Once the operating system has started, the system will look for the "AUTOEXEC.BAT" file for a maximum of 60 seconds. If the file is found, it will be run by a "CMD" shell. An argument (%1) for the AUTOEXEC.BAT file with the name of the boot device will be passed to this command shell. This argument can be used to start programs from the correct device:

Note:

The AUTOEXEC.BAT file will not be run if the [CTRL button](#) is pressed during the boot process!

**Important:**

The contents of the AUTOEXEC.BAT file can be defined in applications such as GALILEO and CODESYS. You can also control whether the Autoexec.bat is loaded onto the device during a DOWNLOAD.

The contents of this file can be found by clicking on Home\CE Configuration\Autoexec.bat in GALILEO.

For more information, please refer to the "Important things to know when using a project on your device" chapter in the online help for GALILEO or in MN048018.

Sample "AUTOEXEC.BAT" file:

```
ECHO OFF
REM *****
REM Verify boot device, if parameter is not
REM available, the boot device is StorageCard
SET bootdev=StorageCard
IF "%1"==" " GOTO START
SET bootdev=%1
REM *****
:START
REM
START Shortcut -p GRSW3.EXE
START CeRemoteSvr.exe -h
START GRSW3.EXE
ECHO ON
```

This file first checks whether the argument (%1) for the boot device has been set. If it has not, StorageCard will be set as the boot device.

The following MS-DOS-compatible commands are available:

<b>ATTRIB</b>	<b>Shows or changes file attributes.</b>
<b>CALL</b>	<b>Calls a batch program from another batch program.</b>
<b>CD, CHDIR</b>	<b>Changes the current directory or shows its name.</b>
<b>CLS</b>	<b>Clears the screen.</b>
<b>COPY</b>	<b>Copies one or more files to a different position.</b>
<b>DATE</b>	<b>Changes the set date or shows it.</b>
<b>DEL</b>	<b>Deletes one or more files.</b>
<b>DIR</b>	<b>Lists the files and subdirectories in a directory.</b>
<b>ECHO</b>	<b>Shows messages or turns the command prompt on/off.</b>
<b>ERASE</b>	<b>Deletes one or more files.</b>
<b>EXIT</b>	<b>Exits the CMD.EXE command prompt window.</b>
<b>GOTO</b>	<b>Continues the execution of a batch program from a labeled line.</b>
<b>HELP</b>	<b>Shows help for command line commands.</b>
<b>IF</b>	<b>Processes expressions with conditions in a batch program.</b>
<b>MD, MKDIR</b>	<b>Creates a folder.</b>
<b>MOVE</b>	<b>Moves one or more files.</b>
<b>PATH</b>	<b>Sets the command path used to search for executable files or shows it.</b>
<b>BREAK</b>	<b>Stops the execution of a batch file.</b>
<b>PROMPT</b>	<b>Modifies the prompt.</b>
<b>RD, RMDIR</b>	<b>Removes (deletes) a directory.</b>
<b>REM</b>	<b>Used to add comments to a batch file.</b>
<b>REN, RENAME</b>	<b>Renames one or more files.</b>
<b>SET</b>	<b>Sets or clears environment variables or shows them.</b>
<b>SHIFT</b>	<b>Changes the position of replaceable parameters in a batch program.</b>
<b>START</b>	<b>Starts a separate window in order to execute the program.</b>
<b>TIME</b>	<b>Sets the system time or shows it.</b>
<b>TYPE</b>	<b>Shows the contents of a text file.</b>

For detailed help information on the commands, you can use the HELP [command] command.

The following **Touch Panel**-specific commands are available as well:

Commands	Description
DELAY -t n	Delay of n seconds before the next line within a batch file (e.g., Autoexec.bat) is executed. <b>Important:</b> Do not use START to call DELAY! Parameter -q can be used to suppress the program's output.
REBOOT.EXE -quiet	For more detailed information, please refer to the Reboot section. The reboot.exe tool reboots the device. If it is run without any command line parameters, a confirmation prompt asking the user whether they want to reboot the device will be displayed. On the other hand, a confirmation prompt will not appear if the tool is called as follows: reboot.exe -quiet

## 1.4

### Hmi.bat

The Hmi.bat file can be used to describe the starting process for the visualization interface. In contrast, the AUTOEXEC.BAT file is used to specify the boot process for the actual touch panel. This ensures that the panel's and visualization interface's startup behaviors will be separate from each other. If you do use the Hmi.bat file, make sure that Autoexec.bat calls the Hmi.bat file.

If a project is loaded onto the touch panel using GALILEO 10, the corresponding HMI.BAT file will be written to the touch panel. The contents of this file can be viewed by clicking on "Home\CE Configuration\Hmi.bat" in GALILEO.

For more information, please refer to the "Important things to know when using a project on your device" chapter in the online help for GALILEO or in MN048018.

## 1.5

### Autoexec.bmp

The Autoexec.bmp file is a bitmap file. You can set this file as a start screen in GALILEO 10. To do so, click on "Home\CE Configuration" in GALILEO 10 and use the "Start image" drop-down menu to select an image from the ones available in "Project Tree\Images\Project images."

When you compile the GALILEO project, the image you selected will be saved as a file named Autoexec.bmp. This file will be stored in the boot device when the project is loaded onto the touch panel.

If you enabled the "Boot with hidden OS Shell" option in the Config Tool "Display" tab, the operating system checks whether an Autoexec.bmp file is present and will show the corresponding image after the boot loader and before GALILEO Runtime starts.

## 1.6

### CTRL button

The CTRL button found underneath the SD card slot on the touch panel has three different functions:

- 1 If the CTRL button is pressed and held down for at least three seconds when switching on the device, the device will boot up with the operating system file (XV303.bin) in the \StorageCard\OS folder regardless of which **boot device** has been selected with Config Tool.
- 2 If the CTRL button is pressed and held down for at least three seconds while Windows Embedded Compact 7 is booting up, but after the boot loader shows "Jumping to 0x1020000h," the [Autoexec.bat](#), [Autoexec.reg](#), and [Autoexec.bmp](#) files will not be run.
- 3 If the CTRL button is pressed when switching on the device and is held down until the device has booted completely, the Autoexec.bat, Autoexec.reg, and Autoexec.bmp files will not be run.



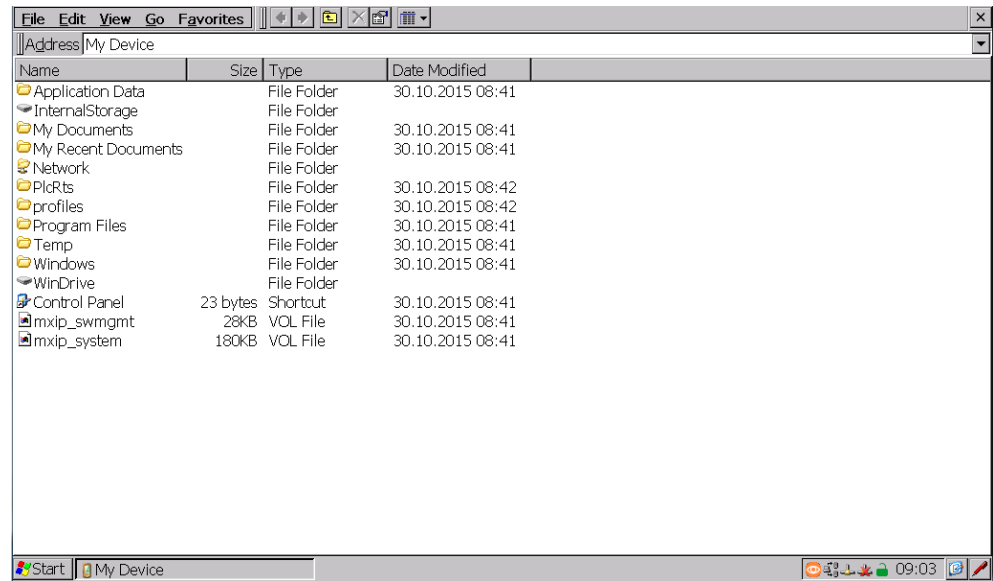
Figure 4: CTRL button on the side of the touch panel

## 1.7

### File System

The filesystem on the device can be opened either with the "My Device" icon on the **touch panel** or by tapping on the following in the Start menu: Start → Programs → Windows Explorer. The filesystem on the device can also be viewed and worked with from a PC via a remote connection or FTP connection.

Generally speaking, the filesystem on the device is organized as follows:



The filesystem on the device contains the following important folders:

Internal Storage	Internal memory contents	(persistent)
StorageCard	SD flash memory card contents	(persistent)
UsbStorage	Contents of a plugged-in USB flash drive	(persistent)
WinDrive	Internal memory required by the system. May not be used for other purposes!	(persistent)
Windows	Folder with system files	
Network	Used to map drives	

**Note:**

With the exception of "InternalStorage," "StorageCard," "UsbStorage," and "WinDrive," all "My Device" folders are found in RAM memory and are created again every time the device is started. This also means that they are lost every time the device is switched off.

### 1.7.1

#### Information on filesystem in InternalStorage

The filesystem in InternalStorage is stored on NAND flash memory. The physical properties of NAND flash memory are different from those of hard drives, making it important to observe the following:

- Constantly writing small amounts of data (a few bytes) to files should be avoided.
- Constantly writing and deleting files should be avoided, as NAND flash memory has a limited number of write/erase cycles.

The NAND flash memory in the device features special mechanisms (wear leveling) designed to mitigate the impact of access operations. These mechanisms will extend the memory's life.

**Note:**

It is recommended to use InternalStorage as the boot device. However, cyclically written data, such as log files and trend files, should not be stored in InternalStorage.

1.8

**Links (Shortcut)**

You can create shortcuts on the desktop. Please note, however, that you will need to create the shortcuts again every time you start the Touch Panel, as its registry is not stored in non-volatile memory (in other words, the registry keys and values are created again after every single boot-up based on the CE kernel). For more information, please refer to the [XV300 Startup](#) chapter.

You can use the SHORTCUT program to create shortcuts. This program can be called in the AUTOEXEC.BAT file. For more information, please refer to the [Autoexec.bat](#) chapter.

Example:

```
shortcut -help
START shortcut -p FtpSvr.exe
```

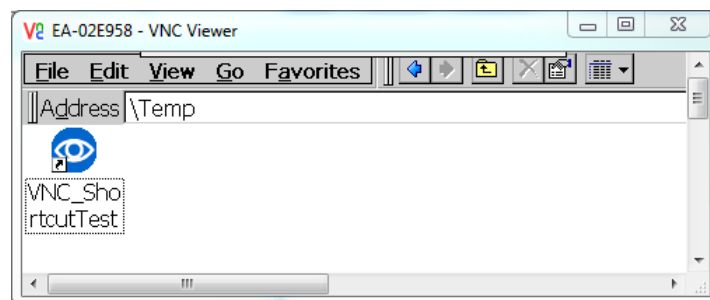
The following parameters are supported:

Parameter	Description
-p [program]	Used to select the program [program] for which a shortcut will be created (with or without folder declaration) By default, the shortcut will be created in the "My Device\windows\desktop" folder. This will ensure that the icon will be shown with the program's name on the device's desktop.
-l \"folder\" \"name of shortcut file\"	The shortcut's name (with or without folder declaration) (optional) A shortcut with this name will be created. By default, the shortcut will be created in the "My Device\windows\desktop" folder, i.e., the icon will be shown on the desktop. If a folder is specified, the shortcut will be created in that folder instead.
-q	The program will be run in the background without opening a corresponding window.
-? -help	Shows help information concerning the program.

Example:

```
START shortcut -p START winvnc.exe -l \Temp\VNC_ShortcutTest
```

This will create a "VNC\_ShortcutTest" shortcut for the VNC server that will be copied to the "\Temp" folder.



Shortcuts created with the SHORTCUT program are ASCII files with the following format:  
O#"file with path"

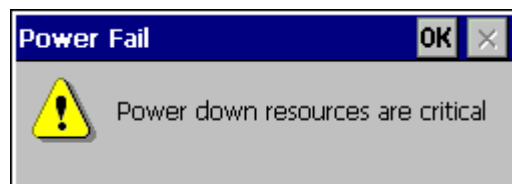
## 1.9

**Voltage dips and power outages**

If the power goes out, it is guaranteed that data will still be stored in the nvSRAM memory (fast non-volatile memory). If, however, the following prompt appears when the device is started, this means that the previous storage operation reached a critical value and that it is not absolutely certain that it was possible to store data in the nvSRAM memory.

This points either to a hardware failure or to a fatal system error in Windows Embedded Compact 7 that prevented the data from being saved or that delayed the save operation.

If you see this prompt, please contact your touch panel distributor.



Powerfail values can be displayed by using the following command line command:

```
config memory -powerfail
```

The time will be shown in milliseconds.

Values < 10 ms are considered critical. This kind of error can, for example, result in the loss of PLC RETAIN PERSISTENT data and/or the Galileo error history.

```
\> config memory -powerfail
Power fail time NOT is critical.
Actual power fail time is:          114
Minimal power fail time of device is: 114
Maximal power fail time of device is: 179
```

## 2 Configuring system settings with Config Tool

### 2.1 General

Config Tool can be used to configure all the system settings related to the touch panel's operation. This tool groups all system-relevant information into various tabs, which are covered in this chapter.

Config Tool can be started by tapping on Start → Config Tool, double-tapping on the icon on the desktop, or using a command line call.

configgui.exe.

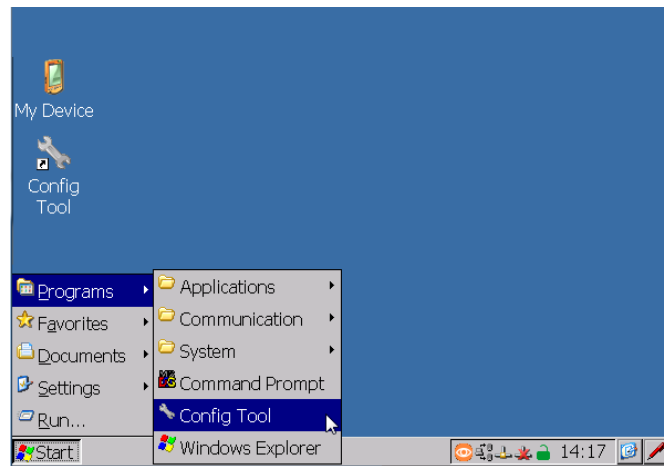


Figure 5: Starting Config Tool by tapping on Start → Config Tool

The display and touch settings for the device are already optimally configured at the factory. However, you will need to configure the network settings as required for your network.

It is recommended to use Config Tool for all system settings.

The standard Windows Control Panel is not necessarily required for other system settings anymore. In fact, only a few optional functions from it are still required, and are accordingly described in this manual. Any other settings will not be saved.

To access the standard Windows Control Panel, tap on Start → Settings → Control Panel.

## 2.2

### Configuring system settings with the command line

Alternatively, the individual system settings related to the touch panel's operation can be called directly by using command line parameters on the XV300.

Tap on Start → Programs → Command Prompt to open the DOS command prompt window. The Input Panel device keyboard can be used to enter the relevant DOS commands in the command line.

All DOS commands can also be executed in the Autoexec.bat file. Please refer to [Chapter Autoexec.bat](#).

For a list of all DOS commands and modules available with the command line, use the following command:

```
config -list
```

The following modules are available:

<a href="#">admin</a>	<a href="#">ftp</a>	<a href="#">security</a>
<a href="#">boot</a>	<a href="#">keyboard</a>	<a href="#">storage</a>
<a href="#">calibrate</a>	<a href="#">licadmin</a>	<a href="#">touch</a>
<a href="#">datetime</a>	<a href="#">memory</a>	<a href="#">user</a>
<a href="#">display</a>	<a href="#">network</a>	<a href="#">vnc</a>
<a href="#">fileserv</a>	<a href="#">owner</a>	<a href="#">webserver</a>
	<a href="#">proxy</a>	

Every module can be called with the "config" DOS command, and will have a number of parameters available. To find out which parameters are available for a specific module, use the following command:

```
config [module] -help
```

Example:

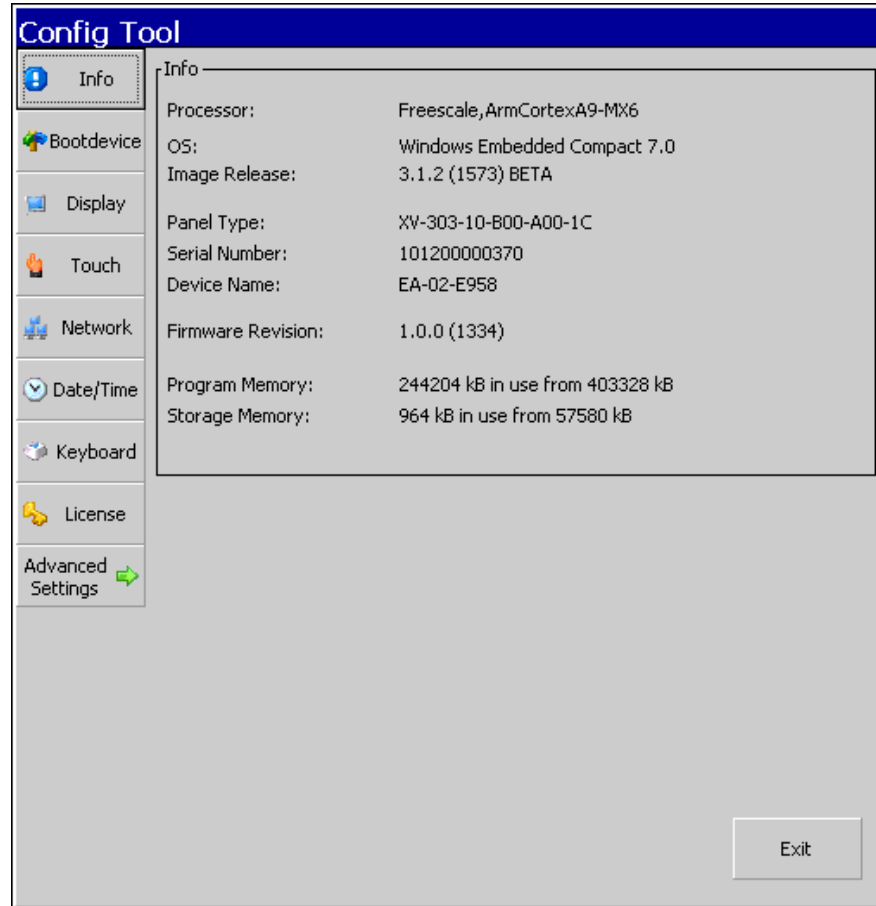
```
config boot -help  
config network -help, etc.
```

Note:  
Please note that DOS commands are case-sensitive.

## 2.3

### Info tab

When you open Config Tool, the "Info" tab will be shown at first. This tab contains important information on the device and the Windows Embedded Compact 7 version that is installed.



"**Image Release**" shows the version of the operating system currently running. This may be the primary OS, the backup OS (secondary OS), or the OS from StorageCard.

"**Device Name**" shows the network name. This network name can be changed in the "**Network**" tab. For more information, please refer to the [Network](#) chapter as well.

"**Program Memory**" shows the memory space reserved for program memory. The number before "**in use**" refers to the space that is currently being used out of the total available.

"**Storage Memory**" shows the memory space reserved for the filesystem on the device. The number before "**in use**" refers to the space that is currently being used out of the total "storage memory" space available.

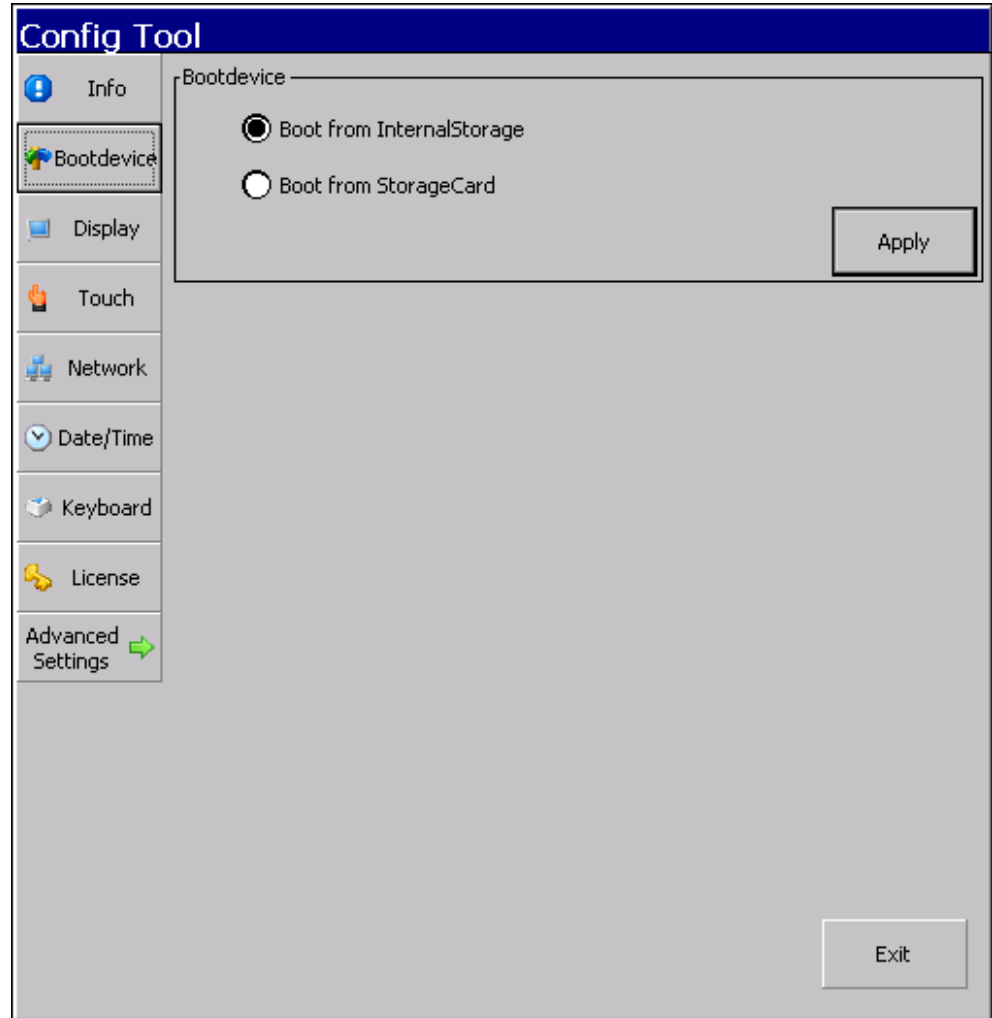
**Note:**

The values shown in the screenshot above may be different depending on the specific device configuration being used.

2.4

**Bootdevice tab**

The settings in the "Bootdevice" tab can be used to select the device from which the panel should boot.



### 2.4.1 Booting with command line arguments

config boot [parameter]

Example:

config boot -device=2 -reboot

The following parameters are supported:

Parameter	Description
-device=[boot device type]	[boot device type]=1: Boot from InternalStorage [boot device type]=2: Boot from StorageCard
-reboot	The device will be rebooted after the setting changes are applied.

### 2.4.2 Forced booting from StorageCard

If the CTRL button on the side of the device is pressed and held down for more than three seconds when switching on the device (Power ON), the device will boot from the StorageCard. This can come in handy if you do not want the device to boot from InternalStorage because, for instance, the operating system in the linear memory space is corrupted. Please refer to the [CTRL button](#) chapter as well.

### 2.4.3 Updating the operating system

To install a new Windows Embedded Compact 7 operating system on the device, you will need to copy the corresponding BIN file, together with all additional components required by the system, to the \<BootDeviceName>\OS\ folder.

