

Touch-it XELO

Operating Instructions

Christ

ELECTRONIC SYSTEMS



Touch-it XELO

- **Touch Interface**
- **Sizes From 7" to 23.8"**
- **Different Housings**
- **Ready For Use Touch Panel PC**

Touch-it XELO

Operating Instructions

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1 General

OVERVIEW

Series

Touch-it XELO

Open Frame

Open Frame glass



Housing

Front Panel

Front Panel glass



Touch

Foil Touch, analog resistive

Projected Capacitive Touch

Sizes (Display)

7" – 23.8"

CPU

AMD® G-T56N™ Dual Core 1.65 GHz 64 Bit
 AMD® GX-415GA™ Quad Core 1.5 GHz 64 Bit
 Intel® Core™ i5-4300U Dual Core 1.9 GHz 64 Bit
 Intel® Core™ i5-7300U

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Series

Touch-it XELO

VESA

VESA glass



Housing

Automation glass

Not available



Touch

Foil Touch, analog resistive

Projected Capacitive Touch

Sizes (Display)

7" – 23.8"

CPU

AMD® G-T56N™ Dual Core 1.65 GHz 64 Bit
 AMD® GX-415GA™ Quad Core 1.5 GHz 64 Bit
 Intel® Core™ i5-4300U Dual Core 1.9 GHz 64 Bit
 Intel® Core™ i5-7300U

SYSTEM

CPU	AMD® G-T56N™ Dual Core 1.65 GHz 64-bit	AMD® GX-415GA Quad Core™ 1.5 GHz 64 Bit, 2 MB Cache
Chipset	AMD A50M	Integrated in APU
Memory	4 GB DDR3	Radeon HD 8330E 500 MHz
Storage	32 GB Solid State Drive 250 GB Hard Disk Drive(optional)	32 GB MLC SSD / 128 GB MLC SSD / 500 GB HDD
BIOS	AMI Plug & Play	AMI BIOS, Supports ACPI Function
Wake on LAN	Yes	
H/W Status Monitoring	Supports power supply voltages and temperature monitoring	
CMOS Battery	Lithium Battery	
Operating System	Microsoft® Windows® Embedded Standard 7 Enterprise / Premium Linux (optional)	Windows® Embedded Standard 7 (WS7P) Windows® Embedded Standard 7 (WS7E) Windows® Embedded 8 Standard Windows® 10 IoT Linux

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CPU	Intel® Core™ i5-4300U Dual Core 1.9 GHz 64 Bit, 3 MB Cache	Intel® Core™ i5-7300U 4 MB SmartCache
Chipset	Integrated in Intel® 4th Generation Core™ i U-series	Integrated in 7th Generation Intel® Core™U-Series Processor
Graphic	Intel® HD Graphics 4400 200 MHz	Intel® HD Graphics 620 300 MHz
Memory	4 / 8 / 16 GB DDR3L	
Storage	32 / 64 / 128 / 256 / 512 GB MLC SSD	
BIOS	AMI BIOS, Supports ACPI Function	
Wake on LAN	Yes	
H/W Status Monitoring	Supports Power Supply Voltages and Temperature Monitoring	
CMOS Battery	Lithium Battery	
Operating System	Windows® Embedded Standard 7 (WS7P) Windows® Embedded Standard 7 (WS7E) Windows® Embedded 8 Standard Windows® 10 IoT Linux	

POWER SUPPLY

Supply Voltage	24 VDC ± 20%
Power Consumption	See specific datasheet
Power Switch	Only VESA and VESA glass housing

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Operating Instructions

MECHANICAL & ENVIRONMENTAL

	Open Frame	Open Frame glass
Housing Front	Without Frame	Without Frame
Housing	Stainless steel or Aluminium	Stainless steel or Aluminium
Cooling	Active	Active
Protection Class	IP20	IP20
Operating Temperature	0 ~ 50 °C	0 ~ 50 °C
	Front Panel	Front Panel glass
Housing Front	Aluminium frame / naturally anodized	Glass, black frame
Housing	Stainless steel or Aluminium	Stainless steel or Aluminium
Cooling	Active	Active
Protection Class	IP20 (IP 65 front)	IP20 (IP 65 front)
Operating Temperature	0 ~ 50 °C	0 ~ 50 °C
	VESA	VESA glass
Housing Front	---	Glass, black frame
Housing	Aluminium / anodized silver, chemically shined or naturally anodized	Aluminium / anodized silver, chemically shined or naturally anodized
Cooling	Passive	Passive
Protection Class	IP20 (IP 65 front)	IP20 (IP 65 front)
Operating Temperature	0 ~ 45 °C (T56N) 0 ~ 50 °C	0 ~ 45 °C (T56N) 0 ~ 50 °C
	Not available	Automation glass
Housing Front		Glass, black frame
Housing		Aluminium / anodized silver, chemically shined or naturally anodized
Cooling		Passive
Protection Class		IP65
Operating Temperature		0 ~ 50 °C
Dimensions	See specific datasheet	
Weight	See specific datasheet	
Storage Temperature	-10 ~ 70 °C	
Humidity	5 ~ 80% (non condensing)	
Certification	CE, EN55032 Class A, EN55035	



CAUTION!

Never cover the Touch-it XELO completely or build it in a small closed and unvented housing.

Touch-it XELO

Operating Instructions

2 Commissioning

2.1 Torque

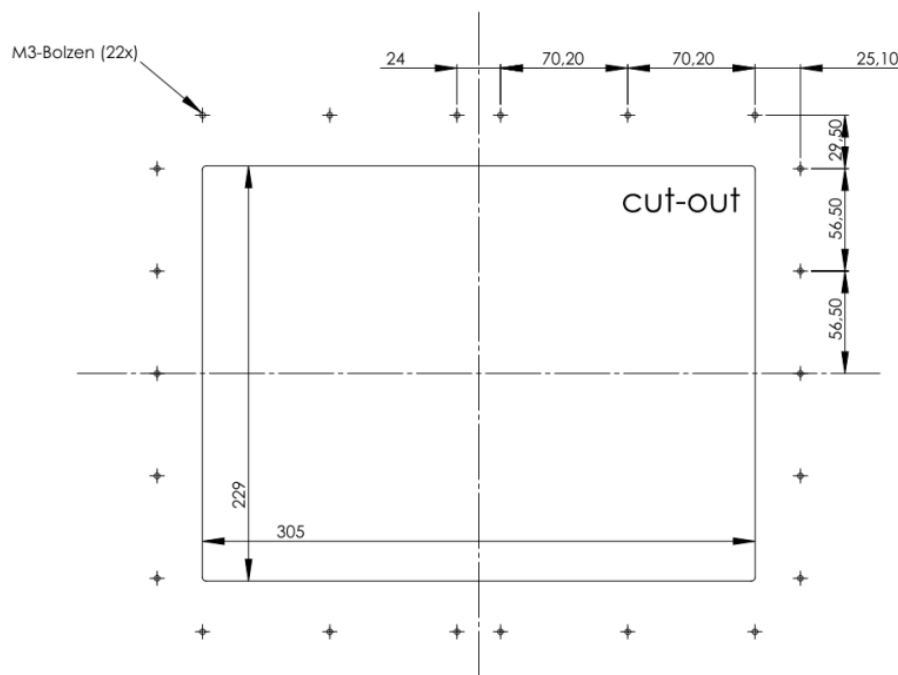
Setscrew Open Frame glass	0.3 Nm
Setscrew Front Panel	0.3 Nm
Setscrew Front Panel glass	0.5 Nm
M3	1.0 Nm
M4	2.3 Nm

2.2 Mounting

2.2.1 Touch-it XELO Open Frame / Open Frame glass

The variant Touch-it XELO Open Frame is designed for customer specific mounting. Each Open Frame Panel has its own cut-out drawing.

