

**P I X S Y S**

*elettronica*

**PANNELLO OPERATORE  
TOUCH SCREEN**

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**TD430**

**Manuale  
operatore**



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## 1 Introduction

Thanks for choosing a Pixsys device.

TD430 is a Touch-screen graphic Terminal and HMI, Windows-CE based.

Sealing of front panel according to IP54, box sealing according to IP30.

## 2 Ordering codes

<b>TD430-AD</b>	Touch-screen panel 4,3" - 480x272 – Power supply 12..24V AC/DC $\pm 15\%$ -50/60Hz

## 3 Optional devices

<b>ETD884-AD</b>	Expansion module for load cells; 8 digital I/O, 2 analogue outputs V/mA



## 5 Hardware data

### Mechanical features

<b>Front panel</b>	Anodized dull aluminium 8mm,
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### Standard Hardware configuration

<b>CPU</b>	ARM V4i 200 MHz
<b>Audio</b>	AC '97 SoundMAX® Codec

### Display and Lamp

<b>Type:</b>	LCD TFT touch screen
<b>Dimensions</b>	Active area 4.3"
<b>Resolution</b>	480 x 272
<b>Pixel dimension</b>	0.198 x 0.198 mm
<b>Colors</b>	16 millions
<b>Lamp life</b>	50000 h typical
<b>Lamp power</b>	0.66 W

### Connections

<b>Expansion slot</b>	1 data acquisition Slot
<b>Communication ports</b>	1 LAN (10/100), Ethernet RJ-45 1 RS485 opto-isolated 1 CAN opto-isolated
<b>I/O Port</b>	2 rear USB port 2.0 12 Mbits/S 150mA
<b>Audio</b>	1 line Out
<b>Power supply</b>	12..24V AC/DC $\pm 15\%$ 50/60Hz
<b>Power consumption</b>	Typical 3,7 W Max 4,8 W

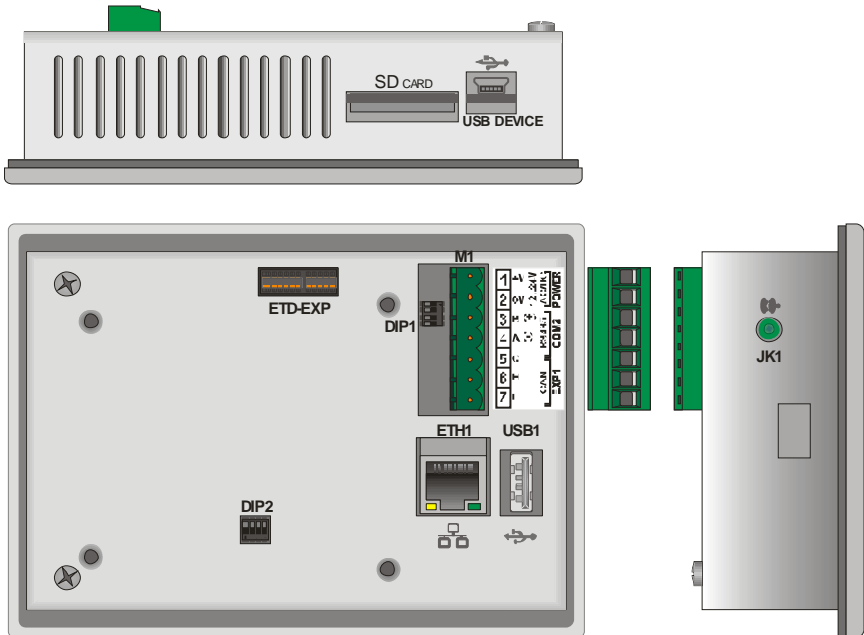
## 6 Electrical wirings



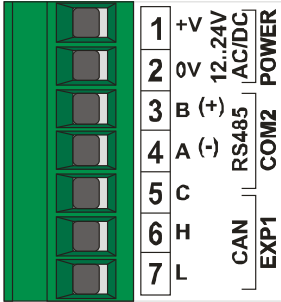
Although this device has been designed to resist noises in an industrial environment, please notice the following safety guidelines

- Separate control lines from power wires
- Avoid proximity of remote control switches, electromagnetic meters powerful engines
- Avoid proximity of power groups, especially those with phase control

View of connectors on TD430-AD:

