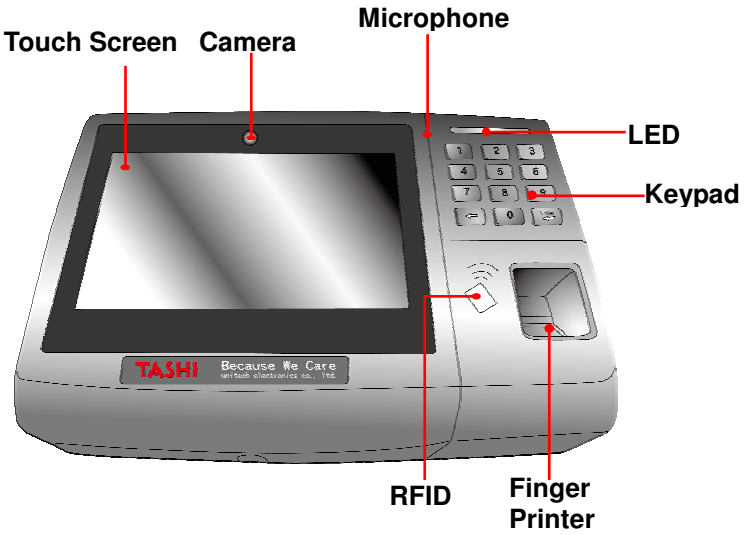
NOTE: The MT700's display is shipped with a transparent protection film that has been pasted onto the surface of touch panel of the MT700 for protecting the top cover and touch panel. Before using the MT700, tear out the protective film.

If MT700 is provided with RFID reader, you will see the RFID reader logo on the front panel of MT700.

DO NOT wipe the MT700 with any chemical cleansing agent! We recommend the usage of clean water or soft cloth for display panel/eyeglasses to clean the machine.

The following sections describe the main components and features of the M700.