For example:



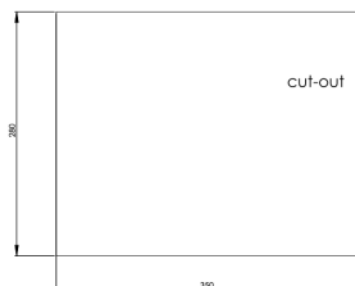
For the appropriated drawing see the specific data sheet.

Touch-it XELO

Operating Instructions

2.2.2 Touch-it XELO Front Panel / Front Panel glass

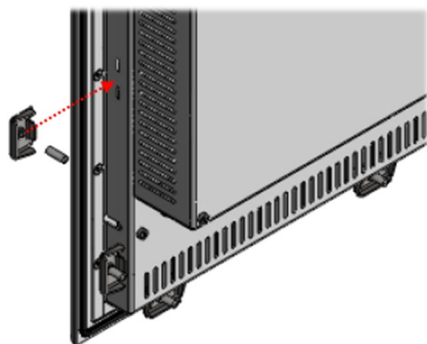
The variant Touch-it XELO Front Panel is designed for front mounting. Each Front Panel has its own cut-out drawing.



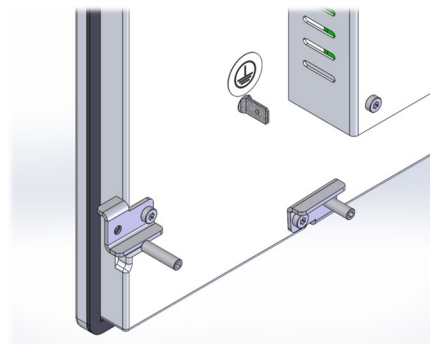
For the appropriated drawing see the specific data sheet.

To clamp the Front Panel into the cut-out you can use the attached fastening clamps (Variant Front Panel) or the mounted fastening clamps (Front Panel glass).

Front Panel



Front Panel glass



CAUTION!

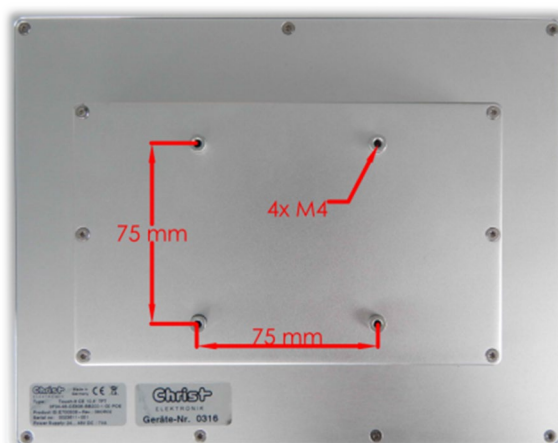
For the best installation result the use of all provided fastening clamps is highly recommended. Depending on individual installation circumstances a new IP rating may be considered.

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2.2.3 Touch-it XELO VESA / VESA glass

The variant Touch-it CE VESA is designed for VESA MIS-D, 75, C mounts. Some panels can also be mounted with VESA MIS-D, 100, C.



Suitable mounting variants are:

VESA Desk Stand



Arm Mounting System VESA-SA75

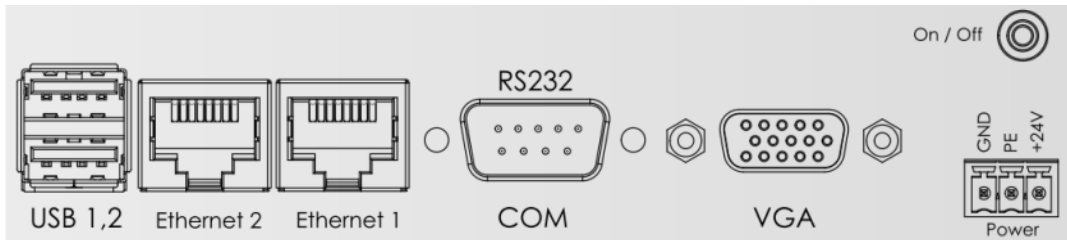


Touch-it XELO

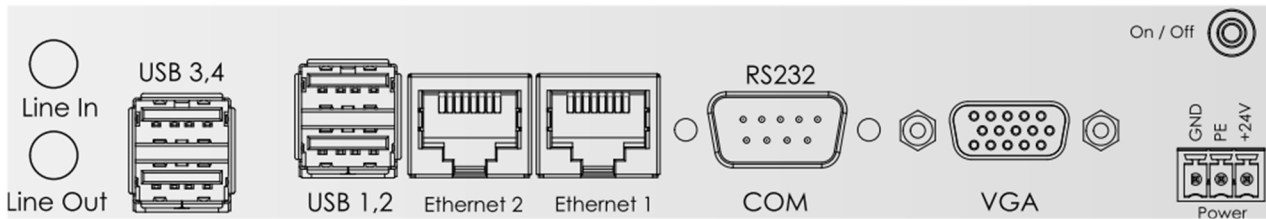
Operating Instructions

2.3 Interfaces Connector Side (CPU T56N)

USB	2 x USB Host (Type A) 4 x USB Host (Type A) (optional)
Ethernet	2 x 1 GB Ethernet
Communication	1 x RS-232
Video	1 x VGA
Audio	Line In, Line Out (optional)
Power Connector	Phoenix



Connector side **Touch-it XELO (CPU N270 / T56N)**



Connector side **Touch-it XELO extended (CPU N270 / T56N)**



On/Off is only included with housing VESA and VESA glass.



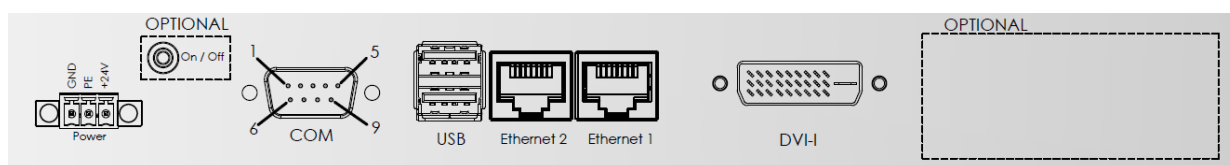
All interfaces are described in the chapter Interfaces.

Touch-it XELO

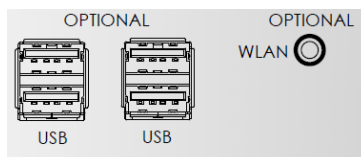
Operating Instructions

2.4 Interfaces Connector Side (CPU GX-415GA / i5-4300U)

USB	2 x USB 3.0 Host (Type A) 2 x USB 2.0 Host (Type A) (optional)
Ethernet	2 x 1 GB Ethernet
Communication	1 x RS-232 or RS-422 or RS-485 (Can be set via BIOS)
Video	1 x DVI
WLAN	1 x 802.11 ac/a/b/g/n 2.4 GHz, 5 GHz, (optional)
Power Connector	Phoenix



Connector side **Touch-it XELO (CPU GX-415GA / i5-4300U)**



Connector side **Optional (CPU GX-415GA / i5-4300U)**



On/Off is only included with housing VESA and VESA glass.



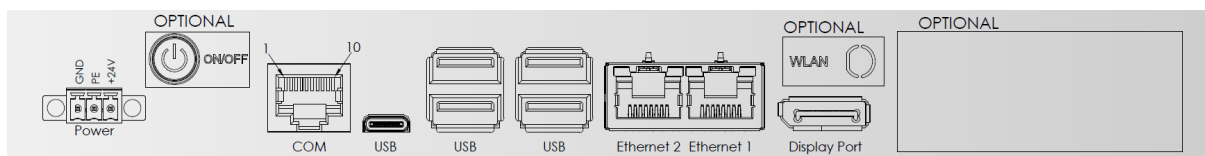
All interfaces are described in the chapter Interfaces.