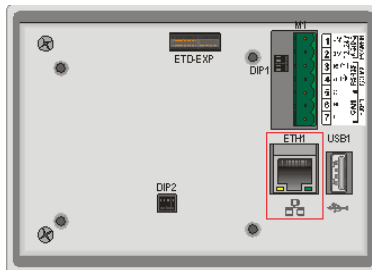


## 6.1 Terminal block M1

	<b>M1</b>	
	1	Positive power supply of device
	2	Ground power supply of device
	3	Rs485+ opto-isolated
	4	Rs485- opto-isolated
	5	Isolated ground for serial
	6	CAN H opto-isolated serial
	7	CAN L opto-isolated serial

## 6.2 Ethernet connection

Connector RJ45



Ethernet Connector 10/100 Base-T available on rear side of Terminal, below terminal block of power supply. It allows to connect the device to local network.

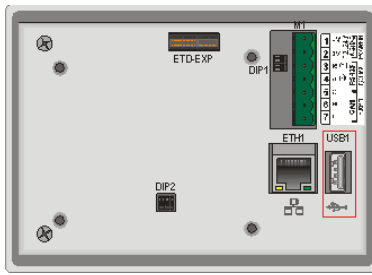
Green led indicates that link is available and device is connected to network.

Yellow led indicates that data transmission/receipt is in progress.

## 6.3 USB connections

The device is provided with two USB 2.0 connectors.

USB1 is located on the rear side of the Terminal beside RJ45 Ethernet connector :



USB2 is located on the front panel and is protected by a silicon cover. :



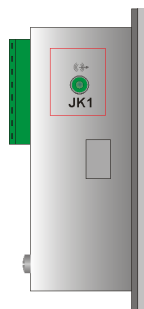
The connector on front panel allows to connect plug&play peripheral devices also when the Terminal is panel-mounted. USB Peripheral devices include keyboards, mouse, serial converters, barcode readers etc.

Max current available on USB connector is 150mA.

If using pendrives, the system will rename "Harddisk" the first inserted pendrive and "Harddisk2" the second pendrive.

## 6.4 Audio connector

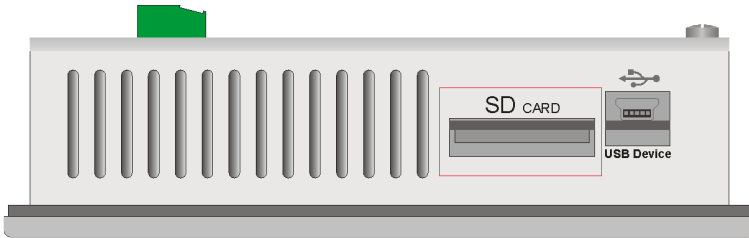
Audio Jack 3.5mm



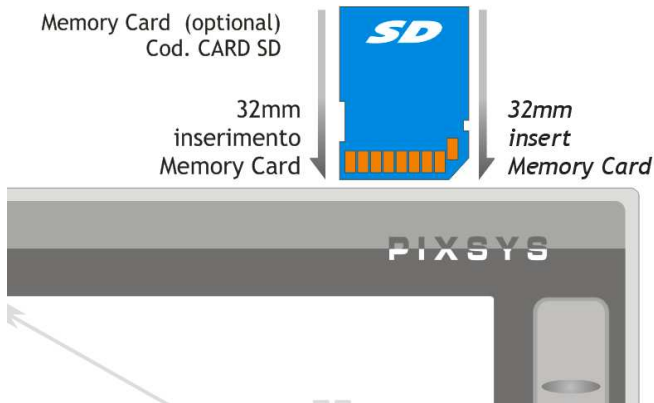
A non-amplified stereo output is located on the right side of the device.

## 6.5 SD/MMC connector

SD/MMC reader, push-pull type



The connector is located on the upper side of the device , close to mini-usb connector. It is push-pull type, therefore enter memory card till a click is produced and release it (see diagram below ).



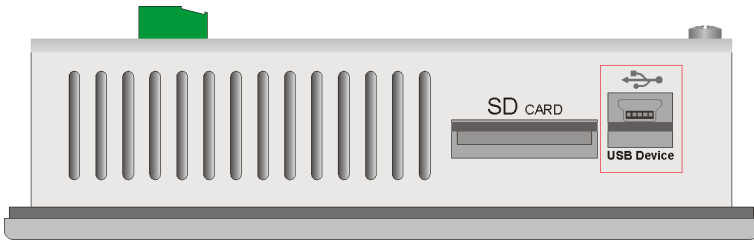
To extract the Memory, press it until a click is produced and pull it.

