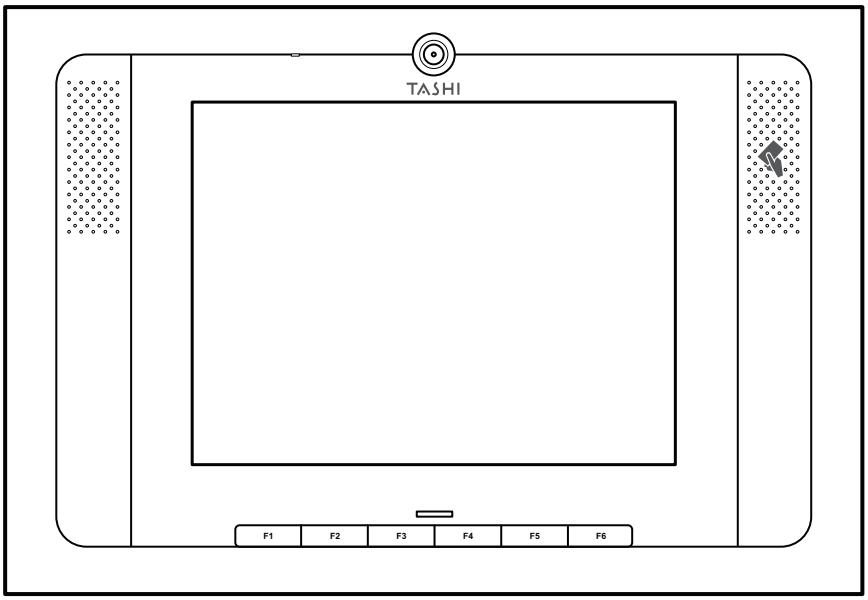
unitech TASHI

A Versatile **Multi-Function** Terminal



User's Manual

400701G Version 1.0

About This Manual

This manual explains how to install, operate and maintain the MT680-AMWTAG Versatile Multi-Function Terminal.

Unitech TASHI Web site: **http:\\www.unitech-sbd.com**

Unitech Global Web site: **http:\\www.unitech-adc.com**

Regulatory Compliance Statements

FCC Warning Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following:

- Relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit that is different from the receiver.
- Consult the dealer or an experienced radio/television technician for help.

1. This Transmitter must not cohabitate or operate in conjunction with any other antenna(s) or transmitter(s).
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmission.
3. Any changes or modifications (including the antennas) made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment.

Canadian Compliance Statement

This Class A Digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte les exigences du Règlement sur le matériel broilleur du Canada.

European Conformity Statement

Declaration of Conformity with Regard to the R&TTE 1999/5/EC and EMC 89/336/ EEC directives.

RoHS Statement

This device conforms to RoHS (Restriction of Hazardous Substances) European Union regulations that set maximum concentration limits on hazardous materials used in electrical and electronic equipment.

Taiwan NCC Warning Statement

根據 NCC 低功率電波輻射性電機管理辦法 規定 :

第十二條　經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條　低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Battery Notices

The MT680-AMWTAG is equipped with a Lithium-Ion battery. But, after extended storage periods, the MT680-AMWTAG may not start without an external power source due to battery discharge. In this case, connect the MT680-AMWTAG to the power cable and recharge the MT680-AMWTAG for about 12 hours to charge the battery to full capacity.

The battery supplies operational power to the MT680-AMWTAG for approximately two hours (depending on hardware configuration and with limited backlight use) or provides backup data for three days when there is no external power source.

Battery Charge Notice

It is important to consider the environmental temperature whenever the Lithium-Ion battery is charged, which is most efficient at room temperature or in a slightly cooler environment. It is essential that batteries are charged within the range of 0°C to 45°C (32ºF to 113ºF). Charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

Storage and Safety Notice

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may deplete due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may store at temperatures between -20°C to 60°C (-4ºF to 140ºF), however they may deplete more rapidly at the warmer end of this temperature range. It is also recommended to store batteries at room temperature.

Warranty

The following items are covered under Unitech Limited Warranty:

- MT680-AMWTAG Versatile Multi-Function Terminal. – 1-year limited warranty.
- Cables – three-month limited warranty.
- Backup Battery – three-month limited warranty.

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Chapter 1

Getting Started

Introducing the MT680-AMWTAG

The MT680-AMWTAG is a versatile fixed-mount TASHI (Time & Attendance, Access Control, Surveillance, Home Automation and Intercom) Controller. This multi-functional device offers a built-in 2.0-Megapixel CMOS digital camera, RFID reader, microphone and audio speaker. It runs on a Windows CE 5.0 operating system which provides a variety of applications that benefit numerous industries.

Features

Internal System
- 520MHz Intel PXA270 Processor
- Microsoft Windows CE 5.0

Memory
- 128 MB SDRAM
- 64 MB FlashROM

Display
- 8” VGA TFT-LCD touch-screen
- 640 x 480 resolution

Multimedia
- 2.0 Megapixel CMOS Camera
- Speaker Audio Outputs (2)
- Microphone Audio Input

RFID Reader (Optional)
- MiFare, 13.56MHz

Wireless Connectivity (Optional)
- Supports 802.11b/g Wireless LAN

Communication
- RS232/485
- USB 1.1 Host
- USB 1.1 Client (for developing use only)
- Relay Outputs (4)
- Photo-Coupler Inputs (4)
- Ethernet 10/100Base-T
- Power-over-Ethernet

Expansion Slot
- CF Memory Slot
- SDHC Memory Slot

Battery Life
- 2-Hour Operational Use
- One Day Data Backup
- Embedded Backup Battery Cell

User Interface
- 6-Hard Keys
- Touch-screen

TASHI Middleware
- Video Streaming
- VoIP/V2oIP

Software Programming Tools
- C#, VB.NET, C++

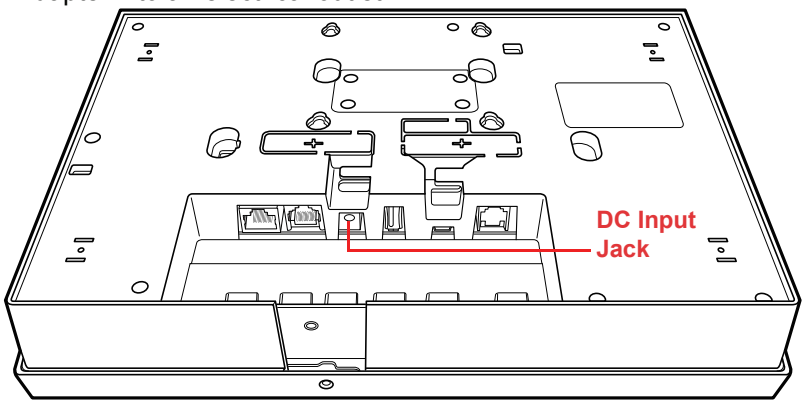
Setting up the MT680-AMWTAG

Connect Power

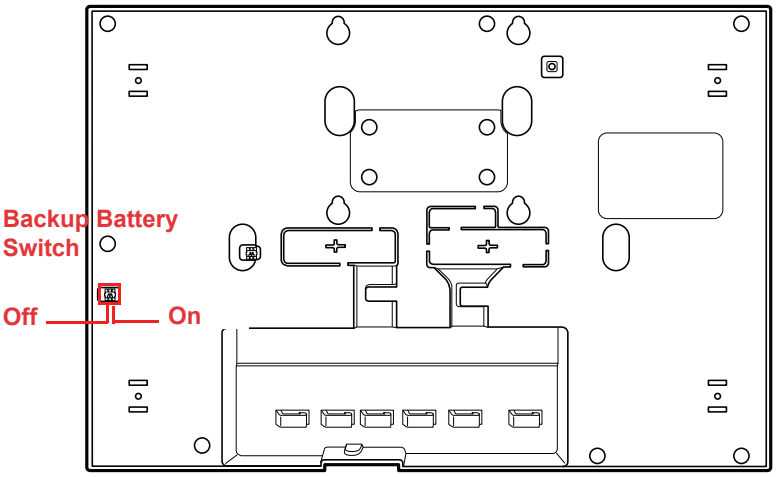
Connect power to the MT680-AMWTAG through the following:

NOTE: A UPS battery is used for normal operation when there is no external power source. The battery also functions as a data backup battery. Therefore, data entered may not be properly stored until the built-in backup battery has been adequately charged.

1. Plug the Power Adapter Cable into the MT680-AMWTAG's DC input jack, then connect the other end of the Power Adapter into an electrical outlet.