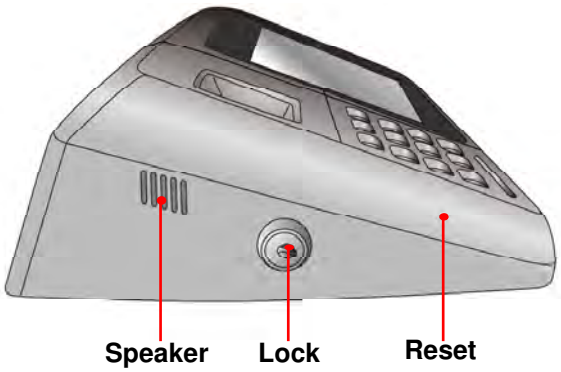
Front View



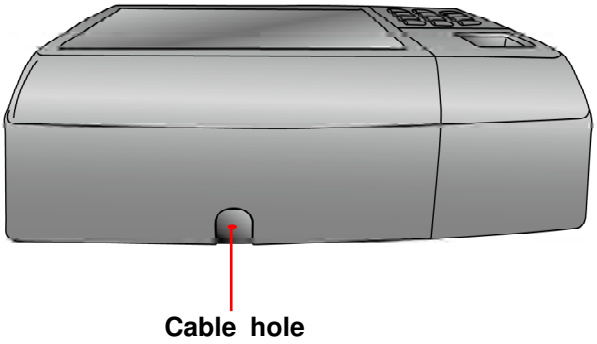
Side View

Left

Right

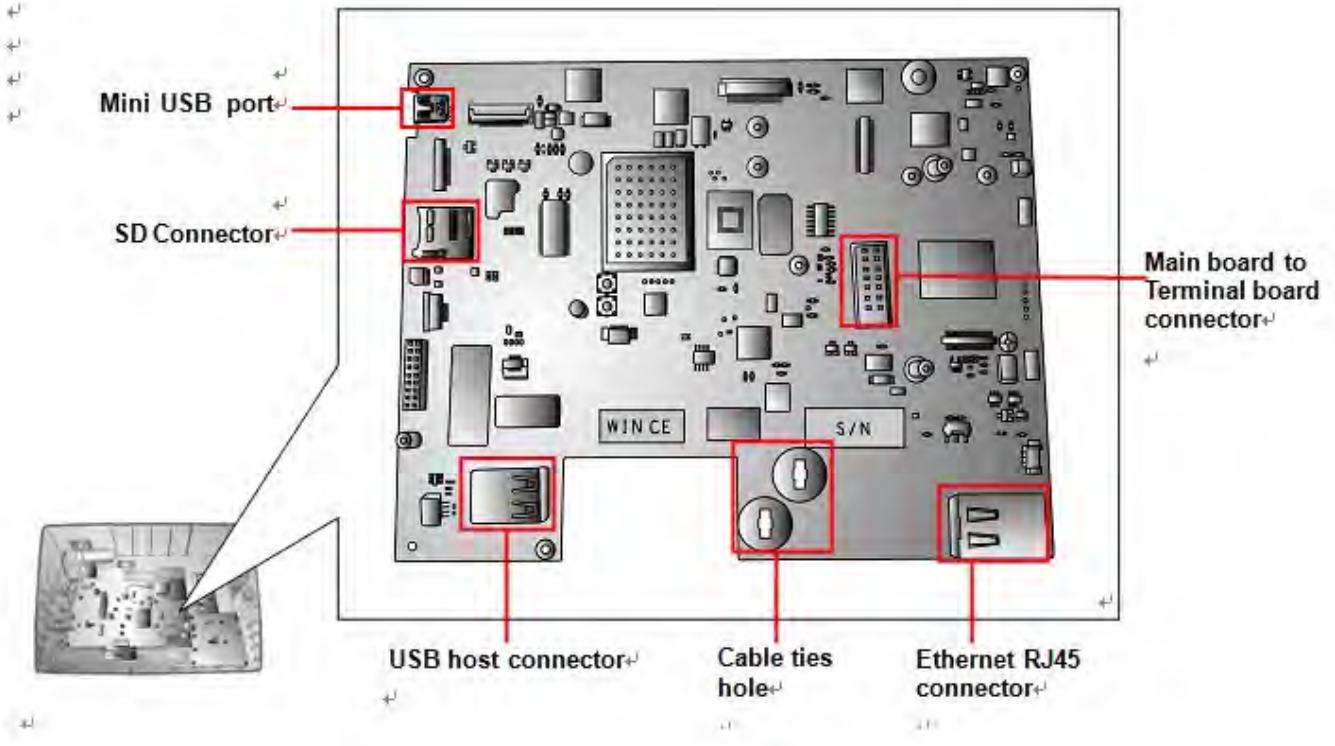


Bottom View



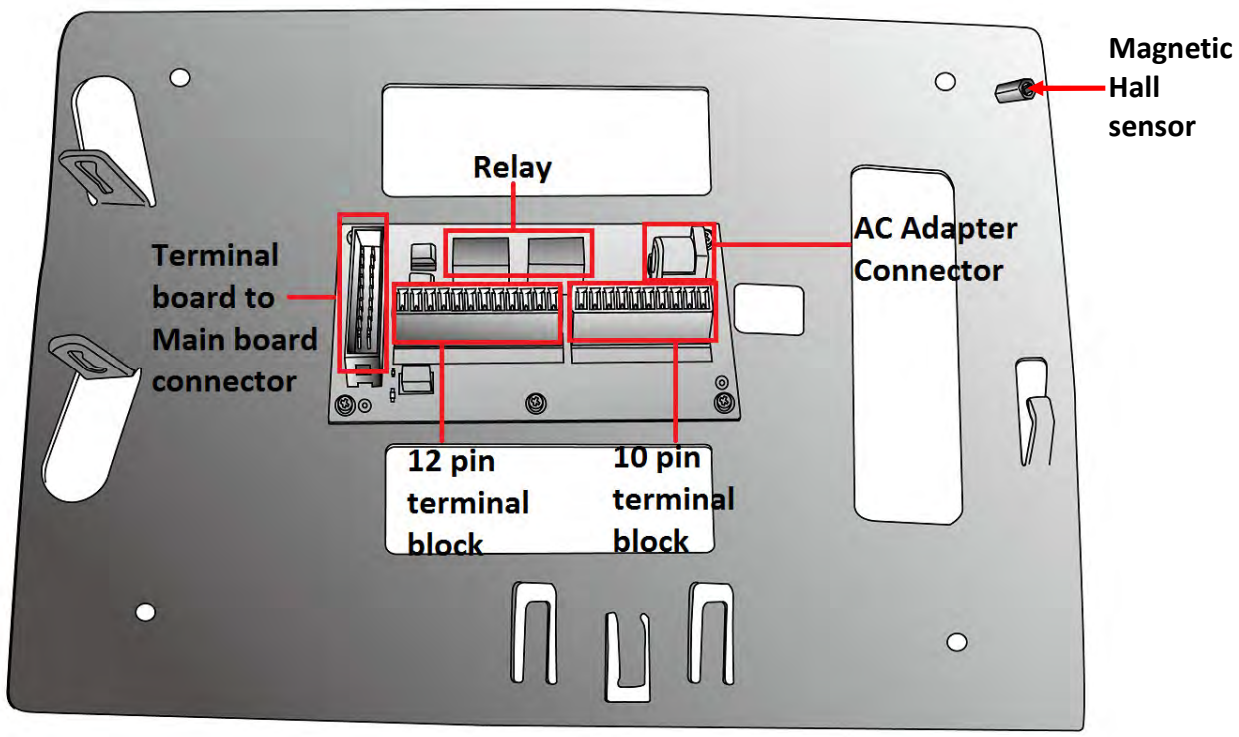
Front Main Board

The Main board can be access via unlocking the right side lock of the MT700 and removing the back steel plate.



Back Terminal Board

The terminal board can be access via unlocking the right side lock of the MT700 and removing the back steel plate.



Setting up the MT700

Connecting Power

Connect power to the MT700 through the following instruction: Plug the Power Adapter Cable into the MT700's DC input jack and then connect the other end of the Power Adapter into an electrical outlet.

Powering On the MT700

The MT700 automatically powers on when the Power Adapter plugs into an external power source. The MT700 welcome screen appears.

Using the MT700 for the First Time

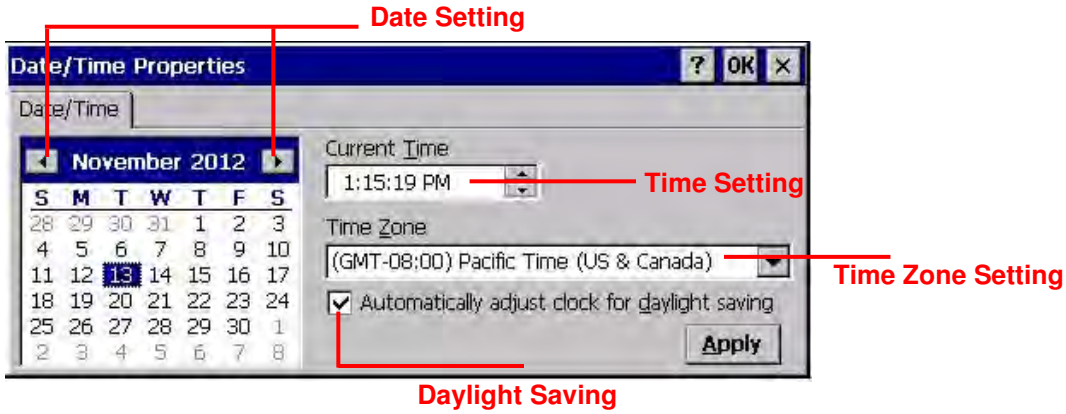
Using the Touch-screen

1. Tap the screen to choose a menu option.
2. Double tap to open programs.
3. Use the Windows CE Keyboard to type letters or numbers into a data field or on a form.

Setting the Date and Time

In the Date/Time Properties window, touch the screen to select the current date/time, time zone and daylight saving time option.

- Tap the Left or Right arrows to scroll through the desired year and month, or directly tap the year or month to change the setting.
- Tap on the Hr/Min/Sec AM/PM to input the Hr/Min/Sec to set the time.
- Tap the arrow and set the correct time zone from the drop-down menu.
- Check the box to enable Windows to automatically adjust for day-light saving time.
- Tap Apply to save the settings and exit the Date/Time Properties dialog, or tap  to exit without saving.



Chapter 2

Basic Operation

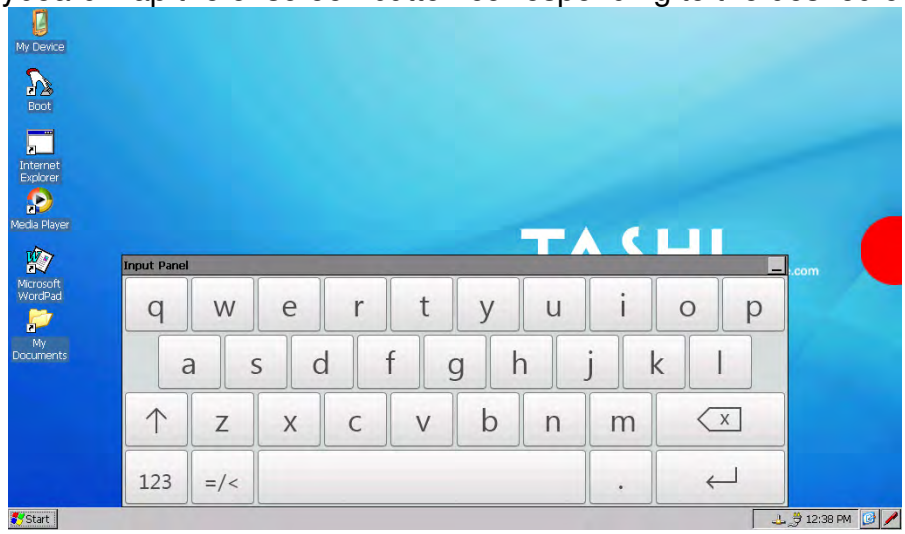
On-screen virtual Keyboard

Windows CE features on-screen virtual keyboard that simulates all functions and behaviors of physical PC keyboard.

To launch the on-screen virtual keyboard, please tap → **LargeKB**.

Entering Characters

Entering alphabetic and numeric characters on the MT700 is the same as character input on a standard PC keyboard. Tap the onscreen button corresponding to the desired character.



Moving the Keyboard
Tap the title bar and drag the keyboard to a desired location.

Closing the Keyboard
Tap the keyboard icon → Hide Input Panel to close the Windows CE keyboard.