TD430 can support SD and MMC memories up to 2GB, it does not support SD-cards HC.

The operating system identifies the memory as “StorageCard”.

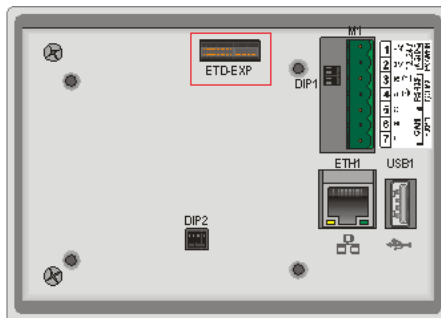
## 6.6 USB-Device connector

### Mini-USB connector type B



Located on the upper side of the device beside the SD/MMC slot, it is conceived only for connection to Windows-based PC.

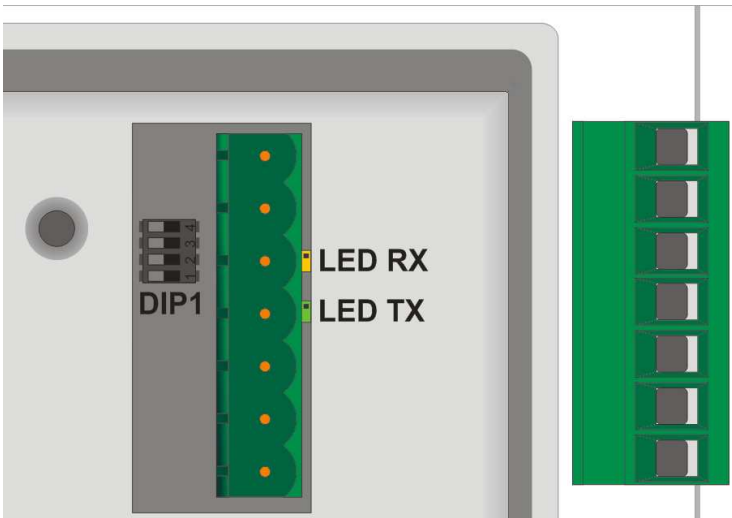
## 6.7 ETD-EXP Connector for data acquisition modules



The “ETD-EXP” connector allows quick connection of proprietary expansion slots for data acquisition purpose. Please proceed as follows:

Switch the device off, disconnect power supply, enter the expansion slot , fix the four screws contained in the package,connect power supply and switch the device on.





The following table shows the optional settings of this dip-switch:

Input type	Dip-switch	Notes
<b>Disabled</b>		Default setting
<b>CAN Termination</b>		Close a termination resistor 120Ohm between CANH and CANL
<b>RS485 Termination</b>		Close a termination resistor 330Ohm between RS485+ and RS485-
<b>Polarization RS485</b>		Close polarization resistors on RS485 line

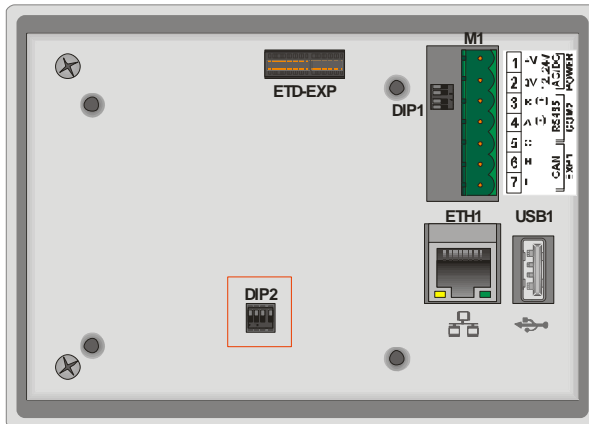
If the device is used as Master RS485, the dip-switches will have to be set as “RS485 polarization”.

If the device is used as Slave RS485, the dip-switches must be set as “RS485 termination”.

Beside terminal block “M1” there are two signal LEDs. The yellow LED indicates that data are being received on RS485. The green LED indicates that data transmission is in progress on RS485. In this case the LED is ON only if dip 3 and 4 of DIP1 are set to ON, with consequent polarization of RS485 line.



## 7.2 CPU dip-switches

DIP2 is located at the bottom of rear side.



This dip-switch enables/disables the protection of flash memory writing.