Touch-it XELO

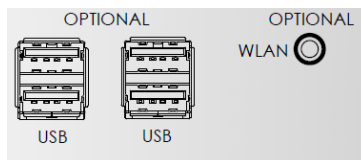
Operating Instructions

2.5 Interfaces Connector Side (CPU i5-7300U)

USB	4 x USB Host 3.0 (Type A) 1 x USB Host 3.1 (Type C)
Ethernet	2 x 1 Gbit Ethernet (Intel I219LM + I211AT)
Communication	1 x RS-232 / RS422 / RS-485 (BIOS setting) (RJ50 10P10C)
Video	1 x DisplayPort
WLAN	1 x 802.11 ac/a/b/g/n 2.4 GHz, 5 GHz, (optional)
Power Connector	Phoenix



Connector side **Touch-it XELO (CPU i5-7300U)**



Connector side **Optional (CPU i6-4300U)**



On/Off is only included with housing VESA and VESA glass.



All interfaces are described in the chapter Interfaces.

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Operating Instructions

2.6 Extension Connector (additional Interfaces)

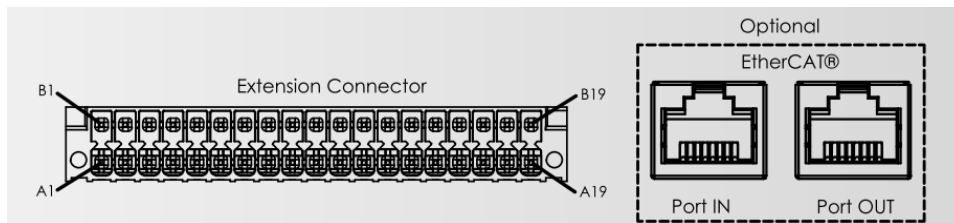
Extension Connector

1 x Emergency Stop

8 x Individual Selectable Buttons / Switches / LEDs

EtherCAT

1 x EtherCAT® Slave (Buttons / Switches / LEDs)



Additional connector side **Touch-it XELO Automation**

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3 Software

3.1 American Megatrends, Inc. (AMI) BIOS

AMI BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

Entering Setup

Power on the computer and press "Del" or "F2" immediately. This will allow you to enter Setup.

Main

Set the date.

Advanced

Advanced BIOS Features Setup including COM setting, ACPI, etc.

Chipset

Host bridge parameters.

Boot

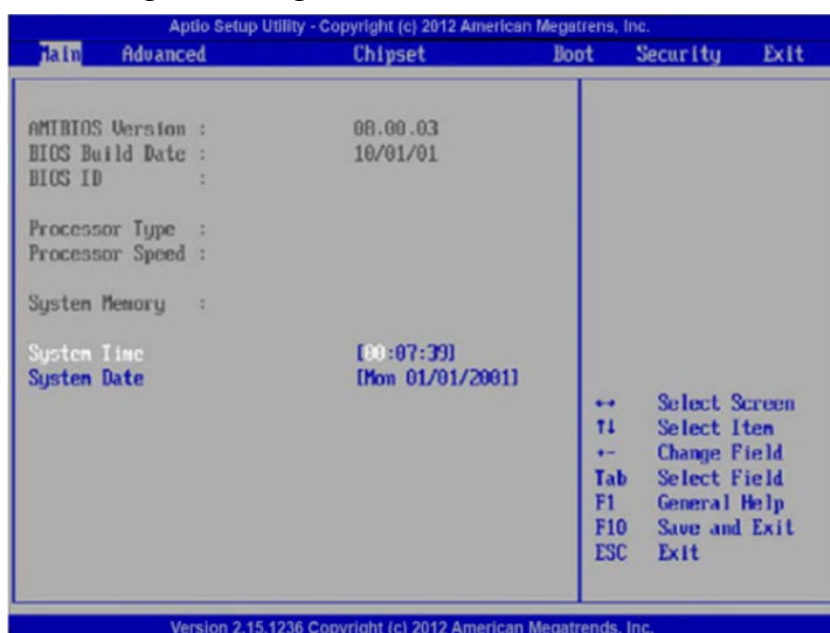
Boot option.

Security

Set setup administrator password.

Save&Exit

Exit system setup after saving the changes.



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Operating Instructions

3.1.1 Changing Display Resolution

3.1.1.1 CPU T56N

In the BIOS Setup mode choose the **Chipset** Menu select **North Bridge** and then **Graphics Configuration**.

Set the **LVDS2 Panel Type**

Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.1.2 CPU GX-415GA

To change the display resolution the following settings must be done.
In the BIOS Setup mode choose the **Chipset** Menu select **LVDS Panel Config Select**.

Set the **LVDS Panel Config Select**.

Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.1.3 CPU i5-4300U

To change the display resolution the following settings must be done.
In the BIOS Setup mode choose the **Chipset** Menu select **System Agent (SA) Configuration -> Graphics Configuration -> LCD Control**.

Set the **LCD Panel Type**.

Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.1.4 CPU i5-7300U

To change the display resolution the following settings must be done.
In the BIOS Setup mode choose the **Advanced** Menu select **LVDS(eDP/DP) Configuration**.

Set the **LCD Panel Type**.

Save this configuration by pressing "F4" and selecting "Yes" afterwards.

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3.1.2 Changing Boot Priority

3.1.2.1 T45N

In order to boot from a USB Drive the following settings must be done.

In the BIOS Setup mode choose the **Boot** Menu and select **Hard Drive BBS Priorities**.

Set the **Boot Option #1** in such a way that the USB Device is first position in the boot list, by pressing "Enter" and select the USB Device using the Page-Up/Down Keys.

Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.2.2 CPU GX-415GA / i5-4300U

In order to boot from a USB Drive the following settings must be done.

In the BIOS Setup mode choose the **Boot** Menu and select **Hard Drive BBS Priorities**.

Set the **Boot Option #1** to the USB Device, by pressing "Enter" and select the USB Device. Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.2.3 CPU i5-7300U

In order to boot from a USB Drive the following settings must be done.

In the BIOS Setup mode choose the **Boot** Menu.

Set the **Boot Option #1** to the USB Device, by pressing "Enter" and select the USB Device. Save this configuration by pressing "F4" and selecting "Yes" afterwards.

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Operating Instructions

3.1.3 Changing COM Port

3.1.3.1 CPU GX-415GA

To change the COM Port to RS-422 / RS-485 / RS-232 the following settings must be done. In the BIOS Setup mode choose the **Advanced** Menu select **F81866 Super IO Configuration**.

Select **Serial Port0 Configuration** and be sure that **Serial Port [Enabled]** is set. Set the **Mode Select** to your favourite interface. Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.3.2 CPU i5-4300U

To change the COM Port to RS-422 / RS-485 / RS-232 the following settings must be done. In the BIOS Setup mode choose the **Advanced** Menu select **NCT6102D Super IO Configuration**.

Select **Serial Port0 Configuration** and be sure that **Serial Port [Enabled]** is set. Set the **Mode Select** to your favourite interface. Save this configuration by pressing "F4" and selecting "Yes" afterwards.

3.1.3.3 CPU i5-7300U

To change the COM Port to RS-422 / RS-485 / RS-232 the following settings must be done. In the BIOS Setup mode choose the **Advanced** Menu select **Fintek Super IO Configuration** and then **Serial Port1 Configuration**.

Set the **Device Mode** to your favourite interface. Save this configuration by pressing "F4" and selecting "Yes" afterwards.

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3.2 Redo Backup and Recovery

3.2.1 Generate bootable Redo Backup and Recovery USB stick

There are two ways to create a Redo USB Drive with VMWare or directly booting a LiveCD.