- Bootdevice=InternalStorage  
The XV303.bin file and the OS components will be copied to \InternalStorage\OS
- Bootdevice=StorageCard  
The XV303.bin file and the OS components will be copied to \StorageCard\OS

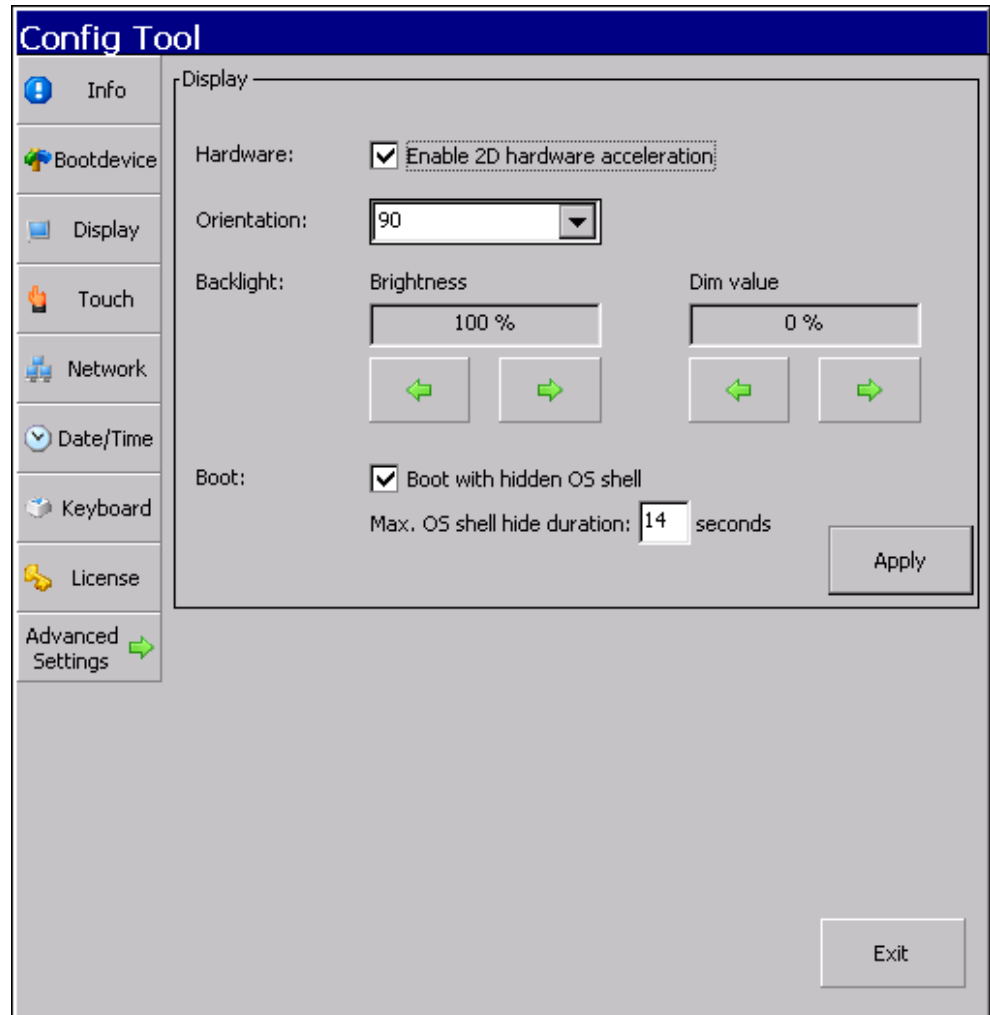
The Windows Embedded Compact 7 operating system can also be updated when loading a GALILEO project or XSOFT-CODESYS project by selecting the corresponding options.

## 2.5 Register Display

The device screen settings can be configured using Config Tool.

### 2.5.1 Configuring the display with Config Tool

The "Display" tab groups all device screen settings together.



#### «Hardware»

If this option is enabled, the 2D hardware acceleration feature will be enabled.

This feature will have a very noticeable positive effect on visualization interfaces that feature moving images, ensuring that they are much smoother. However, if you need real-time PLC operation with as little jitter as possible, it is recommended to disable 2D hardware acceleration.

#### «Orientation»

The drop-down menu options of "0" (default setting), "90," "180," and "270" can be used to change the display's orientation on the device screen. The display will be rotated clockwise by the corresponding angle, i.e., you should select "90" when installing the device in portrait mode. The setting you select will be applied only after you tap the "Apply" button and restart the device.

**«Brightness and Dim value»**

This setting can be used to adjust the backlight to the value you want. The setting you select will be stored in non-volatile memory, i.e., it will be retained even after the device is restarted.

Reducing the level of brightness will lengthen the LED backlight's lifespan significantly.

**«Dim Value»**

This setting can be used to adjust the backlight dimming percentage that will be used when the screen saver is activated. This screen saver is part of the HMI program.

**«Boot with hidden OS shell»**

If the "Boot with hidden OS shell" option is enabled, either the Autoexec.bmp bitmap or a bright gray screen will be displayed instead of the Windows user interface while the device is starting. In addition, the Autoexec.bat file's output will not be displayed either.

**«Max. OS shell hide duration»**

The maximum time that the Autoexec.bmp bitmap or bright gray screen will be displayed. You can use any value between 1 and 60 seconds.

**2.5.2****Configuring the display with command line parameters**

The [Configuring system settings with the command line](#) chapter explains how to make calls with the command line. All the parameters are optional, and only the settings corresponding to the parameters used will be changed.

config display [parameter]

The following parameters are supported:

Parameter	Description
-backoff	Turns off the backlight (important: if you do this, nothing will be displayed anymore!). Note: Use the parameter -backlight instead.
-backon	Turns on the backlight; the brightness percentage setting can be set in Config Tool by opening the "Display" tab and changing the "Brightness" setting.
-backlight=[0/1]	Turns the backlight on or off.
-setback=[Percentage value]	Sets the brightness percentage setting for the backlight and turns on the backlight.
getback	Shows the current brightness percentage setting for the backlight.
-setdim=[Percentage value]	Sets the dimming percentage setting for the backlight; this percentage value can be set in Config Tool by opening the "Display" tab and changing the "Dim value" setting.
-getdim	Shows the dimming percentage setting that is currently set for the backlight.
-dim	Dims the backlight to the value set with "setdim" or as "Dim value" in Config Tool.
-rotate=[angle]	Rotates the display clockwise by the specified angle. Angle=0, 90, 180, 270

## 2 Configuring system settings with Config Tool

### 2.5 Register Display

-getcolor	Returns the number of colors that are currently being used for the display on the screen as a color depth specified with a number of bits.
-2d=[on/off]	Turns 2D hardware acceleration on and off. The argument will be applied only after the device is restarted. off: Hardware acceleration off on: Hardware acceleration on
-boothidden=[0/1]	Specifies whether the OS shell should be displayed during the boot process 0: Displayed. 1: Not displayed
-fullarea=[0/1]	0: 1: Operating system turned in fullscreen modus.
-hiddentime=[time]	During the boot process, the OS shell will not be displayed for [time] seconds, and Autoexec.bmp or a bright gray screen will be displayed instead. time=1 to 60, in seconds time=14 seconds (default) The value for "time" can also be set in Config Tool by opening the "Display" tab and changing the "Max. OS shell hide duration" setting.
-reboot	Reboots the device after the modified parameters have been applied. If this parameter is combined with the -rotate or -2d parameters, the device will be rebooted only after the -rotate and/or -2d parameters have been applied. Example: Config display -reboot -rotate=90 -2d=on
-showconfig	Shows the display's current settings.

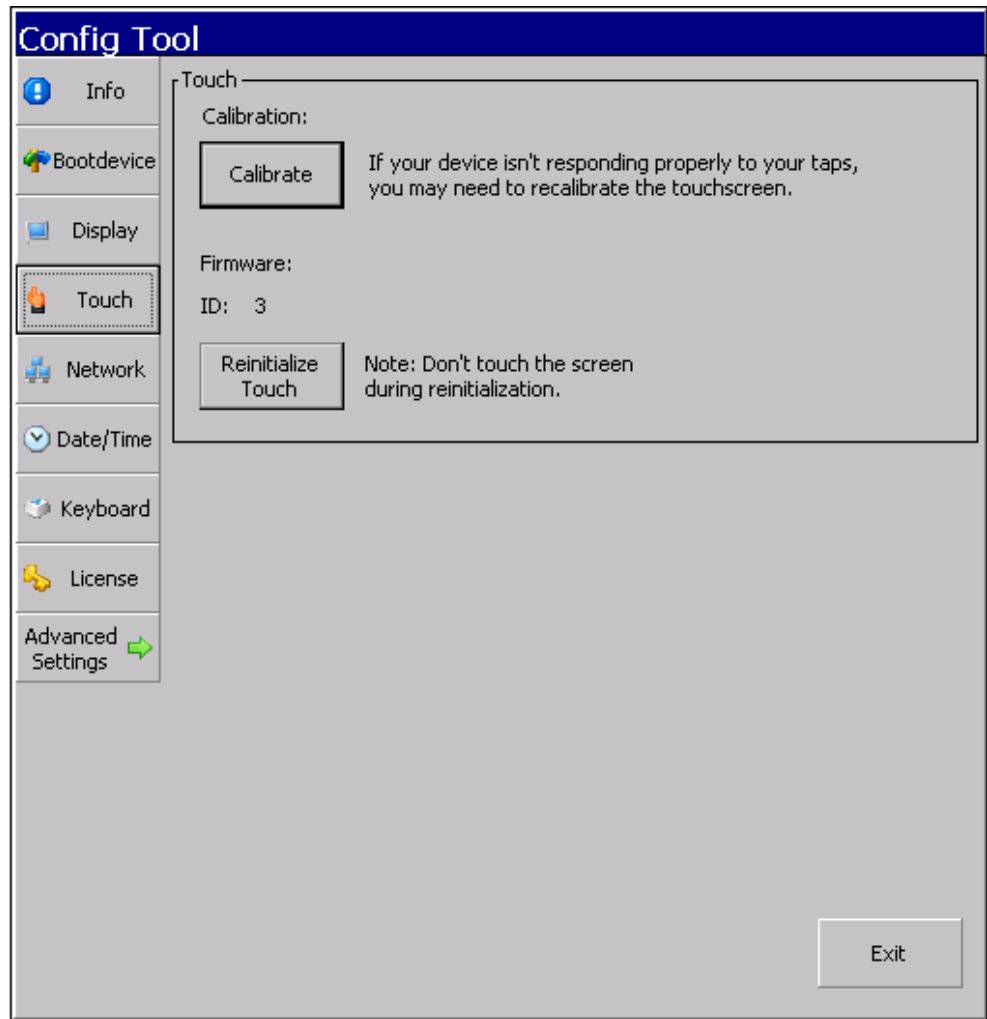
2.6

**Touch tab**

This tab contains buttons that can be used to finely calibrate and reinitialize the touch feature. The touch feature will always be enabled by default.

If you want the touch feature to be enabled or disabled when the [Autoexec.bat](#) file is run, you can use the following command line commands to do so:

config touch -disable or config touch -enable



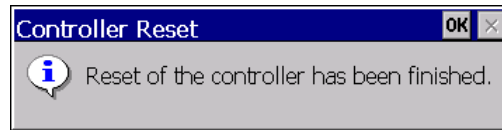
**«Firmware: ID»**

"Firmware: ID" shows the touch controller's firmware version. The touch controller's firmware is part of the operating system and will be automatically updated if necessary. Accordingly, the information shown here is provided for information purposes only.

**«Reinitialize Touch»**

The touch controller should only be reinitialized if the touchscreen does not seem to respond correctly anymore. If reinitializing does not fix the problem, recalibrate the touchscreen.

The following display will be shown on the screen after starting the reinitialization process with "Reinitialize Touch."

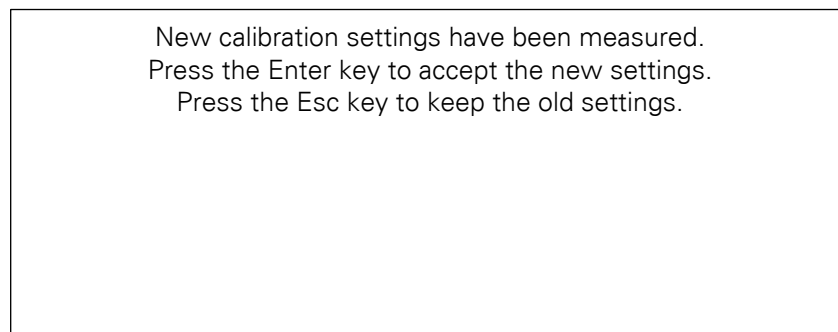
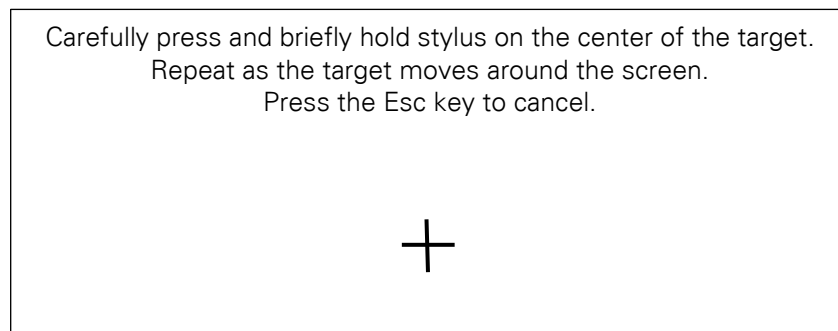


**«Calibrate»**

The touchscreen only needs to be calibrated if it does not seem to be responding correctly anymore.

The following display will be shown on the screen after starting the calibration process with "Calibrate."

Please follow the instructions on the screen. Make sure to use your finger or a suitable capacitive stylus for the calibration process, as well as when using the device.



The calibration process can also be started with the following command line:

```
config calibrate
```

**2.6.1**






**Configuring the touch feature with command line parameters**

Generally speaking, there are three touchscreen states: "normal," "disabled," and "locked." When the touchscreen is in the "disabled" or "locked" state, it will not be possible to operate the device. The difference between them is that a special touch pattern (please refer to the table below) can be used to unlock a "locked" touchscreen. In contrast, a "disabled" touchscreen can only be re-enabled with "Config Touch -enable." The table below shows how the "disabled" and "locked" touchscreen states are set.

## 2 Configuring system settings with Config Tool

### 2.6 Touch tab

The touch icon inside the device screen status bar shows the current touchscreen state.

Parameter	Description
-disable	 Disables the touchscreen.
-enable	 Enables the touchscreen (normal state). The device can only be operated in this state.
-lock	 Locks the touchscreen. This state will be set either directly by the application being used or can be set with "config touch -lock".
-unlock	Unlocks the touchscreen. This state can be reached with the following actions: <ol style="list-style-type: none"> <li>1. "Config touch -unlock" command line command</li> <li>2. Directly resetting it in the application</li> <li>3. Touching the lock icon  in the device screen status bar               <ol style="list-style-type: none"> <li>a. Touch the device screen anywhere.</li> <li>b. The following icon will appear on the screen: .</li> <li>c. Tap and hold the icon for approx. three seconds.</li> </ol> </li> </ol>

**Note:**

A counter will be incremented by 1 with every "disable." In turn, this counter will be decremented by 1 with every "enable." The touchscreen will only be enabled when the counter has a value less than or equal to 0, i.e., in order for the touchscreen to be re-enabled, a number of "enables" equal to the preceding number of "disables" is required. In contrast, this does **not** apply to "lock" and "unlock."

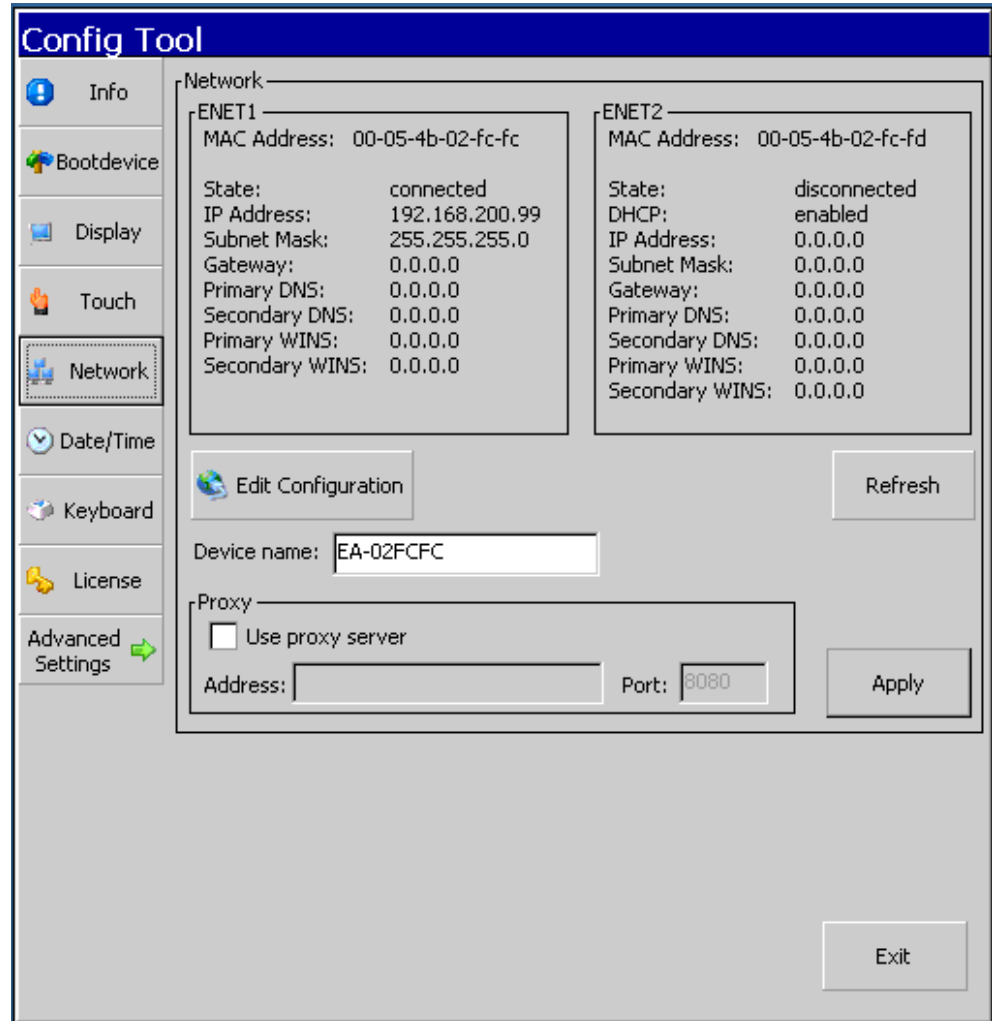
2.7

Network tab

In a TCP/IP network, devices/stations are addressed by means of IP addresses. Within this context, name resolution can be used so that it will also be possible to address the devices on the network using names. The "Device name" network name that is currently configured will be displayed while the device boots up.

Names can be assigned in Config Tool → "Network" tab → "Device name" field.

You can also use the name resolution feature by using the command line and the -hostname parameter. Please refer to [Configuring network settings with command line parameters](#).



Note:  
Changes to the network settings will be applied directly and do not require for the device to be restarted.

«MAC Address»

A MAC address is a manufacturer-specific, globally unique identifier for the device's Ethernet port.

«Edit Configuration»

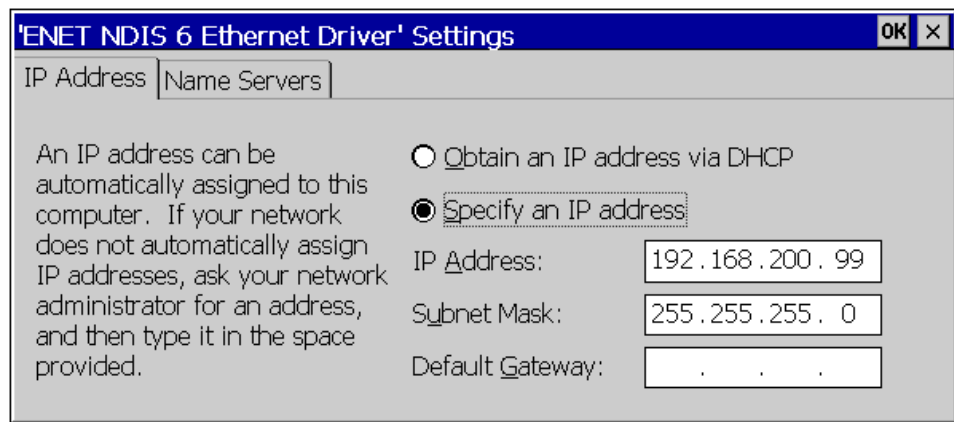
Use this button to change the device's network settings and see which network connections are available.

To select the parameters for Ethernet port 1, use ENET1. In the case of devices featuring two Ethernet ports, you will also be able to select ENET2.

2.7.1

IP Address

With Config Tool → "Network" tab → Edit Configuration → ENET1 (ENET2 as well for devices that feature two Ethernet ports)



«Obtain an IP address via DHCP»

When this option is enabled, the device will acquire its IP address (network address) from a DHCP server when it boots up.

«Specify an IP address»

If you want to assign the device a static IP address, select this option. Make sure that the "IP address" you assign is still available on your network. Finally, set the "Subnet mask" that matches your network configuration.

The same applies to the address for the "Default Gateway."

Note:

If the following error message appears when opening the network settings, this means that there is a problem with the network adapter. One possible cause is that the assigned network address is already being used by a different device on the network.

## 2 Configuring system settings with Config Tool

### 2.7 Network tab

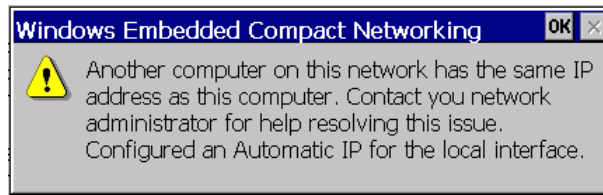
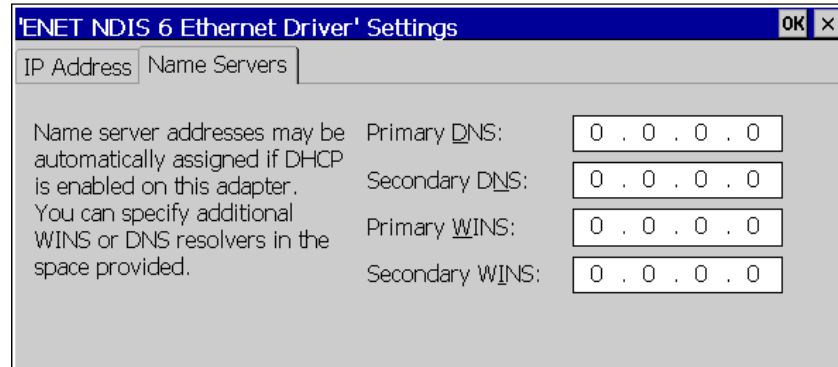


Figure 6: Error message for a network address that is already being used

#### 2.7.2

#### DNS



Ask your network administrator for the DNS server information or set an address of 0.0.0.0 for both the "Primary DNS" and "Secondary DNS."

The sample applies to "Primary WINS" and "Secondary WINS."