Preventing the writing on flash memory it will not be possible to create/save new files. The table below provides the list of possible configurations

Tipo ingresso	Dip-switch	Note
Default		Default position: configuration for TD430
Prevent writing on flash memory		Raising “DIP2” to ON , the writing on flash memory is not allowed.

**N.B.:** Dips no. 1, 3 and 4 are directly connected to CPU and they identify the type of device currently used. Therefore their tampering may affect the correct operation of the Touch-screen!

## 8 Connecting the Terminal to PC

### 8.1 Connection to PC by ActiveSync

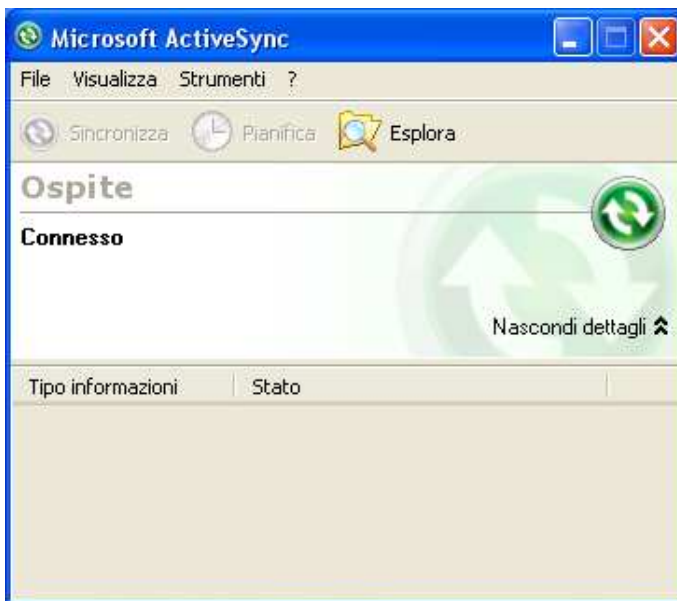
TD430 is relying on Windows CE operating system, therefore it can be easily connected to any Windows-based PC.

To connect the device to a PC, it is necessary to get a USB type A - mini USB type B cable (Pixsys code 1620.00.082) and the software ActiveSync (for Windows 2000 up to Windows XP) or alternatively the Windows Mobile Device Centre (for Windows Vista and Windows 7).

Both applications are available for free download at [www.microsoft.com](http://www.microsoft.com).

After installing the above mentioned software applications, power up the device and connect it to PC by USB cable. It will take a few minutes for the PC to automatically install the device (this will take place only at the first connection).

Once the installation of drivers will be completed, the following window will be automatically visualized:



Windows 2000..Windows XP



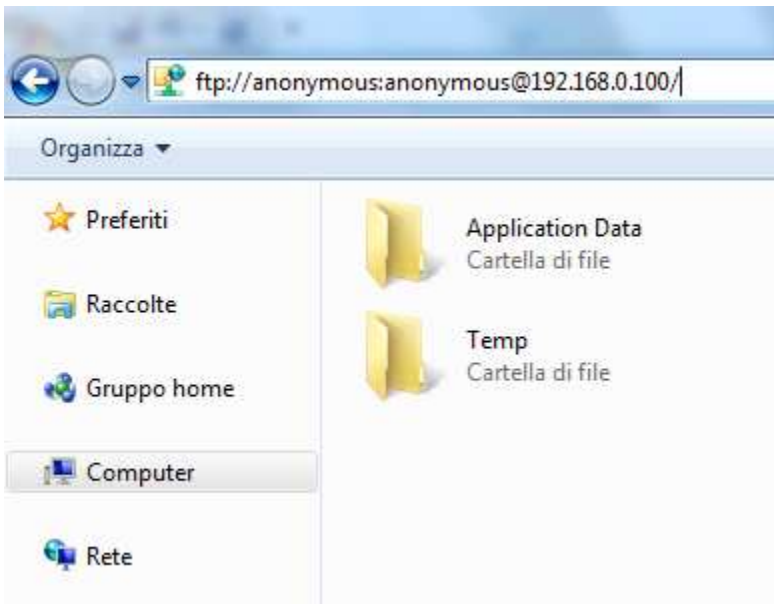
Windows Vista and Windows 7

By means of these software tools, the device is identified by the PC as a mass storage peripheral and this way it will be possible to explore files and transfer them from PC to device and vice versa.