2. Locate the Backup Battery Switch on the MT680's back panel, and move it to the right to the "On" position.



Charging the Battery

The MT680 must be charged for at least 12 hours before initial use. The battery begins charging as soon as the Power Adapter Cable plugs into an external power source.

Using the Touch-screen

1. Lightly 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 a form.
4. Press down and hold on an item to access additional options.

Using the MT680-AMWTAG for the First Time

Once the MT680-AMWTAG has been charged for at least 12 hours, it is time to start up, calibrate the display, select the time zone, and enter the date and time.

Powering On the MT680-AMWTAG

The MT680-AMWTAG automatically powers on when the Power Adapter Cable plugs into an external power source. The MT680-AMWTAG welcome screen appears, followed by the Windows CE screen.

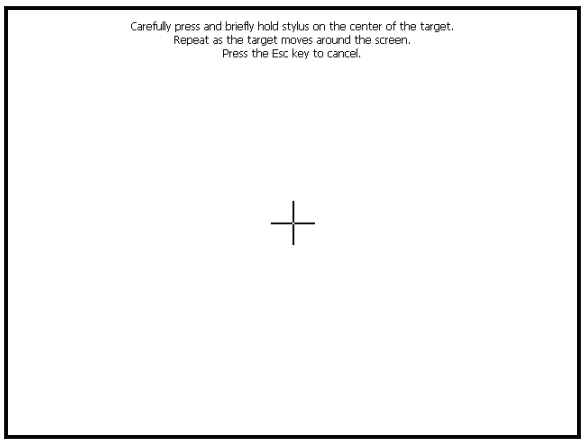
NOTE: Move the MT680-AMWTAG Backup Battery Switch to the “On” position before initial use.

Calibrate Screen

The calibrate screen automatically appears when the unit powers on for the first time or when the system is reset.

Tap a sequence of target marks across the screen. Tap the screen gently.

When the series of taps is complete, press **F6** / **ENTER** to confirm calibration or press **F5** / **ESC** to cancel the calibration.



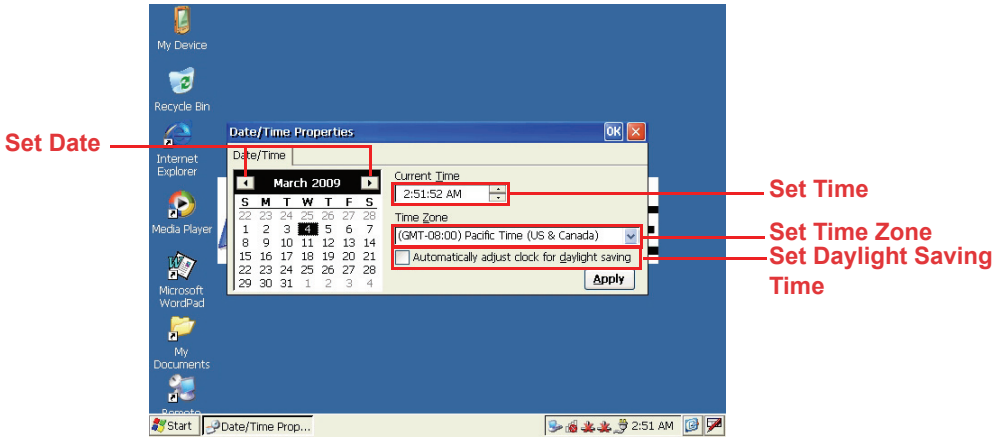
The Date/Time properties screen will appear after the calibration has been confirmed.

NOTE: It is possible to bypass the calibration screen, and date and time routines. See *Skipping the Calibration Routine* on page 11.

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 daylight saving**.
- Tap **Apply** to save the settings and exit the Date/Time Properties dialog, or tap  to exit without saving.

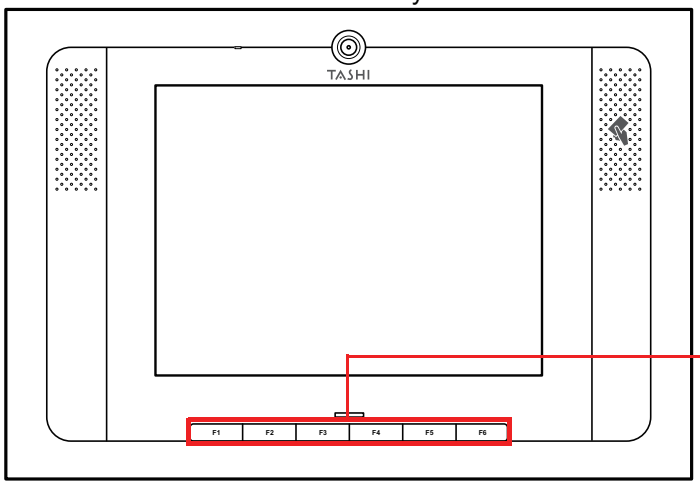


NOTE: To change the time and date at any time tap: **Start** → **Settings** → **Control Panel** → double-tap **Date/Time**.

Using the Hardware

Using the Function Keys

The MT680-AMWTAG contains six function keys.



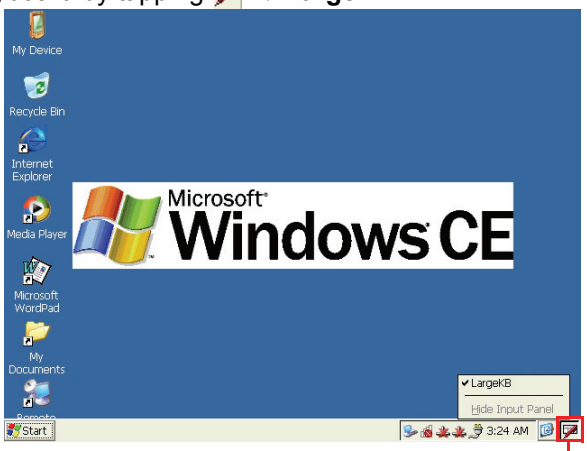
Function Key Descriptions

Key	Main Function
F1	Function Key
F2	Function Key
F3	Function Key
F4	Function Key
F5	Function Key, or **ESC** performs the same function as tapping the on the touch screen.
F6	Function Key, or **ENTER** moves the cursor to the next line or executes a command.

Using the Windows CE 5.0 Keyboard

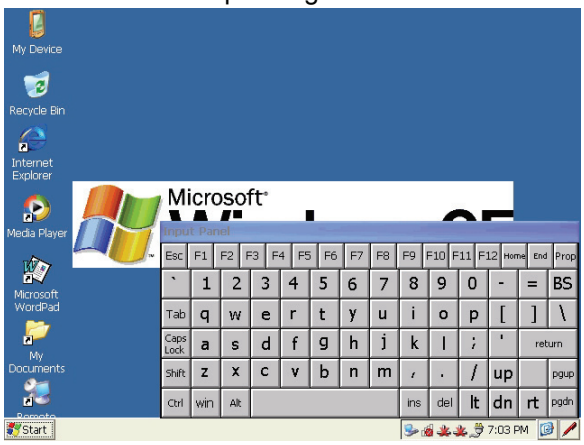
The Windows CE Software provides a touch-screen keyboard for alphanumeric input. The Windows-based keyboard replicates the layout of a standard PC keyboard.

Open the Windows CE keyboard by tapping → **LargeKB**.



Entering Characters

Entering alphabetic and numeric characters on the MT680 is the same as character input on a standard PC keyboard. Tap the onscreen button corresponding to the desired character.



Moving the Keyboard

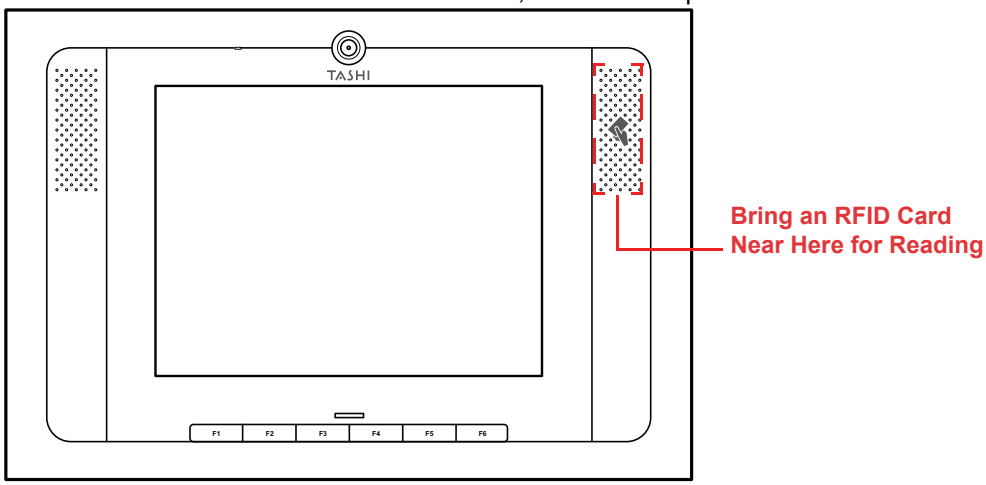
Tap the title bar and drag the keyboard to the desired location.