VMWare:

- Christ Electronic Systems GmbH created a complete VMWare Virtual Machine running Redo V1.0.3
- Download and Install VMWare Player 5.0 or higher
- Download the VMWare Image (Redo 1.0.3.zip) from our SFTP in \out\Redo Images\ (See chapter 3.5)

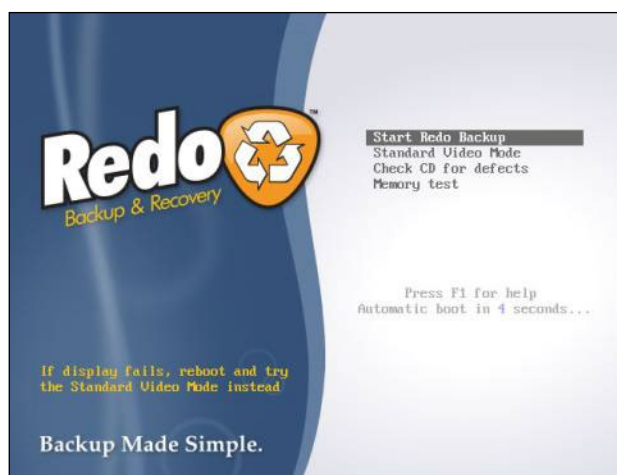


Touch-it XELO

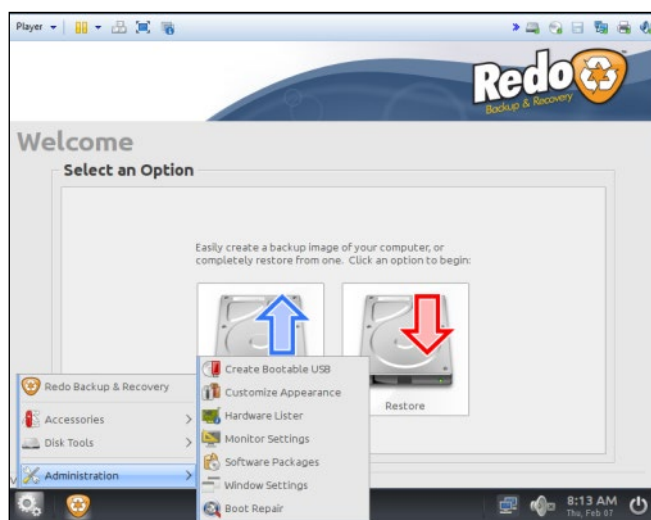
Operating Instructions

LiveCD:

- Download the Redo Backup live CD Image version 1.0.3 (don't use version 1.0.4 or newer) <http://sourceforge.net/projects/redobackup/files/redobackup-livecd-1.0.3.iso/download>
- Burn the image to a CD
You'll need to burn the ISO disc image using a CD burning program.
- Change the Bios Settings of your PC to boot from the CD-ROM Drive.
- Start Redo Backup from CD and wait a few minutes.



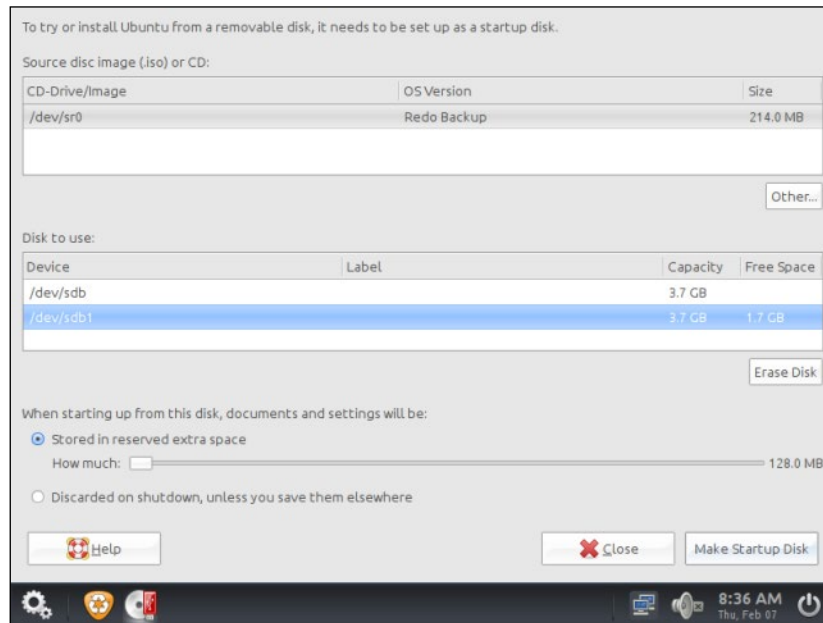
- Plug in a 4GB or greater USB Stick and choose Administration -> Create Bootable USB.



- Choose the Disk to use, press Make Startup Disk and wait a few minutes.

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3.2.2 Restoring an Image with Redo Backup and Recovery

If you have a Touch-it XELO Image Backup, copy the folder and files to the root directory of the Redo USB Drive. (See Chapter Software->Redo Backup and Recovery)

- Plug in an USB Keyboard and the Redo USB Drive directly to the Touch-it XELO port without using a USB Hub.
- Enter the BIOS Setup and set the following BIOS Settings:
(See Chapter Software -> Award BIOS Setup or Software -> American Megatrends BIOS Setup)
 - I. Set the Hard Disk Boot Priority to your USB connected Drive
 - II. Set the internal LVDS to 1024x768 (18bit)
 - III. Save the changes and reboot your System

Start Redo Backup and wait a few minutes (If no display appears, connect an external Monitor to the VGA Port.

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- Choose the Menu Restore.



- Step 1: Select the Source Drive where Redo Backup is on, normally it should be Drive 2/3 and click next.
- Step 2: Select the Backup Image Directory, click Open and then Next.
- Step 3: Select the Destination Drive normally it should be Drive 1, click Next and Yes to overwrite data on this drive.
- After 5-10 minutes depending on the image size the restoring should be complete.

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3.3 Generate an USB drive for BIOS update

3.3.1 List of needed files

MS-DOS Files for creating the bootable USB drive:

- COMMAND.COM
- IO.SYS
- MSDOS.SYS

USB Stick Format Tool:

- HPUSBFW_v2.2.3.exe

AMI BIOS Update Files:

- V00C9MXX.rom
- go.bat
- AFUDOS.exe

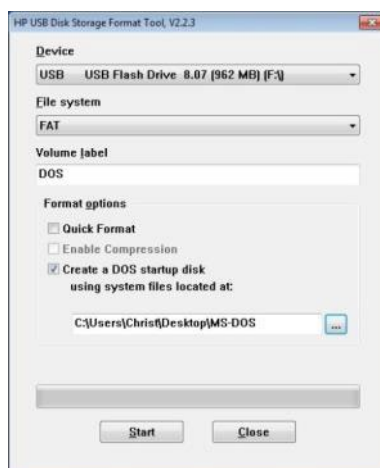


INFORMATION!

The needed files you can get from Christ Electronic Systems.