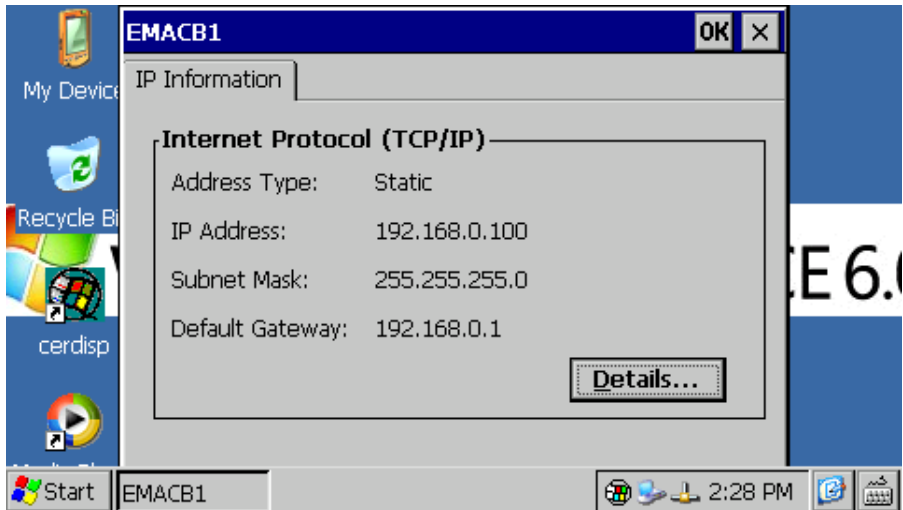
## 8.2 Connection by FTP

TD430 supports FTP protocol and this allows network files transfer between PC and Terminal.

To access the folders on the device, just open “Explorer” and type: “ftp://anonymous:anonymous@192.168.0.100” (being “192.168.0.100” the IP address of the device)



To get the IP address of the device just double-click on network icon on Windows taskbar. A screenshot containing all details about network will be displayed.



Anyway we suggest to use an FTP client for data transfer, as this is normally simpler and quicker to use.

An example is FileZilla Client FTP, available for free download at <http://filezilla-project.org/download.php>

### 8.3 Remote desktop

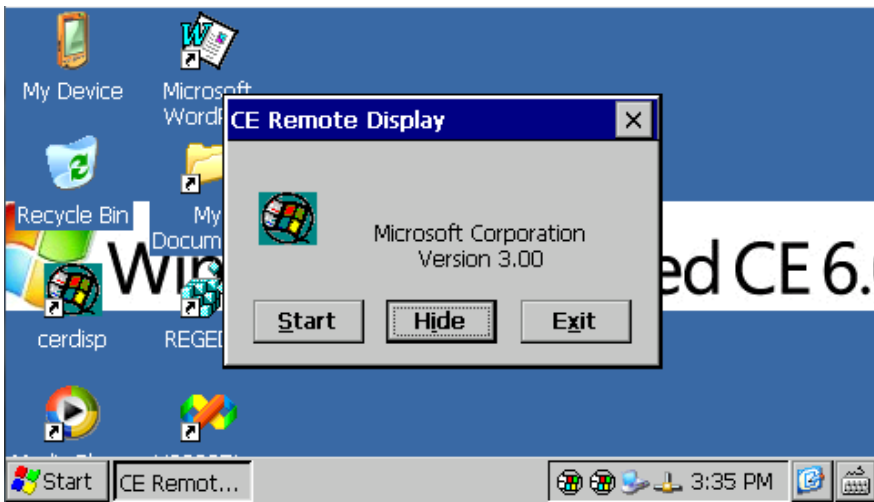
The device is integrating Remote Desktop feature.

This requires “cerdisp.exe” to be run on the device (it is already pre-installed on it) and , “cerhost.exe” to be run on PC.

As a first step the device must be connected to local network , then double-click the desktop “Cerdisp” icon