Closing the Keyboard

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

Using the RFID Reader

The MT680-AMWTAG features a standard RFID reader, which is compatible with 13.56MHz MiFare cards.

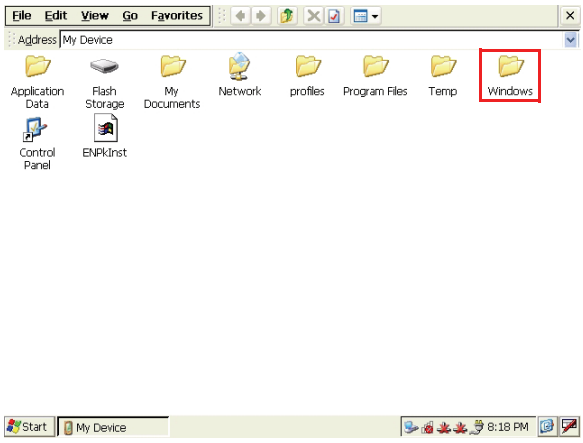


Testing RFID Card Verification

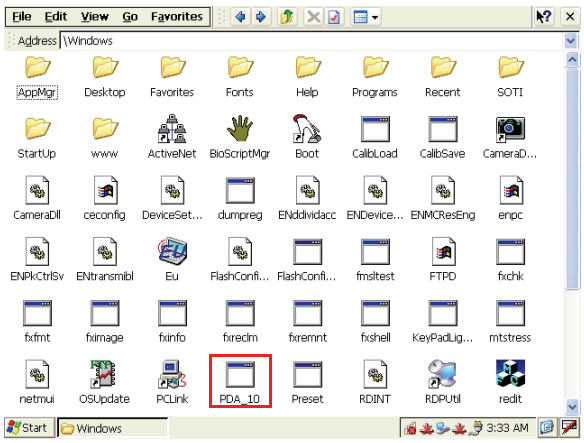
The MT680-AMWTAG has built-in demo programs that allow RFID card verifications.

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

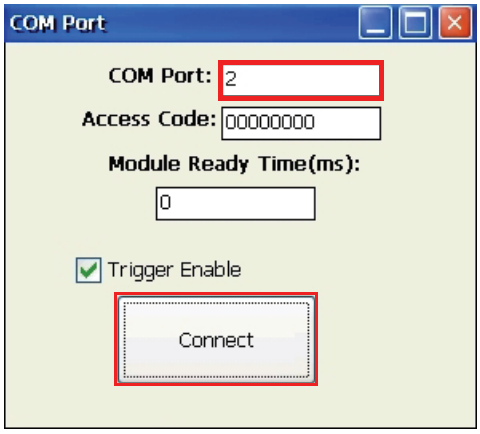
2. Double-tap **Windows**.



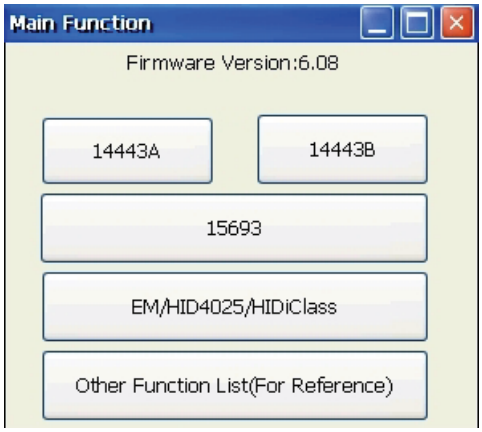
3. Double-tap **PDA_10** to open the demo program.



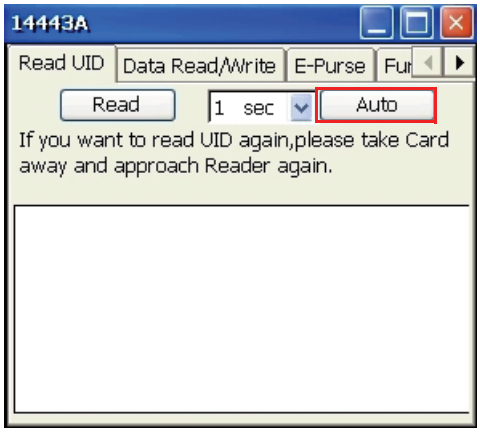
4. Set the **COM Port:** field at **2**.
Tap **Connect**.



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.

Using the Camera

The MT680-AMWTAG has a built-in 2.0-Megapixel camera that provides the following:

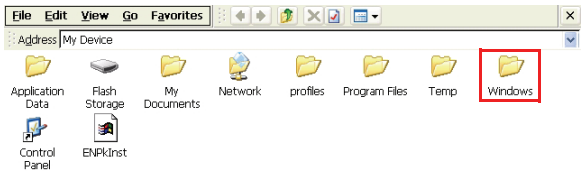
- Capture still images.
- Serve as video recorder.
- Function as an audio/video intercom.
- Incorporates facial recognition through third party software.

Testing the Imager

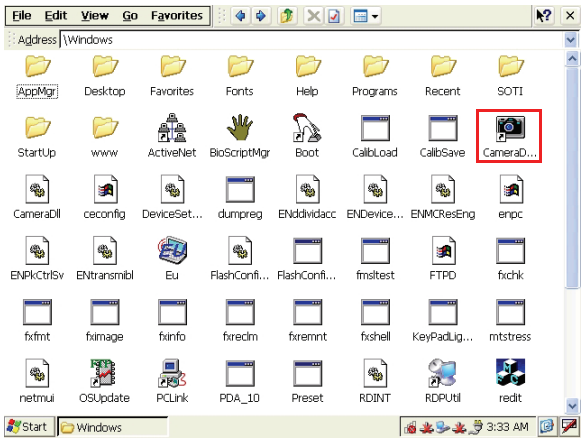
Test the camera's efficiency with the MT680's built-in CameraDemo program through the following:

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

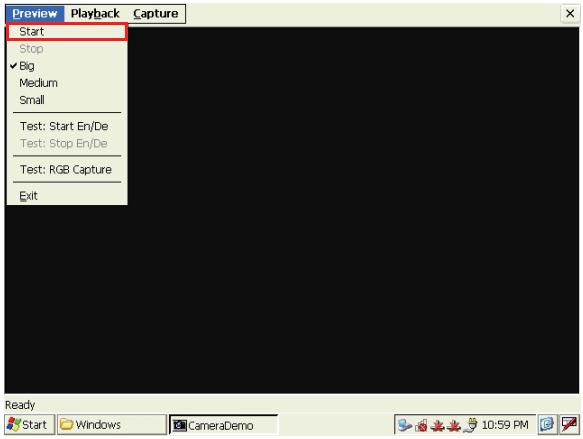
2. Double-tap **Windows**.



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



4. Tap **Preview** → **Start**.
   A continuous image is displayed for capturing a(n) image/audio/video.



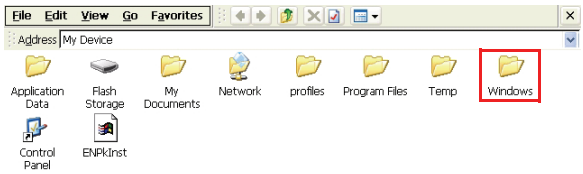
5. Tap **Capture**, to photograph an image.
6. To view the image, tap **Preview** → **Stop**. And, tap **Playback** → **Show Image**. Double-tap the image file name from the My Device folder.
7. To exit the image, tap **Playback** → **End Show Image**.
8. Exit the CameraDemo window by tapping **X**, or **Preview** → **Exit**.

Using the Audio Input/Output

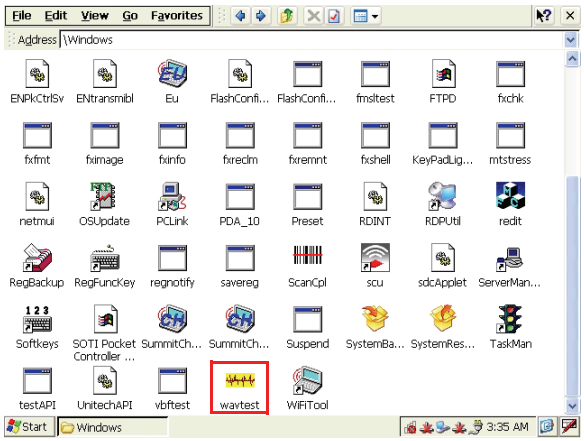
An audio demo program will test the audio input (recording) and output (playback).