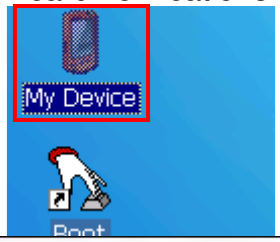
RFID Reader (Optional)

If the MT700 is with built-in RFID reader, you will see the RFID reader logo on the front panel of MT700. The MT700 features a standard RFID reader, which is compatible with 13.56MHz MiFare cards.

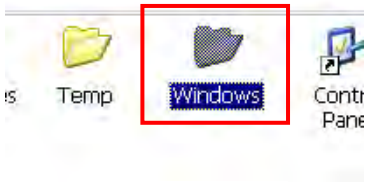
RFID Card Verification

The MT700 has built-in demo programs that allow RFID card verifications.

1. Double-tap the **My Device** icon on the Windows CE desktop.

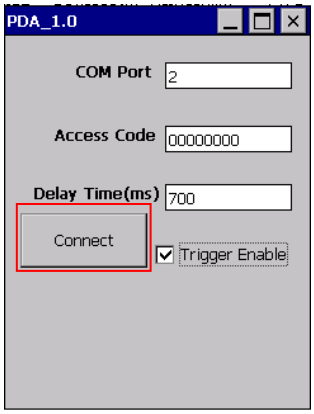


2. Tap **Windows**.

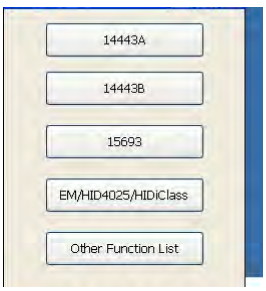


3. Double-tap **PDA_1.0** to open the demo program.

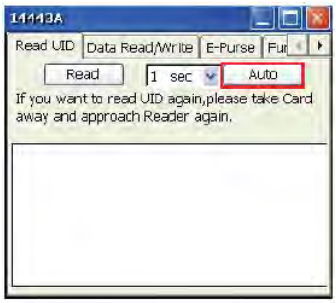
4. Set the COM Port: field at 2. Tap Connect.



5. Choose a card type to activate the demo test program.



6. Tap Auto and bring the RFID card close to the sensor. The code will display on the field below.

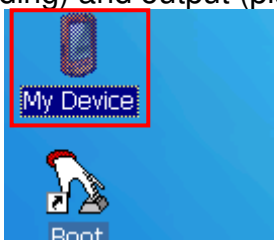


7. Tap Stop to end the reading.

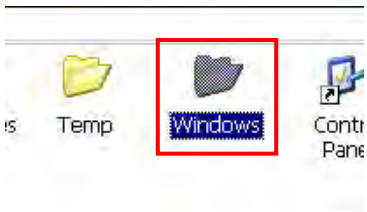
Audio Input/Output

An audio demo program will test the audio input (recording) and output (playback).

1. Double tap My Device on the Windows CE desktop.

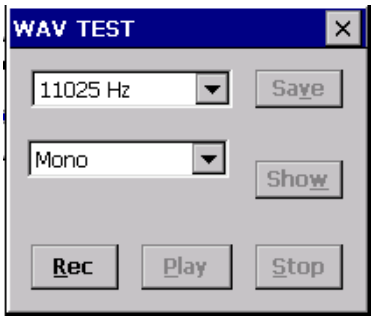


2. Double-tap Windows.



3. Double-tap **wavtest** to open the demo program.

4. Do one of the following:
   -- Tap Rec to record the voice.
   -- Tap Stop to finish recording.
   -- Tap Play to listen to the recording.



Built-in Camera

The MT700 has a built-in 2.0 megapixel camera which provides the following extra functionality:

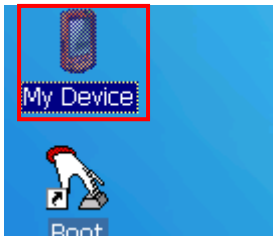
- Enables users to capture still pictures when a card is being read
- Checks attendant time with a photo image
- Records video continuously
- Functions as an audio/video intercom

Additionally, facial recognition can be incorporated using third party software.

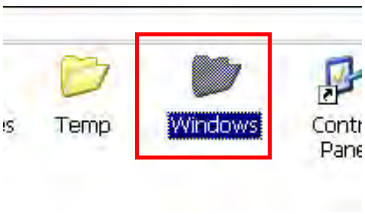
The MT700 has a demo program that enables users to capture a still picture with a card number and time stamp when a card is read.

To start the camera demo:

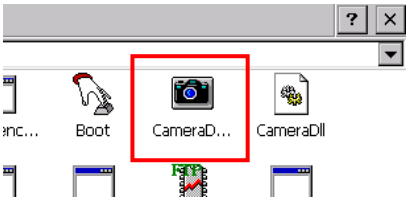
1. Double-tap the My Device icon on the Windows CE desktop.



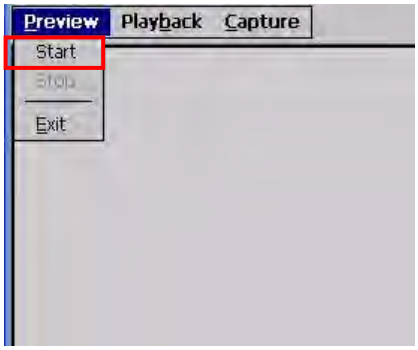
2. Double-tap the Windows folder.



3. Double-tap CameraDemo to open the program. The testing program is displayed.



4. Tap Preview → Start.



A continuous image is displayed enabling users to capture and playback video.

Tools/Utilities/Applications

BootMode

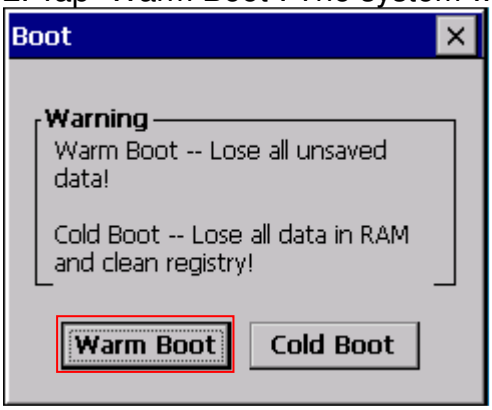
Path: Start Menu/Programs/Utilities/Boot Mode

This tool allows you to perform warm boot or cold boot.

Warm Boot

1. Select Start Menu -> Programs -> Utilities -> Bootmode

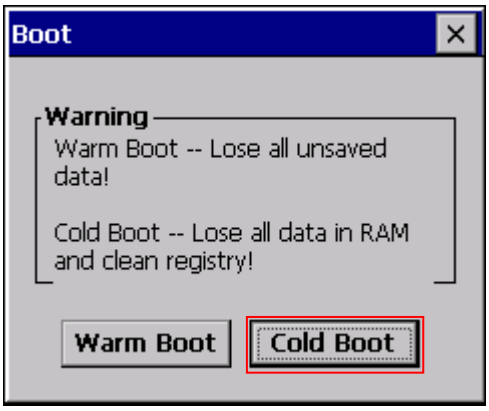
2. Tap “Warm Boot”. The system will be warm started.



Cold Boot

Caution*: Backup your data first!*

1. Tap “BootMode”, and Tap “Cold Boot”. Then confirm the choice by selecting YES when program asked to reconfirm the command.