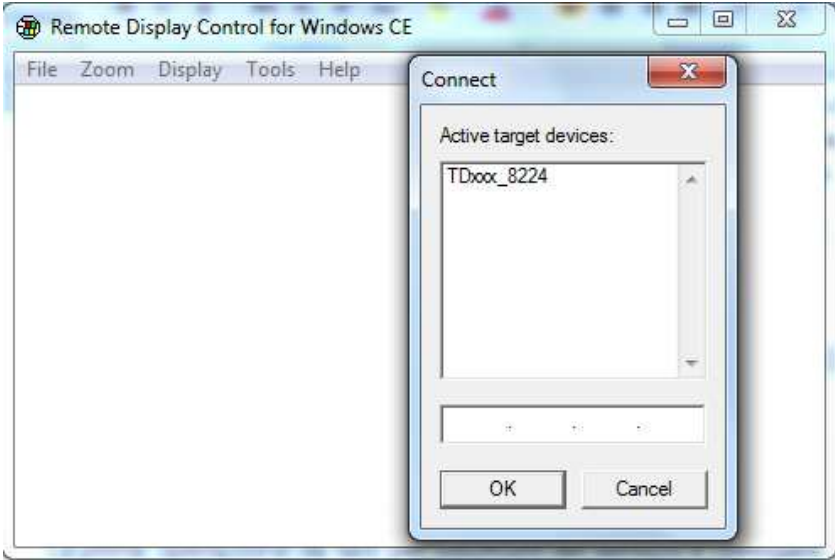
Click on START icon of the form :



At this stage run the “cerhost.exe” application on the PC which will be used to control the TD430.

A window with different options will be displayed , click on “File” and then on “Connect”.

A further window will show in a few seconds a list of devices available for connection.



Double-click the selected device to immediately visualize the remote desktop, allowing full control of the connected device.

## 9 Auto-start of selected applications

The device integrates also the possibility to run automatically some selected applications.

How it works : a link file (.lnk) is created on the “Nandflash” disk of the device (called “root” from now on) and it is named “autorun.lnk”, pointing to the application which should be run automatically at startup.

Autorun.lnk files are handled by the software as follows: the application pointed by the autorun available on the device root will be run first; in case a USB peripheral or a memory card are inserted at startup, the software will stop the application running

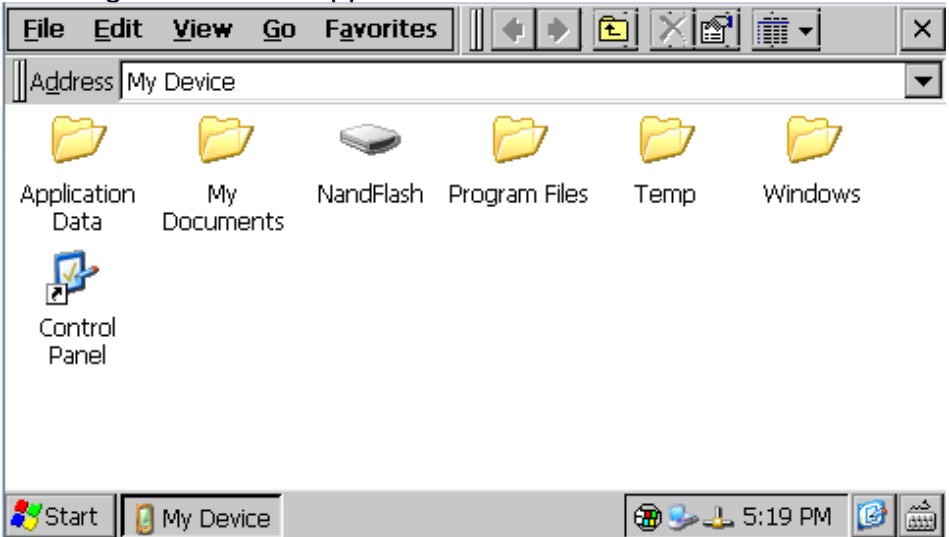
on the device and will start the application pointed by the autorun.lnk available on the root of the USB peripheral or of the memory card.

