

PA500II Enterprise Mobile Computer

- PA500II -



User's Manual

400892G Preliminary





Preface

About This Manual

This manual explains how to install, operate and maintain the PA500II Enterprise Mobile Computer.

No part of this publication may be reproduced or used in any form, or by any electrical or mechanical means, without permission in writing from the manufacturer. This includes electronic or mechanical means, such as photocopying, recording, or information storage and retrieval systems. The material in this manual is subject to change without notice.

© Copyright 2011 Unitech Electronics Co., Ltd. All rights reserved. Unitech global website address: http://www.ute.com
Bluetooth is a registered trademark of Bluetooth SIG.

Battery Notices

The PA500II is equipped with a Lithium-Ion battery pack and backup battery. Both batteries will discharge after an extended period of not being used.

When both batteries are discharged, recharge the unit for 4.5 hours in order to fully charge the main battery and backup battery. Recharge the PA500II through the following:

- Plug the USB charging cable to the PA500II and plug the 5V/3A AC-DC adapter to the power jack of the USB charging cable.
- 2. Place the PA500II into the docking station and plug the 5V/3A AC-DC adapter to the power jack of the docking station.

If the main battery is removed, the backup battery ensures the data on SDRAM is safe for up to 2 hours. To prevent data loss, do not leave the PA500II uncharged with the main battery removed for an extended period. For more details, refer to the section titling *Charging the Battery*.

Note: Rechargeable batteries are advised to replace every year or when 500 charge/discharge cycles achieved to guarantee optimal performance. It



is normal that the battery balloons or expands beyond one year or the maximum of 500 cycles. Although it does not cause harm, it cannot be used again and must be disposed of according to the location's safe battery disposal procedures.

If the performance decrease is greater than 20% in a Lithium-Ion battery, the battery is at the end of its life cycle. Do not continue to use, and ensure the battery is disposed of properly.

The length of time that a battery power lasts depends on the battery type and how the device is used. Conserve the battery life through the following:

- Avoid frequent full discharges because this places additional strain on the battery. Several partial discharges with frequent recharges are better than a deep one. Recharging a partially charged lithium-lon battery does not cause harm because there is no memory.
- Keep the lithium-Ion battery cool. Avoid a hot car. For prolonged storage, keep the battery at a 40% charge level.
- Do not leave the lithium-lon battery discharged and unused for an extended period because the battery will wear out and the longevity of the battery will be at least shorter than half of the one with frequent recharges.

Battery charge notice

It is important to consider the environment temperature whenever the Lithium-Ion battery pack is charged. Charging is most efficient at normal room temperature or in a slightly cooler environment. It is essential that batteries are charged within the stated range of 0°C to 40°C. Charging batteries outside of the specified range could damage the batteries and shorten their charging life cycle.

CAUTION! Do not charge batteries at a temperature lower than 0°C, which will increase the internal resistance to cause heat and make the batteries unstable and unsafe. Please use a battery temperature-detecting device for a charger to ensure a safe charging temperature range. Further, to protect and avoid battery from inflating, the battery is detected for thermal protection and will not be charged when the temperature of battery is over 50 degrees.



Storage and safety notice

Although charged Lithium-Ion batteries may be left unused for several months, their capacity may be depleted due to build up of internal resistance. If this happens they will require recharging prior to use. Lithium-Ion batteries may be stored at temperatures between -20°C to 60°C, however they may deplete more rapidly at the higher temperature ranges. It is recommended to store batteries within normal room temperature ranges.

Warranty

The following items covered under Unitech Limited Warranty are free from defects during normal use:

- PA500II 1-year limited warranty.
- Lithium-Ion battery 6-month limited warranty.

Warranty becomes void if equipment is modified, improperly installed or used, dam-aged by accident or neglect, or if any parts are improperly installed or replaced by the user.

Use only the adapter supplied. Using the wrong adapter may damage the unit and will void the warranty.