2. The terminal will be cold started.

3. Calibrate the screen according to the instruction displayed, and tap the screen anywhere again once the calibration is completed to continue.

4. Set the date and time, press OK.

I/O Card Control

Path: Start Menu/Programs/Utilities/IO Card

This tool allows you enable or disable CF slot whenever it is necessary. Once you disable the slot, the card in that slot will not work until you enable the slot again.

1. Select Start Menu ->Programs -> Utilities -> IO Card

2. You may choose to enable or disable the card from this tool. Once you selected

disable, the card will no longer be detected unless it is enabled again. Tap “Enable” to enable the card.

3. Tap “Hide” to hide I/O Card Control window.

4. Tap “Exit” to exit I/O card control.

The setting is kept after suspend and power on, however, after warm start/cold start, the setting will be resumed to default value (which is “Enable”)

Registry Backup

Path: Start Menu/Programs/Utilities/RegBackup

This tool allows you to save the current registry or reset to factory default.

1. Select Start Menu -> Programs -> Utilities -> RegBackup.

2. Tap “Save” to save current registry settings.

3. Or tap “Restore” to reset registry to factory default. Terminal will be warm started. (Note that “Restore” button is grey out if the registry setting was not saved before)

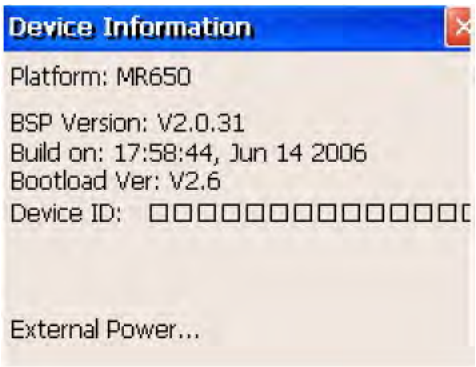
Func 9

Path: Start Menu/Programs/Utilities/Func9

This tool displays the general information of the terminal such as platform, firmware version, device ID etc.

1. Select Start Menu -> Programs -> Utilities -> Func9

2. Device information is shown as below:



Server Manager

Path: Start Menu/Programs/Utilities/ServerManager

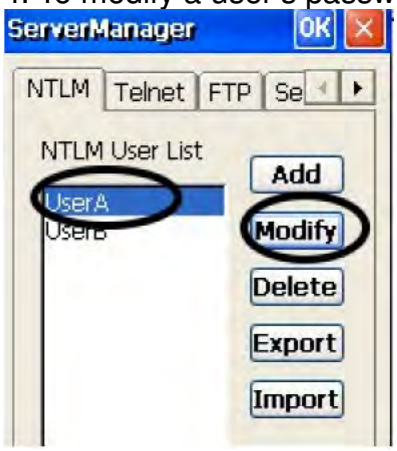
Server Manager is a tool for the user to manager the NTLM (Windows NT LAN Manager) users, FTP users and telnet users.

1. Select Start Menu -> Programs -> Utilities -> Server Manager.

2. On “NTLM” tab, tap “Add” to add a new user.

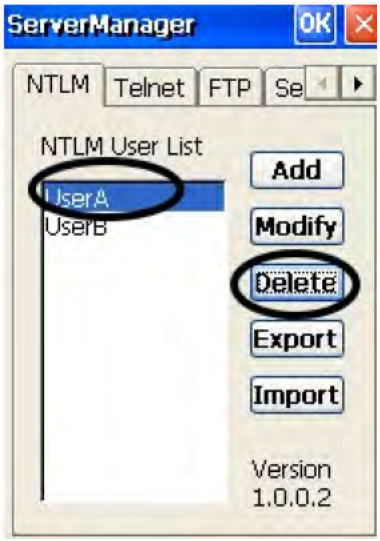
3. Key in the user name and password. Tap OK. Add Success. Tap OK.

4. To modify a user's password, select the user and tap "Modify".

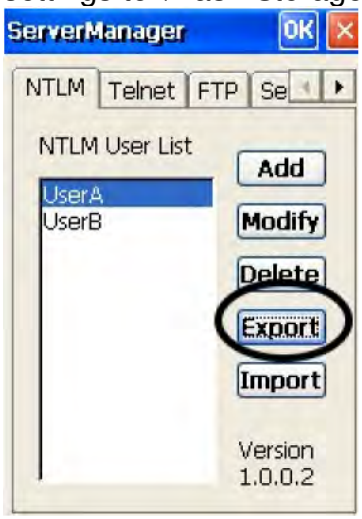


5. Enter the new password and confirm password. Tap OK. Change password success. Tap OK.

6. To delete a user, select the user you want to delete, tap “Delete”.



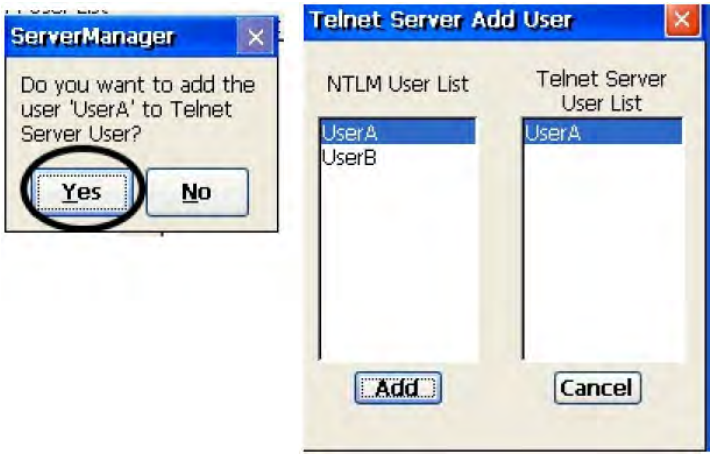
7. Tap “Export”. The user can backup SSID, WEP, all server users and this server’s settings to \Flash Storage.



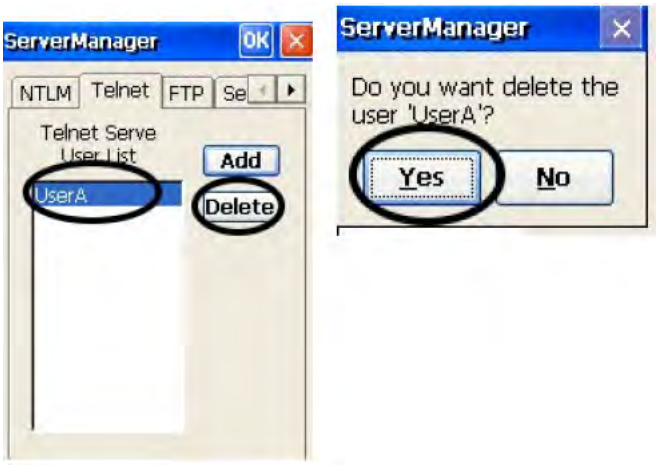
8. Tap “Import” to restore all settings.