#### 2.7.3

#### Configuring network settings with command line parameters

Chapter 2.2 explains how to make calls with the command line. All the parameters are optional, and only the settings corresponding to the parameters used will be changed.

config network [parameter]

The following parameters are supported:

Parameter	Description
-hostname= [name]	The [name] argument should be the network name or, in Config Tool, the "Device name." Example: config network -hostname=myPanel
-ip=[ip_address]	Sets the IP address for the selected Ethernet port to [ip_address].
-mask=[Subnet Mask]	Sets the subnet mask.
-gate=[ip_address]	Sets the default gateway address.
-dns0=[ip_address]	Sets the IP address for the first DNS server.
-dns1=[ip_address]	Sets the IP address for a second DNS server that can be configured as a backup for cases in which the first one cannot be accessed.
-wins0=[ip_address]	Sets the IP address for the first WINS server.
-wins1=[ip_address]	Sets the IP address for the second WINS server.
-enet=[number]	Selects the Ethernet port to which the parameter settings that follow apply. If an Ethernet port is not specified, ENET1 will be selected by

## 2 Configuring system settings with Config Tool

### 2.7 Network tab

	default.
-reboot	Reboots the device if values have been modified with the command line command. This means that the parameter in the Autoexec.bat file can be used to configure the device's network settings.
-showconfig	Shows the current network settings.
-dhcp=[val]	Enables address acquisition via DHCP. Val=0: DHCP Not activated Val=1: DHCP Activated
-opendlg	Opens the Windows network settings

Example: Setting the IP address for Ethernet port ENET1

```
config network -enet=1 -ip=192.168.200.99 -mask=255.255.255.0
```

Example: Setting the IP address for Ethernet port ENET2

```
config network -enet=2 -ip=192.168.119.72 -mask=255.255.255.0
```

#### 2.7.4

#### Proxy Administrator

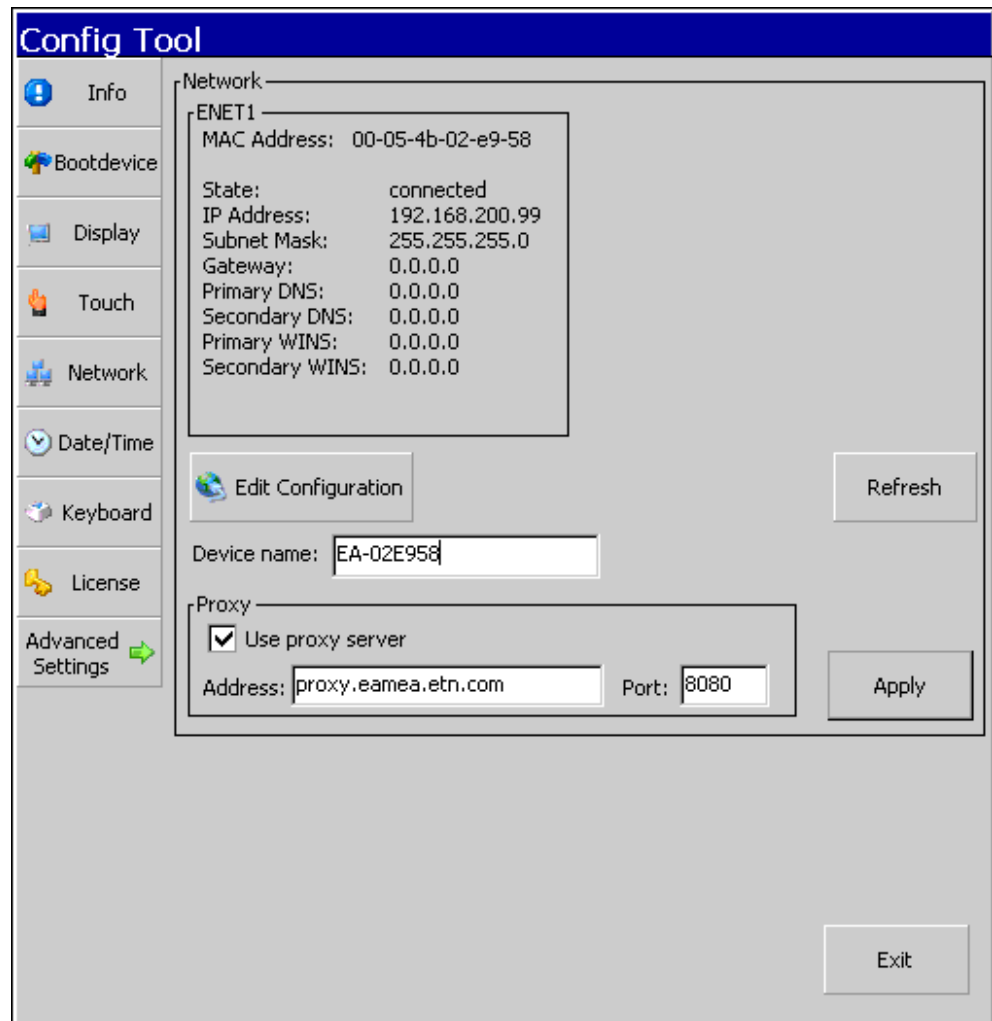
The proxy setting can be used to configure a proxy server connection for the device. This connection will apply to all applications that attempt to establish an Internet connection, e.g., Internet Explorer.

The proxy server can be configured in Config Tool → "Network" tab. To do so, follow the steps below:

- Enable the "Use proxy server" option.
- Enter the proxy server's address into the "Address" field.
- Enter the proxy service's port number into the "Port" field.
- Confirm your settings by tapping on "Apply."

## 2 Configuring system settings with Config Tool

### 2.7 Network tab



#### 2.7.5

#### Configuring the proxy server with command line parameters

config proxy [parameter]

The following parameters are supported:

Parameter	Description
-address=[proxyaddress]	Sets the proxy server's address to [proxyaddress].
-enabled=[0/1]	0: Proxy Server disabled 1: Proxy Server enabled
-port=[proxyport]	Sets the proxy server port to [proxyport].
-showconfig	Shows the current registry settings For example: enabled/disabled, address, port

#### Example:

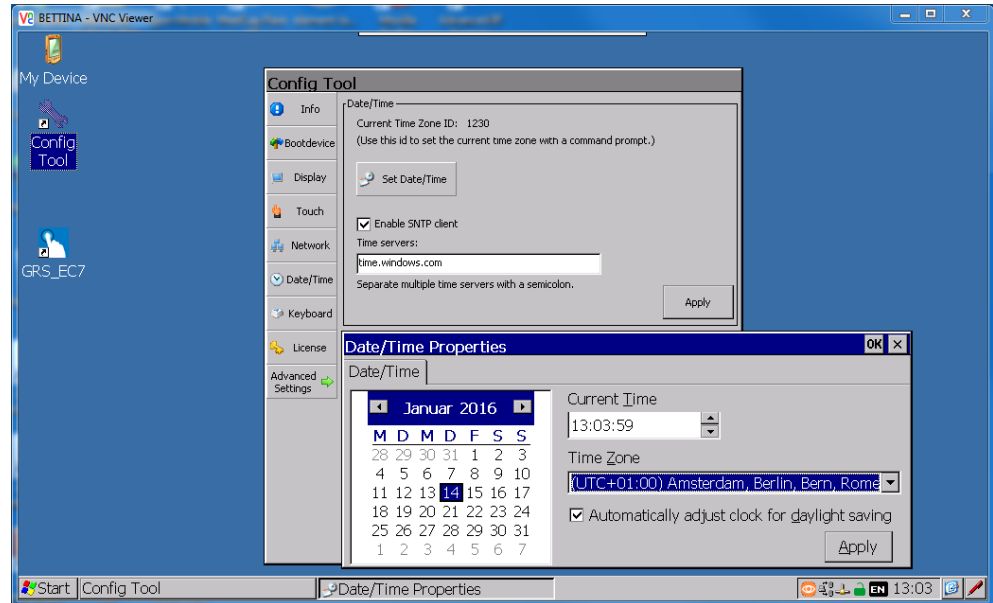
Configuring the proxy server with address "myproxy.com" and port "8080"

config proxy -address=myproxy.com -port=8080 -enabled=1

## 2.8

### Date/Time tab

The "Date/Time" tab can be used to set the date, time, and time zone, as well as the daylight saving time function.



### 2.8.1

#### Time Zone

You can select the time zone you want in the screen shown above. "(UTC) Coordinated Universal Time" will be selected by default. This time zone is also known as "Greenwich Mean Time," and uses the Greenwich meridian as a reference that is in turn used as a basis to derive the times in the world's remaining time zones. The time zone you select will be retained even after the device is restarted.

This setting does not include automatic daylight saving time adjustments!

As an example, if you select "(UTC +01 00) Amsterdam..." as the time zone, one hour will be added to the "(UTC) Coordinated Universal Time" time zone. Keep in mind that if you have the automatic daylight saving time function enabled, an additional hour will be added during summer.

Every device is located in a specific time zone with a unique time zone ID.

### 2.8.2

#### Set Date/Time

To change the month and year, use the two corresponding buttons (<< and >>). To select a day, simply tap on it directly. Finally, you can change the hours, minutes, and seconds with the buttons above them in the "Current Time" field (hours are specified in a 24 hour format). Tapping on "Apply" will save the current settings in the clock and ensure that they are retained even if the device is restarted.

**Note:**  
The system will NOT adjust for daylight saving time automatically.

2.8.3

**Automatically adjust clock for daylight saving**

The automatic daylight saving time function is not available for all time zones. For example, it is not available for the (UTC) Coordinated Universal Time zone.

If the option is enabled in the "Date/Time Properties" screen, the system will automatically adjust the clock as required for daylight saving.

Note:  
If the "Automatically adjust clock for daylight saving" option is enabled, it is possible for the time to change abruptly. Keep in mind that this may result in an undesired response in other applications.

2.8.4

**Enable SNTP client**

If the "Enable SNTP client" option is enabled and one or more SNTP servers are specified in the "Time server" field (separated by semicolons), the device will get the time from the SNTP server and synchronize its time accordingly. This will happen when you tap on the "Apply" button, every time the device starts, and automatically every two weeks. You can specify either the name or the IP address for the SNTP server.

If the synchronization attempt fails, the system will try again after three minutes.

You can use the "ping" command line command to test whether the SNTP server can be reached.

Tip: To find out whether an SNTP server is being used on your network, enter "net time" into the command line on your PC.

Note:  
For more detailed information on how the SNTP client works, please refer to the MSDN documentation provided by Microsoft.

2.8.5

**Configuring date/time settings with command line parameters**

config datetime [parameter]

Example:

config datetime -daylight=0

The following parameters are supported:

Parameter	Description
-showconfig	Shows the date and time settings.
-timezone=[timeZoneID]	Sets the time zone based on timeZoneID, e.g., -id 6912 The time zone ID for the selected time zone is displayed in the Time Zone section in the Date/Time tab.
-daylight=[enable]	Enables the automatic daylight saving time function. enable=0: enable=1: Enables the automatic daylight saving time function. Example: config datetime -daylight=1
-sntp=[enable]	enable=0: Disables the SNTP client function. enable=1: Enables the SNTP client function; the device will synchronize its system time with the specified SNTP time server.
-snptserver=[servername_1;	Specifies which SNTP servers are providing the system time. If

## 2 Configuring system settings with Config Tool

### 2.8 Date/Time tab

...; servername_n]	[servername_1] is not accessible, [servername_2] will be queried, etc.
-opendlg	Opens the "Date/Time" window.

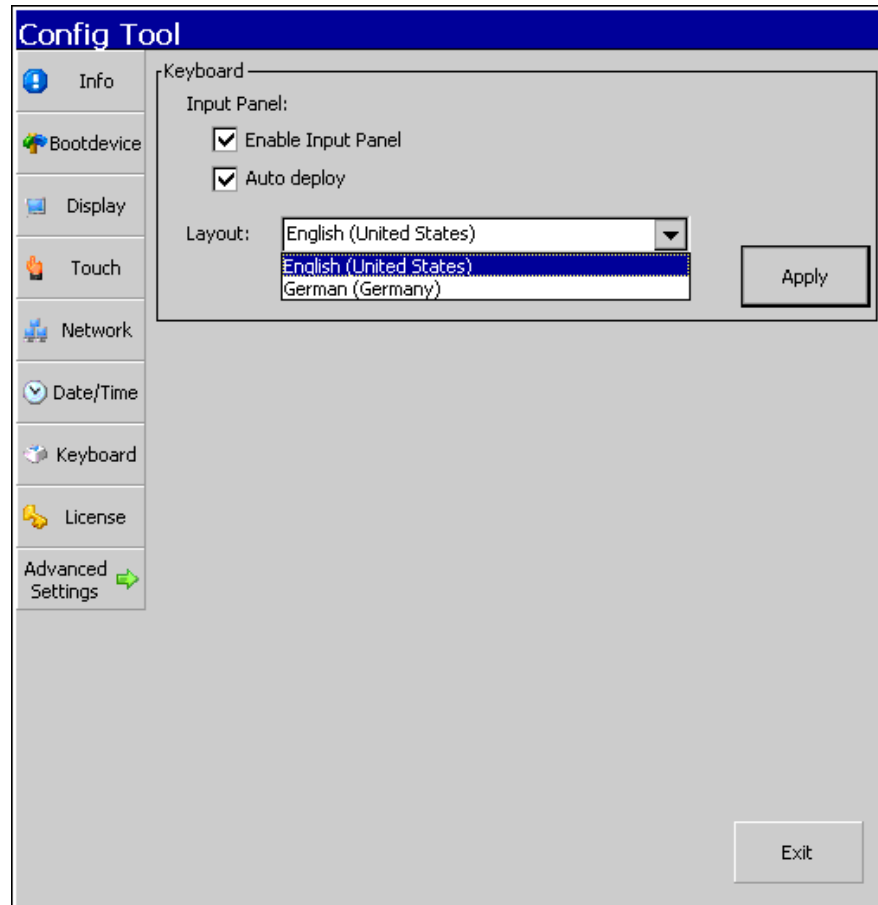
2.9

**Keyboard tab**


In order to make it possible to enter characters on the device, the device features a keyboard, also known as the Input Panel. By default, this device keyboard will be automatically shown as soon as the cursor is placed in an editable Config Tool text box.

In addition, you can use the USB port to connect an external keyboard to the device.

The "Keyboard" tab in Config Tool features settings that can be used to configure the device keyboard (Input Panel) and the external keyboard (Layout).



**«Enable Input Panel»**

The "Enable Input Panel" setting can be used to show and hide the device keyboard. This option will be enabled by default, meaning that the device keyboard (Input Panel) will be shown as soon as the cursor is placed in an editable text box. If "Enable Input Panel" is enabled, tapping on  will display the following menu:

- "LargeKB" - Shows the device keyboard
- "Hide Input Panel" - Hides the device keyboard

If you change this setting, you will need to tap on the "Apply" button, after which the change will take effect immediately. This setting will be retained even if the device is restarted.

**«Auto deploy»**

The device keyboard will be automatically shown as soon as the cursor is placed in an editable Config Tool text box.

Whether or not the device keyboard will also be displayed automatically in other applications, such as XSOFT-CODESYS, will depend on how these applications are configured.

**Layout**

If you use the USB port on the device to connect an external keyboard, you can use this setting to select an English or German keyboard layout.

**2.9.1**

**Input Panel device keyboard**

Input Panel																
Esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	Home	End	Prop	
`	1	2	3	4	5	6	7	8	9	0	-	=	BS			
Tab	q	w	e	r	t	y	u	i	o	p	[	]	\			
Caps Lock	a	s	d	f	g	h	j	k	l	;	'		return			
Shift	z	x	c	v	b	n	m	,	.	/	up		pgup			
Ctrl	win	Alt							ins	del	lt	dn	rt		pgdn	

Figure 7: Input Panel in normal mode

Input Panel																
Esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	Home	End	Prop	
~	!	@	#	\$	%	^	&	*	(	)	_	+	BS			
Tab	Q	W	E	R	T	Y	U	I	O	P	{	}				
Caps Lock	A	S	D	F	G	H	J	K	L	:	"		return			
Shift	Z	X	C	V	B	N	M	<	>	?	up		pgup			
Ctrl	win	Alt							ins	del	lt	dn	rt		pgdn	

Figure 8: Input Panel in Caps Lock mode

**2.9.2**

**Configuring keyboard settings with command line parameters**


The keyboard settings can be configured either in the "Keyboard" tab in Config Tool or as described in the [Configuring system settings with command line parameters](#) chapter. The table below lists the parameters that are supported. All the parameters are optional, and only the settings corresponding to the parameters used will be changed.

config keyboard [parameter]

Example:

config keyboard -layout=0407 -reboot

The following parameters are supported:

Parameter	Description
-showlayouts	Shows the list of available keyboards with the corresponding values [value].
-layout=[value]	Selects the keyboard specified in [value] value=0409: English (United States) value=0407: German (Germany)
-reboot	The device will be rebooted after the setting changes are applied.
-showconfig	Shows the current keyboard settings
-inputpanel=[0/1]	0: Input Panel disabled. 1: Input Panel enabled. Tapping on  will show and hide the device keyboard
-autodeploy=[0/1]	In order for this parameter to be effective, the Input Panel must first be enabled with argument --inputpanel=1  0: The device keyboard (Input Panel) will not be shown automatically as soon as the cursor is placed in an editable text box. 1: The device keyboard (Input Panel) will be shown automatically as soon as the cursor is placed in an editable Config Tool text box or in an editable text box in another application.

2.10

**License tab**

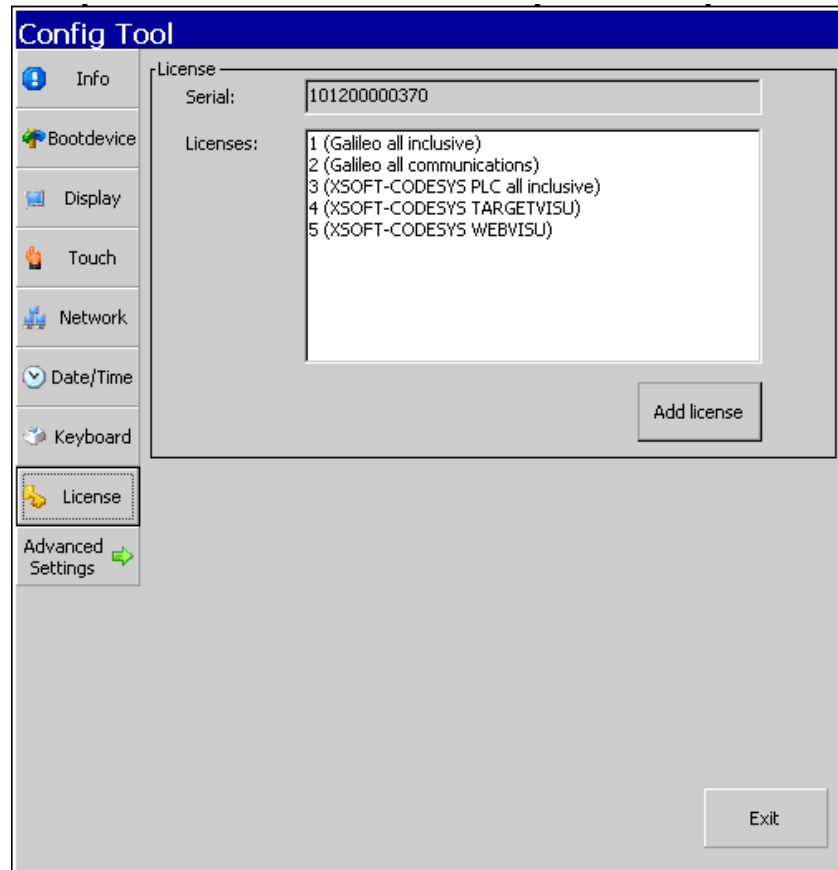
Depending on the specific model, your XV300 device may already come with licenses installed. The Config Tool "License" tab will show which licenses are installed. Once you acquire a software license, you will be entitled to free updates for the corresponding software.

To download updates from the Eaton Download Center, please visit:

<http://www.eaton.eu/software>

2.10.1

**License information**



**Serial**

Shows the device's serial number. This number is printed on the device's nameplate. This serial number is required in order to be able to activate licenses.

**Licenses (examples)**

Galileo all inclusive	Runtime license for starting GALILEO applications
Galileo all communications	License for activating communications
XSOFTE-CODESYS PLC (all inclusive)	Runtime license for starting XSOFTE-CODESYS projects
XSOFTE-CODESYS TARGETVISU	Runtime license for starting TARGET VISU projects
XSOFTE-CODESYS WEBVISU	Runtime license for starting WEBVISU projects

If GALILEO Runtime and XSOFT-CODESYS PLC Runtime are installed, it will be possible to run all applications with their full functionality in demo mode even without any licenses. The relevant limitations will be application-specific. For example, when using GALILEO, a prompt saying "Demo-Mode" will appear on the device screen at runtime, and when using XSOFT-CODESYS, the project will not start automatically.

### 2.10.2

#### PLC Runtime used as an example illustrating how to add licenses

If your XV300 device does not have a license for XSOFT-CODESYS PLC Runtime, you can add one as follows:

- Buy a LIC-PLC-A license product certificate. You will be provided with a certificate number.
- Use this certificate number to request a license key by entering the number on the following website:  
[https://www.automation4you.net/licmgr/license\\_en.htm](https://www.automation4you.net/licmgr/license_en.htm)

The license key will be automatically sent to you by e-mail. The corresponding e-mail will include the following information:

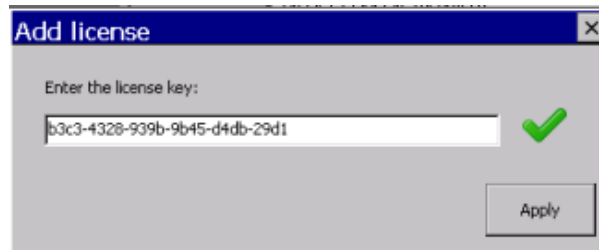
- License type
- Product certificate number
- License Key
- And the registration for: The company, name, and e-mail of the person requesting the license key

The license key will be tied to the device and cannot be transferred to a different device.

### 2.10.3

#### Adding licenses with Config Tool

- Double-tap the Config Tool icon on the desktop and open the "License" tab.
- Tap on the "Add license" button.
- Enter the license key in the "Add license" prompt.
- Confirm with «Apply».



### 2.10.4

#### Adding licenses with command line parameters

config licadmin [parameter]

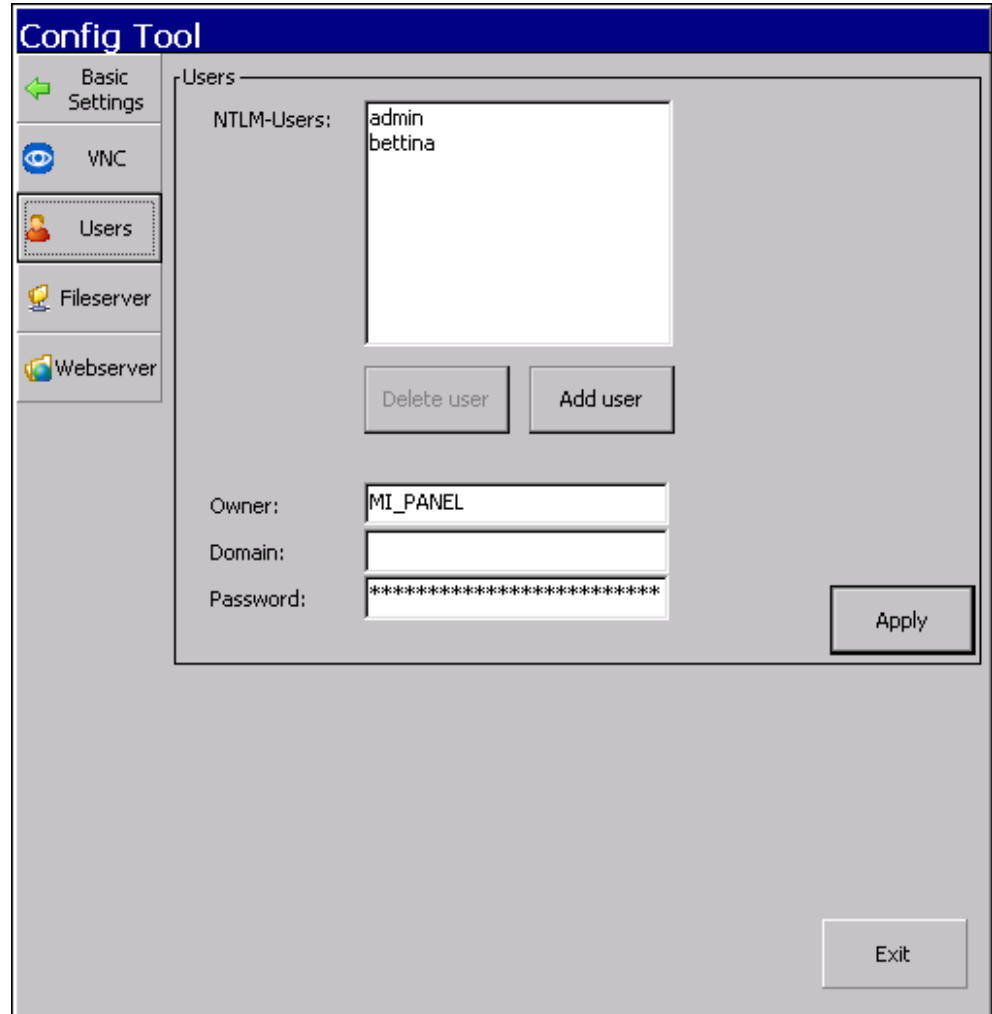
The following parameters are supported:

Parameter	Description
-key	Adds a new license. Example: config licadmin -key=xxxx-xxxx-xxxx-xxxx-xxxx
-show	Lists the licenses that are installed.

2.11

**Users tab**

The "Users" tab is used to set up NTLM users and configure the device access parameters for an external Windows Server/PC. Open the tab with Config Tool → Advanced Settings → Users.



**«NTLM-Users» / NMTL User Management**

Used to manage users and the corresponding passwords on the **device**.

This local user management data is used by the web server and file server and controls the access permissions for incoming connections by the relevant users.

**«Add user»**

The "Add User" button can be used to create new users. Entering a password is mandatory.

**«Delete user»**

The "Delete user" button can be used to delete users.

**«Apply»**

Tapping on "Apply" will save all input in non-volatile memory. Passwords will be encrypted before being saved. User access permissions are assigned in the relevant applications, such as the file server or web server.

**"Owner"**

This information is used to specify the user, domain, and password for logging in on an external Windows Server/PC. By default, the username will be "MI\_PANEL" and there will be no password.