Table of Contents

Pref	ace
------	-----

About This Manual
Battery Notices
Battery charge notice
Storage and safety notice
Warrantyi
Chapter 1
Getting Started
Introducing the PA500II
PA500II Product Introduction & Accessory Kit
Tour of the PA500II
Setting up the PA500II
Installing the Battery
Charging the PA500II
Powering On the PA500II
Chapter 2
Using the Hardware
Using the Keypad
Using the Stylus
Using the SDIO/MMC Slot1
Chapter 3
Getting Connected



Establishing Device-PC Connection	13
Installing Microsoft ActiveSync	13
Connecting the Device to Your Computer	14
WiFi Connection	15
Using the Summit Utilities	15
Chapter 4	
Barcode Scanner Programs	19
Scanner Setting	19
Scan2Key	19
Barcode Symbologies2	20
Barcode Symbologies 2D2	21
Chapter 5	
Advanced Settings	23
Performing a Hardware Reset	23
Performing a Warm Boot2	23
Performing a Cold Boot2	23
Appendix I	
System Specification	25
Appendix II	
Worldwide Support	27





Chapter 1

Getting Started

Introducing the PA500II

Thank you for purchasing the PA500II Enterprise Mobile Computer. Your PA500II was designed for users who need a compact and durable portable computer for data collection and real time transactions. The unitech PA500II Enterprise Mobile Computer is a compact mobile computing device designed for maximum durability.

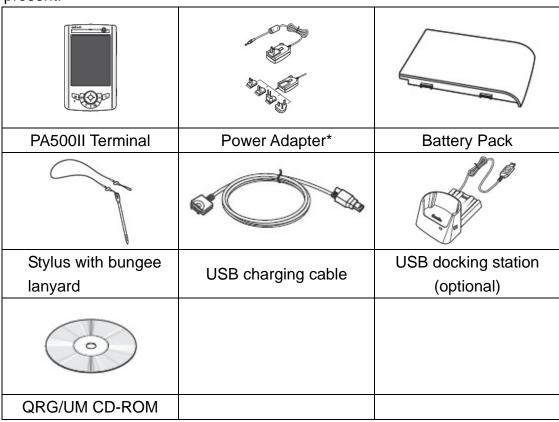
Easy to Use

The unit is equipped with a color display with touch screen, a five-way directional key, and six application keys. The PA500II supports integrated long range scanners for fast and accurate data collection. The device also supports infrared interface, Bluetooth, and wireless communication capability for exchanging information in a computing communication system.



PA500II Product Introduction & Accessory Kit

After opening the box, ensure the following accessories for the PA500II are present:



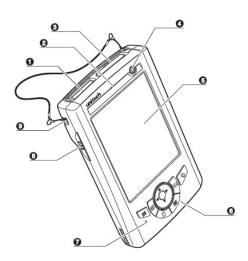
^{*} The adapter's replaceable clip plugs is available, depending on the region. If anything is missing or appears damaged, contact your dealer.



Tour of the PA500II

The following sections describe the main components and features of the PA500II.

Front View



No.	Component	Description			
1	Barcode laser scanner	Reads and captures information on a barcode label.			
	(optional)				
		Indicates the battery charging and barcode scanning			
		status.			
2	Status indicator	Green - Battery is fully charged, the device is running on			
	Status indicator	battery power, or barcode scanning			
		Red – Battery is being charged and barcode scanner is			
		fired/activated.			
		Accepts an SD (Secure Digital), MMC (Multimedia Card)			
	SDIO/MMC slot	or SDIO (Secure Digital Input Output) cards, allowing you			
3		to add more memory.			
3		Install add-on applications or use audio text files stored in			
		it for use with internal applications. You can also use it to			
		backup data from your device.			
		If the device is off, press this button to turn it on.			
4	Power button	Alternatively, when the unit is on, this key must be			
7	I OWEI DULLOIT	pressed and held down for about two seconds in order to			
		turn the device off.			



5 LCD touch screen		Displays the applications and data stored on your device.
5	LCD touch screen	It is touch-sensitive and responds to the stylus or finger.
		Includes a software keyboard button, navigation key and
6 Keypad	application buttons to launch Microsoft Outlook Mobile	
		programs.
7	(Reserved)	
8	Left scanner trigger key	Press to activate the barcode laser scanner.
9	Cord holder	Eyelet for holding the elastic bungee lanyard.

Rear View



No.	Component	Description		
10	Speaker	When the speaker is active, sounds are emitted here.		
11	Pottory rologoo lotoh	Slide toward the right side of the device and hold firmly,		
11	Battery release latch	then detach the battery from its bay.		
12	Reset button	Press the end of the stylus into the button to reset your		
12	Reset button	device.		
13	Main battery	Removable and rechargeable 3.7 V, 2200 mAh battery pack.		
		Connects your device to a USB charging/communication		
		cable. This USB cable connects to the computer's USB		
		port and accepts the 5V AC adapter to provide power to		
	Universal connector	the PA500II.		
		The unit can simultaneously recharge and perform an		
14		ActiveSync operation. You can also use it to connect		
		peripheral hardware, such as a docking station, to your		
		device.		
		This port can also support USB and RS232 hosting for		
		devices such as a USB or RS232 scanner, keyboard, or		
		USB memory key.		