9. Under “Telnet” tab, tap “Add”. Add the telnet user from NTLM. Select the user and tap “Add”.

10. Do you want to add user X to the telnet server? Tap “Yes”.

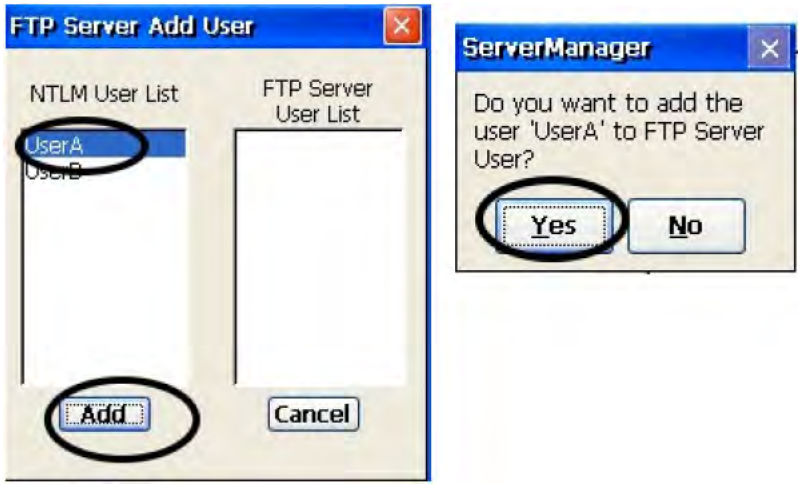


11. To delete telnet user, select the user and tap “Delete”. Do you want to delete the user X? Tap “Yes”



12. Under “FTP” tab, tap “Add” to add ftp user.

13. Select the user and tap “Add”. Do you want to add user “X” to FTP server User? Tap “Yes”.



14. To delete ftp user, select the user and tap “Delete”. Do you want to delete the user X? Tap “Yes”.

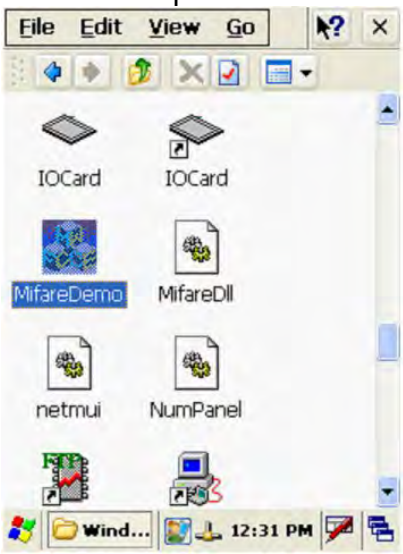
15. Under “Server setting”tab, for telnet server setting, enable/disable server.

16. For FTP server setting, enable/disable server and define anonymous login.

17. Tap “Set Login Directory”. Define the login directory (Default is /Temp), tap “Set.

MifareDemo

This feature allows you to make Mifare card verification.
Path: /My Device/Windows/MifareDemo.exe
1. Double tap “MifareDemo”.

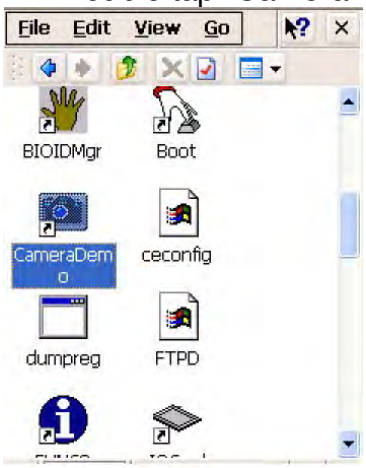


2. Under “Key”, select “Connect” to activate the program.

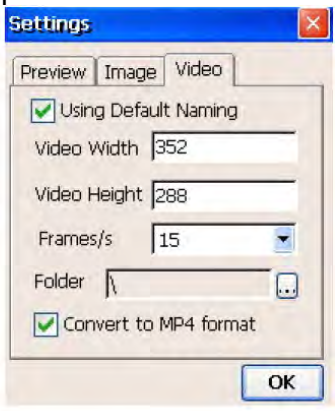
3. Tap “Start Read” and bring the Mifare card close to the sensor. The code will be read and displayed on the following field.
4. Tap “Stop Read” to end reading.

CameraDemo

This utility allows image capture and video streaming.
Path: /My Device/Windows/CameraDemo.exe
1. Double tap “CameraDemo”.

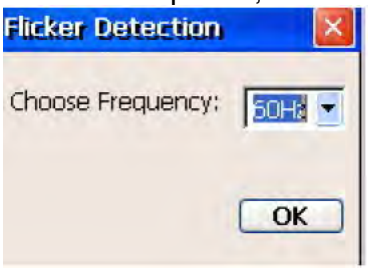


2. Under “Capture”, select “Capture Settings”. Define image and video dimension and storage folder, then tap “OK”.

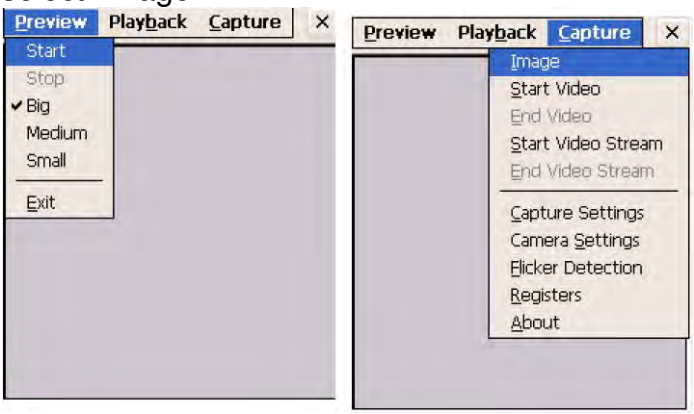


3. Under “Capture”, select “Camera Settings”. Define the pixel integration time.

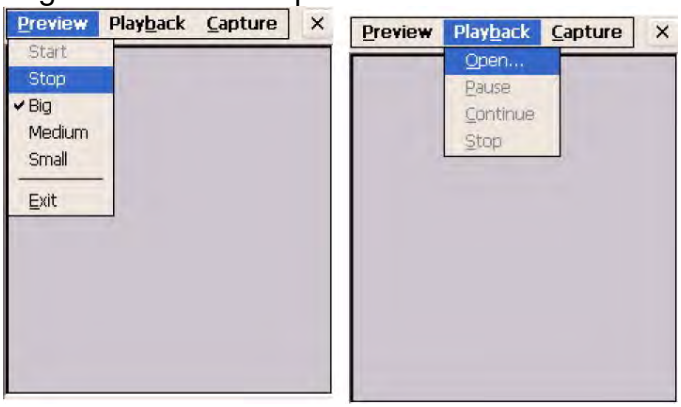
4. Under “Capture”, select “Flicker Detection”. Select the frequency.



5. Under “Preview”, select “Start”. Your image will be focused. Under “Capture”, select “image”.



6. Under “Preview”, select “Stop”. Under “Playback”, select “Open”. Select the image file that was captured.



7. Tap “Preview/Exit” to close.

WavTest

Path: /My Device/WavTest

This tool is to test the audio recording and display.

1. Double tap “WavTest”.

2. Change to “Stereo”. Tap “Rec”. Talk near to the microphone port of MR650.

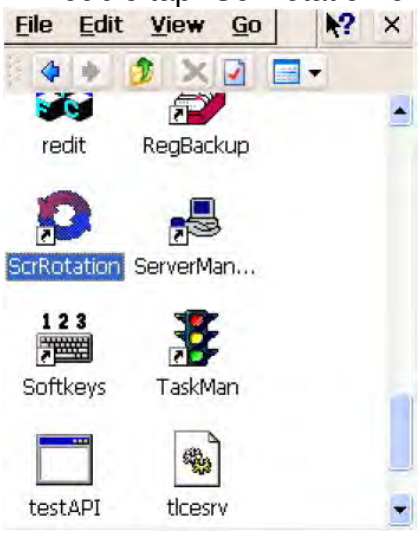
3. Tap “Stop” to stop recording. Tap “Play” to play the audio you just recorded.