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

2. Double-tap **Windows**.



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



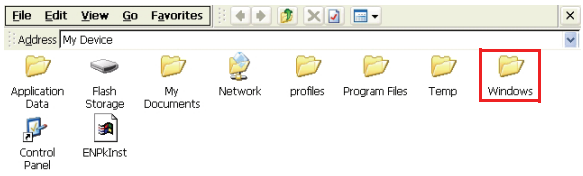
4. Do one of the following:
   - Tap **Rec** to record the voice.
   - Tap **Stop** to finish recording.
   - Tap **Play** to listen to the recording.

Skipping the Calibration Routine

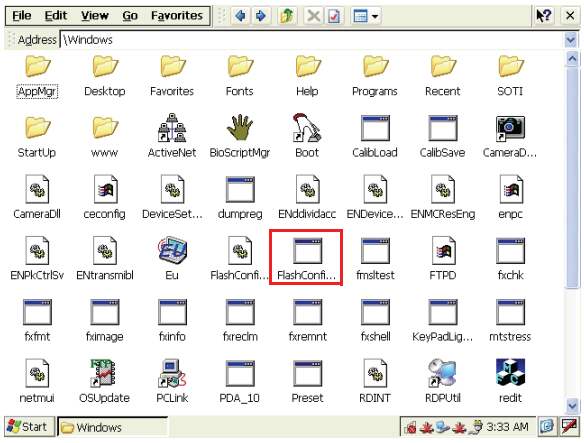
The FlashConfigUtility program can bypass the screen, and date and time calibration routines when the MT680 cold starts. Skip the calibration process through the following:

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

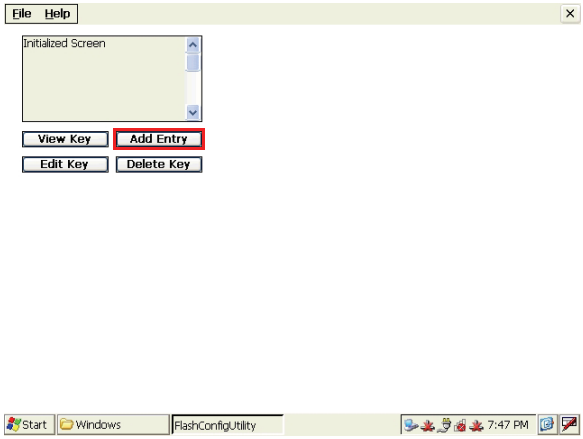
2. Double-tap **Windows**.



3. Double-tap **FlashConfigUtility** to open the FlashConfigUtility window.

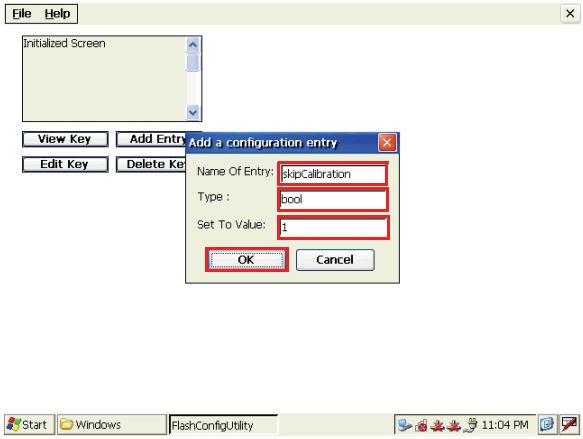


4. To skip the screen calibration, tap **Add Entry** to create a new setting in the Flash Storage.

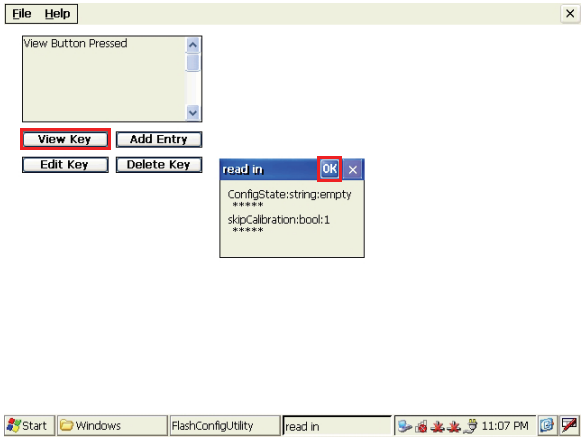


5. In the **Name of Entry:** field, input **skipCalibration**.
   In the **Type:** field, input **bool**.
   In the **Set to Value:** field, input **1**.
   Tap **OK**.
   The message **Success, Key Added** appears, indicating a successful entry.

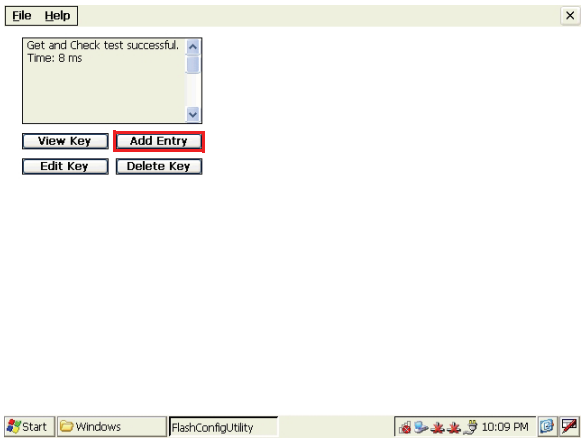
NOTE: The name is case-sensitive.



6. Tap **View Key** to view this setting.
   The **read in** screen appears with the message **skipCalibration:bool:1**.
   Tap **OK**.

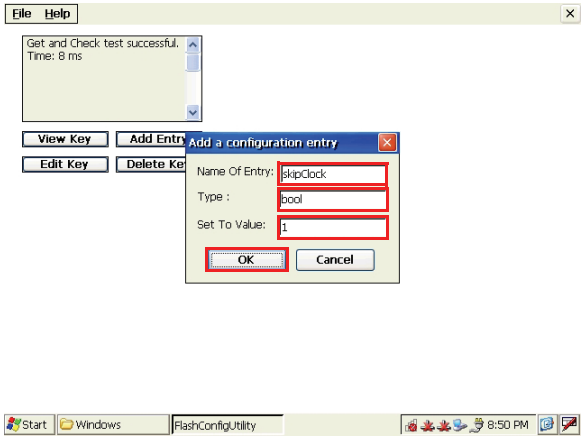


7. To skip the date and time calibration, tap **Add Entry** to create a new setting in Flash Storage.



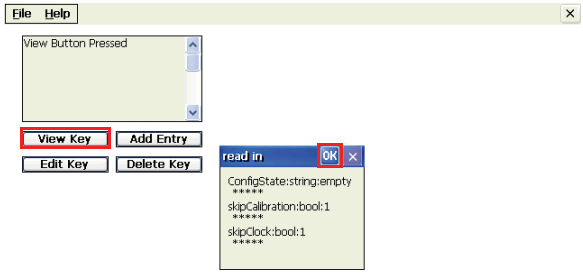
8. In the **Name of Entry:** field, input **skipClock**.
   In the **Type:** field, input **bool**.
   In the **Set to Value:** field, input **1**.
   Tap **OK**.
   The message **Success, Key Added** appears, indicating a successful entry.

NOTE: The name is case-sensitive.

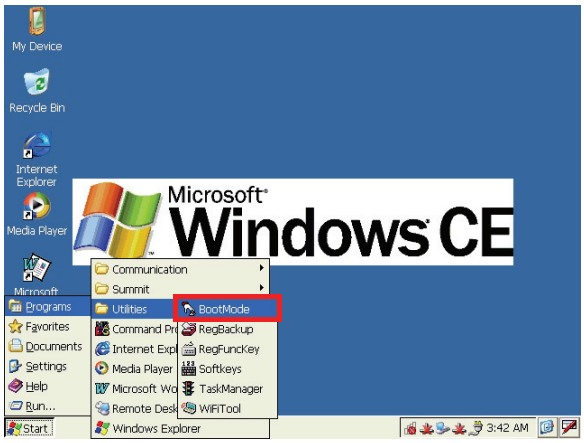


9. Tap **View Key** to view this setting.
   The **read in** screen appears with the message **skipClock:bool:1**.
   Tap **OK**.