3.3.2 Format the USB Stick and make it bootable

- Start the "HP USB Disk Storage Format Tool" by running the File "HPUSBFW_v2.2.3.exe" on the Development / Desktop PC as Administrator.
- Configure the Tool as seen on the picture below



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3.3.3 Copy the BIOS Update Files

Copy the BIOS Update Files to the recently created USB Drive

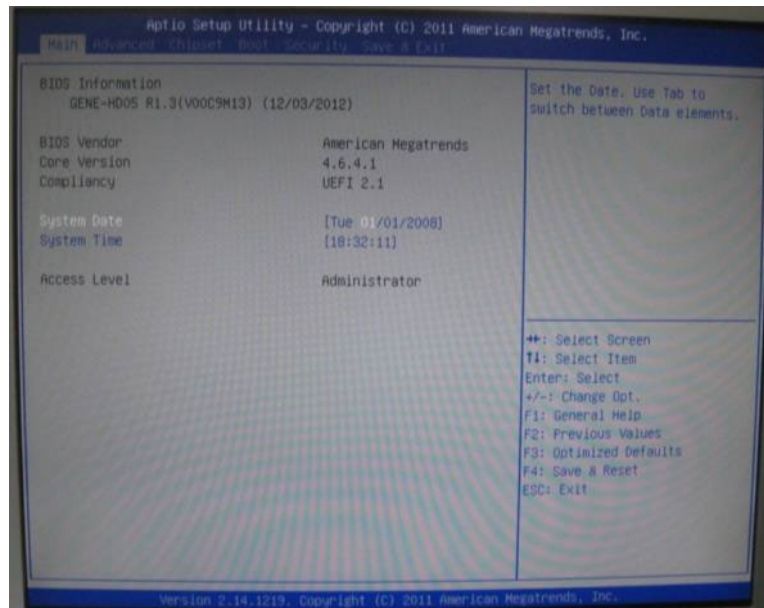
- V00C9MXX.rom,
- go.bat and AFUDOS.exe

3.3.4 Configure the BIOS settings

Plug in a USB Keyboard and the bootable USB Drive to the Touch-It XELO

Enter the BIOS Setup by pressing "Delete"

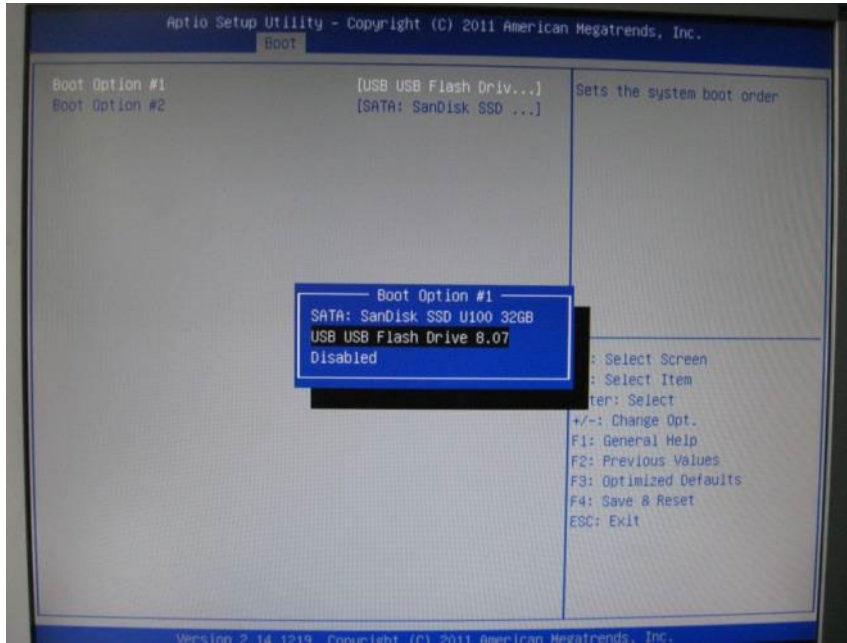
Following screen will appear on the monitor/display



Enter the Bios menu and set the Hard Disk Boot Priority to your USB connected Drive.
(See Chapter Software → Award BIOS Setup or Software → American Megatrends BIOS Setup)

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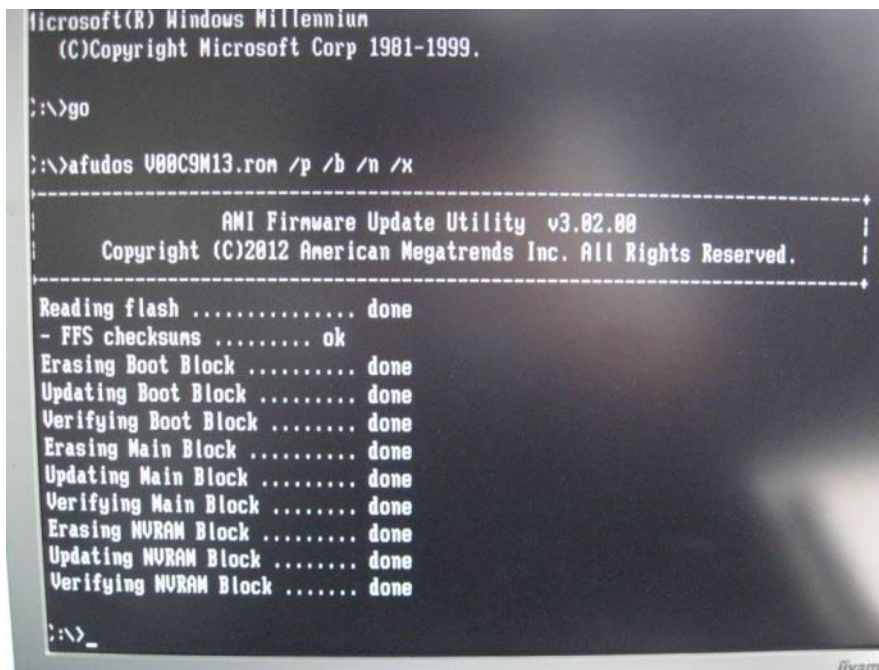
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Press "F4" + "Enter" and the Touch Panel will reboot.

3.3.5 Update the BIOS

Run go.bat in the MS-DOS command console, wait until done and reboot.



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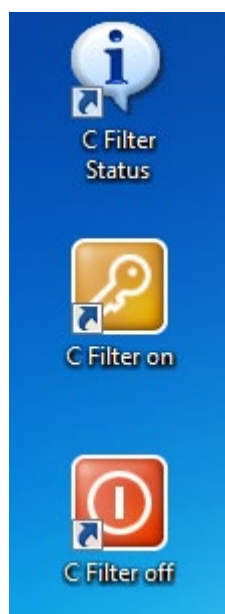
3.4 Enhanced Write Filter EWF

Windows XP, Windows 7 or Windows 8 embedded operating systems are delivered by default with EWF protection from Christ Electronic Systems. This so called Enhanced Write Filter prevents write accesses to a protected drive (SSD/HDD) and therefore unintentional system changes (blue screens, viruses, user errors, etc.).

- The "C" system partition is EWF protected by default
- The "D" data partition is not EWF protected by default
- Advantage: clean, fast system without viruses and blue screens

3.4.1 Enable or Disable the EWF Filter

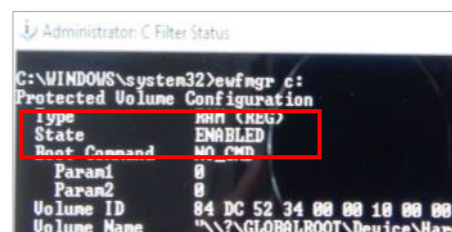
On the desktop of your Touch-it Panel PC you will find three icons for the Enhanced Write Filter control.



"C Filter Status":

View information about the EWF drive

Delivery state: Enabled →



"C Filter On":

Write protection for partition C:

Turn on, effective only after restarting the touch panel

"C Filter Off":

Write protection for partition C:

Turn off, changes are immediately accepted

Touch-it XELO

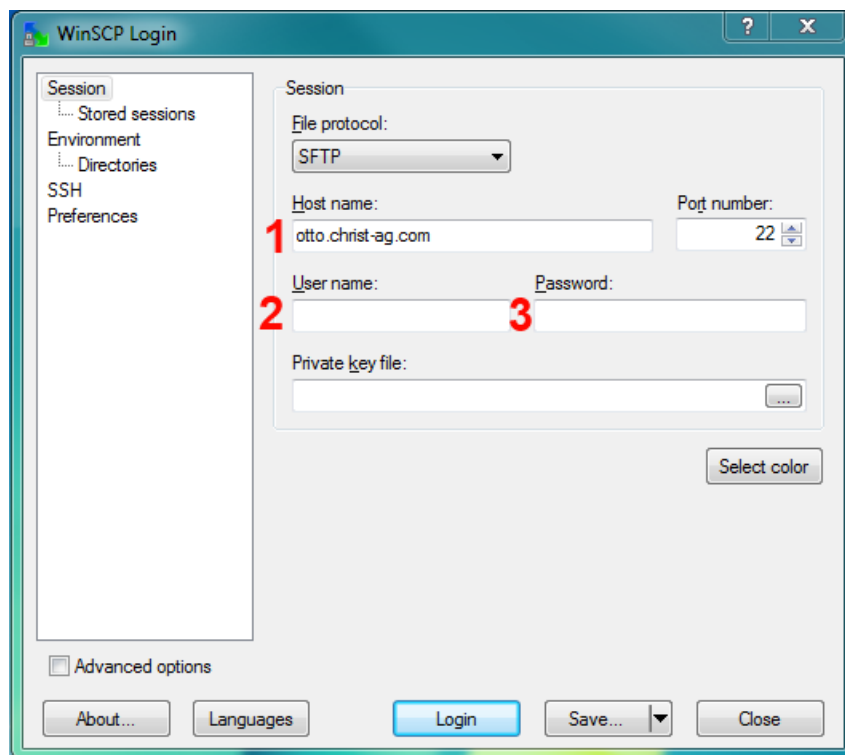
Operating Instructions

3.5 SFTP Server

Christ Electronic Systems ist equipped with a SFTP server.

SFTP is tunneled with the SSH Protocol (Port 22). A special Client is necessary to get access. Use the WinSCP (<http://www.winscp.net>) or something similar.

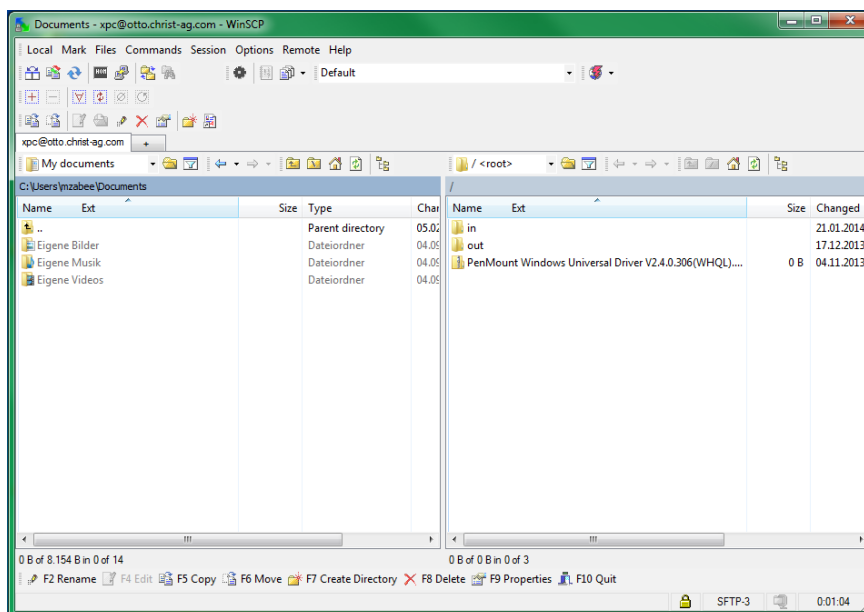
Download, install and start the WinSCP Client.



- (1) Servername („otto.christ-ag.com“)
- (2) Username (get it from Christ Electronic Systems)
- (3) Password (get it from Christ Electronic Systems)
- (4) Click on “Login”

Touch-it XELO

Operating Instructions



The left window show you the local drives.
The right window show you the SFTP drives.

Per Drag & Drop you can copy the files.

Structure:

“in” – Files from extern to Christ Electronic Systems
->write acces for both sides.

“out” – Files from Christ Electronic Systems to extern
->write acces for Christ Electronic Systems only

Touch-it XELO

Operating Instructions

3.6 Hi-Safe (CPU N270 / T56N)

The tool Hi-Safe provides features over the current system.

You can get the installation file from Christ Electronic Systems.



1. **System Information:** Show the information of CPU, VGA and RAM.



2. **H/W Monitor:** Show the information in the Super IO. Get the speed of fan, temperature and voltage.



Touch-it XELO

Operating Instructions

3. **Dio:** Through the application, obtain the Digital IO information. It can be set for the pin's direction (input or output) and accessed for set/read pin's data (low or high), upon the direction of pin configured. (The standard Touch-it XELO has no DIO's)



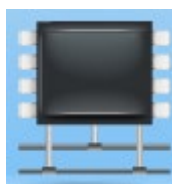
4. **Watchdog:** Set the countdown time of system reboot when timeout happens. The time mode is the second or minute. The count value is from 0 to 255.



5. **Smart Fan:** Show the Speed of fan and associated Temperature. It also can control the fan speed corresponding to temperature. (only by Touch-it XELO with fan possible)



6. **Smbus:** Get data of device connected to Smbus (I2C). It can automatically detect the base address of Smbus.



7. **Backlight Controller:** It has two modes. One is Inverter mode through Smbus, and the other is PWM mode. It can control the brightness of LVDS interface LCD panel. (Function is not available at all panels)



Touch-it XELO

Operating Instructions

3.7 Observer (CPU GX-415GA / i5-4300U)

The tool Observer provides features over the current system.

1. Operating System



Shows information about the current Operating System.

2. Voltage0



Shows information about the current system voltages.

3. Temperature and Fan Speed



Shows information about the temperature and fan speed.

Touch-it XELO

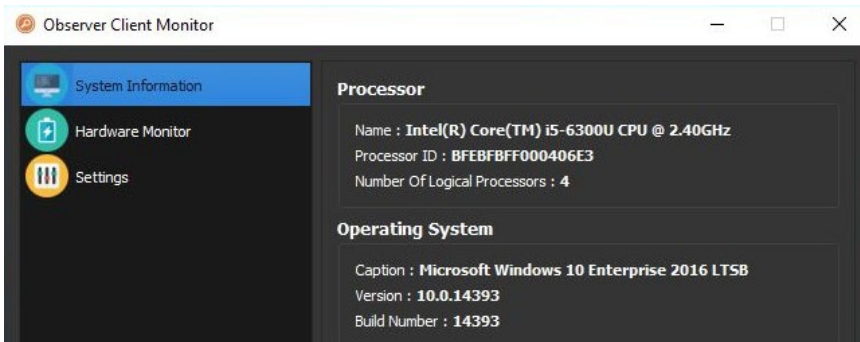
Operating Instructions

3.8 Observer (CPU i5-7300U)

The tool Observer provides features over the current system.

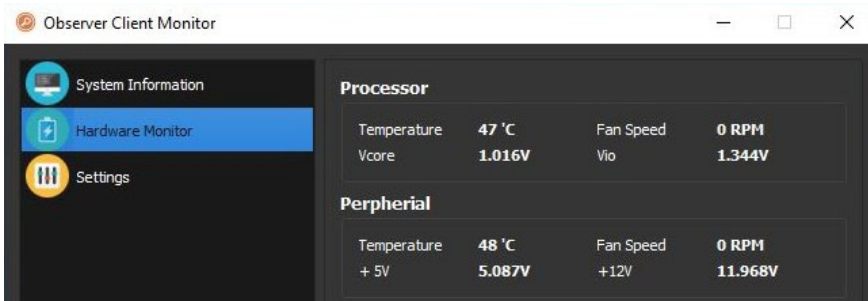
1. System Information

Shows information about the Processor and the current Operating System



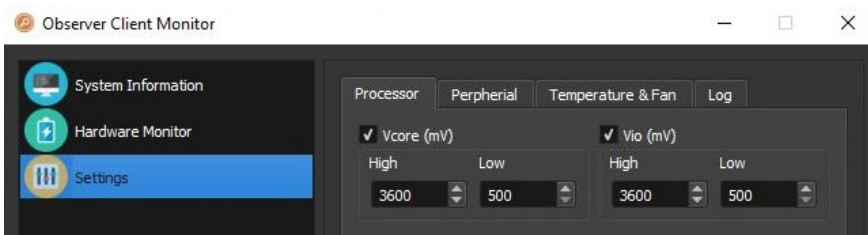
2. Hardware Monitor

Shows information about the current system voltage, temperature and fan speed.