4. Tap “Save” to save this audio as a wav file.

Screen Rotation

Path: /My Device/Windows/ScrRotation.exe
Screen Rotation allows the users to rotate the screen of terminal to the right, to the left or upside down.

1. Double tap “ScrRotation.exe”.



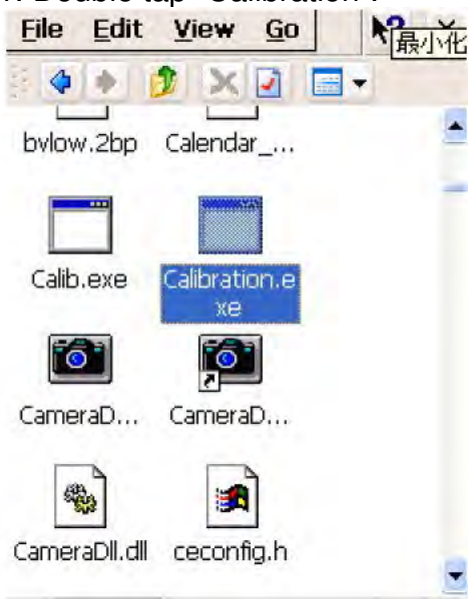
2. The screen rotation icon will appear on the taskbar. Tap the icon to select the option from the menu.

3. Tap “Rotate Right”. The screen is rotated to the right.
4. Tap “Rotate Left”. The screen is rotated to the left.
5. Tap “Upside Down”. The screen is flipped 180° vertically.
6. Tap “About”. The version of screen rotation is shown.
7. Tap “Exit”. Screen rotation icon is disappeared.

Calibration

This tool allows you to do calibration while the original screen calibration is no longer accurate.
Path:/My Device/Windows/Calibration.exe

1. Double tap “Calibration”.



2. Use the stylus to touch the “+” (Center, Top left, Bottom left, Bottom right, Top right), then press “Enter” key.

Net

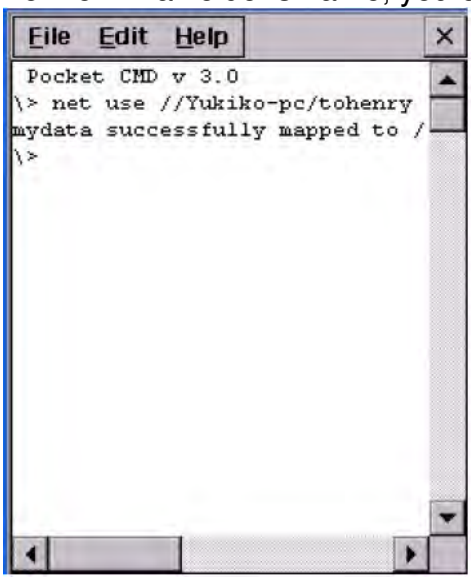
Path: My Device/Windows/Net.exe

This is a MS Dos command that allows you to share data/files with any computer in the network. (Your terminal must connect to network)

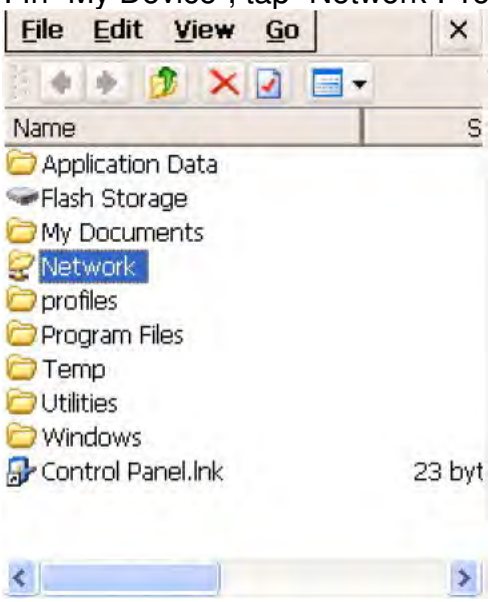
1. On your PC/notebook, share a folder to the network.

2. Execute MS DOS prompt command.

3. On the DOS prompt, type the command:
Net Use //<PC's Name>/<Shared Folder Name> <Terminal folder's name>
For Terminal folder's name, you can specify any name you like.



4. In "My Device", tap "Network". You will see a terminal folder.



5. Open the folder. You will see the files in the folder. The content is the same as the shared folder in your PC/notebook.

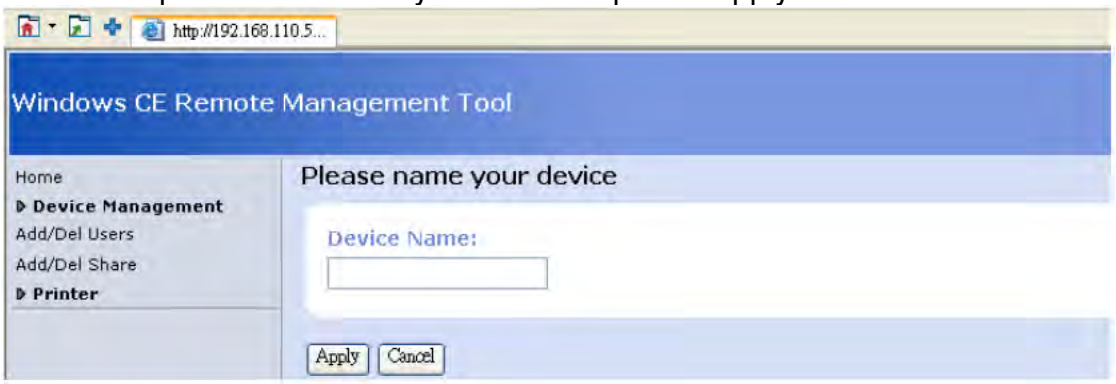
Windows CE Remote Management

1. Connect LAN cable to MR650.
2. Check IP address of MR650.

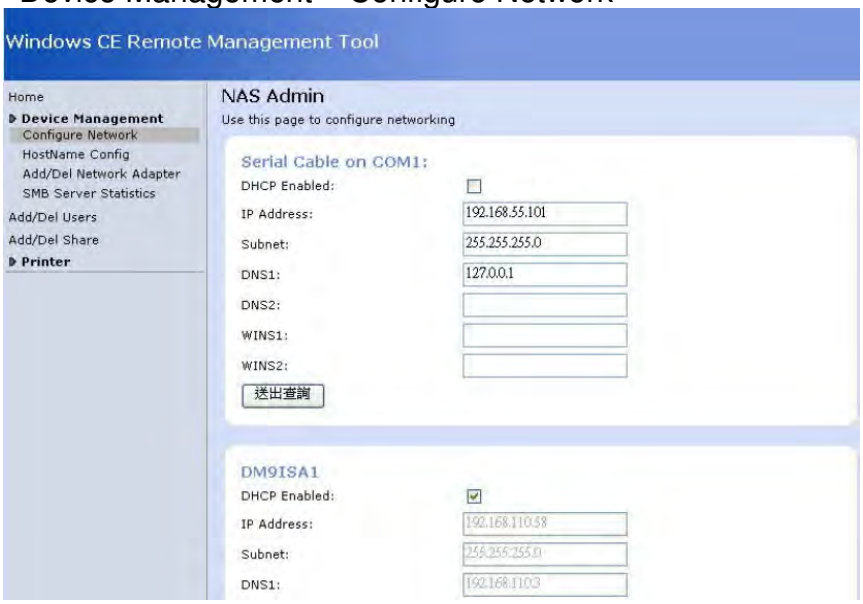
3. Input IP address of MR650 in the browser's address bar.