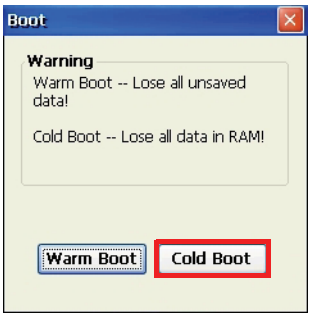
10. Tap × to exit the FlashConfigUtility.



11. Tap **Start** → **Programs** → **Utilities** → **BootMode**. The Boot window appears.



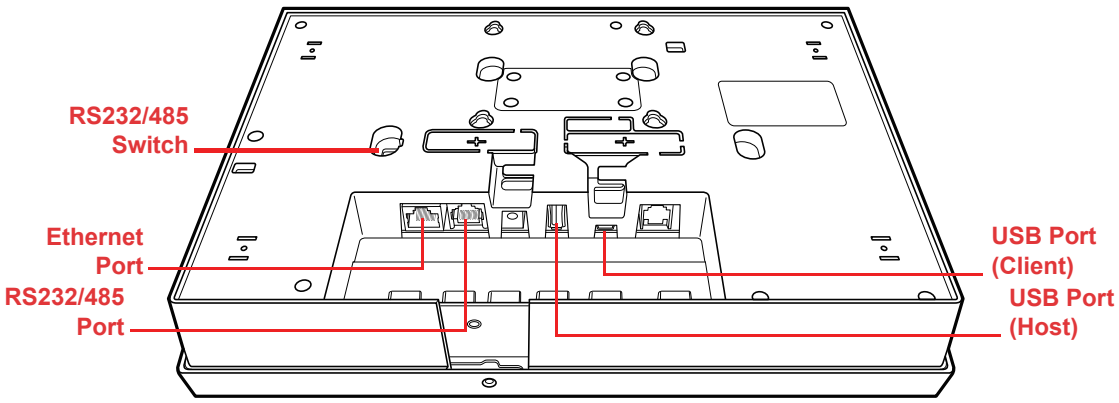
12. Tap **Cold Boot** to cold start the MT680-AMWTAG and load the previous settings.
    The MT680-AMWTAG will skip the screen, date and time calibration process.



Chapter 3

Data Communication

The MT680-AMWTAG can link to a host computer for data communication via USB, RS232/485 or Ethernet cables.



Establishing the USB Connection

Connect a USB cable to the MT680-AMWTAG's USB host port, and connect the other end to a USB peripheral, such as a: Keyboard, mouse, memory card or HID compliant device.

Establishing the MT680-AMWTAG/PC Connection

The MT680-AMWTAG supports the following connection methods:

USB Cable

Connect a USB cable to the PC's USB host port, and connect the other end to the MT680-AMWTAG's USB client port. The USB connection allows data synchronization. See *Using Mircosoft ActiveSync* on page 15.

Serial Cable

Plug an RS232 communication cable into the PC's 9-pin COM port, and connect the other end to the MT680-AMWTAG's RS232/485 Port.

NOTE: Turn the RS232/485 Switch to the left (RS232) position.

Ethernet Cable

Plug an Ethernet cable into the PC's RJ-45 ethernet port, and connect the other end of the cable into the MT680-AMWTAG's Ethernet Port.

NOTE: In order for the Power-over-Ethernet module to support power over the RJ-45 Ethernet cable, the client side must have a POE Hub.

Using Mircosoft ActiveSync

Using Microsoft ActiveSync to synchronize and transfer information between any desktop computer and the MT680-AMWTAG.

Additional Capabilities

Microsoft ActiveSync can:

- Backup and restore data.
- Copy files (rather than synchronize) between the MT680-AMWTAG and a desktop computer.
- Control synchronization.
- Select the type and amount of synchronized data.

Requirements

In order to synchronize, Microsoft ActiveSync must be installed on the desktop computer and the MT680-AMWTAG . The MT680-AMWTAG is already installed with Microsoft ActiveSync. The most updated version of Microsoft ActiveSync can be downloaded from www.microsoft.com.

Installing Microsoft ActiveSync

NOTE: Uninstall the previous version of Mircosoft ActiveSync before installing the latest version of Microsoft ActiveSync. The MT680 requires ActiveSync version 4.5 or higher.

Install Microsoft ActiveSync on a computer through the following:

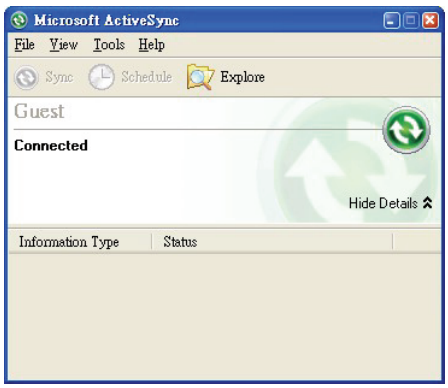
1. Close all programs, including those that run during startup.
2. Disable all virus-scanning software.
3. Download ActiveSync from: http://www.microsoft.com/windowsmobile/activesync/activesync45.mspx
4. Browse to the download file location, and double-click the file download.
5. Follow the onscreen instructions to complete installation.

Connecting the MT680-AMWTAG to the Computer

1. Power on the MT680-AMWTAG.
2. Connect a USB cable to the MT680-AMWTAG's USB host port, and connect the other end to a computer.
3. Microsoft ActiveSync starts automatically configuring the communication port to work with the MT680-AMWTAG. The **New Partner-ship** setup wizard automatica

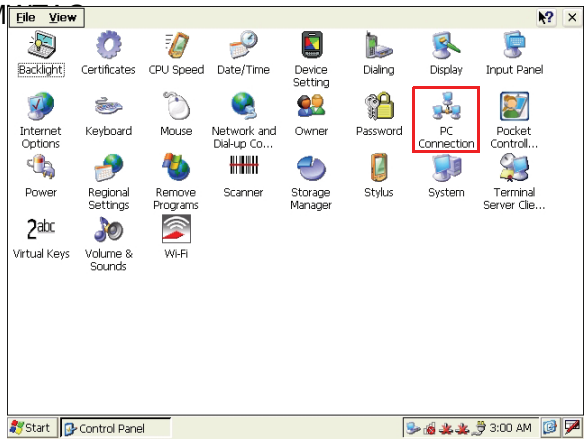
NOTE: Click **Start** → **Programs** → **Microsoft ActiveSync**, if ActiveSync doesn't automatically start.
Click **Cancel** and manually configure the communication settings, if a message appears indicating that it is unable to detect a connection. Manually configure the communications settings on the computer by clicking **MAS** → **File** → **Connection Settings** → **Connect Device**.

4. Follow the onscreen instructions. The Microsoft ActiveSync window appears, when the configuration process is complete. Synchronization will initiate periodically, or upon connection.

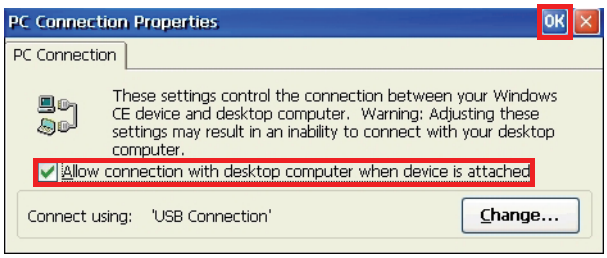


NOTE: The computer can create a connection with multiple MT680-AMWTAG devices. In addition, an MT680-AMWTAG can create a connection with up to two computers.

5. To ensure the correction, on the MT680-AM tap **Start** → **Settings** → **Control Panel** → double-tap **PC Connection**.



6. Check **Allow connection with desktop computer when device is attached**. Tap **OK**.

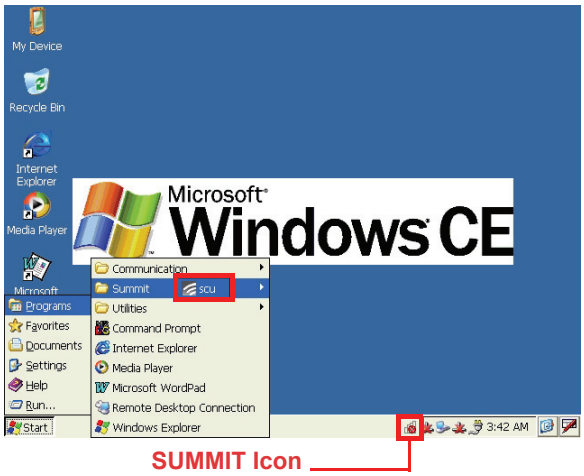


Establishing a Wi-Fi Connection

The MT680-AMWTAG supports wireless communication with a built-in Wi-Fi card for 802.11b/g WLAN. It is possible to use the Summit Client Utility to setup or modify the Wi-Fi settings through the following:

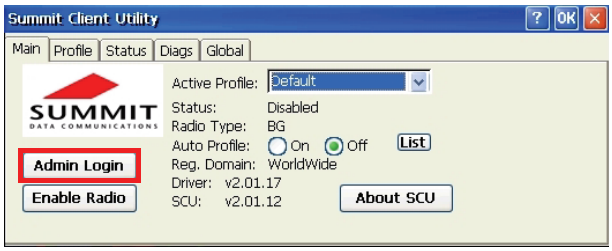
NOTE: Wi-Fi access requires a separate service contract through a wireless service provider. Contact a wireless service provider for more information.