15	Right scanner trigger key	Press to activate the barcode laser scanner.
AC Chiling		To use the stylus, remove it from its holder and hold it the
16	Stylus	same way as you hold a pen or pencil.

Setting up the PA500II

Perform the following set up tasks to begin using your device:

- Install the battery pack.
- Charge your device.
- Power on the PA500II

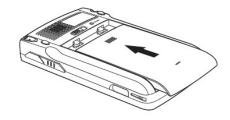
Installing the Battery

WARNING! There is a risk of fire and burns if the battery pack is handled improperly. DO NOT disassemble, crush, puncture, short external contacts, or dispose the battery pack in fire or water. DO NOT attempt to open or service the battery pack. Dispose of used batteries according to the local recycling guidelines in your area.

A backup battery cell is embedded into your device to prevent data loss when the removable battery pack is removed or completely discharged. The backup battery will keep the data and system settings up to 1 hour if the main battery is removed.

NOTE: To enable the internal battery cell to provide backup power supply, charge your device with the main battery pack for at least three and a half hours.

- Position the battery pack, making sure the battery pack fits the shape of the battery compartment.
- 2. Slide the battery pack into the battery bay. The battery pack locks to the chassis with an audible click.





- 3. If you remove the main battery and plug it back before the backup battery lost power, PA500II will be warm start.
- 4. If you remove the main battery and plug it back after the backup battery lost power, PA500II will be clean booted.

Charging the PA500II

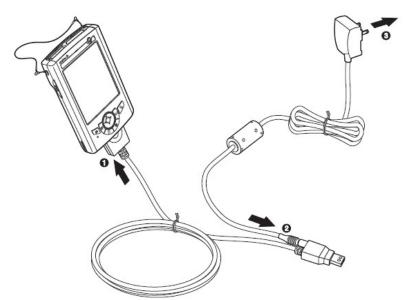
For initial use, you need to charge your device for about 16 hours. After that, you can charge it everyday to recharge the battery to full capacity. You can charge your device using the USB charging cable or the docking station.

CAUTION! Operating the PA500II for the first time without the AC adapter, and without fully charging the backup battery may result in loss of data stored in RAM memory.

NOTE: Data you entered may not be properly stored until the internal backup battery has been fully charged.

To charge the device using the USB charging cable:

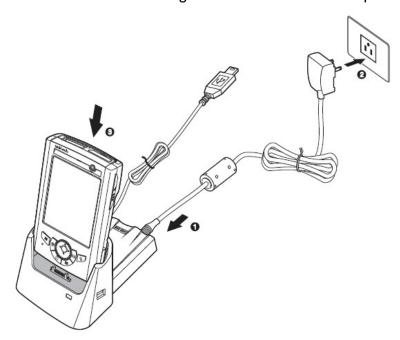
- 1. Attach the clip plug to the AC adapter, if necessary. Slide the replaceable clip plug into the AC adapter until it locks into place with an audible click.
- 2. Press and hold the connector button on the USB charging cable and connect it to the PA500II (1).
- 3. Plug the AC adapter cable into the power jack on the USB charging cable (2).
- 4. Connect the AC adapter into an electrical outlet (3).





To charge the device using the docking station:

- 1. Plug the AC adapter cable into the power jack on the docking station.
- 2. Plug the AC adapter into an electrical outlet.
- 3. Slide the device into the docking station until it clicks into place.



The connection is secure when the bottom edge of the device is aligned smoothly with the docking station, and the LED indicator on the docking station and device lights up red.

LED status during charging:

Solid red: Charging

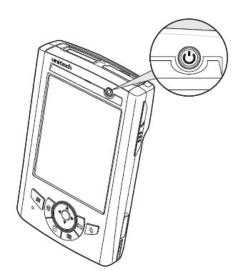
Solid green: Charging complete

If the battery level becomes low, a status icon appears on the device screen indicating low or very low battery status. In both cases, perform an ActiveSync operation to back up your data, and then recharge your device as soon as possible. If the battery level reaches a low status, the device will enter a sleep mode and cannot be powered up until the battery is charged. Windows Mobile 5.0 devices will retain installed applications and data when the main battery is completely drained for extended periods of time.

Powering On the PA500II

After you have initially charged your device for about 16 hours, the device is ready to be used. You can now start up your device where you can calibrate the screen, set up the system time zone, and learn some basic stylus usage.