4.Enter "admin" as default password and verify the password again.

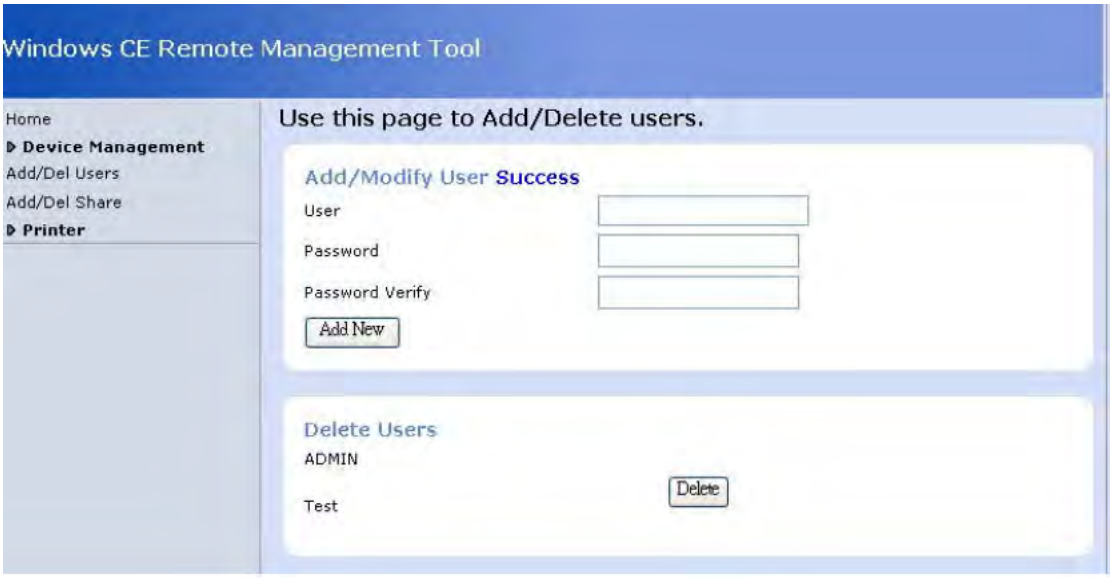
5.Please input Device Name you want and press “Apply”.



6. The Windows CE Remote Management Tool interface.
Device Management – Configure Network



7. Click “Add/Del Users” to Add/Delete users.
You can add or delete any user, except Admin. After enter “Add New”, you can see your new user under “Delete Users”



8. Click“Add/Del Network Adapter”. Select the adapter and click “Submit Query”.

9. Click “Add/Del Shares”, define a name for the folder of terminal that you want to share.

10. Click “Permission”. Select “Allow” or “Deny” for the user’s access right. Click “Update”. Click “Done”.

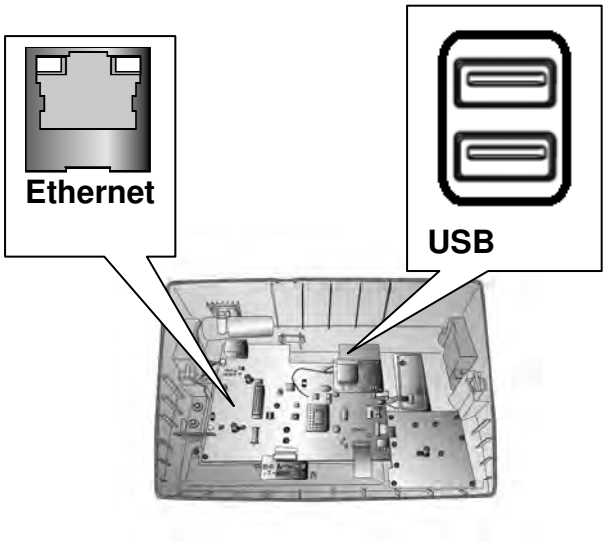
11. On the browser’s URL, enter \\<Device Name>\<folder name>. All the data of the shared folder of the device are shown and they are ready to be shared.

12. To remove any shared folder, click “Remove”.

Chapter 3

Data Communication

The MT700 can link to a host computer for data communication via USB or Ethernet cables. USB and Ethernet port is on the front main board and is positioned as indicated in the diagram below.



USB Port

Connect a USB cable to the MT700's USB host port, and connect the other end to a USB peripheral, such as a: Keyboard, mouse, memory card or HID compliant device.

Chapter 4

Power and Hardware

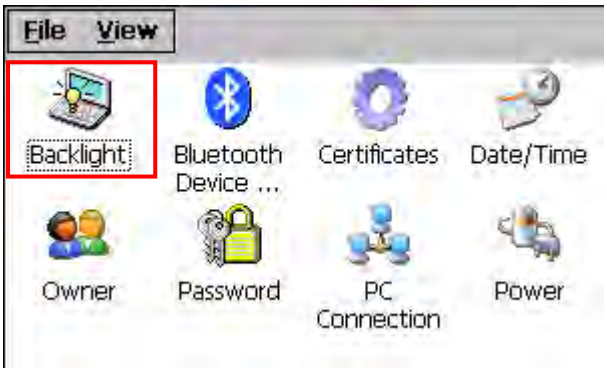
The MT700 must work with external power. In this case, connect the MT700 to the AC outlet with the power adapter.

Adjusting the Backlight

Adjust the backlight screen settings through the following steps:

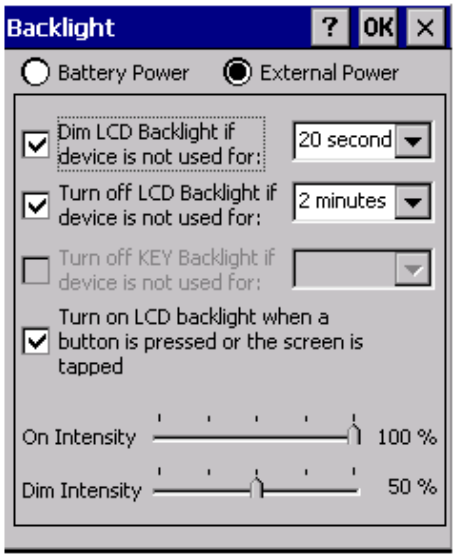
NOTE: The MT700 screen contrast has been preset by Unitech for optimum performance.

1. Tap Start → Settings → Control Panel → double-tap Backlight to adjust the screen brightness.



2. The color display's backlight can be customized for the Battery Power and External Power conditions. Set the backlight behavior and drag the On Intensity and Dim Intensity sliders to the desired levels.

Field	Description
Dim Backlight	Minutes until the backlight dims.
Turn Off Backlight	Minutes until the backlight turns automatically off.
Turn on Backlight	The backlight turns on when a button is pressed, or the touch-screen is tapped.