1. Double-tap the **SUMMIT** icon on the task bar, or tap **Start** → **Programs** → **Summit** → **scu**. The Summit Client Utility window appears.



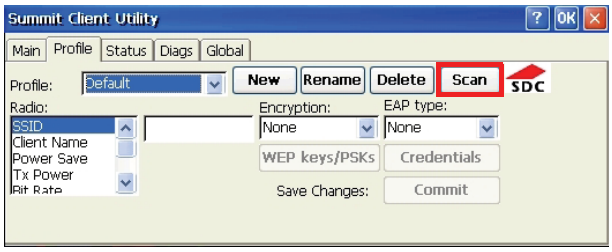
NOTE: Alternatively, tap **Start** → **Settings** → **Control Panel** → double tap **Wi-Fi**.

2. Tap **Admin Login** to login as an administrator.

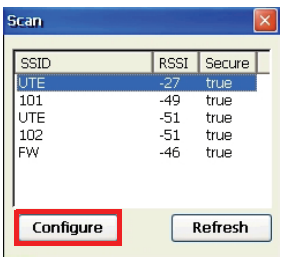


3. Enter the default password as **SUMMIT**. Tap **OK**.

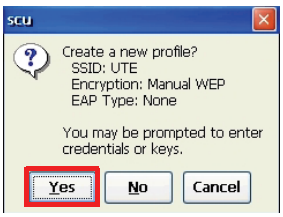
4. In the **Profile** tab, tap **Scan** for available access points. The Scan window appears.



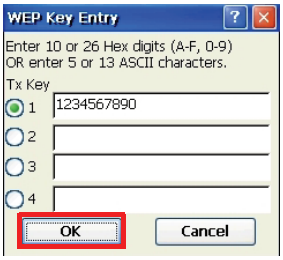
5. Select a desired SSID (**UTE** for example) to create a new profile. Tap **Configure**.



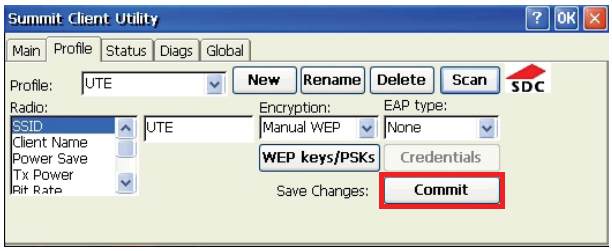
6. The scu window appears, asking to create a new profile. Tap **Yes**.



7. Enter the network key in the WEP Key Entry window. Tap **OK**.



8. Tap **Commit** to activate the setting.



9. In the **Main** tab, scroll down the **Active Profile** drop down menu to select **UTE**. The network automatically connects. The radio information containing the active profile, radio status, client attributes, AP attributes, connection channel number, data rate, transmitted power, signal strength and etc., will display in the **Status** tab.

10. Tap **Disable Radio** to disconnect the access point.

NOTE: Please refer to the User's Guide on the Summit Web site for detailed information: http://www.summitdatacom.com/documentation.htm

Set Up an IP Address

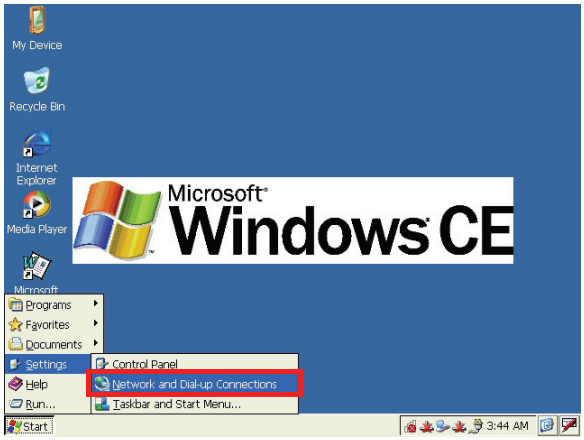
The MT680-AMWTAG automatically detects WLAN module(FCC ID: TWG-SDCCF10G) during the first installation. Set the IP address through one of the following methods:

- Obtaining an IP Address via Dynamic Host Configuration Protocol (DHCP) Server.
- Specifying an IP Address.

Obtaining an IP Address via DHCP Server

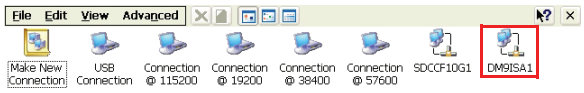
Make sure a DHCP server is available in the LAN environment before trying to obtain the IP address through a DHCP server.

1. Tap **Start** → **Settings** → **Network and Dial-up Connections**.

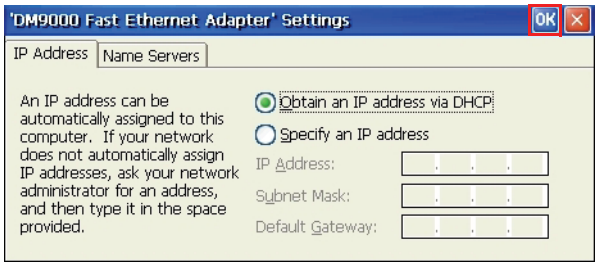


NOTE: Tap **Start** → **Settings** → **Control Panel** → double-tap **Network and Dial-up Connections**.

2. Double-tap **DM9ISA1**.



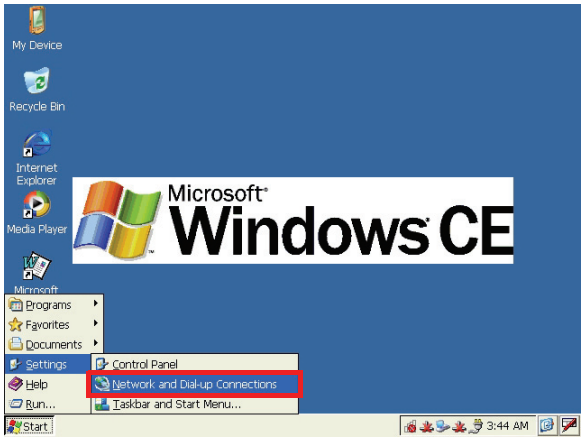
3. Tap the radio button next to **Obtain an IP address via DHCP** and then tap **OK**.



Specifying an IP Address

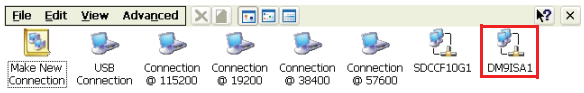
If no DHCP server is available, assign an IP address to each MT680-AMWTAG through the following:

1. Tap **Start** → **Settings** → **Network and Dial-up Connections**.

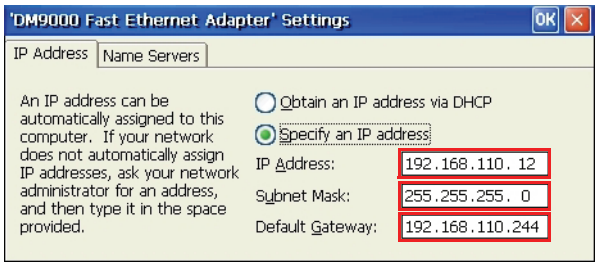


NOTE: Tap **Start** → **Settings** → **Control Panel** → double-tap **Network and Dial-up Connections**.

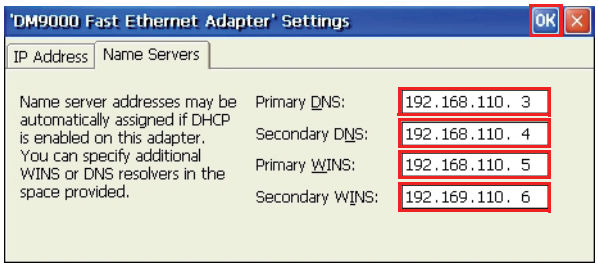
2. Double-tap **DM9ISA1**.