**Note:**  
It may be necessary to change firewall and security policy settings on the server. If you have any questions, please contact your local IT network administrator.

**Tip:** On Windows Vista and higher, the LAN Manager authentication level must be set to "Send LM & NTLM - use NTLMv2 session security if negotiated."

If a password is not entered, or if the wrong password is entered, a corresponding system dialog box will appear on the first attempt to establish a connection to a server. This dialog box can then be used to enter the correct login information (User Name/Password/Domain). Please note, however, that this information will not be saved in non-volatile memory.

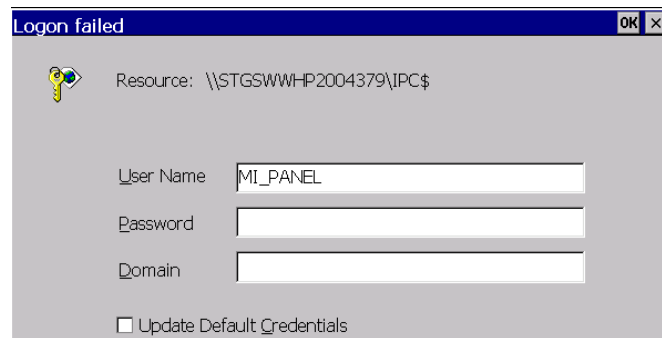


Figure 9: Login dialog box after entering a wrong password

**Note:**  
This information is required only if the device needs to be connected to a Windows Server or a PC with a Windows operating system. The corresponding user permissions, folder shares, and/or printer shares will be required on the server/PC.

**2.11.1**

**Configuring NTLM user settings with command line parameters**

config user [parameter]

The following parameters are supported:

Parameter	Description
-add=[name]	Adds a new user with the [name] name.
-pass=[passwd]	Assigns the [passwd] password to the new user.
-del=[name]	Deletes the [name] user from the system.
-show	Shows a list with all users.

Example:

Adding user "Alan" with "1234" as a password.

```
config user -add=Alan -pass=1234
```

### 2.11.2

#### Configuring owner settings with command line parameters

Example:

```
config owner -showconfig
```

The following parameters are supported:

Parameter	Description
-owner=[name]	Sets the owner's name. This parameter must be included in the command line command if you want to use the command to set a password and domain.
-domain=[name]	This parameter can only be used together with -owner!  Sets the owner's domain. If an argument is not passed, the domain will not be set, and the "Domain" field in Config Tool → Advanced Settings → "Users" tab will remain empty.
-password=[password]	This parameter can only be used together with -owner! Sets the password for the owner. If an argument is not passed, a password will not be assigned for the owner, and the "Password" field in Config Tool → Advanced Settings → "Users" tab will remain empty.
-showconfig	Shows the current settings for the owner.

Example:

```
config owner -owner=Bettina -password=eaton -domain=localhost
```

2.12

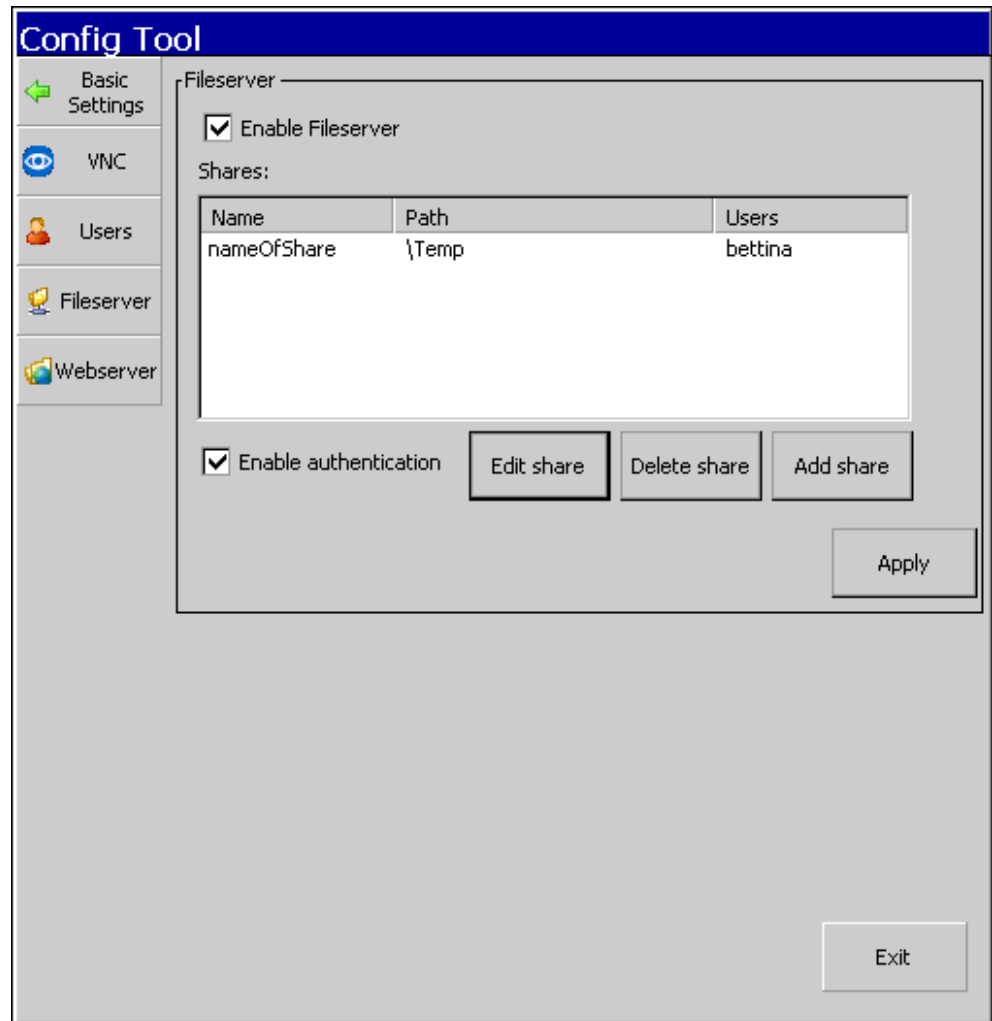
**Fileserver tab**

If the device is on a network, the shared touch panel memory area can be accessed from a PC or another device.

Much like with the Sharing Center in Windows, this tab can be used to add, edit, and delete shares. The settings can also be used to specify whether access requires authentication with a username and password. Finally, the "Shares:" section shows the shares that have been created.

If the settings are confirmed with the "Apply" button, they will be saved in non-volatile memory.

It is recommended to enable authentication by enabling the "Enable authentication" option. This will ensure that not all users on the network will have access to all shares.

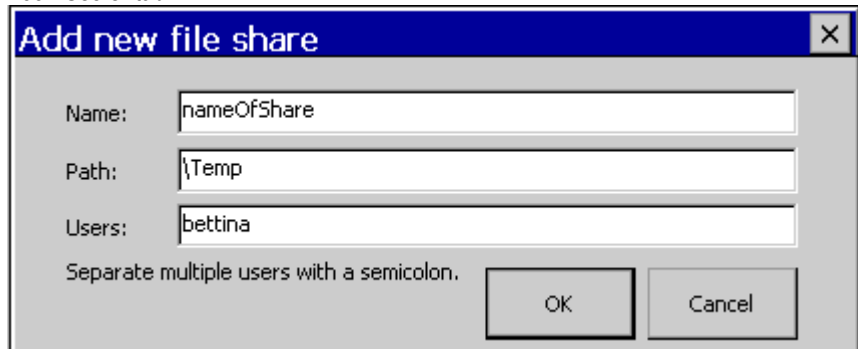


2.12.1

Sharing a memory area with authentication

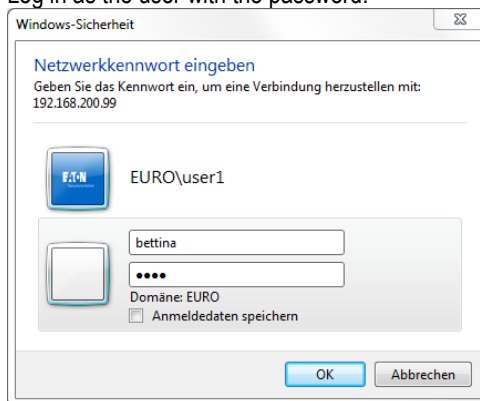
To share a memory area with authentication, follow the steps below:

- Enable the "Enable Fileserver" option.
- Enable the "Enable authentication" option.
- Tap on the "Add share" button.
- In the "Add new file share" dialog box, enter the name for the memory area being shared, e.g., "nameOfShare."
- Enter the drive or folder, e.g., "\Temp". The folder or drive you enter must have already been set up on the device.
- Enter the username, e.g., "bettina." The user must have already been created in the Config Tool "Users" tab.



Confirm with «OK».

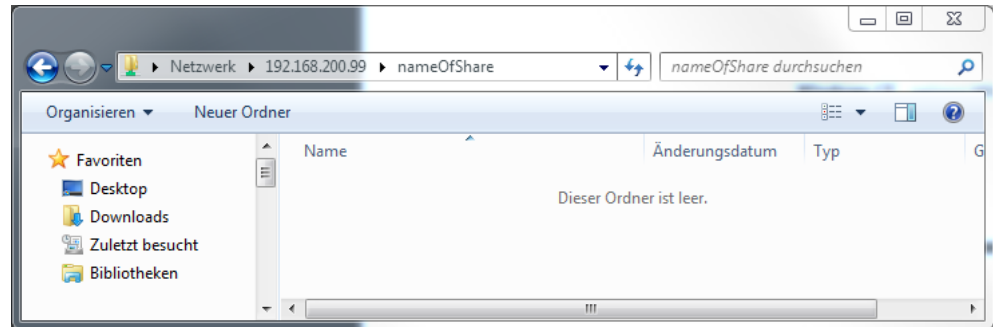
- Restart the file server with the following command line command:  
`config fileserver -restartshare`  
or  
restart the device manually.
- Switch to the PC or to the other device to which you want to give access to the shared memory area.
- On the device or PC, enter the following into the Windows Explorer address bar: "\\[IP address of device][share name]"  
For example: "\\192.168.200.99\nameOfShare"  
As an alternative to the IP address, you can instead enter the network name (Device name):  
For example: «EA-02E958\nameOfShare»
- Log in as the user with the password.



## 2 Configuring system settings with Config Tool

### 2.12 Fileserver tab

The shared memory area will be shown on the device or PC.



#### 2.12.2

#### Configuring the file server with command line parameters

Example:

```
config fileserver -addshare -name=Data -path=\InternalStorage\Data -users=Oswald;Maria
```

Note:

The modified file server configuration will not take effect until after the device is restarted.

The following parameters are supported:

Parameter	Description
-sharelist	Shows a list of shared folders and drives.
-auth=[enable]	enable=0: Authentication on file server disabled. All users on the network will have access to all shares enable=1: (default) Authentication on file server enabled. Only registered users on the network will have access to the shares
-enable=[enable]	enable=0: File server locked enable=1: File server enabled
-delshare=[value]	Deletes the share for the selected memory area.
-addshare	Generates a share with a specified name.
-name=[name]	Share name for shared memory area.
-path=[value]	Share folder.
-users=[value]	List of all authorized users; multiple users must be separated with semicolons.
-restart	Restarts the operating system's share service.
-restartshare	Restarts the file server.

## 2.13 Security features

New in Image Version 3.6.0 are some optional security features, which are described below. In the Security tab, device interfaces can be protected by appropriate settings. If an administrator has been set up or the system password functionality is activated, a new system password can be assigned in the Admin tab.

### 2.13.1 Protect access to the device with system password

To prevent unauthorized access to the system, the system offers the possibility to set a system password (PIN) from image version 3.6.0 on.

For existing systems, this functionality is deactivated by default and must be explicitly activated using the command line. Until then the register Admin is hidden.

For new devices with Image version 3.7.0 or newer, this function is already activated by default.

If a system password is set, the PIN entry mask appears in the following case:

- 1 At device startup to prevent access to the Windows interface or possible user programs.



Enter Admin password:

Show Password

1	2	3
4	5	6
7	8	9
C	0	<-

Log In

Figure 10: PIN entry mask

## 2.14

### Security tab

To protect against unauthorized access to the device, appropriate mechanisms should be implemented in the application and the device should be installed in a protected manner.

This means:

- No access to SD slot possible
- No access to USB port possible
- No operation of the CTRL button possible

If this is not possible or to further hinder unauthorized access, the security tab offers the following additional options.

### 2.14.1

#### Security settings

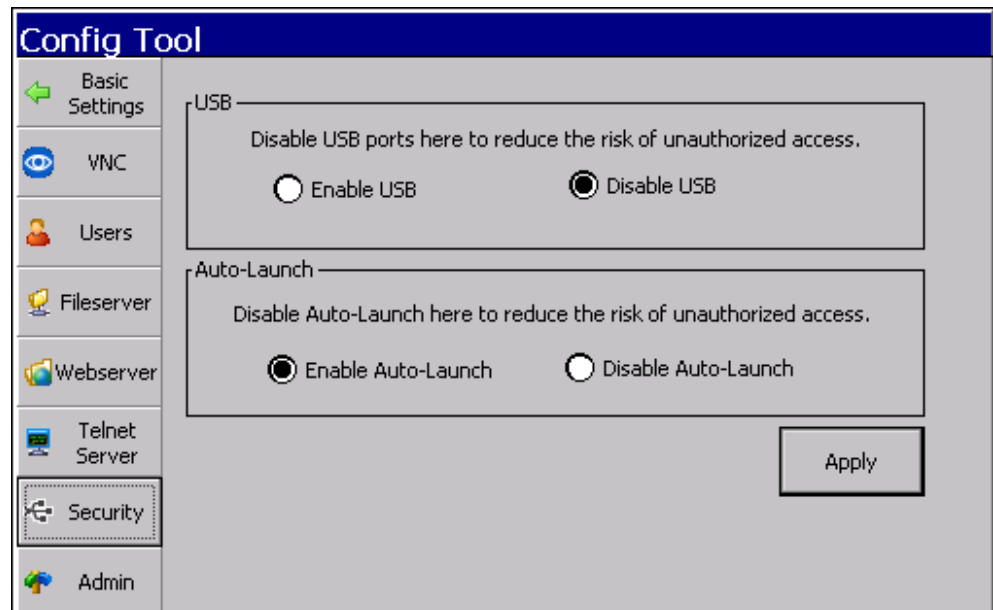


Figure 11: Security tab

#### «Disable USB»

Disables the USB port. This prevents the use of a USB stick or USB input devices. A reboot is required to enable or disable the port.

#### «Disable Auto-Launch»

Disables the automatic execution of programs from SD and USB storage devices. This does not affect automatic execution when starting from SD card using Autoexec.bat. A restart is required to enable or disable.

2.14.2

**Security settings with command line parameters**

config security [parameter]

Example:

config security -enableusb=0

The following parameters are supported:

Parameter	Description
-enableusb=[0/1]	Enables or disables the USB Port.
-enableautolaunch=[0/1]	Enables or disables autolaunch functionality.
-reboot	Restarts the device automatically if changes have been made.

## 2.15 Admin tab

The Admin tab is only visible if an administrator has been set up. On existing systems this is not the case by default and must be activated explicitly via command line.

### 2.15.1 Changing the system password (PIN)

If a system password is already defined, it can be changed via the command line interface or the Config Tool in the Admin tab.

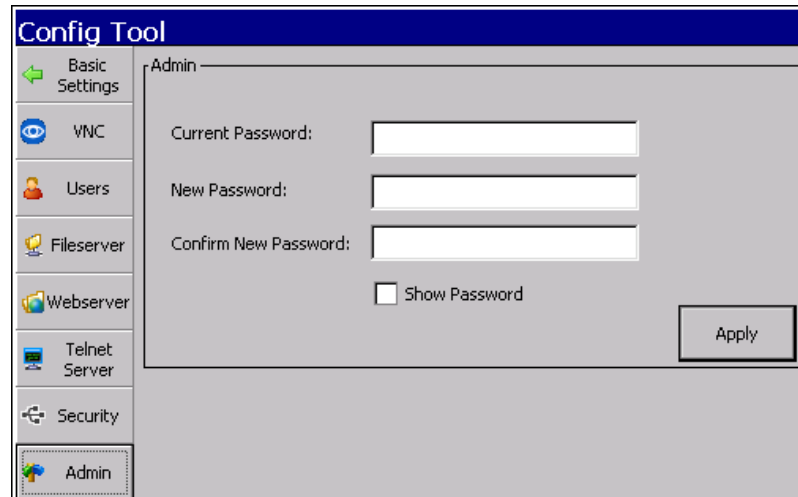


Figure 12: Admin tab

Command line interface:

```
config admin -p=[current password] -n=[new password]
```

### 2.15.2 Setting up an administrator

If no administrator is set up, this can only be done via command line.

```
config admin -userlogin=1
```

The next time the device or the Config Tool is started, a system password (PIN) must be set.

Set new Admin password

Password can contain only numbers (0 to 9)  
Supported length between 4 to 12 digits.

Show Password

1	2	3
4	5	6
7	8	9
C	0	<-

Set Password

Enable Auto Logon (No password required)

Figure 13: Setting a new PIN

To set a new PIN, an identical PIN with 4...12 digits must be entered twice. The mask also allows to disable the PIN functionality by checking the box "Enable Auto Logon". In this case a corresponding warning will be displayed.

### 2.15.3

#### Setting up administrators and setting the system password (PIN)

The administrator can only be set up from the command line. A system password (PIN) can be assigned simultaneously. The PIN must consist of at least 4 and at most 12 digits. Only numbers are permitted as digits.

```
config admin -userlogin=1 -n=1234
```

The PIN is immediately active.

### 2.15.4

#### Disabling the system password (PIN)

To make deactivation more difficult, this is only possible via the command line:

```
config admin -userlogin=0 -p=[password]
```

### 2.15.5

#### Deleting the system password (PIN) by resetting the device

If the PIN is forgotten, it is possible to reset the device completely. Proceed as follows:

- 1 In the password input mask, enter the password incorrectly three times until the error message appears, see figure [Password error/password reset](#)
- 2 Then press and hold the CTRL button for about 10 seconds. After a safety query, the device is reset and the entire internal memory is deleted.
- 3 The PIN can then be set or deactivated again.

**Important:**  
All data and configurations in the internal memory are deleted!  
Data on the SD card is excluded.

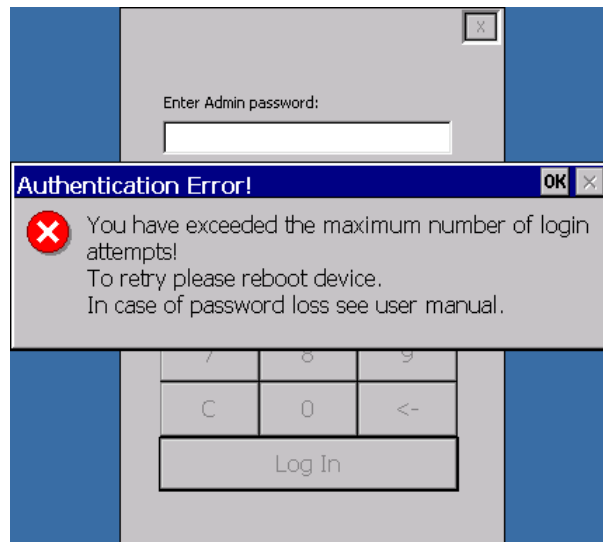


Figure 14: Password error/ password reset

## 2.15.6

### Admin with command line parameters

config admin [parameter]

Example:

config admin -userlogin=1 -reboot

The following parameters are supported:

Parameter	Description
-userlogin=[0/1]	Enables or disables the PIN functionality. May require the current password.
-n=[password]	Sets a new PIN with 4...12 digits. May require the current password.
-p=[password]	Current password for changing or deactivating the functionality.
-reboot	Restarts the device automatically if changes have been made.

## 3 Connecting to the touch panel

### 3.1 Access options

The following options are available for accessing the touch panel:

- [VNC Server](#)
- [FTP Server](#)
- [Fileserver](#)
- [Web Server](#)

Folder shares can be used to access an external server/PC from the touch panel.

- [net use](#)
- [net view](#)

The servers can be started in one of the following ways:

- Tapping on: Start → Programs → Communication
- Config Tool
- Command line
- With DOS commands in the Autoexec.bat file so that the servers will be active right after the device boots up

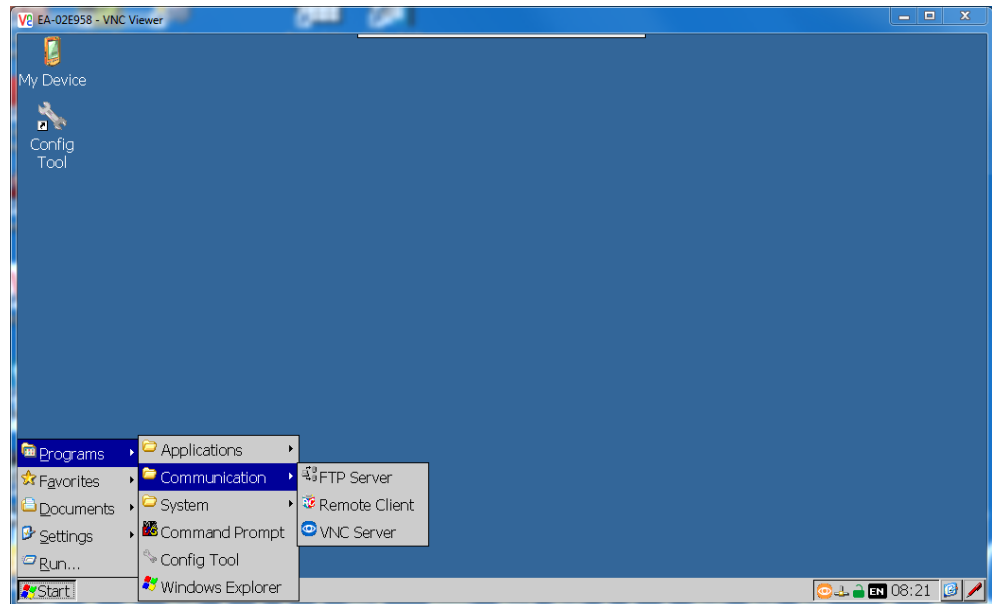


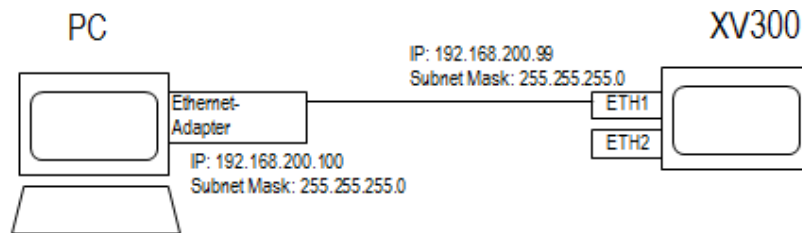
Figure 15: Starting a server by tapping on Start → Programs → Communication

## 3.2

### Establishing a remote connection

The XV300 touch panel can establish a remote connection through a VNC server, allowing for remote access from target devices. In other words, a touch panel with Windows Embedded Compact 7 can be controlled from a PC.

As the client on the PC or other device, you can either use the existing remote client or a VNC client of your choice, such as VNC Viewer. The VNC server features multi-client functionality, meaning multiple clients can access the touch panel simultaneously.