Hardware Reset

To perform a hardware reset, press the Hardware Reset button with a stylus or a sharp object.

Caution: ***If you perform the hardware reset, there is a possibility that the settings you have done will be lost!***

Performing a Software Reset

Perform a reset if the MT700 is frozen (i.e., the device no longer responds to pressing buttons on/or the touch-screen).

Performing a Warm Boot

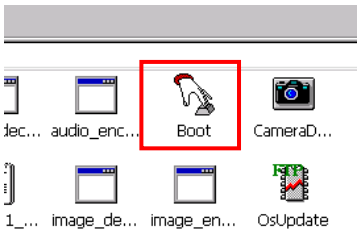
A Warm Boot is used to reset or reboot the device without losing data stored in RAM memory. Perform a Warm Boot in any of the following situations:

- The MT700 fails to respond.
- After installing software applications.
- After making changes to certain system settings (i.e. SD card).

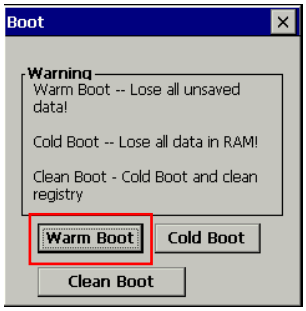
CAUTION! ***A Warm Start will erase all unsaved data.***

From Windows CE

1. Tap My Device → Windows → Boot.



2. Tap Warm Boot.



Performing a Cold Boot

A Cold Boot will erase all added data and programs, but it will restore the device to the default factory settings. However, data and application programs stored in the Flash Storage will not be deleted.

Always perform a Warm Boot before attempting to use a Cold Boot to correct a problem. Data previously synchronized to the computer can be restored.

Perform a Cold Boot by using the BootMode utility in the operating system.

Perform a cold boot in the following situations:

Reset the operating system.

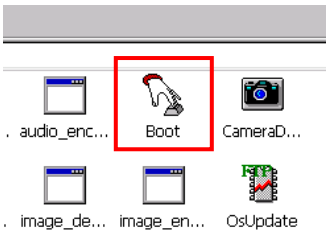
Restore the MT700 back to factory settings.

Reset the MT700 after a boot loader, keyboard and kernel upgrade.

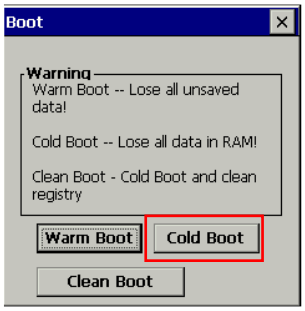
CAUTION! *A cold boot will erase all data and installed applications in RAM memory.*

Method 1: From Windows CE

1. Tap My Device → Windows → Boot.



2. Tap Cold Boot.

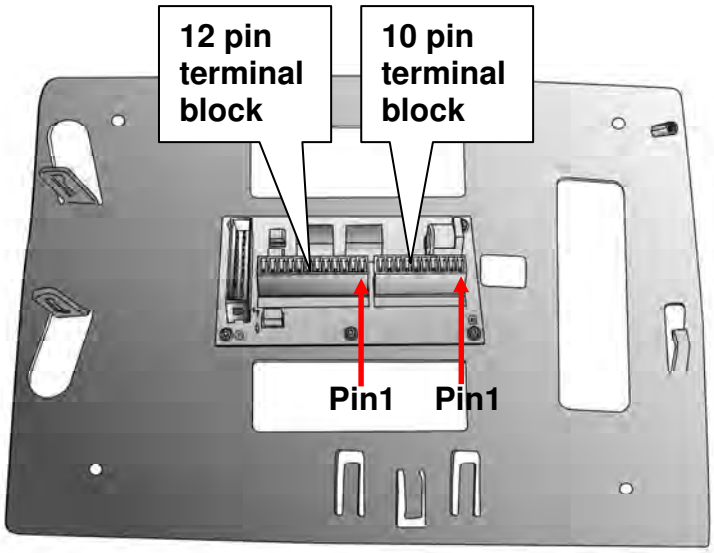


Method 2: From Hardware

Pull out the power cable and then plug the cable into the DC input jack to cold boot

Terminal Block

The MT700 provides a 10-pin and a 12-pin terminal block plugs for input/output signals. With reference to the illustrative figures below, Insert the terminal block plugs into the terminal block sockets on the rear side of the MT700.



10 pin Terminal Block Pin Assignment

Pin	Name
Pin 1	12V
Pin 2	GND
Pin 3	WIEGAND1_D0
Pin 4	WIEGAND1_D1
Pin 5	GND
Pin 6	5V
Pin 7	WIEGAND2_D0
Pin 8	WIEGAND2_D1
Pin 9	GND
Pin 10	5V
N/A	

12 pin Terminal Block Pin Assignment

Pin	Name
Pin 1	RL1NO
Pin 2	RL1C
Pin 3	RL1NC
Pin 4	RL2NO
Pin 5	RL2C
Pin 6	RL2NC
Pin 7	DI1-2
Pin 8	DI1-1
Pin 9	DI2-2
Pin 10	DI2-1
Pin 11	RS485+
Pin 12	RS485-

Appendix A

System Specification

Processor/Memory	CPU	TI OMAP DM3730 with DSP 1GHz Processor
	Memory	SDRAM: 512 MB NAND Flash: 512 MB
OS	Microsoft Windows CE 6.0 Professional Plus	
Button	12 programmable numeric keys	
Display	7 inches color (1024 x 600) Pixels Backlight Touch-screen, TFT-LCD	
Communication	1 X RJ45 with POE (DC12V/1A, IEEE802.3af Compliant) RS485 Support (Optional RS485+, RS485-) baud rate at 15200 bps or lower USB v2.0 Host	
Multimedia	Audio: Two 1 Watt speakers Microphone audio input	
Programming SDK	ModBus SDK supporting Elfin utility	
Power Source	External Power (DC12V/2A)	
Enclosure	Weight	1618 g.
	Dimension	297.53mm (L) X 203.98mm (W) X 74.98mm(H)
Environmental	Operating temperature	-10°C ~ 50°C
	Storage temperature	-20°C ~ 60°C
	Relative Humidity	10% – 95%
Certification	CE, FCC, NCC, CB, BSMI and RoHS compliant	
Programming	VoIP/V2oIP, Video Streaming	
RFID Reader (Optional)	EM+HID MiFare 13.56MHz (ISO 14443A / ISO 14443-4B / ISO 15693 / NFC) Finger print 1:N performance module	
Camera	1.3 megapixel CMOS camera	
Storage	Micro SD slot and support up to 4Gb	

Appendix B

Worldwide Support

At unitech, we have a professional support team to answer your questions or any related technical issues. If the equipment problem occurs, you may contact our regional services representatives to get the quick response. We have six regional services centers, and choose your region to get our quick support and their contact information can be found in our websites provided as below.

Region	Web Site
Global Operation Center	http://www.ute.com
Unitech Taiwan	http://tw.ute.com
Unitech Asia Pacific & Middle	http://apac.ute.com http://india.ute.com
Unitech China	http://cn.ute.com
Unitech Japan	http://jp.ute.com
Unitech America	http://us.ute.com http://can.ute.com
Unitech Latin America	http://latin.ute.com
Unitech Europe	http://eu.ute.com