3. Settings

Watch the hardware monitor and log the out of range values.



Touch-it XELO

Operating Instructions

4 Touch Calibration

4.1 Projected Capacitive Touch

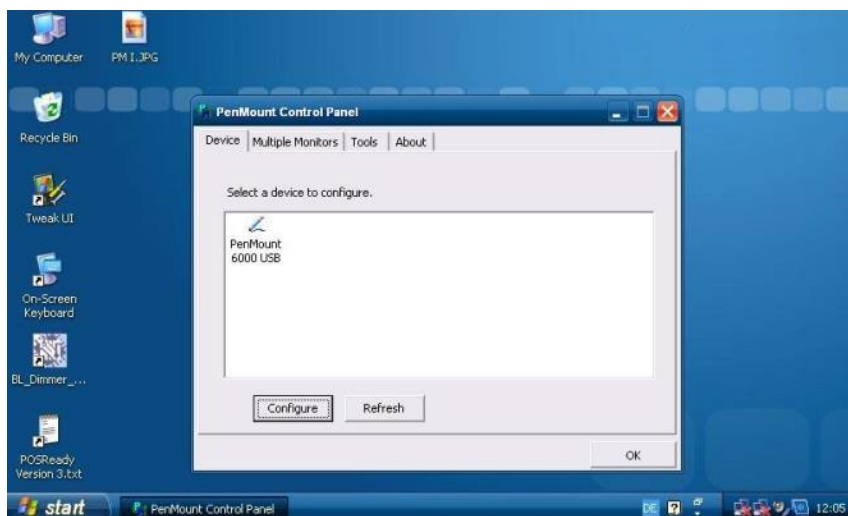
There is no need to calibrate the projected capacitive touch.

4.2 Foil-/Glass-Touch analog resistive

1. Click on [Start] [All Programs] [Pen Mount Universal Driver] [Pen Mount Control Panel]



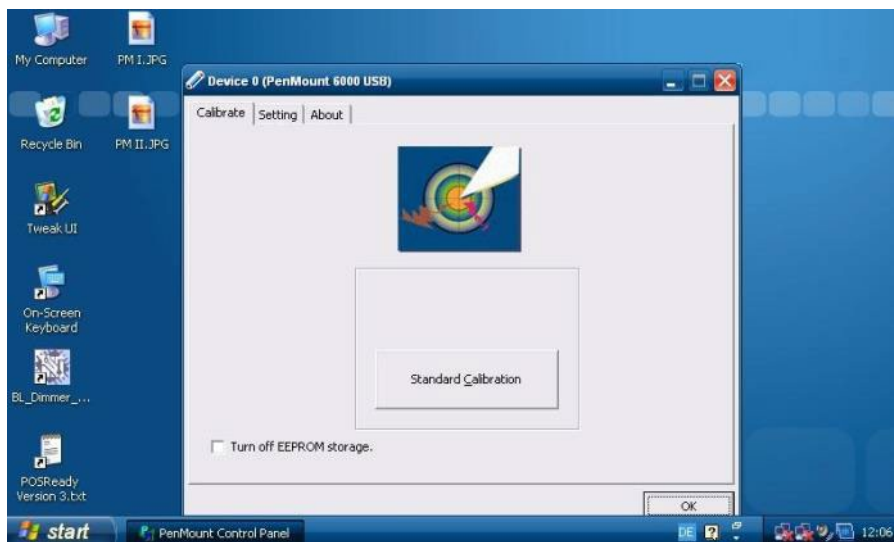
2. Click on [Pen Mount 6000 USB]



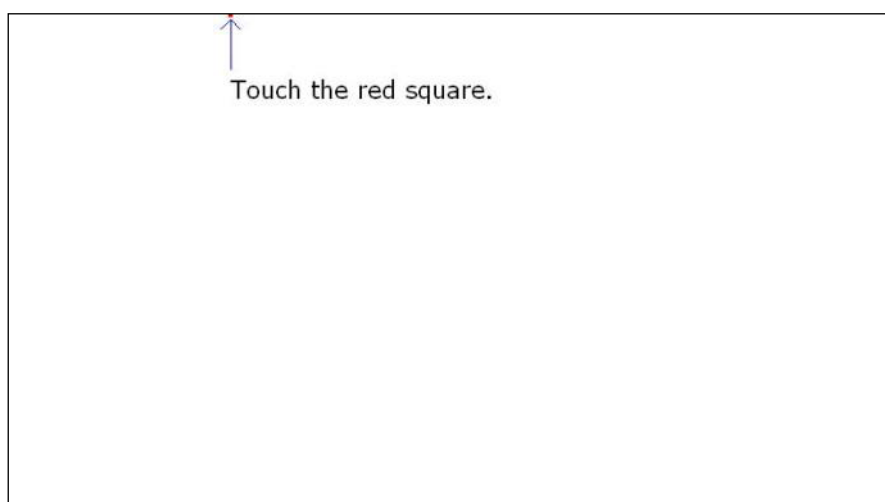
Touch-it XELO

Operating Instructions

3. Click on [Standard Calibration]



4. Pressing the [Standard Calibration] button on the main window activates the calibration screen to carry out calibration of the Touch-it Panel PC. Briefly touch the center of the red square splayed on the screen in order as they appear. Once calibration is carried out, the calibrated value is saved. Since the calibrated value is read from the setting file at the time of the next start up, there is no need to carry out calibration again.

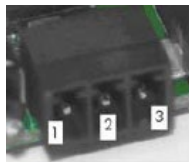


Touch-it XELO

Operating Instructions

5 Interfaces

5.1 Power Supply Connector



**Mating
Connector**

Phoenix Connector MC 1.5/3-ST-3.5
or
Phoenix Connector MC 1,5/3-STF-3.5
(only screwable versions)

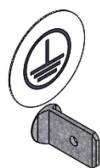
Pin	Function	Description
1	GND	Power Supply GND
2	PE	PE
3	VCC	Power Supply VCC



CAUTION!

A proper earth connection of the device is necessary to dissipate interference from external power supply, signal or peripheral equipment cables. You have to connect earth on the Power Supply Connector.

5.2 Grounding Bolt (if available)



**Mating
Connector**

Cable lug 6.3mm



CAUTION!

A proper earth connection of the device is necessary to dissipate interference from external power supply, signal or peripheral equipment cables. To improve the low-impedance connection you have to connect earth additional to the Grounding Bolt.

Touch-it XELO

Operating Instructions

5.3 USB 2.0 Type A Connector



Type

Double USB Type A

Pin	Function	Description
1	VBUS	USB VCC
2	D-	USB Data-
3	D+	USB Data+
4	GND	USB GND

5.4 USB 3.0 Type A Connector



Type

Double USB 3.0 Type A

Pin	Function	Description
1	VBUS	USB VCC
2	D-	USB Data-
3	D+	USB Data+
4	GND	USB GND
5	StdA_SSRX-	SuperSpeed transmitter differential pair
6	StdA_SSRX+	SuperSpeed transmitter differential pair
7	GND_DRAIN	Ground for signal return
8	StdA_SSTX-	SuperSpeed receiver differential pair
9	StdA_SSTX+	SuperSpeed receiver differential pair

Touch-it XELO

Operating Instructions

5.5 USB 3.1 Type C Connector



Type

USB 3.1 Type C

The USB 3.1 Type C interface is equal with the standard USB 3.1 Type C pin assignment.