3. Tap the radio button next to **Specify an IP address**. Input the proper IP address, Subnet Mask and Default Gateway.



4. In the **Name Servers** tab, input the proper **Primary DNS:**, **Secondary DNS:**, **Primary WINS:** and **Secondary WINS:**. Tap **OK**.



NOTE: To avoid conflict with the Local Area Network environment, consult an MIS department for the correct Transmission Control Protocol / Internet Protocol setting.

Power System

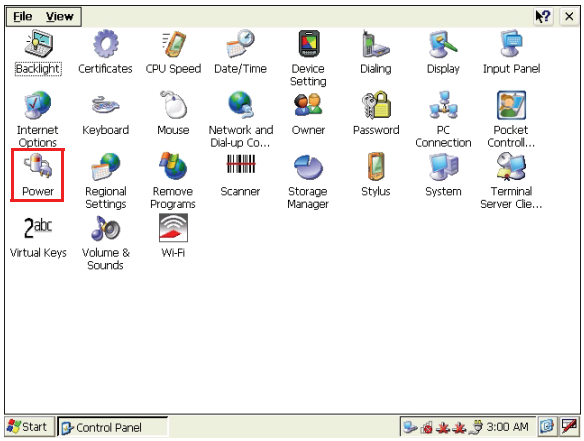
Charging the Battery for the First Time

The MT680-AMWTAG is equipped with a Lithium-Ion battery. The MT680-AMWTAG may not power on after long storage periods without an external power adapter, due to battery discharge. In this case, connect the MT680-AMWTAG to the power adapter and recharge the device for about 12 hours.

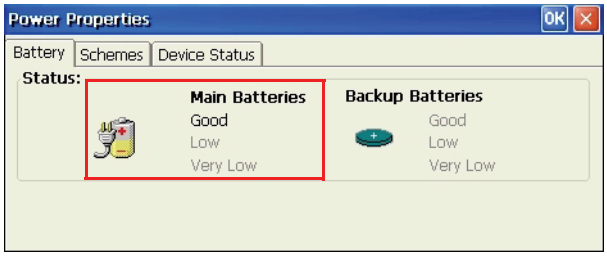
NOTE: The MT680-AMWTAG can operate for approximately two hours (depending on the hardware configuration and backlight usage) or can store data for 24 hours without external power. Operating the MT680-AMWTAG's backlight screen at 100 percent brightness consumes the most power. Therefore, when the MT680-AMWTAG disconnects from its external power source it will enter into sleep mode, which automatically turns off the backlight. Tapping the touchscreen will set the backlight screen to minimum brightness, saving battery power.

Checking the Battery Status

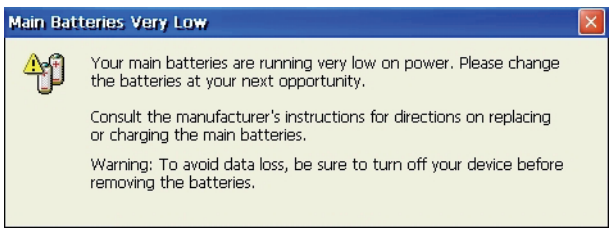
Check the Power Properties by tapping **Start** → **Settings** → **Control Panel** → double-tap **Power**.



This status icon appears on the MT680-AMWTAG's task-bar indicating the low battery status. The MT680-AMWTAG will enter suspend mode when the battery level reaches Low status, and the MT680-AMWTAG will enter sleep mode when the battery level reaches Very Low status. There is a 12 hour time window to recharge the MT680-AMWTAG, but after this time period there is a strong risk of losing all the MT680-AMWTAG's internal memory
This icon appears in the taskbar when the battery is Very Low and the battery should be recharged as soon as possible.



CAUTION! Immediately backup the MT680-AMWTAG's data or risk losing everything when there is no external power, and the **Main Batteries Very Low** warning window appears.



Extending Battery Life

Extend the MT680-AMWTAG's battery life through the following:

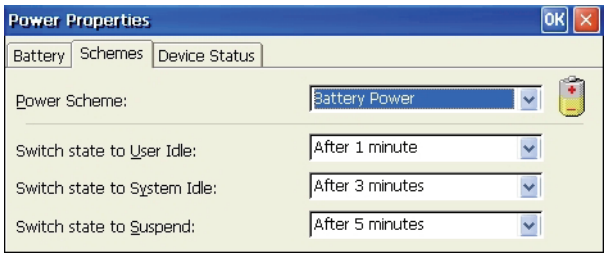
- Change the automatic power settings.
- Reduce the CPU speed.
- Minimize the backlight.

Changing the Automatic Power Settings

The MT680-AMWTAG enters an idle mode when there is no task, or all tasks are waiting for input. In the default setting, the MT680-AMWTAG enters User Idle mode when there is no data input for one minute. The MT680-AMWTAG remains idle for three minutes when there is no external power source. Pressing the power button will return the MT680-AMWTAG to the automatic shutdown mode screen.

Change the automatic power settings through the following:

1. Open the Power Properties by tapping **Start** → **Settings** → **Control Panel** → **Power**.
2. Tap the **Schemes** tab.



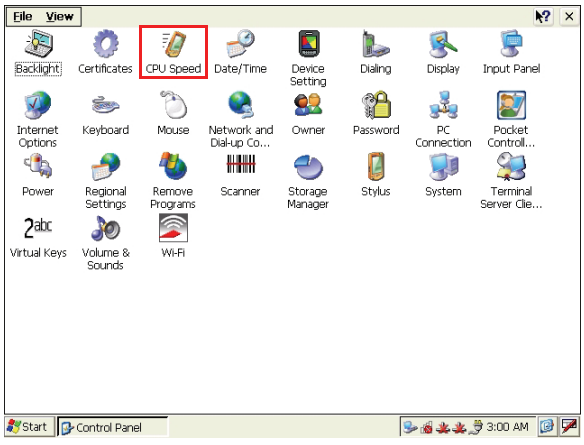
3. Tap the automatic shut off time arrow to select from a list of time periods for the following modes:
   - **Switch state to User Idle:** The MT680-AMWTAG switches to User Idle mode when there is no user input after the selected time.
   - **Switch State to System Idle:** The MT680-AMWTAG switches from User Idle mode to System Idle mode when the system is inactive after the selected time.
   - **Switch State to Suspend:** The MT680-AMWTAG switches from System Idle mode to Suspend mode when the system is inactive after the selected time.

   The available time periods are 1, 2, 3, 4, 5, 10 and 30 minutes.

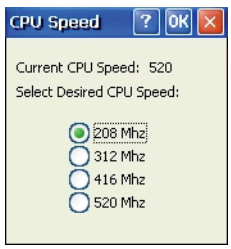
Reducing CPU Speed

Reduce the CPU speed through the following:

1. Tap **Start** → **Settings** → **Control Panel** → double-tap **CPU Speed**.



2. Select a lower CPU speed to conserve battery power.

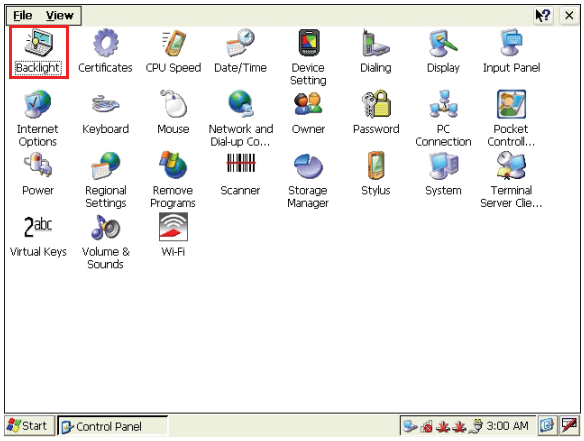


Adjusting the Backlight

Conserve the MT680-AMWTAG's battery power by adjusting the backlight screen settings through the following:

NOTE: The MT680-AMWTAG 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.

Performing a Hardware Reset

Perform a reset if the MT680-AMWTAG freezes (i.e., the device no longer responds to pressing buttons on/or the touch-screen).