NOTE: The PA500II screen ships with a protective plastic film. You may remove it by peeling from one corner. The screen will be more susceptible to scratching without the film, but will be more readable.

The unitech PA500II welcome screen appears. The Windows Mobile screen will appear shortly.

2. Calibrate the PA500II

The calibrate screen will automatically appear when the unit is powered-on for the first time or after the system is reset. This screen can also be accessed at any time by tapping $Start \rightarrow Settings \rightarrow System tab \rightarrow Screen.$

The PA500II will prompt you to calibrate the unit by tapping a sequence of screen locations. Tap gently but firmly. When you have completed the series of taps, press the **Enter** button to confirm it.

- Set the Time Zone, Date, and Time
 Select your current time zone from the Time zone drop-down menu, and
 then tap Next.
- 4. Follow all onscreen instructions to complete the set up. The setup wizard provides tips for using the pop-up menus and assign a lock password to access your device.

After the device setup, you can create an ActiveSync partnership to synchronize information between your computer and your device. See *Establishing Device-PC Connection* in chapter 3 for detailed instructions.

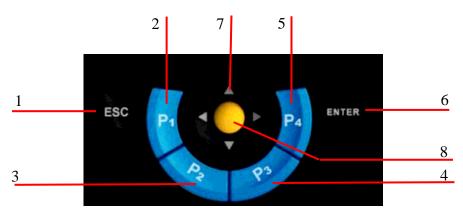


Chapter 2

Using the Hardware

Using the Keypad

The PA500II keypad has a navigation key and six special keys to launch particular applications and display the on-screen keyboard.



No.	Button Name	Description		
1	ESC	Press the ESC button to exit from the section you entered.		
2	P ₁	Press P₁ to enable Task Manager.		
3	P ₂	Press P ₂ to enable scanner.		
4	P_3	Press P ₃ to enable Battery.		
5	Press P ₄ to enable Device Setting.			
6	6 Enter Press the Enter button to access the menu options and conjugate your selection.			
7	Navigation key	Use the up, down, left, and right arrow keys to navigate through the menu options.		
8	ОК	Press the OK button to access the menu options and confirm your selection.		

Using the Stylus

CAUTION! Never use anything other than PA500II stylus on the screen; otherwise this could cause a permanent damage.



1. Push the stylus in the direction of the arrow, then pull out to remove the stylus from its holder.



- 2. Hold the stylus like holding a pencil.
- 3. To make a choice from a menu, lightly tap the tip of the stylus on that choice.
- 4. To write data into a field on a form, use the stylus to print the letters or numbers (of on-screen keyboard). Use very light pressure.

Using the SDIO/MMC Slot

Your device has an expansion slot compatible with a range of SD, SDIO, and MMC storage cards, which are primarily used to back up or transfer files and data.

To insert a storage card:

1. Hold the device securely, and then lift the rubber cover from the SDIO/MMC slot 1.





2. Push the card into the slot until you feel the SD card click into place, and this will signal that the card is already properly seated in the slot.



The card is secure when it is not protruding from the slot.

To remove a storage card:

- Hold the device securely. Push the card in and release. The card pops out.
- 2. Remove the card from the slot.





Chapter 3

Getting Connected

The PA500II enables users to link to a host computer using an RS-232, or Bluetooth, WiFi, and GPRS connection for data communication. This chapter provides an over-view of PA500II communication options.

Establishing Device-PC Connection

Installing Microsoft ActiveSync

In order to exchange data between your computer and the PA500II, Microsoft Active-Sync must be installed on your computer. Use the USB/RS232 charging cable that comes with your device or the docking station to connect the device to your computer.

NOTE: If you have a previous version of the Microsoft ActiveSync installed in your computer, uninstall it first before installing the latest version of Microsoft ActiveSync.

To install Microsoft ActiveSync on your computer:

- 1. Close any open programs, including those that run at startup, and disable any virus-scanning software.
- Download the ActiveSync software from the Microsoft ActiveSync
 Download page at
 http://www.microsoft.com/downloads/details.aspx?Fami-lyID=7269173a-2
 8bf-4cac-a682-58d3233efb4c&DisplayLang=en.
- 3. Browse to the location of the downloaded file, and double-click it. The installation wizard begins.
- 4. Follow the instructions on the screen to install Microsoft ActiveSync.



Connecting the Device to Your Computer

- After ActiveSync has been installed, connect PA500II to your PC as described in connecting the terminal to a host (PC/Notebook) to a PC.
- 2. Turn the PA500II on.
- ActiveSync starts automatically and configure the USB port to

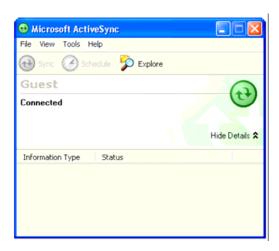


work with the PA500II. The New Partnership setup wizard automatically starts.