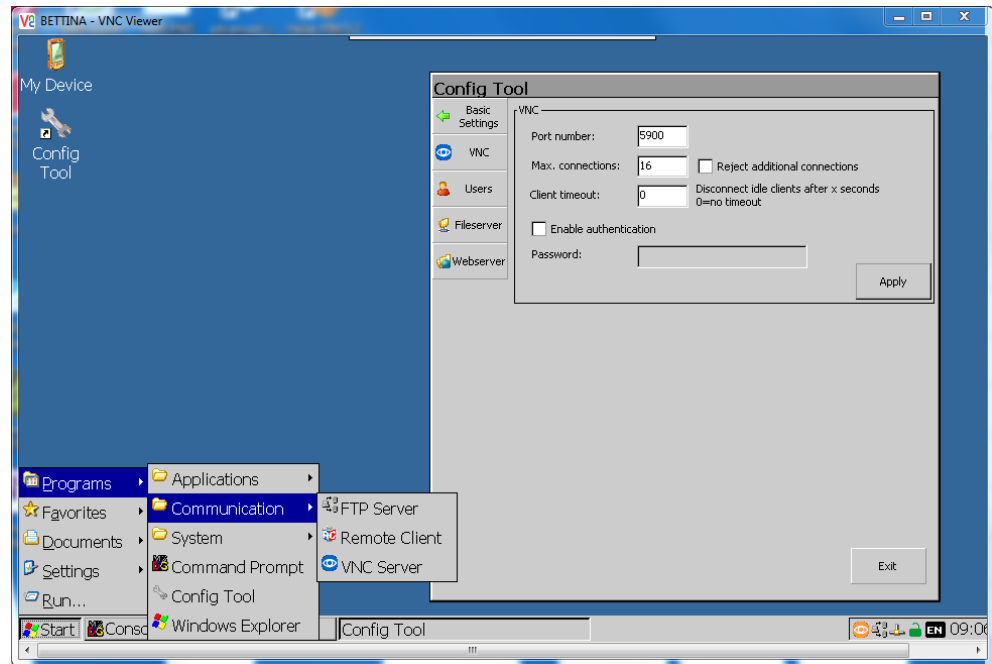
The following client programs are available:

CERemoteClient.exe	Remote Client for Windows Embedded Compact 7
RemoteClient.exe	Remote Client for Windows NT, 2000, XP, Vista, 7, 8, 10

Note:  
The VNC server supports the Remote Framebuffer protocol (RFB), versions 3.3 to 3.8

3.2.1

VNC Server



«Port number»

By default, the port number will be the official VNC port number, i.e., 5900.

Any value between 1 and 65535 can be used for the port. Please note, however, that many ports are standardized and are used by other services. Only change the port if you have the necessary experience; otherwise, ask your local IT network administrator. Also keep in mind that if a port other than VNC port 5900 is used for the VNC server, you will need to use the same port for the client. To do this, enter a colon and the port number after entering the IP address on the client.

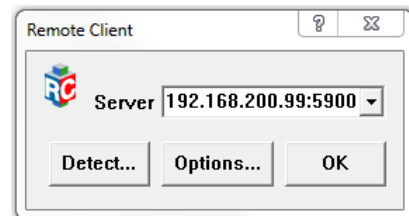


Figure 16: Entering an IP address and port number in order to start the remote client

«Max. connections»

Set to "16" connections by default.

This means that a maximum of "16" VNC clients will be able to access the device simultaneously. The maximum value permitted for "Max. connections" is 16. Keep in mind that every new connection will take up resources on the device!

If "Max. connections" = 1, only one VNC client will be allowed. Depending on whether the "Reject additional connection" option is enabled, an attempt to establish a new connection will either automatically terminate the existing one or will not be allowed.

## 3 Connecting to the touch panel

### 3.2 Establishing a remote connection

#### «Reject additional connection»

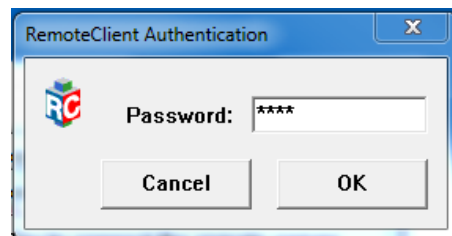
If this option is enabled, attempts to establish a new connection will be rejected if the number of connections exceeds the value set in "Max. connections." If it is disabled, the oldest connection will be terminated and replaced by the new incoming connection.

#### "Client timeout"

This setting can be used to set the time, in seconds, for a VNC server connection timeout. The timer will start as soon as a connection is established between the client and server. If the connected client does not perform any actions, such as moving the mouse or clicking on a button, before the time set here elapses, the VNC server will terminate the connection.

#### «Enable authentication»

The "VNC" tab can be used to specify whether a password should be required when an attempt is made to establish a connection. If the "Enable authentication" option is enabled, establishing a connection will require a password. This password must not be longer than eight characters. When the remote client or VNC client is started on the PC or on another device, a password prompt will appear when attempting to establish a connection:






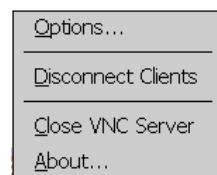
#### Establishing a remote connection

To establish a remote connection, follow the steps below:

- Connect one of the device's Ethernet ports to the PC using an Ethernet cable.
- Set the IP address and subnet mask for the Ethernet port, e.g., 192.168.200.99/255.255.255.0
- Start the VNC server on the device by tapping on Start → Programs → Communication → VNC Server.
- Load a VNC viewer on the PC, e.g., RealVNC.
- Open the VNC viewer and enter the VNC server's IP address, e.g., 192.168.200.99.

A remote connection will be established. Once the connection is established, you will be able to see and control the touch panel display on your PC.

The following icon will be shown in the device's status bar in order to indicate that a remote connection has been successfully established: . If there is no active connection, the icon will be blue instead. If you tap on the VNC server icon ( or ) in the status bar, the following menu will appear:



«Options»: Opens the "VNC" tab in Config Tool.

## 3 Connecting to the touch panel

### 3.2 Establishing a remote connection

«Disconnect Clients»: The VNC server will remain open, but the connections to all VNC clients will be terminated.

«Close VNC Server»: Closes the VNC server.

«About»: Shows the VNC server version.

#### 3.2.2

#### Starting the VNC server with command line parameters

The VNC server can be started on the touch panel by using the following command line command:

START winvnc.exe [parameter]

The following parameters are supported:

Parameter	Description
	Starts the VNC server.
-disconnect	Terminates active connections to clients.
-kill	Closes the VNC server.

#### 3.2.3

#### Configuring VNC server settings with command line parameters

The VNC server can be configured with the following command line command:

Example:

```
config vnc -port=66 -password=1234
```

The change will take effect immediately. If the VNC server has already been started on the panel before the change, the modified parameters will apply to future remote connections. For instance, if a password is assigned with the command line command, every remote client or VNC client that attempts to establish a connection afterwards will be asked for the password.

The following parameters are supported:

Parameter	Description
-port=[portNr]	Sets the VNC server port [portNr]. The default port is 5900.
-timeout=[sec]	[sec]= Time, in seconds, for a VNC server connection timeout.  The timer will start as soon as the connection is established. If the connected client does not perform an action, such as moving the mouse or clicking on a button, within set time [sec], the VNC server will terminate the connection.
-maxconn=[connections]	[connections]=1 to 16; maximum number of simultaneous connections to VNC clients and remote clients.
-reject=[enable]	Enable=0: New connections to a VNC client or remote client will be rejected if the number of connections exceeds the value in [connections].  Enable=1: If an attempt is made to establish a new connection to a VNC client or remote client, the new connection will replace the oldest current connection if the number of connections exceeds the value in [connections].
-password=[passwd]	When an attempt is made to establish a connection to the VNC

## 3 Connecting to the touch panel

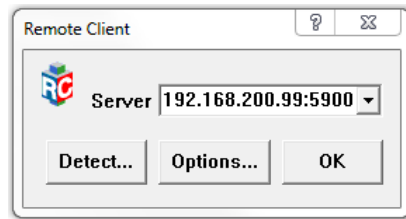
### 3.2 Establishing a remote connection

	server, the [passwd] password will be requested. This password may have a maximum of eight characters.
-nopasswd	Deletes the password for the VNC server.

#### 3.2.4

#### Remote Client

For the remote connection, you can run the remote client (RemoteClient.exe) on the PC. Make sure to use version 3.1 or higher. You can run multiple instances of the remote client if necessary. For example, a remote client is included with GALILEO and XSOFT-CODESYS.

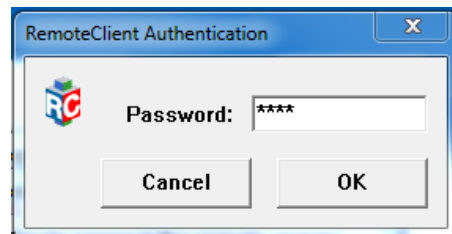


Enter the IP address for the server on the touch panel into the input field. You can optionally add a port number if necessary, e.g., "192.168.200.99:23450".

Click on "OK" to establish the client/server connection. If the attempt to establish a connection fails, an error message saying "Failed to connect to server" will appear after a few seconds.

**Note:**  
If a port number is not specified, port **5900** will be used. The port numbers used by the remote server and the remote client must match! Please refer to [VNC Server](#) as well.

If the server is password-protected, the "RemoteClient Authentication" prompt will appear so that the password can be entered.



As an alternative to the remote client, you can install a VNC client such as VNC Viewer on the PC and run multiple instances of it (a number of free VNC clients are available on the web). For more information, please refer to [VNC Server](#) as well.

#### 3.2.5

#### Starting the remote client with command line parameters

The name of the executable for the remote client is as follows:

On the device: CERemoteClient.exe  
On the PC: RemoteClient.exe.

Starting the remote client on the panel/PC – The command line command supports the following parameters:

Parameter	Description
server:Port	For this see also <a href="#">VNC Server</a>
-rotate	

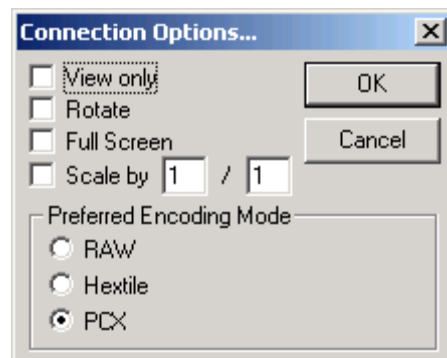
### 3 Connecting to the touch panel

#### 3.2 Establishing a remote connection

-fullscreen	See chapter <a href="#">Remote client options</a>
-viewonly	
-scale x/y	
-raw	Uncompressed communication with the <a href="#">VNC Server</a> .
-hextile	Hextile-compressed communication with the <a href="#">VNC Server</a> .
-pcx (standard)	PCX-compressed communication with the <a href="#">VNC Server</a> (recommended setting).
-nospecialkey	Removes the "Send Ctrl-Alt-Del" and "Send Ctrl-Esc" menu options from the <a href="#">Remote client system menu</a> .
-autoconnect	Starts communication with a remote server, regardless of whether there is already a connection to that server.
-exit	Closes the active CERemoteClient (on panel only!)

#### 3.2.6

#### Remote client options



The following options are available:

«View only»: Display only – no input possible.

«Rotate»: Rotates the display 90° counterclockwise.


«Full Screen»: The client will be shown in full-screen mode, i.e., without a frame or menu. This can come in handy when the server and client have the same screen resolution. When using this mode, the "Disconnect" button in the server dialog box must be used to terminate the client/server connection. For more information, please refer to the [VNC Server](#) description as well.

«Scale by x / y»: Zoom setting. For example, 2 / 1 will magnify the image by a factor of two, while 1 / 2 will shrink it by a factor of two.

If the client's screen resolution is not sufficient for displaying the server screen, the screen will be displayed with scrollbars.

3.2.7

Remote client system menu

The remote client's system menu can be accessed by right-clicking on the  icon.

This system menu features the following options:

Menu item	Description
Request screen refresh	This function causes the view in the remote client to be "redrawn."
Send Ctrl-Alt-Del Send Ctrl-Esc	The corresponding key combination will be "entered" on the device. "Ctrl-Alt-Del" and "Alt-Tab" will open the Task Manager, while "Ctrl-Esc" will open the Windows Start menu.
Ctrl Down Ctrl Up Alt Down Alt Up	These functions can be used to "enter" key combinations with ALT and CTRL on the device. For example, using the "Ctrl Down" function will make the CTRL key remain "held down" until the "Ctrl Up" function is used. These functions are required only for older remote server versions.

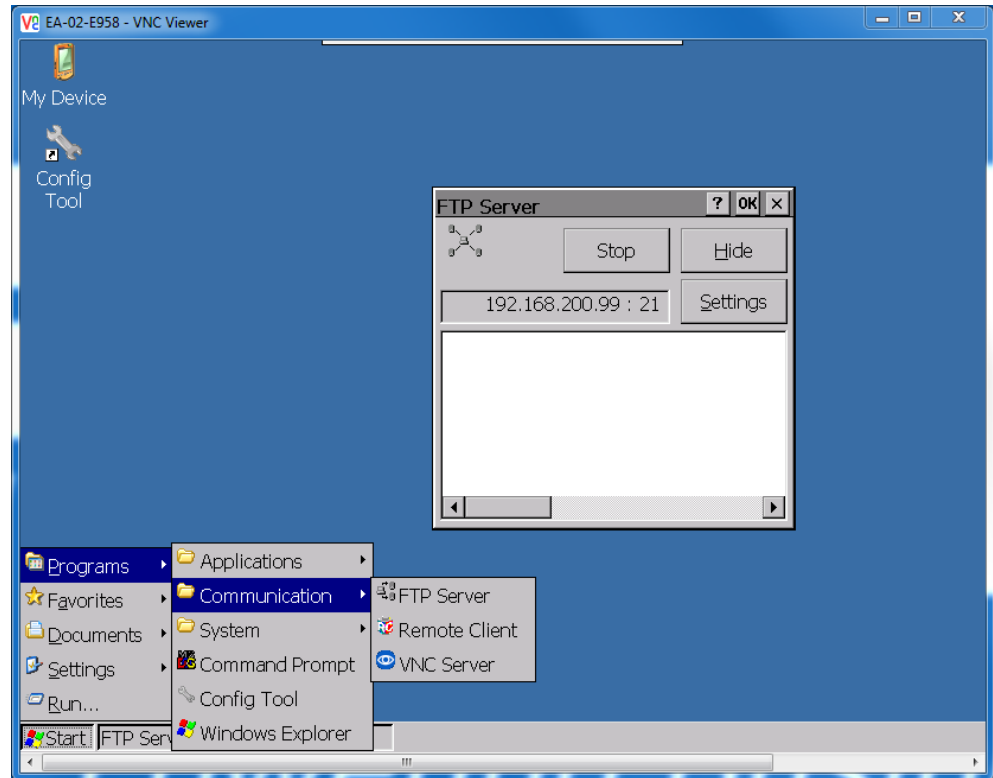
\*\* These functions will not be available if the command line parameter **-nospecialkey** is set. The menu options may vary slightly depending on the remote client version being used.

Note:  
The system menu can be accessed by tapping on the ? icon in the title bar when using the remote client for Windows Embedded Compact 7.


### 3.3

### FTP Server

The FTP (File Transfer Protocol) server can be used to send files via Ethernet. The name of the server executable for Windows Embedded Compact 7 is "FtpSvr.exe".



#### «Hide»

«Hide» will minimize the window, i.e., only the  icon will be shown in the status bar. Double-tapping on this icon will restore the window.

#### «Settings»

Tap on Settings → Enable Password to enable password protection (please refer to [Password settings](#)).

#### «Stop»

Tapping on the «Stop» button will terminate the active FTP connection / stop the FTP server.

#### «Start»

Tapping on the «Start» button will start the FTP server, making it possible to establish an FTP connection again if necessary.

#### Establishing a connection to the device via the FTP server

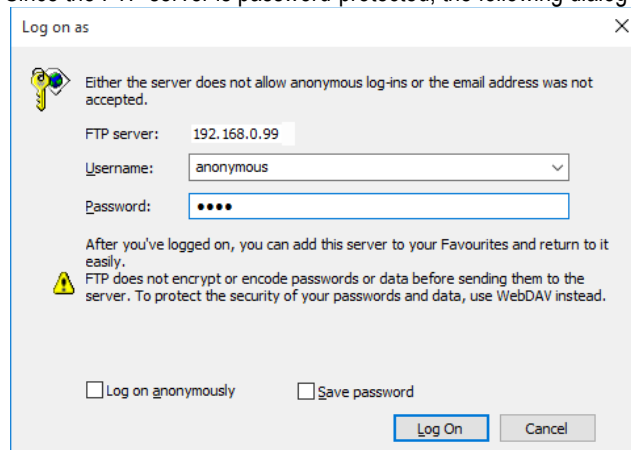
To establish a connection to the touch panel, follow the steps below:

- Start the FTP server on the device by tapping on Start → Programs → Communication → FTP Server.
- Push the «Settings» button.

## 3 Connecting to the touch panel

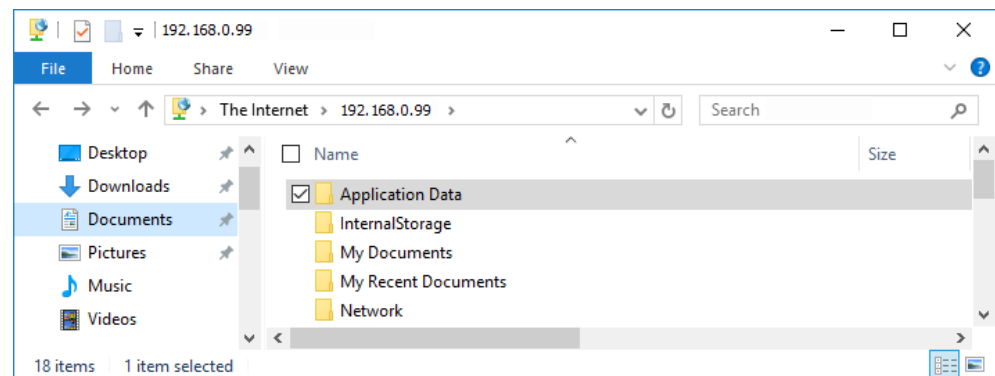
### 3.3 FTP Server

- Enter a password (e.g., "1234") and enable password protection by enabling the "Enable Password" option.
- Switch to the PC or to a different device and enter the following into the Windows Explorer address bar:  
"FTP://<the device's IP address>"  
For example: "FTP://192.168.200.99".
- Since the FTP server is password-protected, the following dialog box will appear:



- Enter the password, e.g., "1234".

Windows Explorer will show the contents on the device's desktop.



**Note:**  
Only files that are NOT being simultaneously used or processed by other programs can be accessed. Due to security reasons, make sure not to leave the FTP server on more than needed.

#### 3.3.1

#### FTP server password settings

The password settings are saved in the "FtpSvr.ini" file in the "My Device\<boot device>\OS\" folder. This data will be encrypted. Since the file is stored on the boot device, the corresponding settings will be retained even after the device is restarted.

### 3.3.2

#### Starting the FTP server on the device with command line parameters

The command line command, as well as its various parameters, will only work if the FTP server is stopped.

ftpSvr.exe [parameter]

Example:

FtpSvr.exe -p 1234

The following parameters are supported:

Parameter	Description
-d	Disables password protection if the latter has been previously enabled.
-p [passwd]	Enables password protection. The new password is passed as an argument.
-i [file]	Defines the path [file] to the INI file where the password settings should be saved. If password protection is enabled without the /i parameter, an "FtpSvr.ini" file will be created in the "\<boot device>\OS\" folder. All the data in this file will be encrypted.
-h	Minimizes the server dialog box directly to the status bar when the server is started (the dialog box will not be shown).
-exit	Closes the FTP server. This command will only work if the server has already been started.
-port [no]	Sets the port number [no] for the FTP server. Port number 21 will be set by default. Any value between 0 and 65535 can be used.
-prio low -prio high	"high" will increment the FTP server's priority by 1; "low" will decrement it by 1. This parameter is optional.
-root [dir]	Sets the root directory [dir]. It is not possible to switch to parent directories.
-timeout [sec]	Sets the timeout in seconds [sec] (5 by default; the maximum is 120 seconds). This can be useful for slow connections via modem.
-pasvPortStart [noStrt] -pasvPortEnd [noEnd]	These parameters can be used to define the ports that the FTP server will use for data connections in passive mode. Values between 1024 and 65535 are permissible. Either both arguments must be passed or neither one must be passed, i.e., it is not allowed to only use one of the two parameters.
-q	Program run without any output.

### 3.3.3

#### Configuring the FTP server settings with command line parameters

config ftp [parameter]

The following parameters are supported:

Parameter	Description
-password=[passwd]	Enables password protection for the FTP server. The new password is passed as the [passwd] argument.
-nopassword	Disables password protection for the FTP server.

#### 3.3.4

#### WAN

If the FTP server is accessed via WAN, it is recommended to configure the server's ports accordingly and as required for the firewall being used (if any).

Sample configuration:

```
START FtpSvr.exe -port 8021 -pasvPortStart 60000 -pasvPortEnd 65535
```

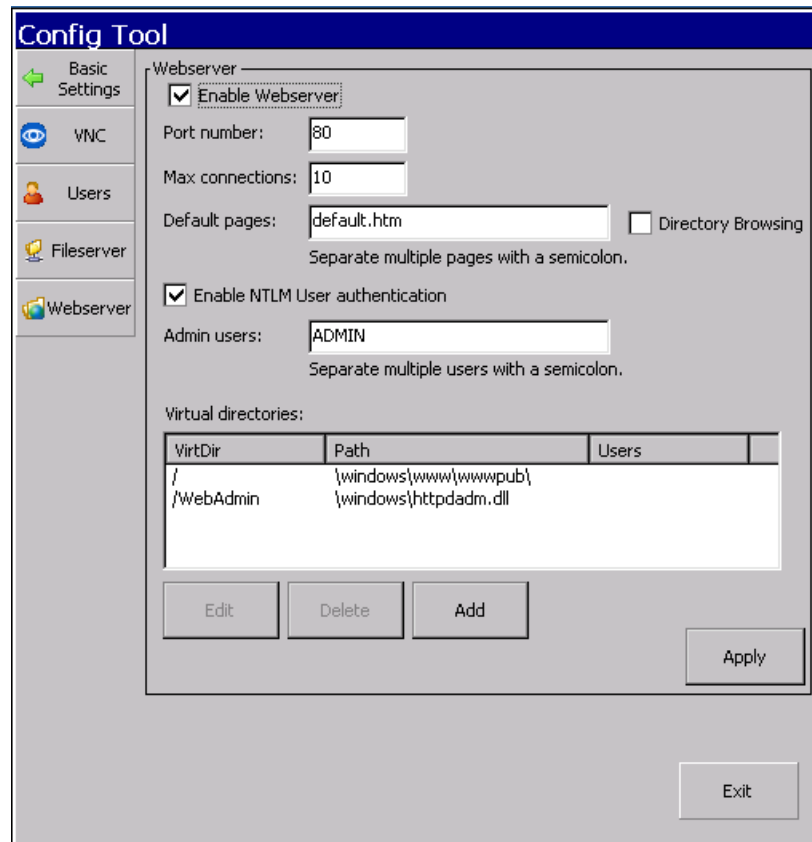
3.4

**Webserver tab**

The XV300 touch panel features an integrated web server with the httpd service. This web server is based on the standard Windows Embedded Compact 7 web server. This means that the touch panel can deliver websites that web browsers such as Internet Explorer can access and display from a PC or other device.

Prerequisites: The touch panel must be on the same network as the web browser.

Note:  
For more detailed information on how the web server works, please refer to the MSDN documentation provided by Microsoft.



**«Enable Webserver»**

Enables the web server.

**«Port number»**

The default port for web servers is port 80.

**«Max connections»**

Maximum number of simultaneously open connections to the web server. By default, "Max connections" will be set to 10. The maximum value is 65535.

**«Default pages»**

The web server will show the first start page entered. If the web server does not find this start page and more than one start page has been entered, it will look for the next page and show it. If the start page shown links to other pages, the links can be clicked on to view the corresponding pages and keep navigating this way.

**«Directory Browsing»**

If this option is enabled and the web server cannot find the start pages or a start page has not been specified, the web server will list all the files and directories in the directory, e.g., in wwwpub.

**«Enable NTLM User authentication»**

If this option is enabled, NTLM authentication will be used. In this case, a user ID and password must be entered for authentication purposes.

**Note:**

Only the local user management function can be used; please refer to the [Users tab](#) chapter. Connecting to a domain controller is not supported.

**«Admin users»**

The user or users entered in the "Admin users" field will be assigned admin rights. To define multiple users as administrators, enter them separated by a semicolon. Administrators have access to all folders.

**«Virtual directories»**

These registration entries contain the mapping between the virtual web server directories and the physical directories on the device.

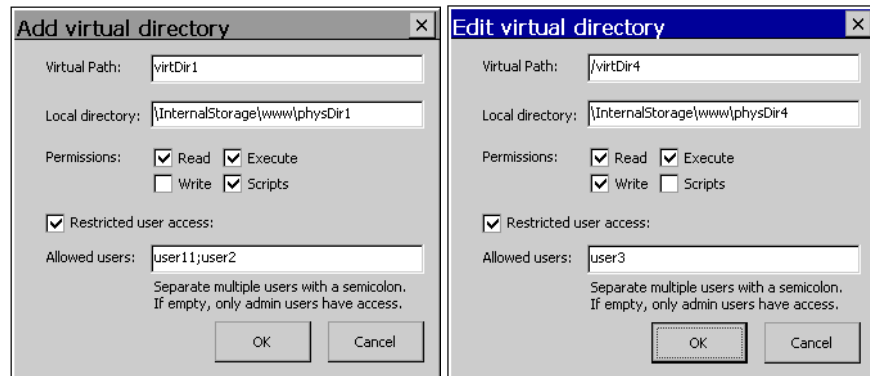
By default, the following virtual directories will be created:

VirtDir	Default path
/	\windows\www\wwwpub
/WebAdmin	\windows\httpdadm.dll

Optionally, the authentication level and access permissions can be set for each individual directory.