Performing a Warm Start

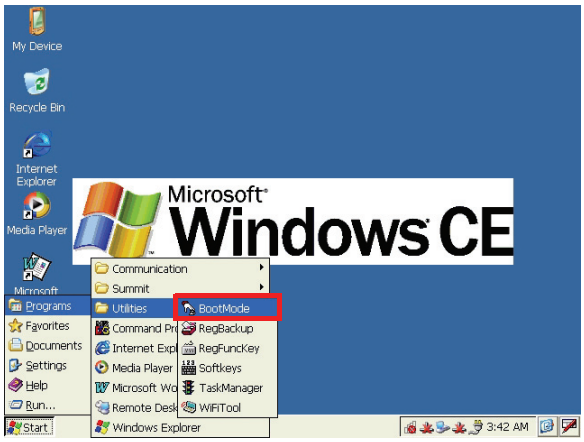
A Warm Start is used to reset or reboot the device without losing data stored in RAM memory. Perform a Warm Start in any of the following situations:

- The MT680-AMWTAG fails to respond.
- After installing software applications.
- After making changes to certain system settings (i.e. SD card).

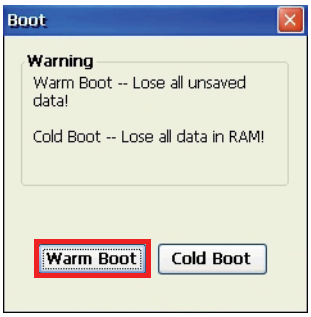
CAUTION! A Warm Start will erase all unsaved data.

Method 1: From Windows CE

1. Tap **Start** → **Programs** → **Utilities** → **BootMode**.

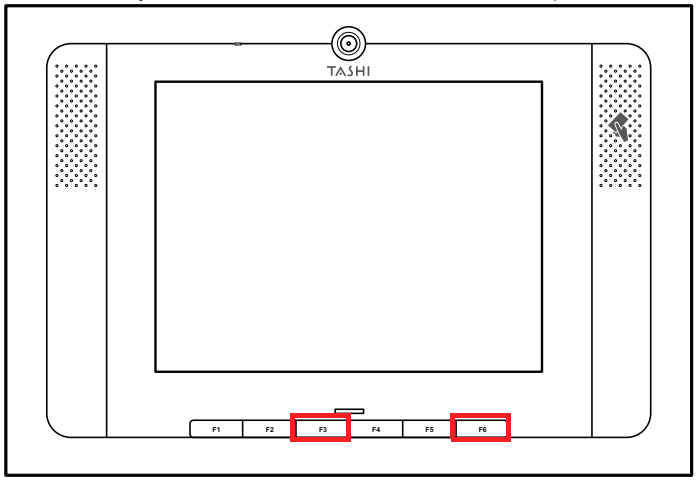


2. Tap **Warm Boot**.



Method 2: From Hardware

Locate the Function Keys on the MT680-AMWTAG's front panel, and simultaneously press **F3** and **F6**.



Performing a Cold Start

A Cold Start 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 Start before attempting to use a Cold Start to correct a problem. Data previously synchronized to the computer can be restored during a future Microsoft ActiveSync operation, or data can be restored from a backup storage card.

Perform a Cold Start by using the BootMode utility in the operating system, or by pressing the Cold Start Button on the MT680's back panel.

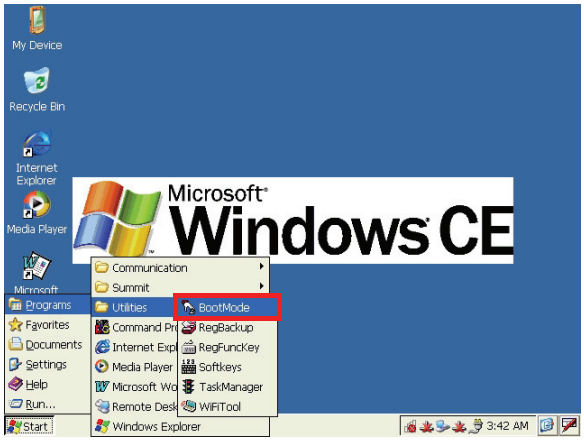
Perform a cold start in the following situations:

- Reset the operating system.
- Restore the MT680-AMWTAG back to factory settings.
- Reset the MT680-AMWTAG after a boot loader, keyboard and kernel upgrade.

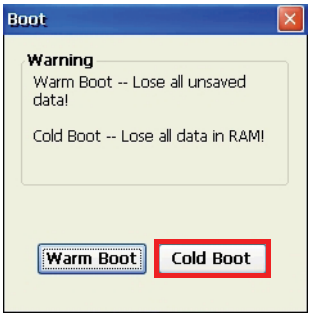
CAUTION! A cold start erases all data and installed applications in RAM memory.

Method 1: From WinCE

1. Tap **Start** → **Programs** → **Utilities** → **BootMode**.

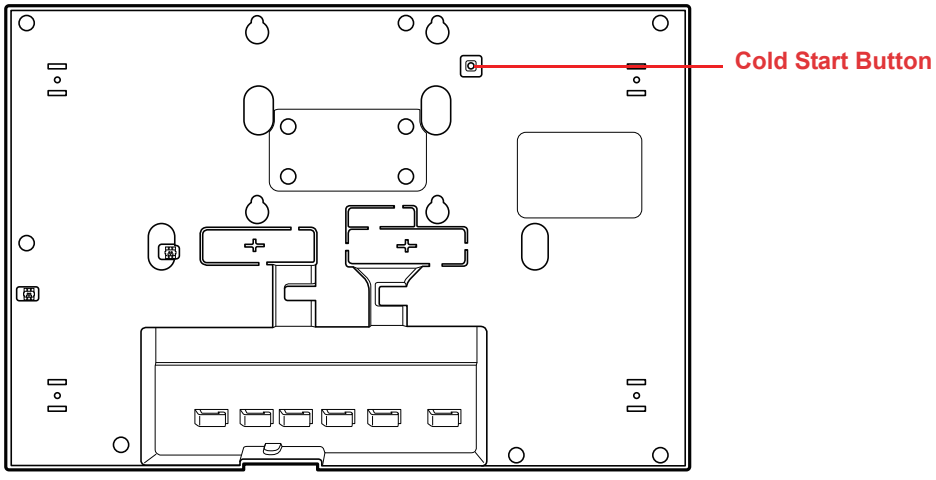


2. Tap **Cold Boot**.



Method 2: From Hardware

Locate the Cold Start Button on the MT680-AMWTAG's back panel, and press it with a stylus.



Appendix A

System Specification

Processing/Memory	CPU	520MHz Intel PXA270
	Memory	SDRAM: 128 MB Flash ROM: 64 MB
OS	Microsoft Windows CE 5.0	
Keypad	6 Function Keys	
Display	8” VGA (640 x 480) Pixels Backlight Touch-screen, TFT-LCD	
Communication	One RJ45 with POE (DC12V/1A, IEEE802.3af Compliant) RS232 Support (Optional RJ45 to D-Sub 9pin cable) RS485 Support (Optional RS485+, RS485-) baud rate at 38400 bps or lower *RS232/RS485 (Single Port - use S2 switch to select connection type) USB v1.1 Host USB v1.1 Client (For developing use only) One RJ11 Telephone Jack Relay Outputs (4) Photo-coupler Inputs (4) Supports 802.11b/g via CF Interface	
Multimedia	Camera: 2.0-Megapixel CMOS Speaker Audio Outputs (2) Microphone Audio Input	
TASHI Middleware	Video Streaming VoIP/V2oIP	
Expansion	SDHC Compliant, Supports 4GB and Up CF Socket for WLAN (FCC ID: TWG-SDCCF10G) or WWAN	
Power Source	Main	External Power (DC12V/2A)
	Backup	7.4V Lithium-Ion 1950mAh
Enclosure	Weight	1365.7 g. (3.01 lbs.)
	Dimension	295mmL X 203mmH X 43mmW (11.61”H X 7.99”W X 1.69”D)
Environmental	Operating Temperature	-5ºC – 45ºC (23ºF – 113ºF)
	Storage Temperature	-20ºC – 60ºC (-4ºF – 140ºF)
	Relative Humidity	5% – 95% RH non-condensing
Certification	CE, FCC, NCC, CCC and RoHS compliant	
Programming	C#, VB.NET and C++	
RFID Reader (Optional)	MiFare, 13.56MHz (ISO14443A/B & 15693, or ISO14443A only)	

Appendix B

Worldwide Support

Unitech's professional support team is available to quickly answer questions or technical-related issues. Should an equipment problem occur, please contact the nearest Unitech regional service representative. For complete contact information please visit the Web sites listed below:

Region	Web Site
Global Operation Center	www.unitech-adc.com
Unitech Asia Pacific & Middle East	www.unitech-utp.com.tw
Greater China Division	www.unitech-sbd.com
Unitech Japan	www.unitech-japan.co.jp
Unitech America	www.ute.com
Unitech Latin America	www.latin.ute.com
Unitech Europe	www.unitech-europe.nl