## 9.1 Create autorun.lnk file

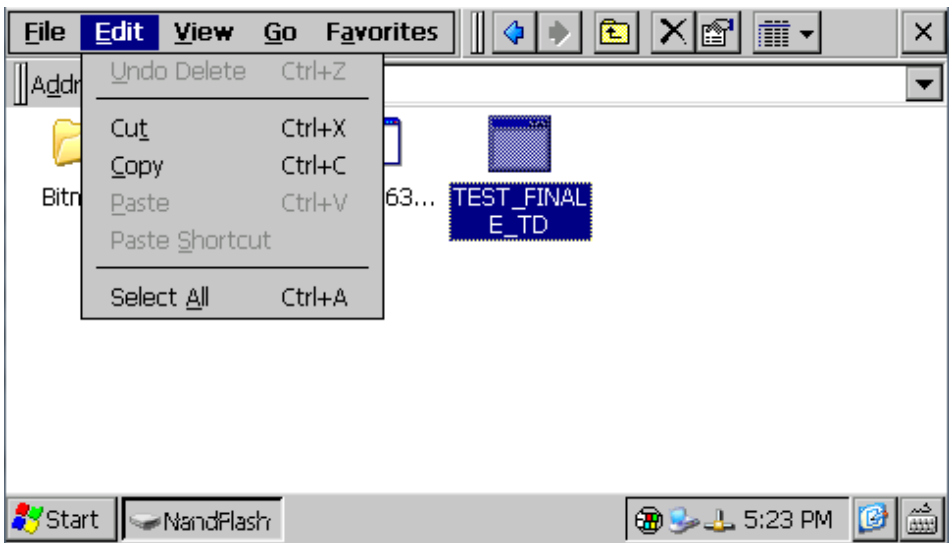
**N.B.:** Whenever an application is run automatically by autorun, Windows desktop is not run. Therefore if the running application should be closed, the device will still display the latest window.

To remove the autostart, it is necessary to connect the device to PC and delete the “autorun.lnk” file. Restarting the device it will be possible to visualize the standard desktop.

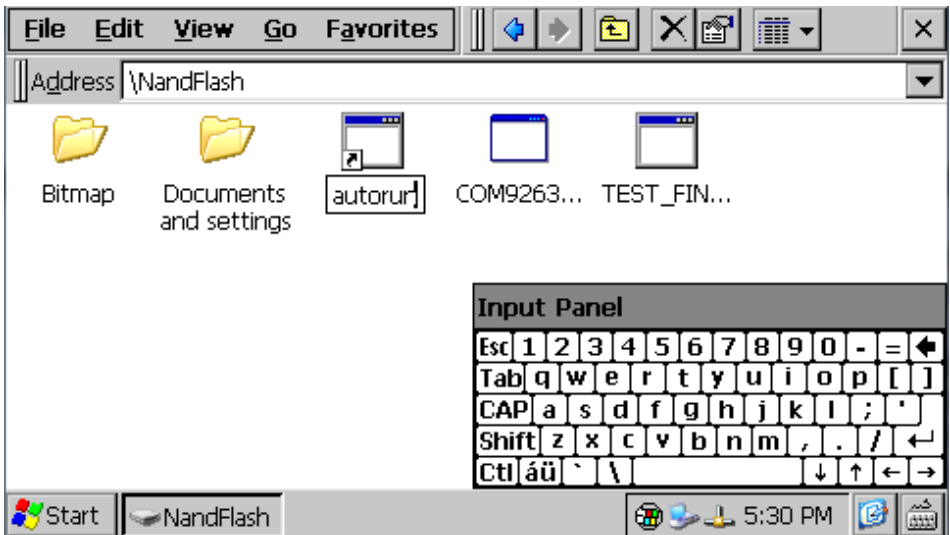
To create the “autorun.lnk” file follow the steps below: double-click “My device” icon available on desktop and go to the Directory containing the selected application



Select the file, click “Edit” and “Copy”



Go to the device root (nandflash) or to USB peripheral (Harddisk) and click “Edit” and “Paste Shortcut”.  
 Open video keyboard and rename the autorun file



Restarting the device, the application pointed by the created autorun file will automatically start.

## 10 Installation program

Software applications to be installed on TD430 must be compatible with Windows CE for ARM V4i platform

Usually these applications are provided as a single installation file with .CAB extension.

The installer service already stored on the device will automatically recognize the installation package and will guide the user step by step through the correct proceeding.

Pixsys has also developed an installer package which recognizes the proprietary installation files with .zTd extension. This application and the installation files are supplied exclusively by Pixsys

## 11 Software applications

TD430 relies on Windows CE operating system. Clicking the keyboard icon on taskbar , it is possible to visualize on display two different keyboards: “keyboard” is recommended for TD430 while “Large” is recommended for Pixsys TD570 and TD700. The operating system includes followings applications: Microsoft Word Pad and Windows Media Player 9.

Microsoft Word Pad allows to read and create text files directly on the TD430.

Windows Media Player 9 allows to reproduce audio files .wav and .mp3 as well as short video files.

Some additional applications aim to correct operation of the device: cerdisp.exe , regedit.exe, VS2005tcp.exe.

As already described , “Cerdisp.exe” allows to access the device as remote desktop.

The “regedit.exe” application allows to access, visualize and modify registry keys.