### «Edit» / «Add»

Tapping on the "Edit" or "Add" button will open the corresponding dialog box.



These dialog boxes can be used to configure the following access permissions for the virtual directory that is being added or edited (as applicable):

#### «Virtual Path»

This field is used to define the virtual directory that the web server will use when accessing the directory locally on the device.

#### «Local directory»

This field is used to define the directory that is physically found on the device. This directory will be mapped to the virtual directory.

#### «Permissions»

This section can be used to set up the following access permissions for the virtual directory:

- Read: Read permissions
- Write: Write permissions
- Execute: Execute permissions
- Scripts: Permissions for running script files, such as Visual Basic Script and JavaScript scripts

#### Note:

In order for access permissions such as "Write," "Execute," and "Scripts" to apply, read permissions must be enabled as well.

#### «Restricted user access»

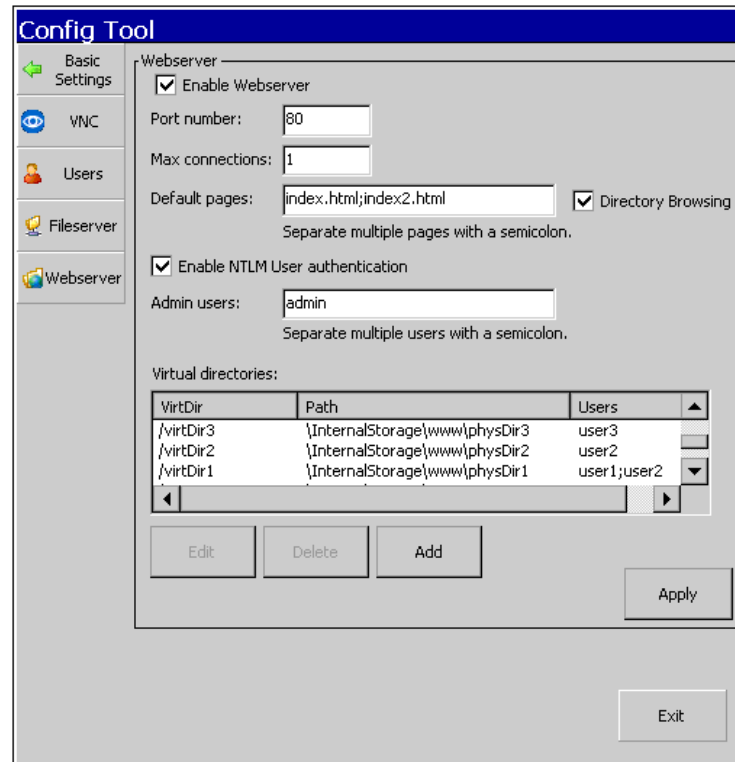
When this option is enabled, only specific users will be able to access the virtual directory.

#### «Allowed users»

This field can be used to enter the specific users that have access permissions for the virtual directory; to enter multiple users, separate them with semicolons. If you leave this field blank, only administrators will have access to the virtual directory (administrators have access to all directories).

«Apply»

Tapping on "Apply" will save all the settings you have entered in non-volatile memory.



3.4.1

Configuring web server settings with command line parameters

config webserver [parameter]

Example:

config webserver -addVdir=dirname -vdirpath=\\InternalStorage\websubdir -vdirAuth=1

The following parameters are supported:

Parameter	Description
-addvdir=[dirname]	Adds the [dirname] virtual directory.
-adminUsers=[users]	Lists all [users] usernames with admin rights, separated by semicolons. <b>Important:</b> If this entry is blank, all users have admin rights!
-auth=[0/1]	0: Enables password-based authentication. 1: A password does not need to be entered in order to establish a connection to the web server.
-delVdir=[dirname]	Deletes the [dirname] virtual directory.
-dirBrowse=[enable]	enable =1: Directory browsing allowed. enable =0: The directory contents cannot be viewed in the browser.
-defaultPage=[pages]	List of all default pages, separated by semicolons, e.g., "default.htm;default.asp;index.htm;index.asp" If the web server selects a directory, the corresponding pages will

### 3 Connecting to the touch panel

#### 3.4 Webserver tab

	be searched for as passed in [pages]. If the corresponding page is found, it will be sent to the browser. If none of the websites are found, either the directory contents will be shown or an error will be returned to the web server, depending on how the "dirBrowse" setting has been configured.
-enabled=[0/1]	0: Enables the web server. 1: Disables the web server.
-maxConn=[maxconncount]	Maximum number [maxconncount] of simultaneously open connections to the web server (by default: dword:000a → max. 10 connections)
-port=[portnr}	Port number for HTTP requests (by default: dword:0050 → port number 80)
-restart	This parameter will only work if the web server is enabled, i.e., -enabled=[1]. If it is, the web server will be restarted.
-showconfig	Shows the web server's configuration.
-vdirAuth=[0/1]	In order for the -vdirAuth parameter to work, auth must be set 1! 0: Enables password-based authentication for being able to access virtual directories. 1: A password is not required in order for the web server to access virtual directories.
-vdirPath=[path]	Sets the local directory as a virtual directory. Example: Say you want to map local directory \InternalStorage\web1 to virtual directory virt1: config webserver -vdirPath=\InternalStorage\web1 -addvdir= virt1
-vdirPerm=[permission]	Sets the type of access permissions for a virtual directory; the values must be added [permission]=1: read [permission]=2: write [permission]=4: execute [permission]=512: scripts Please note: In order for access permissions such as "Write," "Execute," and "Scripts" to apply, read permissions must be enabled as well. Example: config webserver -vdirPath=\InternalStorage\web1 -vdirPerm=3 This assigns read and write permissions to the virtual directory to which local directory \InternalStorage\web1 is mapped (read+write=1+2=3)
-vdirUsers=[userlist]	List of all [users] usernames with access permissions for the virtual directories, separated by semicolons. <b>Important:</b> If this entry is blank, only administrators have access permissions!

Example:

```
config webserver -addvdir= virt1 -vdirpath=\InternalStorage\web1
```

## 3 Connecting to the touch panel

### 3.5 Connecting with "net use"

Using the "services list" DOS command in the device's command line will show a list of the services running on the device, e.g., "HTPO". If you want to use this service, it must be enabled in Config Tool.

```

File Edit Help
Pocket CMD v 7.00
\> services list
LPC1: 0x00000000 lpcd.dll Unknown
PXYO: 0x01d57903 ProxySvc.dll Running
LASO: 0x01d67903 lssd.dll Running
SMAO: 0x01d77903 regextdev.dll Running
DCM1: 0x00000000 dcomssd.dll Unknown
HTPO: 0x01d87903 HTTPD.DLL Running
SMBO: 0x01d97903 smbserver.dll Unknown
UPPL: 0x01da7903 upnpvc.dll Running
UPPL: 0x00000000 upnloader.dll Unknown
NTPO: 0x01db7903 sntpvc.dll Off
DSTO: 0x01dc7903 dstvc.dll Running
\>

```

### 3.5

#### Connecting with "net use"

The "net use" command connects or disconnects the touch panel to/from a shared resource. It is not mandatory to connect the resource, but it is recommended. The advantage of doing this is that access from the application can always follow the same procedure regardless of the computer, directory, or printer name.



Figure 17: Touch panel accessing a network drive



Figure 18: PC or external device accessing the touch panel

Another option is to use the "net view" command. This command will show the shares. For help information on the "net view" and "net use" commands, enter the following:

On the PC "net view /? "

«net use /? »

On the panel

«net help »

«net view »

«net use »

#### 3.5.1

#### Accessing a network drive from the touch panel with net use

The command syntax is as follows:

net use <local name> \\<computer name>\<share name>

### 3 Connecting to the touch panel

#### 3.5 Connecting with "net use"

<computer name>: The computer's network name

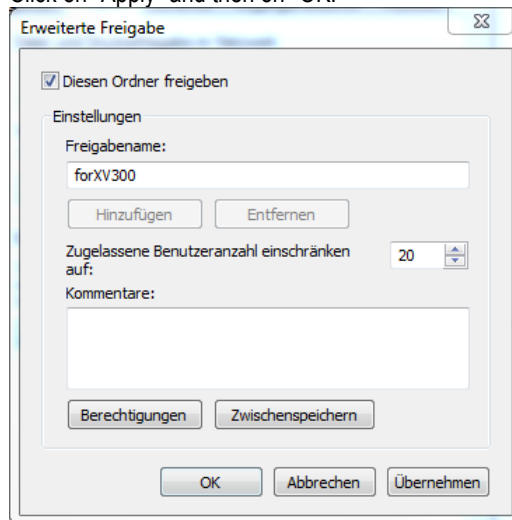
<share name> : The name of the shared resource on the network

<local name> : Name for the shared network resource on the touch panel

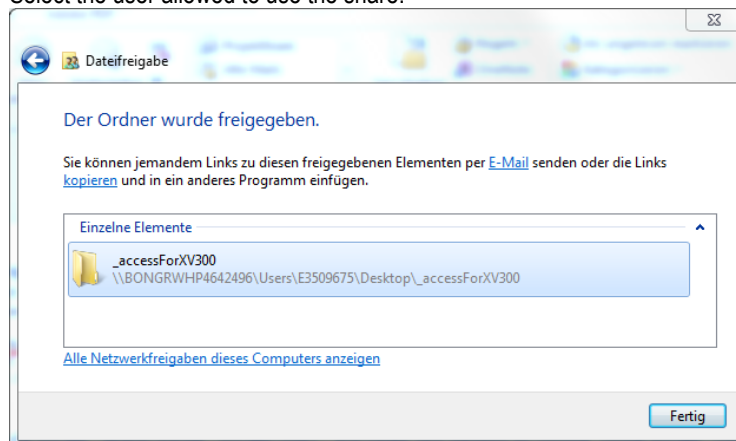
After running the command, the resource can be accessed with "\network\<local name>". If it is used without parameters, "net use" will show a list of network connections.

In order to access a network drive from the device with "net use," follow the steps below:

- On the PC, or on another device, create a folder in Windows Explorer, e.g., "accessForXV300".
- Select the directory → Right-click to open the context menu → Properties → Sharing tab → Advanced Sharing
- Enable the "Share this folder" option.
- In the "Share name" field, enter a share name for the folder, e.g., "accessForXV300".
- Click on "Apply" and then on "OK."



- Now click on the "Share..." button.
- Select the user allowed to use the share.



## 3 Connecting to the touch panel

### 3.5 Connecting with "net use"

The "accessForXV300" folder will be shared on the PC or on another device.

- Switch to the XV300 touch panel.
- To open the command prompt, tap on:  
Start → Programs → Command Prompt
- Enter the following command:  
"net use SharePC \\BONGRWHP.....\accessForXV300".

The device screen will show the shared folder or drive on the PC or other device with the name "SharePC."

To undo the mapping for the share, use "net use [share name] /d".

Example:

```
net use SharePC /d
```

Note:

Depending on the operating system being used, it may be necessary to configure additional settings for the firewall and/or user management on the server. If you have any questions, please contact your local IT network administrator.

#### 3.5.2

#### Accessing the touch panel from a PC or external device with net use

To share a memory area with authentication, follow the steps below:

- First, share the memory area on the touch panel as described in chapter 2.12.1. Please refer to [Sharing a memory area](#).
- You can use the command line on the PC or another device to determine which resources on the touch panel are being shared by using the following command:  
net view [device name], Example: net view \\PANEL245



```
Administrator: C:\Windows\system32\cmd.exe
C:\Users\E8250299>net view \\PANEL245
Freigegebene Ressourcen auf \\PANEL245

PANEL245

Freigabename   Typ           Verwendet als  Kommentar
-----
STCARD         Platte
TEMP           Platte
Der Befehl wurde erfolgreich ausgeführt.
```

Figure 19: List of shared memory areas, STCARD and TEMP, on the touch panel

To map the drive, follow the steps in 3.4.1, [Accessing a network drive from the touch panel with net use](#).

- The following command line command on the PC or on an external device will map shared memory area "TEMP" to local directory "dirMappedPC":  
«net use dirMappedPC \\PANEL245\TEMP»

3.6

**Print**

3.6.1

**General**

The Ethernet and USB ports can be used to connect a printer.

Whether or not printing will work correctly will depend on the specific printer that is connected. Because of this, make sure to only use printers that are explicitly recommended for use with Windows Embedded Compact 7.

As of this writing, Windows Embedded Compact 7 features the following Windows and HP printer drivers:

Printer models <sup>1)</sup>	Printer Driver
PCL Deskjet	pcl.dll
PCL Laser	
HP Laserjet	emprint.dll
HP Color Laserjet	

1) List of printer options

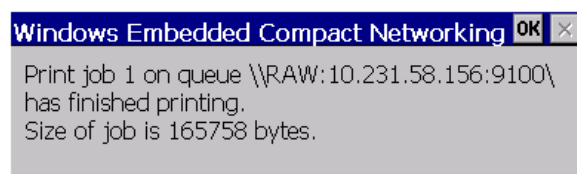
3.6.2

**Printing via Ethernet**

Printers can be connected to the device's Ethernet port. The printer can either be used via a Windows PC's shared printer or directly using the RAW or LPR protocols.

Messages:

- Only printers that support PCL protocol version 5 can be connected. PCL is a language that was originally developed by HP® but that is now supported by other printer companies as well.
- If the following registry key is set (value not equal to 0), the "Print job ... on queue ... has finished printing." printer message will not be displayed.  
[HKEY\_LOCAL\_MACHINE\Printers]  
"NoNotifyWhenPrinted" = dword:1

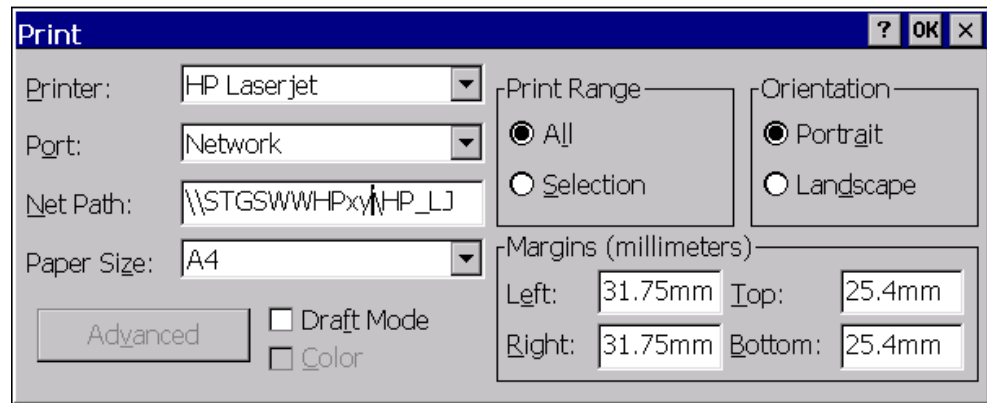


**Accessing a Windows computer's shared printers**

All printouts will be printed via the selected Windows computer.

The computer's network name and the printer share name must be entered as the net path.

Example: \\PC-001\PRN\_HP\_1

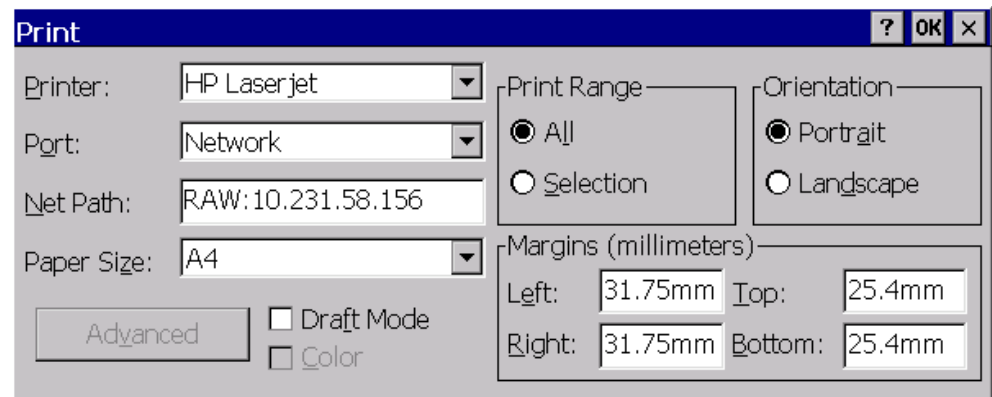


**RAW or LPR protocol**

If the printer or print server supports printing with the RAW or LPR protocols, the Gerät can use the printer directly. This way, it is not necessary to have a computer with a Windows operating system on the network in order to be able to print.

Multiple Line	Examples
RAW:"IP address":"Port number"	RAW:192.168.1.1
LPR:"IP address"/"Port name"	LPR:192.168.1.1/P2

Replace "IP address" with the printer's or print server's IP address. Entering a port number or port name is optional, and if one is not entered, port number 9100 and port name P1 will be used. Please refer to the specifications for your printer or print server.



If you have any other questions regarding how to use your printer on the network, please contact your local IT network administrator.

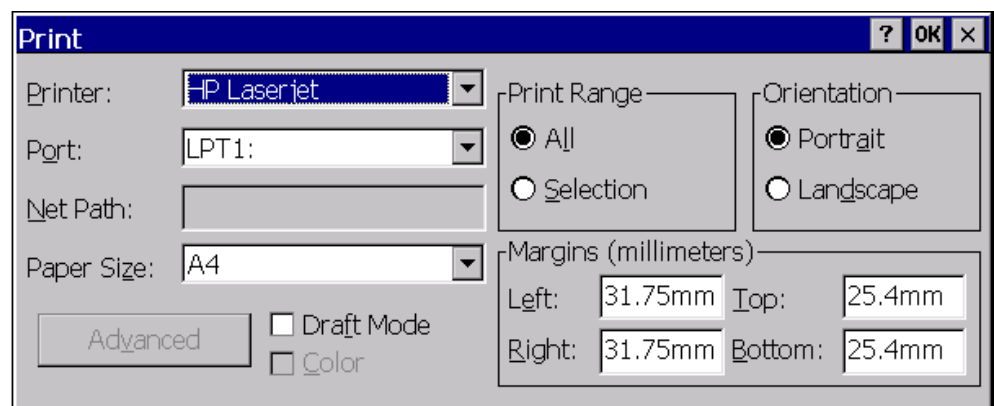
3.6.3

Printing via the USB port

The USB port can be used to connect a printer.

Note:  
As of this writing, only printers that support PCL protocol version 5 can be connected. PCL is a language that was originally developed by HP® but that is now supported by other printer companies as well.

Note:  
The available port will be shown only after the printer is connected to the USB port and switched on, and will be shown as LPT1.



## 4 System tools

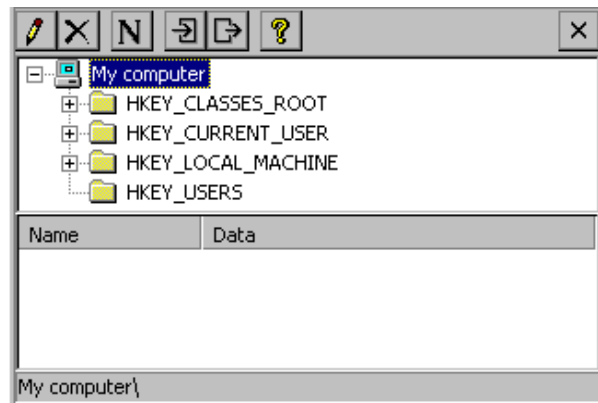
Touch Panels with Windows Embedded Compact 7 feature various programs that are briefly described below. While this list does not claim to be exhaustive, it does list programs available on all XV300 devices.

### 4.1 Registry Editor

In Windows Embedded Compact 7, Registry Editor can be accessed by entering "RegEdit.exe" into the command line.

Registry Editor can also be accessed by tapping on Start → Programs → System → Registry Editor.

The Registry Editor functions are comparable to those of Registry Editor in Windows desktop operating systems.



Registry Editor can be used to view and edit system settings. The buttons in the toolbar can be used to do the following:



Edit the selected key – a dialog box that can be used to change the key's numeric or alphanumeric value will appear



Delete the selected key



Add a new key – A dialog box that can be used to select one of the types (Key, String, Multi-String, Double Word, Binary) will appear



Import a REG file (please refer to [File .REG](#) as well)



Export the selected key or directory to a REG file (please refer to [File .REG](#) as well)



Show program information

For more detailed information, please refer to the description for the Windows operating system for desktop computers.

Note:  
Modified settings will not be retained after a Touch Panel system start. Permanent settings must be entered in the [Autoexec.reg](#) file so that they will be copied to the registry every time the device is restarted.

#### 4.1.1

#### Configuring registry settings with a command line command

Example:

```
RegEdit.exe -import \storageCard\test.reg -q
```

The following parameters are supported:

Parameter	Description
-import [file]	Imports the keys from the specified <a href="#">REG file</a>
-export [file]	Exports the entire registry to the specified file.
-regPath ["path"]	Imports the <a href="#">REG file</a> – the file must be placed between double quotation marks without fail! This parameter is only supported due to compatibility reasons; please use the -import [file] parameter instead.
-q	If the command is run without the -q parameter, a message will appear on the screen after the import. If the -q parameter is used, a message will appear only if there is an error.
-h or -?	Shows information on the available command line parameters.

#### 4.1.2

#### File .REG

You can import files with the REG extension, in which case the following syntax needs to be observed:

Type	Description
String	"Name"="text"
Multi-String	"Name"=multi_sz:"text1","text2","text3"
Double Word	"Name"=dword:" <b>value in hex</b> "
Binary	"Name"=hex(3):11,22,33,44,55,66,77,88 → hex(3) must be included without fail. → Values 11,22, etc. are just an example. → If the binary values in the REG file are specified in multiple lines, the line break must be represented using the "\n" character.
;	A semicolon at the beginning of a line indicates a comment line and will make the line be ignored during the import.

Please refer to the [Command line command](#), [Autoexec.reg](#) chapters as well.

## 4.2

### AutoLaunch

The **AutoLaunch.exe** tool detects when an SD card or USB flash drive is inserted and carries out exactly **one** desired action when this occurs. This tool is started by the OS and cannot be closed.

The `\StorageCard\AutoLaunch.inf` or `\UsbStorage\AutoLaunch.inf` file is used to configure this tool. The following guidelines must be observed by the person entering the data for the file:

- Only one entry is allowed per command. If there are multiple entries, only the first one will be used.
- If a path is not specified for the file being run, the file will automatically be looked for in the `\StorageCard` or `\UsbStorage` folder as applicable.
- The specified file will be opened using the associated program as defined in the registry. The following file types are supported: `*.EXE`, `*.BAT`, `*.REG`
- The "open=..." command cannot be used to pass arguments to a file. The following will not work!:  
"test.reg -Q"  
"delay.exe -t 5"  
This type of command must be executed in a batch file.
- The commands are not case-sensitive.

Following is a sample file:

```
[AutoLaunch]
open=programm.exe
RunOnBoot=0
[AutoLaunchBoot]
open=update.bat
```

#### [AutoLaunch]]

The file specified after "open=" will:

- Be run if an SD card or a USB flash drive is inserted.

RunOnBoot=0 / RunOnBoot=1

If this line is not included or if `RunOnBoot=0`, the specified file will not be run when the panel starts.

If `RunOnBoot=1`, the specified file will be run when the panel starts. However, it is not guaranteed that the file will be executed completely before `Autoexec.bat` starts.

#### [AutoLaunchBoot]

The file specified after "open=" will:

- Be run when the panel is booting up, **before** `Autoexec.bat` is called (`Autoexec.bat` will be run only after the specified file has been completely executed).
- **Not** be run if an SD card or USB flash drive is inserted.

### 4.3

#### Reboot

The **reboot.exe** tool reboots the device. If the command is used without any command line parameters, a confirmation prompt asking the user whether they want to reboot the device will be displayed. On the other hand, a confirmation prompt will not appear if the command is "reboot.exe -quiet".

### 4.4

#### Extended Copy (ExtCopy)

The **ExtCopy.exe** program expands the functionality of the copy command in Windows Embedded Compact 7. It can be used to copy entire folders (and subfolders).

ExtCopy.exe is a command line program and does not feature a graphical user interface.