5.6 COM Connector



Type

D-SUB ST 09

Pin	RS-232		RS-485		RS-422	
	Function	Description	Function	Description	Function	Description
1	DCD	Data Carrier Detect	DATA-	Data differential pair A	Rx+	Receiver differential pair +
2	RX	Receive Data	DATA+	Data differential pair B	Rx-	Receiver differential pair -
3	TX	Transmit Data	n.c.		Tx+	Transmitter differential pair+
4	DTR	Data Terminal Ready	n.c.		Tx-	Transmitter differential pair-
5	GND	Ground	GND	Ground	GND	Ground
6	DSR	Data Set Ready	n.c.		n.c.	
7	RTS	Request to Send	n.c.		n.c.	
8	CTS	Clear to Send	n.c.		n.c.	
9	RI	Ring Indicator	n.c.		n.c.	



INFORMATION!

RS-485 / RS- 422 only with CPU GX-415GA and i5-4300U

Touch-it XELO

Operating Instructions

5.7 COM Connector (CPU i5-7300U)

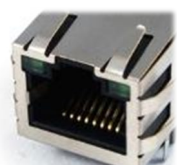


**Mating
Con-
nector**

RJ50 10P10C

Pin	RS-232		RS-485		RS-422	
	Function	Description	Function	Description	Function	Description
1	DSR	Data Set Ready	n.c.		n.c.	
2	GND	Ground	GND	Ground	GND	Ground
3	GND	Ground	GND	Ground	GND	Ground
4	TX	Transmit Data	n.c.		Rx+	Receiver differential pair +
5	RX	Receive Data	DATA+	Data differential pair B	Tx+	Transmitter differential pair+
6	DCD	Data Carrier Detect	DATA-	Data differential pair A	Tx-	Transmitter differential pair-
7	DTR	Data Terminal Ready	n.c.		Rx-	Receiver differential pair -
8	CTS	Clear to Send	n.c.		n.c.	
9	RTS	Request to Send	n.c.		n.c.	
10	RI	Ring Indicator	n.c.		n.c.	

5.8 Ethernet Connector



Type 1 Gigabit Ethernet RJ45 Tab-up with LED

Pin	Function	Description
1	D1+	Transmit Data+
2	D1-	Transmit Data -
3	D2+	Receive Data +
4	D3+	Bidirectional+
5	D3-	Bidirectional-
6	D2-	Receive Data -
7	D4+	Bidirectional+
8	D4-	Bidirectional-

Touch-it XELO

Operating Instructions

5.9 VGA Connector



Type

VGA Connector

The VGA interface is equal with the standard VGA pin assignment.

5.10 DVI-I Connector



Type

DVI-I Connector

The DVI-I interface is equal with the standard DVI pin assignment.

5.11 DisplayPort Connector



Type

DisplayPort Connector

The DisplayPort interface is equal with the standard DisplayPort pin assignment.

Touch-it XELO

Operating Instructions

5.12 Line In / Line Out



Line In

Type

SJD-3512-33

Line Out

Line In

Pin	Function	Description
1	Line In L	Audio In Left
2	Line In R	Audio In Right
3	GND	Ground

Line Out

Pin	Function	Description
1	Line Out L	Audio Out Left
2	Lin Out R	Audio Out Right
3	GND	Ground



5.13 Extension Connector



**Mating
Con-
nector**

Phoenix Connector
DFMC 1,5/19-ST-3,5-LR

The Pinout is device specific. Please see the specific datasheet for more information.

Touch-it XELO

Operating Instructions

6 Pointers

6.1 Used symbols

Symbols

The following symbols are used in this instruction manual:



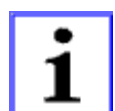
DANGER!

Denotes a direct threat of danger. Not observing this pointer may be life threatening or lead to serious injuries.



CAUTION!

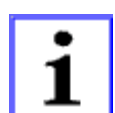
Denotes a possibly dangerous situation. Not observing this pointer can cause minor injuries or lead to material damages.



INFORMATION!

Denotes application pointers and other useful information.

6.2 General pointers



INFORMATION!

This device was manufactured according to DIN EN ISO 9001 and left the factory in a perfect state.

In order to maintain this state and to assure the safe operation, the user must consider the pointers and warning remarks, which are contained in this instruction manual.



INFORMATION!

Displays may contain defect pixels from the manufacturing process. These lacks aren't reasons for a warranty.

Touch-it XELO

Operating Instructions

6.3 Safety pointers

**DANGER!**

In the case of damage of the device, shut it down and disconnect it immediately from the supply voltage.

Disconnect every connection line and send it back to Christ Electronic Systems GmbH.

**DANGER!**

Avoid any penetration of liquid or dust.
Do not expose the device to humidity for a long time!

**DANGER!**

Danger of explosion when the battery is replaced with the wrong type. Replace the battery only with a Lithium battery with the same or equivalent type. Contact Christ Electronic Systems for suitable battery types.

**Intended Use**

These products are **not** designed, developed and produced for use, which pose fatal risks and dangers that may cause death, injuries, serious physical impairments or other loss, if no exceptional security measures are ensured. Thus there are limitations for use in the monitoring of nuclear reactions in nuclear power plants, flight control systems, air traffic control, in the control of mass transportation, medical life support systems and control of weapon systems.

Touch-it XELO

Operating Instructions

**CAUTION!**

If the device is used for other purposes or incorrectly operated, Christ Electronic Systems GmbH will not hold damages liable.

Do not operate the touch-sensitive surface of the screen with any abrasive or sharp-edged objects.

Protect the Touch-it Panel PC against caustic chemicals and long solar radiation.

**CAUTION!**

Never cover the Touch-it Panel PC completely or build it in a small closed and unvented housing.

**CAUTION!**

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

**CAUTION!**

High quality shielded interface cables, if any, must be used in order to comply with the emission limits.

**CAUTION!**

A proper earth connection of the device is necessary to dissipate interference from external power supply, signal or peripheral equipment cables. See Chapter Interfaces for more information.

Touch-it XELO

Operating Instructions



INFORMATION!

Please check immediately:
Is the device damaged or is any equipment missing?
(See chapter Commissioning)
In the case of defect please inform us immediately.

6.4 FCC Conformity (only Devices with FCC compliance)



INFORMATION!

The FCC Conformity is only valid for Devices with FCC compliance!

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



CAUTION!

Technological changes to the device may cause the loss of the FCC Conformity.

Touch-it XELO

Operating Instructions

6.5 Maintenance plan



INFORMATION!

Only the manufacturer (Christ Electronic Systems GmbH) is allowed to replace the internal lithium battery.

The calibration of the analog resistive touch may be required from time to time.



With LC displays, so-called "ghost images" or "image shadows" can occur under certain circumstances. These are images that remain from the previous image and are felt to be "burnt into" the display. These do not remain forever. If "image shadows" occur, the device should be switched off for a longer period of time so that the burnt-in image disappears.

To avoid "ghost images" or "image shadows", the following behaviour is recommended

- Do not display still images over an extended period of time
- Change standing images at short intervals
- Switch off the unit or use the energy-saving mode when you do not need it
- Use the screen saver function

6.6 Repairs



DANGER!

Only the qualified staffs are allowed to carry out the repairs. The incorrect repair may lead to serious danger for the user.

Touch-it XELO

Operating Instructions

6.7 Cleaning

**DANGER!**

Disconnect the Touch-it Panel PC from the supply voltage before cleaning.

**CAUTION!**

Do not clean the touch-sensitive surface of the monitor with detergents containing solvent or acid.

**INFORMATION!**

Use a humid and soft cloth with gentle soap suds to clean.

Touch-it XELO

Operating Instructions

DISCLAIMER

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FROM IDEAS TO REALITY

We are a German developer and manufacture of innovative HMI-systems for demanding industrial applications. Christ offers an extensive range of

TOUCH PANEL PCs	x86 & ARM
TOUCH MONITORS	7" – 24"
SINGLE BOARD COMPUTER	Windows & Linux
VISUALISATION SYSTEMS	HMI & SCADA

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