**N.B.: Altering registry or registry keys by non-expert users may lead to incorrect operation of the Terminal!**

The “VS2005tcp.exe” application allows to connect the device by Ethernet connection to development environment Visual Studio 2005

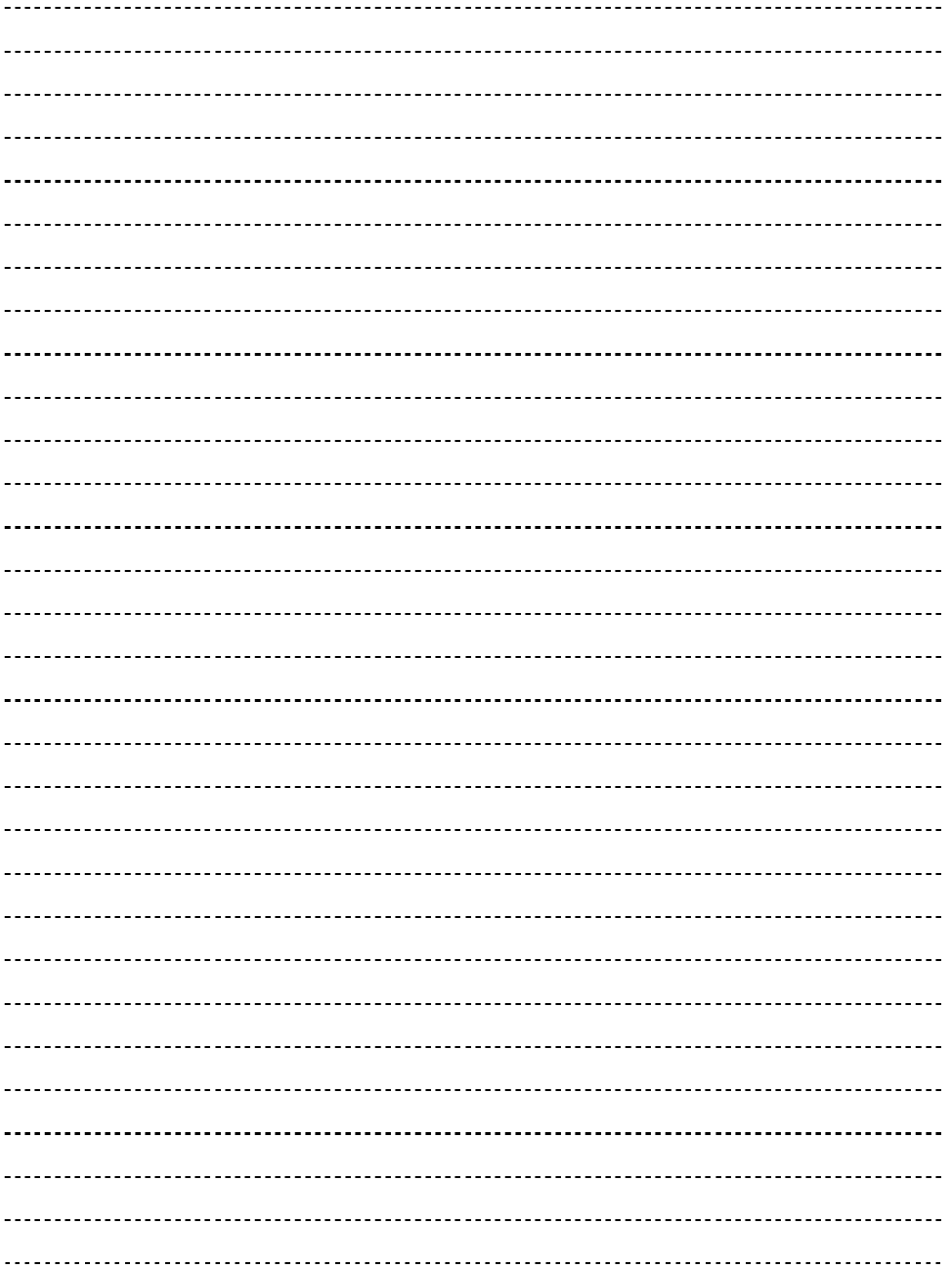
All described applications are available for immediate access on desktop of the device.



## 11 Notes / Updates

A series of horizontal dashed lines for writing notes.

Handwriting practice lines consisting of 20 sets of three horizontal dashed lines.





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2300.10.134 - Rev. A 011210

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