Example:

```
ExtCopy.exe -source \StorageCard -dest \InternalStorage -e -r -i
```

The following parameters are available:

Parameter	Description
-source <path>	Source path (folder) for the copy command.
-dest <path>	Target path (folder) for the copy command.
-e	Copies all subfolders (empty and not empty).
-y	Suppresses the confirmation prompt asking whether an existing target file should be overwritten.
-m	Deletes the copied files from the source path (equivalent to a move command).
-r	Overwrites read-only files.
-i	Suppresses the confirmation prompt asking whether files that cannot be overwritten should be skipped.
-q	Program run without any output.
-h or -?	Shows information on the available command line parameters.

Example of a batch file used to create a backup of InternalStorage (GALILEO and PLC projects, incl. Autoexec.\* files, will be copied from internal memory to the SD card):

```
ExtCopy -source \InternalStorage\Appl -dest \StorageCard\Backup\Appl -e -y
ExtCopy -source \InternalStorage\Data -dest \StorageCard\Backup\Data -e -y
ExtCopy -source \InternalStorage\Runtime -dest \StorageCard\Backup\Runtime -e -y
ExtCopy -source \InternalStorage\PlcPrg -dest \StorageCard\Backup\PlcPrg -e -y
ExtCopy -source \InternalStorage\PlcRts -dest \StorageCard\Backup\PlcRts -e -y
copy \InternalStorage\autoexec.* \StorageCard\Backup\
```

Example of a batch file used to load the backup created above back from an SD card to internal memory:

```
ExtCopy -source \StorageCard\Backup\Appl -dest \InternalStorage\Appl -e -y
ExtCopy -source \StorageCard\Backup\Data -dest \InternalStorage\Data -e -y
ExtCopy -source \StorageCard\Backup\Runtime -dest \InternalStorage\Runtime -e -y
```

```
ExtCopy -source \StorageCard\Backup\PlcPrg -dest \InternalStorage\PlcPrg -e -y
ExtCopy -source \StorageCard\Backup\PlcRts -dest \InternalStorage\PlcRts -e -y
copy \StorageCard\Backup\autoexec.* \InternalStorage\
```

## 4.5

### Gui4Batch

The **Gui4Batch.exe** program can be used to enable the user to make decisions in batch files by tapping on buttons on the touch panel. The program offers the option of placing one text and up to four buttons. Depending on which button is pressed, a different value will be returned by the program.

Example:

```
Gui4Batch.exe -text "Would you like to update the operating system?" -b1 Yes -b2 No
```

The following parameters are available:

Parameter	Description
-text [label]	The text to be displayed.
-b1 [label]	Text for the first button. Selecting this button in the program will return a value of 1.
[-b2] [label]	Optional text for the second button. Selecting this button in the program will return a value of 2.
[-b3] [label]	Optional text for the third button. Selecting this button in the program will return a value of 3.
[-b4] [label]	Optional text for the fourth button. Selecting this button in the program will return a value of 4.
[-t1] [sec]	After the specified number of seconds, returns a value of 1 if no other button is pressed. Optional parameter.
[-t2] [sec]	After the specified number of seconds, returns a value of 2 if no other button is pressed. Optional parameter.
[-t3] [sec]	After the specified number of seconds, returns a value of 3 if no other button is pressed. Optional parameter.
[-t4] [sec]	After the specified number of seconds, returns a value of 4 if no other button is pressed. Optional parameter.
[-bootRemove]	May be required if the "Boot up with hidden OS shell" option is enabled so that Gui4Batch's output will be visible.
-h or -?	Shows information on the available command line parameters.

**Note:**  
If text longer than one word is passed as an argument, the entire text must be enclosed in double quotation marks (" ").

Note:  
Line breaks can be passed for the text parameter by using "\n". Buttons can only have a single-line label.

Note on special characters:  
- Brackets ( < and [ ) are not allowed.  
- The percentage sign (%) can cause problems related to case sensitivity.  
- When passed for the "text" parameter, ampersands (&) must be written twice and enclosed by double quotation marks  
(e.g., Gui4Batch.exe -text "Do you accept the terms && conditions?" -b1 Yes -b2 No )

In a batch file, the return value for a program can be checked by using the ERRORLEVEL variable.

The if command condition is met as soon as ERRORLEVEL is equal to or greater than the specified value. Accordingly, the highest possible ERRORLEVEL should be queried first.

Following is an example of a gui4batch.exe file:

```
if ERRORLEVEL 3 goto isGerman
if ERRORLEVEL 2 goto isFrench
if ERRORLEVEL 1 goto isEnglish
goto end

:isGerman
echo Wie geht es Ihnen?
goto end
:isFrench
echo Comment ca va?
goto end
:isEnglish
echo How are you?
:end
```

It is called with the following command line command:

```
gui4batch.exe -text "Please choose your language" -b1 English -b2 Francais -b3 Deutsch
```

## 4.6

### PDF Viewer

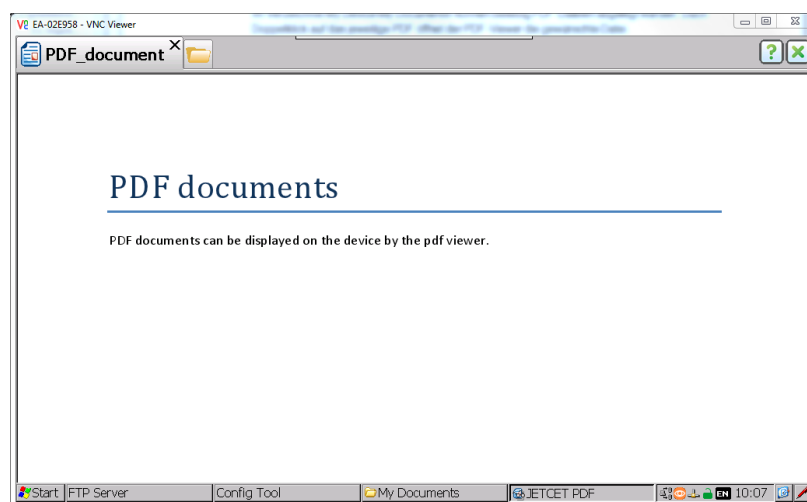
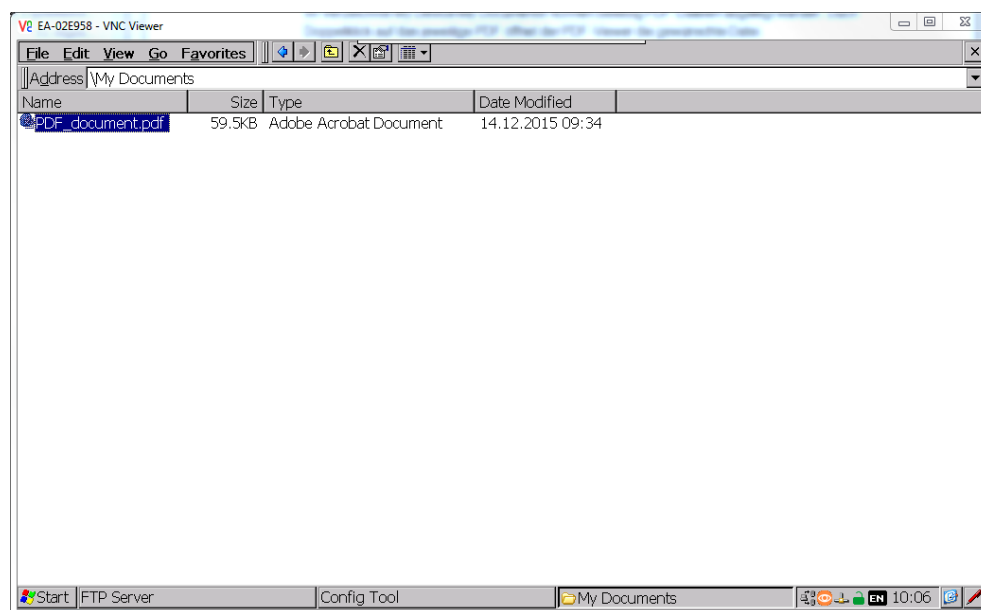
The PDF viewer can be opened by tapping on Start → Programs → Applications → PDF viewer or by calling the **wt6explr.exe** program in the command line.

Example:

```
wt6explr.exe \StorageCard\MyPDFs\Document.pdf
```

PDF files can be saved in any folder in the device. Double-tapping on a PDF will make the PDF viewer automatically open the file.

The My Device\My Documents\ folder is in RAM and not in the device's non-volatile memory area. Accordingly, PDF files stored in this folder will be lost after the device is restarted. Please refer to the note in the [File Destination](#) chapter as well.



It is possible that not all PDF files will be displayed correctly. For more detailed information, please refer to the MSDN documentation provided by Microsoft or to the information provided by the PDF viewer's vendor (WESTTEK).

## 4.7 Internet Explorer

The integrated Microsoft Internet Explorer browser for "embedded" devices is based on IE Version 7.

The browser supports XML, HTML, dynamic HTML (DHTML), and CSS data formats, as well as JScript 5.8 and Microsoft VBScript 5.8.

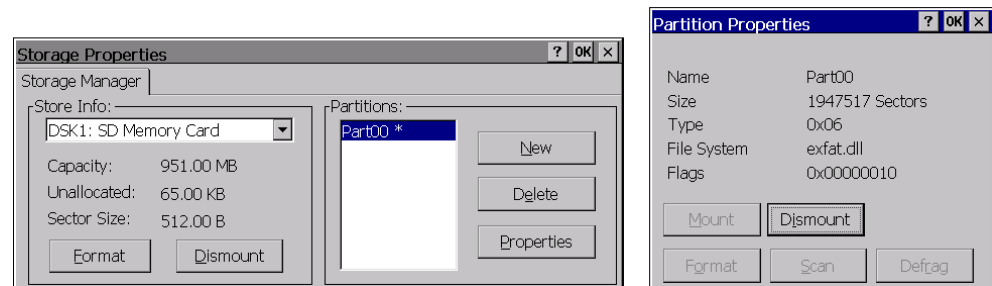
For more detailed information, please refer to the MSDN documentation provided by Microsoft.

## 4.8 Using Storage Manager to format and partition removable data storage devices

Within this context, "removable data storage devices" refers to SD cards and USB flash drives. You can use Storage Manager to format and partition these devices.

To access Storage Manager, tap on:

Start → Settings → Control Panel → Storage Manager.



### 4.8.1 Formatting data storage devices

To format an entire data storage device, follow the steps below:

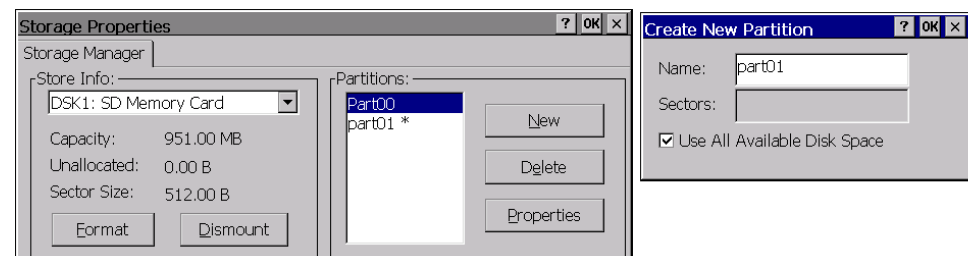
- Select a data storage device from the drop-down menu, e.g., "DSK1".
- Tap on the "Dismount" button.
- Tap on the "Format" button.

The data storage device will be formatted. All partitions on it will be deleted.

### 4.8.2 Partitioning data storage devices

When you create a new partition, you can use the maximum available storage space or specify the partition size in sectors. One sector equals 512 bytes. Use the following formula to convert MB to sectors:

$$\text{Number of sectors} = \text{Number of MB} \cdot 1024 \cdot 1024 / 512$$

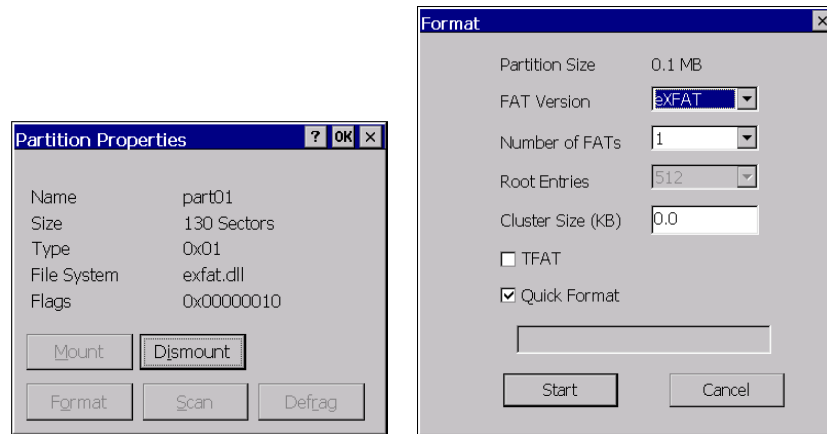


To create a new partition, follow the steps below:

- Select a data storage device from the drop-down menu, e.g., "DSK1".

## 4.8 Using Storage Manager to format and partition removable data storage devices

- Tap on the "New" button.
- Enter a name for the partition.
- Tap on the "Properties" button.
- Tap on the "Dismount" button.



- Tap on the "Format" button.
- Tap on the "Mount" button.

The data storage device has now been partitioned.

## 4.8.3

## Formatting and partitioning with command line parameters

config storage [parameter]

You can use the following command line commands to find out which storage areas are available on removable data storage devices:

config storage -liststor

To find out what the partitions on a data storage device look like, use the following command:

config storage -listpart -storage=DSK1:

```
\> config storage -liststor
List of available stores:
--> DSK1:      SD Memory Card

\> config storage -listpart -storage=DSK1:
List of partitions for storage: (partition name | volume name | filesystem driver)
- Part00 | StorageCard | exfat.dll
```

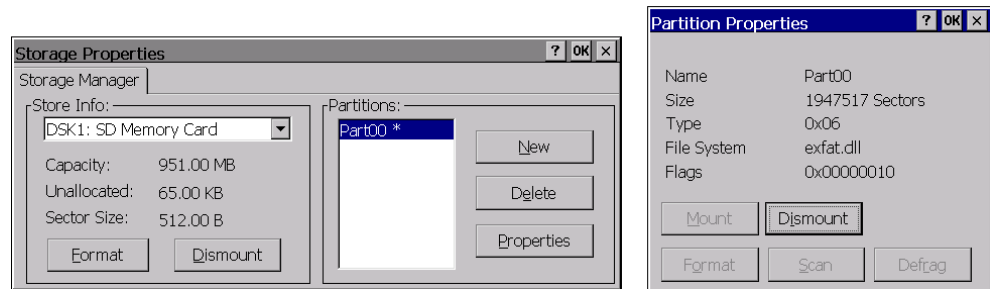
**Note:**

The name for a storage area always ends in a colon (":")!

You can create a partition with the total storage space or several partitions that do not exceed the total storage space when added up together.

To see the number of sectors in Storage Manager, tap on the following:

My Device → Control Panel → Storage Manager → Properties



The 1947517 sectors can be split between two partitions:

```
config storage -create -name=MyPart01 -storage=DSK1: -count=973758
```

```
config storage -create -name=MyPart02 -storage=DSK1: -count=973759
```

The following parameters are available:

Parameter	Description
-liststor	Shows all of the device's available storage areas
-listpart	Shows all of the storage area's partitions. Example: config storage -listpart=DSK1:
-storage=[value]	Selects the storage area used for the filesystem
-delete=[value]	Deletes the specified partition Example: config storage -delete=Part00 -storage=DSK1:
-create	Creates a new partition in the storage area Example: config storage -create -name=MyPart01 -storage=DSK1:  Example for two partitions: config storage -create -name=MyPart01 -storage=DSK1: -count=238281 config storage -create -name=MyPart02 -storage=DSK1: -count=238281
-name=[name]	Assigns a temporary name [name] to the new partition. The next time the device is started, the partition will be automatically and permanently renamed.
-count=[value]	Size of the partition in sectors [value]. If you want a specific partition size in MB, use the following formula to calculate the equivalent number of sectors [value]:  Number of sectors = Number of MB · 1024 · 1024 / 512  One sector equals 512 bytes.

## 4.9

### Name Resolution with CEHosts

This command line program can be used from Image Version 3.6.1 onwards for name resolution in TCP/IP networks, but not for GALILEO and communication from CODESYS 3.

## 4 System tools

### 4.9 Name Resolution with CEHosts

NetBIOS names are assigned to the IP addresses. In principle, the devices/stations in a TCP/IP network are addressed via IP addresses. Name resolution is used to ensure that the devices in the network can also be addressed via names. The command line call looks like this:

```
cehosts.exe -a "IP address" -n "name"
```

For example, the call "cehosts.exe -a 192.168.1.1 -n MY\_PC" assigns the IP address 192.168.1.1 to. See also chapter Accessing the PC and Printing via Ethernet.

In addition, the parameter -q can be passed, so the output of the program suppressed.

**Note:**

These settings are not retained after a restart of the device. When accessing shared drives or printers on PCs with Windows operating systems, name resolution does not work with CEHosts.

## 4.10

**Configuring other module settings with command line parameters****Config memory**

This module can be used to get an overview of the internal memory (flash memory and NVRAM) during servicing. It can also be used to show powerfail values. Please refer to the [Voltage dips and power outages](#) chapter as well.

Use this module only if requested to do so by our Customer Support staff. Using the module incorrectly may result in data loss.

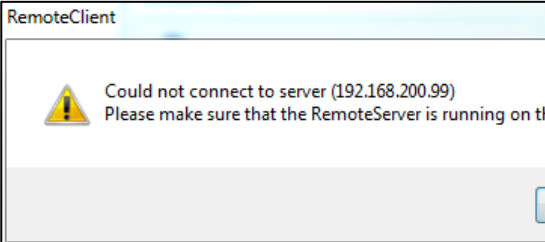
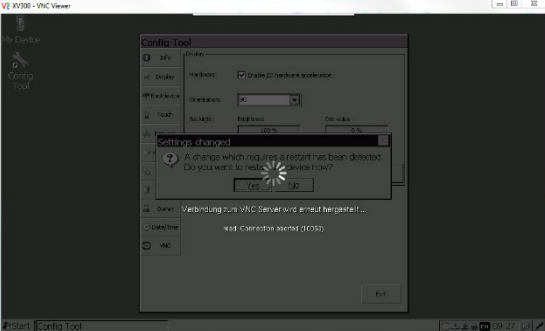
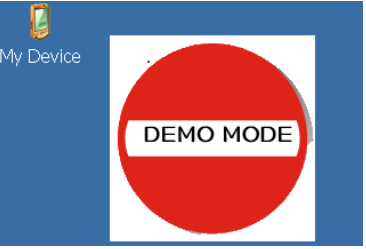
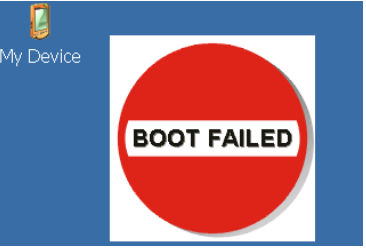
config memory [parameter]

The following parameters are available:


Parameter	Description
-memstat	Shows current memory statistics.
-show	Shows a list with all allocated non-volatile memory entries.
-del=[id]	Deletes the entry with ID [id]. If an ID is not passed, deletes all entries.
-powerfail	Shows powerfail values.

5

Troubleshooting

Error description	Corrective Action
<p>A remote connection cannot be established</p> 	<p>The remote client version being used on the PC is too old. Use version 3.0 or higher.</p> <p>The device cannot be reached through the network. Check the connection with the "ping" command line command.</p>
	<p>Due to a setting change on the device screen, the VNC viewer is attempting to re-establish the remote connection unsuccessfully.</p> <p>Check whether the VNC server was closed due to the setting change on the display. If it was, start the VNC server on the device.</p>
	<p>A GALILEO application has been started in demo mode.</p> <p>The GALILEO application that is running was previously created on a PC with a GALILEO demo license.</p> <p>Purchase a license for the GALILEO design tool on the PC. For information on how to add a license, please refer to the description in the GALILEO online help or manual.</p> <p>Check whether the GALILEO Runtime licenses are shown in Config Tool → Register Licenses. If there is no Runtime license, purchase one; please refer to <a href="#">Adding a license</a>.</p>
	<p>The "Boot failed" error message will appear in the following cases:</p> <ul style="list-style-type: none"> <li>- Obsolete BIN file in InternalStorage\OS folder</li> <li>- InternalStorage\OS folder not found</li> <li>- BIN file not found in InternalStorage\OS folder</li> <li>- StorageCard not found or BIN file not found in StorageCard\OS folder</li> </ul>

## 4.10 Configuring other module settings with command line parameters

	The touchscreen is locked. If you want to unlock the touchscreen, use the following command line command: <code>config touch -enable</code>
Files disappeared	Only certain folders are retained when the device is restarted; please refer to the File Destination chapter.

## 6 XB-393 «Headless/Blind node» – Adaptations and enhancements

With Image Version 3.8.1, the operation of devices without display/touch interface, called "headless/blind node" devices, is supported.

- XB-393-00-C00-...

### 6.1 Startup

The startup behavior is almost the same as for the XV300 devices. However, there are a few additional functionalities.

To simplify the handling of the device, both VNC and FTP servers are started automatically in the following operating states:

- if the device is started in «Detect mode» by pressing the CTRL button
- in case if a failed device startup
- in case of a correct device startup if no file Autoexec.bat is present.

**Note:**  
In regular operation or with a correct device startup with an existing Autoexec.bat, VNC and FTP server are enabled/disabled via the startup behavior in Autoexec.bat.

As a fact that the device does not have a display, the various states are indicated via a status LED. The states are described on the following pages.

Operating and error conditions

Status LED	Operating and error conditions	Remedy
	<b>Switching on the power supply until the signaling of another state</b>	
Orange	Power supply interface has power.	
	<b>While the device is starting with pressed CTRL button</b>	
Green flashing Interval 1000ms/1000ms	«Detect mode» is active.  If the CTRL button is released within 5 seconds, the device temporarily obtains an IP address via DHCP and the status LED switches to orange.  If the CTRL button is not released during the 5 seconds, the device is temporarily assigned a static IP address 192.168.1.1 and the status LED switches to orange.	
	<b>While the device is starting with regular startup</b>	
Off	No power supply voltage.	Check the input wiring.
Orange flashing Interval 1000ms/1000ms	There is no SD card inside the SD slot.	Insert an SD card with the operating system into the SD slot. You can boot the device with the internal operating system by pressing the CTRL button.
Red flashing Interval 1000ms/1000ms	The operating system on the SD card is obsolete or was not found.	Copy a new operating system onto the SD card. You can boot the device with the internal operating system by pressing the CTRL button.
Red	Boot error – No device startup possible. Occurs if: Starting from SD card no valid operating system was found on the SD card and after the subsequent pressing of the CTRL button no valid or no internal operating system was found.	Store a valid operating system on the SD card.  Store a valid operating system in internal memory
Orange	Operating system is loading...	
Green	Operating system is starting...	
Red/Green flashing Intervall 500ms/500ms	Internal operating system is updating... Afterwards, device restart will be done.	
Orange/Red flashing Interval 500ms/500ms	Boot error – However, a device startup was possible. Occurs if: The device could not be started with the operating system which was configured as the boot device.	Store a valid operating system on the boot device.
Orange/Green flashing Interval 500ms/500ms	The device startup was successfully done.  From this point on, the applications (e.g. PLC runtime system) take over the control of the status LED.	

Figure 20: XB-393 – Operating and error conditions

## 6.3

**CTRL button**

The CTRL button found underneath the SD card slot on the touch panel has three different functions:

- 1 If the CTRL button is held down for about 3 seconds while the device is being powered up, the «Detect mode» is activated (Status LED «green flashing»).

The device starts with the operating system file (XV303.bin) directly from the \StorageCard\OS directory regardless of what was defined as the **boot device** in the Config Tool.

If no valid operating system is found (status LED «red flashing»), no device startup is possible.

- 2 If the CTRL button is pressed and held down for about 3 seconds while Windows Embedded Compact 7 is booting up (Immediately after the Status LED switches from «green» to «green/orange flashing»), the [Autoexec.bat](#), [Autoexec.reg](#), and [Autoexec.bmp](#) files will not be run.



Figure 21: CTRL button on the side of the touch panel

## 6.4

## Ethernet

## 6.4.1

## Establishing a connection in «Detect mode»

If the IP address of the device is not known, the device can be started in «Detect mode».

- 1 Powered up the device with the CTRL button pressed and hold it down. As soon as the Status LED flashes green, the «Detect mode». is activated.
  - If the CTRL button is released within another 5 seconds, the device obtains an IP address via DHCP and the Status LED switches to orange.
  - If the CTRL button is not released during the 5 seconds, the device is temporarily assigned a static IP address 192.168.1.1 and the status LED switches to orange.
- 2 Open the remote client on the computer. If the CTRL button was released within the 5 seconds and the device was assigned a DHCP address, click the «Detect» button in the remote client. The device will be searched in the network and after a few seconds the information of the found device will be displayed.
  - Variant a: A DHCP server on the LAN will assigned the device an IP adress.
  - Variant b: A prompt with a suggested IP address will be shown. Once you click on OK, the device will be assigned this IP address.

Condition:

Remote client on computer **version ≥ 3.8.1 (2556)**.

The remote client detect function is based on DHCP and uses ports 67 and 68 (UDP). This means that if these ports are blocked by a firewall, the detect function will not work.

→ There must not be a firewall blocking the DHCP ports.

Please also note that remote client must be whitelisted if a firewall program is being used.

Note:

The IP address assigned to the XB-393 is only temporary. After restarting the device, the IP configuration originally made is active again.

## 6.4.2

### Setting the IP address/IP configuration with an SD card

Condition:  
SD card reader on computer.

The IP address/IP configuration can be set by executing the following command line or by entering the command line in a batch file. If the entry is made in the "autoexec.bat" file, the IP address/IP configuration is set each time the device is restarted.

Snippet from "autoexec.bat":

```
REM *****  
REM Configure the network settings  
REM Config.exe network -enet=1 -dhcp=0  
Config.exe network -enet=1 -ip=192.168.1.1 -mask=255.255.0.0 -gate=0.0.0.0 -  
dns0=0.0.0.0 -dns1=0.0.0.0 -wins0=0.0.0.0 -wins1=0.0.0.0  
REM *****
```

Figure 22: Startup behavior – Snippet from file „autoexec.bat“

## 6.5 **Configuring system settings with Config Tool**

### 6.5.1 **Touch tab**

This tab is not available.

### 6.5.2 **Security feature – Protect access to the device with system password.**

This functionality is not available. If the functionality is nevertheless activated via the command line, it will not be considered when the device is started.

Reason: No password can be entered on the device at the corresponding time.

### 6.5.3 **Admin tab**

This tab is not available. If the functionality is nevertheless activated via the command line, the settings will not be considered.

7

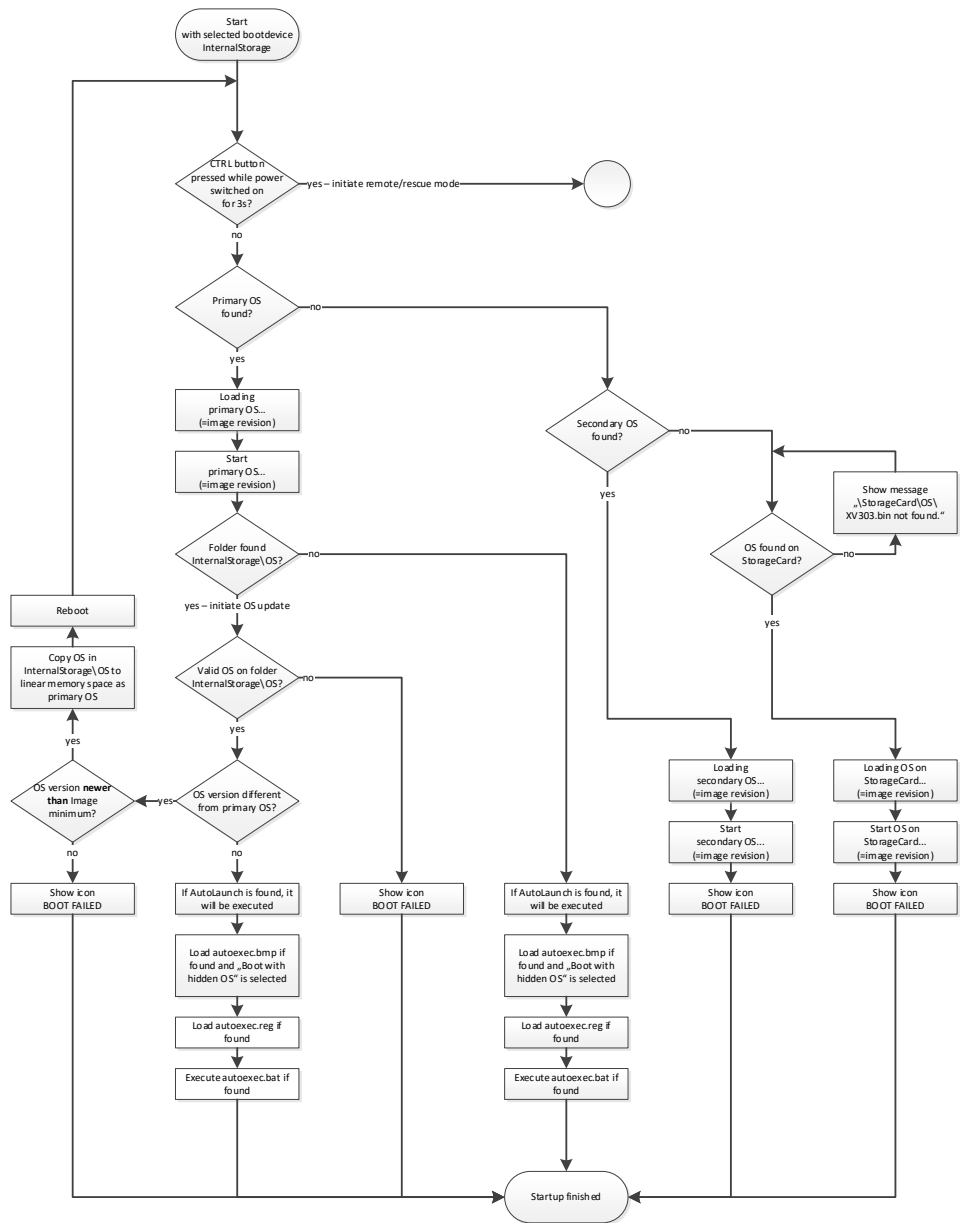
Appendix

7.1

Boot process flowchart XV300

7.1.1

Boot process flowchart – Booting from internal memory (InternalStorage)



2021-09-10 / Lenherr, Daniel

Figure 23: Flowchart – Booting from internal memory

7.1.2

Boot process flowchart – Booting from SD card (StorageCard)

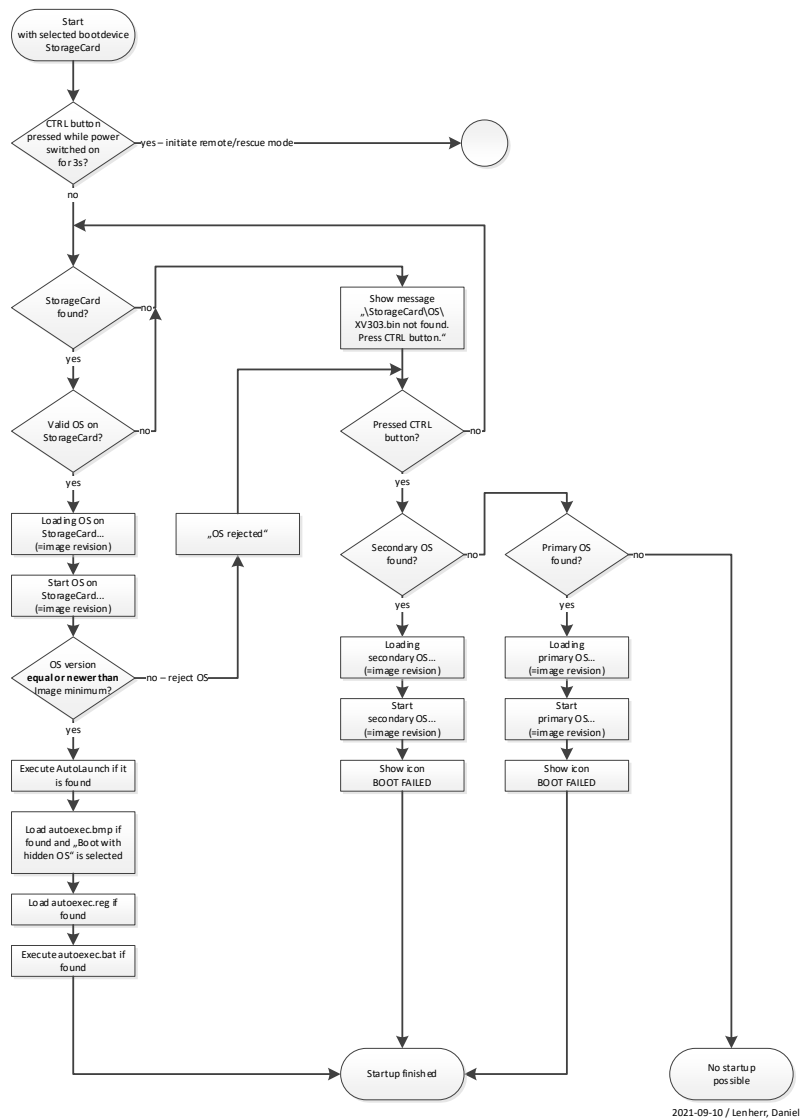


Figure 24: Flowchart – Booting from SD card

7.1.3

Boot process flowchart – Start in «Rescue mode»

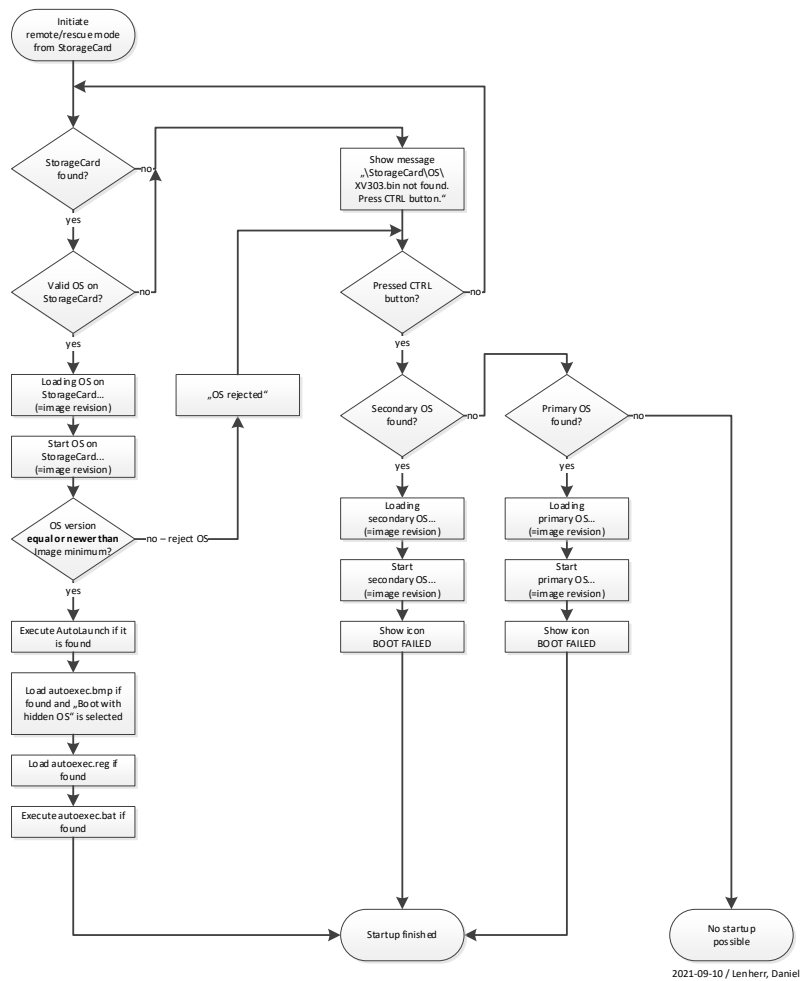


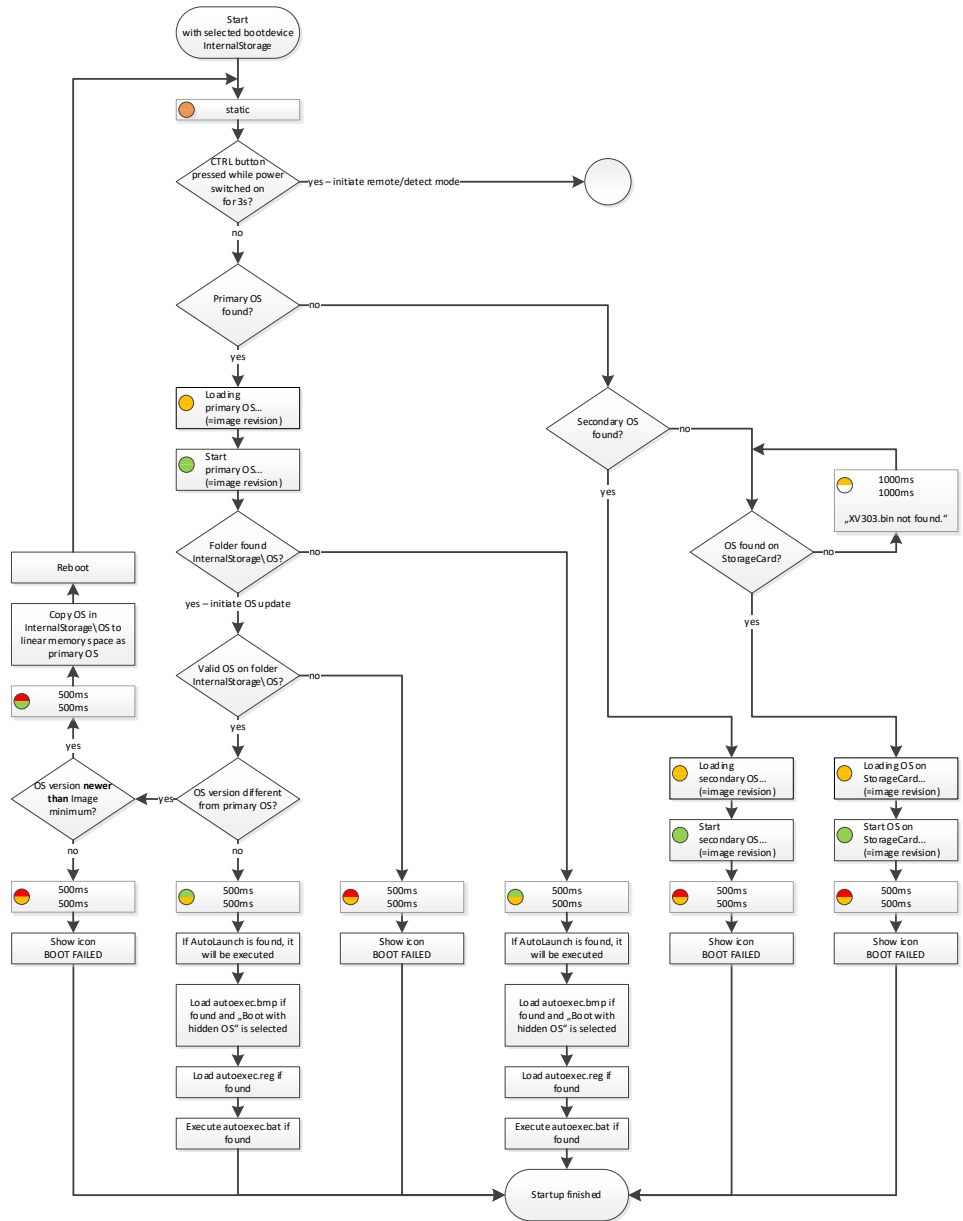
Figure 25: Flowchart – Start in «Rescue mode»

7.2

Boot process flowchart XB-393

7.2.1

Boot process flowchart – Booting from internal memory (InternalStorage)



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Figure 26: Flowchart – Booting from internal memory

7.2.2

Boot process flowchart – Booting from SD card (StorageCard)

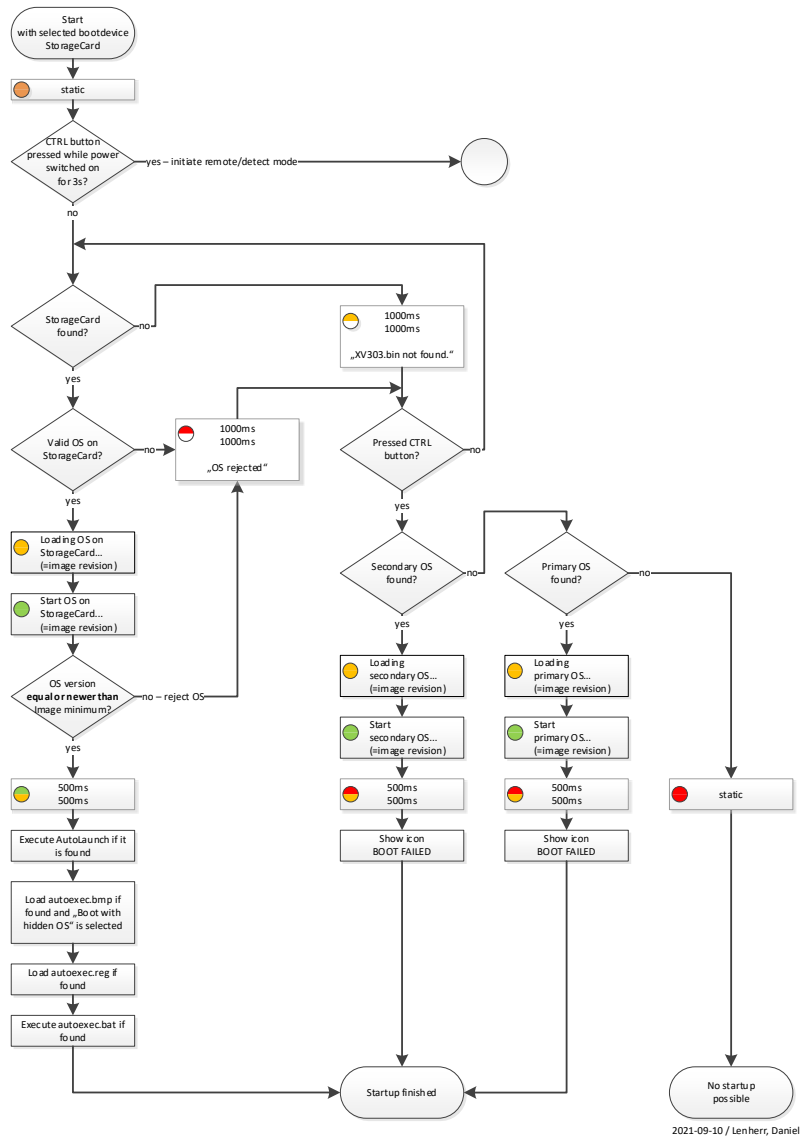
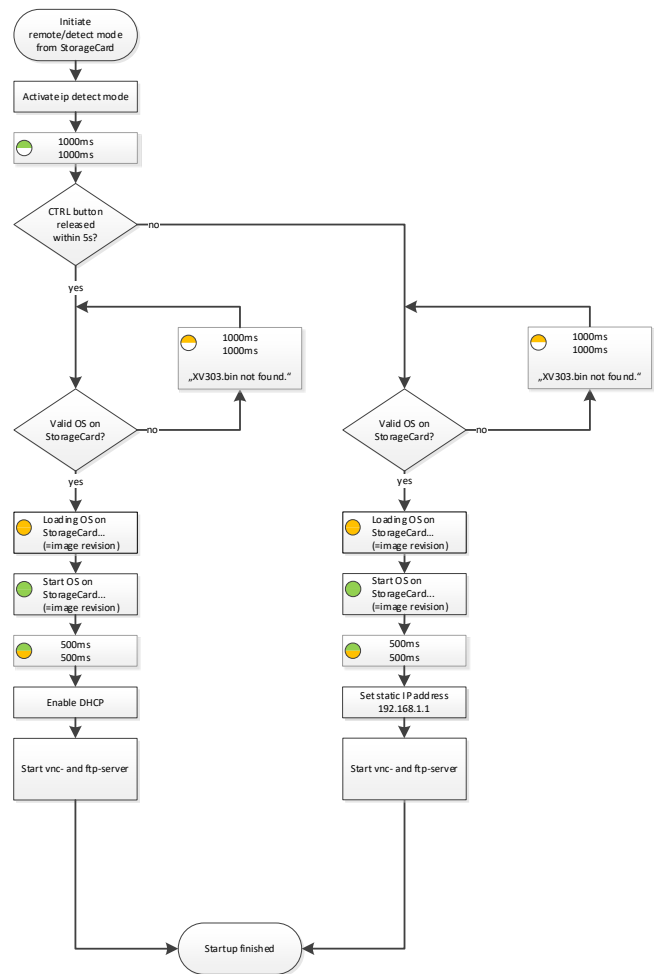


Figure 27: Flowchart – Booting from SD card

7.2.3

Boot process flowchart – Start in «Detect mode»



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Figure 28: Flowchart – Start in «Detect mode»

## 7.3

### Updating the bootloader

The operating system supports the functionality to update the bootloader of the device.

**Note:**

The bootloader is device-specific. The update should only be performed if required and after consulting customer support. Incorrect handling can lead to the device becoming inoperable.

### 7.3.1

#### Bootloader update in «Automatic mode» via system folder "Windows"

For this, the user must deploy the corresponding bootloader to the system folder "Windows" on the device and afterwards initiate the update by executing the corresponding command line command (batch file).

- 1 Start device
- 2 Deploy bootloader file „BootloaderX.X.X.nb0“ to the system folder "Windows" on the device.
- 3 Execute the batch file "RepBootloader.bat" available in the "Windows" system folder
- 4 Confirm dialog with «OK».

After successful update of the bootloader, a device reboot is performed automatically.

**Note:**

Ensure that the power supply is not interrupted during the update process.

## 7.4 Updating the touch firmware

With Image Version 3.8.1, the operating system supports a device-specific functionality to update the touch firmware of the device.

**Note:**

Both the touch firmware and its update option are device-specific and depend on the touch controller used.

If this functionality is supported by the device, the update should only be performed if required and after consulting customer support. Incorrect handling can lead to the device becoming inoperable.

## 7.5 Updating the touch firmware with using command line program „OemTouchCli“

For this, the user must deploy the firmware to a folder on the device and afterwards initiate the update by executing the corresponding command line command.

- 1 Start device
- 2 Deploy touch firmware file to a folder on the device.
- 3 Execute the command line command `oemtouchcli -fwu <"filepath">`

oemtouchcli [option]

Option	Description
-showinfo	Shows the touch information. If the output «fwupdate» is shown in the section «Feature flags» the device supports the update of the touch firmware.
-fwu <"filepath">	Updates the touch firmware. The firmware to be installed is entered with the complete file path (folder and file name).

Example:

```
oemtouchcli -fwu "\\InternalStorage\FT5606-1.bin"
```

**Note:**

Ensure that the power supply is not interrupted during the update process.

7.6

Helper utilities

7.6.1

Command line program OemTouchCli

The **OemTouchCli.exe** program supports touch-specific utility functions. It is a command line program and does not feature a graphical user interface.

oemtouchcli [option]

The following options are available:

Option	Description
-showinfo	Shows the touch information.
-fwu <"filepath">	Updates the touch firmware. The firmware to be installed is entered with the complete file path (folder and file name).
-reset	Resets the touch controller
-lock	Locks the touch functionality (locked)
-unlock	Unlocks the touch functionality (unlocked)
-disable	Disables the touch functionality
-enable	Enables the touch functionality
-dcal	Deletes the touch calibration data. A reset to the factory settings occurs.
-scal <coord>	Manually setting of the touch calibration data (p <sub>1</sub> (x),p <sub>1</sub> (y) p <sub>2</sub> (x),p <sub>2</sub> (y) p <sub>3</sub> (x),p <sub>3</sub> (y) p <sub>4</sub> (x),p <sub>4</sub> (y) p <sub>5</sub> (x),p <sub>5</sub> (y)) Example: oemtouchcli -scal <"8192,4800 3277,1920 3277,7680 13107,7680 13107,1920"> <b>There is no plausibility check!!</b>
-getparams	Gets the touch parameters (Threshold, Gain, Offset, ...)
-gethwcfg [/log <"path">]	Gets the identification (Type, specification) of the configured touch interface (Hardware) /log <"path">: Writes a touch identification specific file. If no path is specified, the file is provided in the folder \$TouchId.
-?	Shows help information concerning the program.
-h	

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