NOTE: If ActiveSync doesn't start automatically, click Start → Programs → Microsoft ActiveSync.

NOTE: If a message appears indicating that it is unable to detect a connection, click the Cancel button and manually configure the communication settings.

- 4. Follow the on-screen instructions.
- When the configuration process is complete, the Active-Sync window appears.



6. Synchronization will be initialized and will take place if you've chosen to synchronize periodically or upon connection.

NOTE: Your computer can create a partnership with multiple PA500IIs. Also, a PA500II can create a partnership with up to two computers.



WiFi Connection

Unitech terminals come with built-in RF facility. A wireless network can be added either when the network is detected or by manually entering settings information. Before following these instructions, make sure if authentication information is needed.

Using the Summit Utilities

You can use the Summit Client Utility tool to setup or change the WiFi settings.

Admin Login

Tap Start → Setting → System → Wi-Fi.
 The Summit Client Utility window appears.



2. To login as an administrator, tap Admin Login.



3. Enter the Admin Password. (Default password: SUMMIT)



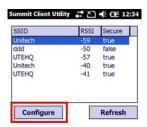


Scan Available AP

1. Under Profile tab, tap Scan for available AP.



2. You may select a desired AP to create a new profile. Tap Configure.





3. Tap Yes to create the new profile.





4. Enter the WEP key or network key. Tap OK.





Commit and Activate

1. Tap Commit to activate the setting.



2. Under Main tab, select the profile you want to activate.



3. Under Status tab, you can see the IP address, signal strength and quality.



- 4. Tap OK to exit the Summit Client Utility.
- 5. Tap Start → Boot-Mode. Tap Warm Boot to warm start the terminal and load the previous settings.

 Summit Client Utility

 A CE 1:09
- 6. If you want to disconnect the AP, tap Disable Radio.







Chapter 4

Barcode Scanner Programs

PA500II provides an option for the barcode scanner, allowing you to scan and decode various types of 1D/2D barcodes.

Scanner Setting

When it is necessary for the user to change the default barcode symbology for a different application, the Scanner Control Panel provides the ability to change default symbology, place delimiter characters behind scanned data, and save the settings.

Tap Start \rightarrow Settings \rightarrow System \rightarrow Scanner. The Scanner Control Panel appears.

NOTE: Press Func key and "7" button.



Scan2Key

The Scan2Key application routes input from a scanner port to a keypad buffer, making all input from the scanner emulate input from the keypad. Using Scan2Key, scanned data will be directed from the scanner port to any waiting (active/focused) text editor such as MS Mobile Word or a text box in an application.



Barcode Symbologies

Barcode	Symbolo	gies		
Barcode	Enable /	Char Check	Transmit	
		/ Digit	Check	Others
Symbology	Disable	verification	Char/digit	
Australian	YES			Send bar width data
Post				
British Post	YES			
Canadian	YES			
Post				
Codabar	YES	YES	YES	Transmit start & stop char, *data length
Code 11	YES	YES		*data length
Code	YES			*data length
128/EAN				
128				
Code 39	YES	YES	YES	For ASCII, Transmit start & stop char,
				Append mode, *data length
Code 93	YES			*data length
Dutch (KIX)	YES			
Post				
EAN 13	YES		YES	2 digit addenda, 5 digit addenda,
				Addenda required, Include addenda
				separator
EAN 8	YES		YES	2 digit addenda, 5 digit addenda,
				Addenda required, Include addenda
				separator
IATA 2 of 5	YES			*data length
Interleaved	YES	YES	YES	*data length
2 of 5				
ISBT	YES			
Japanese	YES			
Post				
Korean Post	YES			*data length
Matrix 2 of 5	YES			*data length
MSI	YES		YES	*data length
Planet	YES		YES	



Barcode Symbology	Enable / Disable	Char Check / Digit verification	Check	Others
Postnet	YES		YES	
RSS	YES			*data length
(Databar)				
UPC A	YES		YES	2 digit addenda, 5 digit addenda,
				Addenda required, Include addenda
				separator, Send number system
UPC E	YES		YES	2 digit addenda, 5 digit addenda,
				Addenda required, Include addenda
				separator, Send number system,
				Expanded UPC-E
UPC E1	YES		YES	2 digit addenda, 5 digit addenda,
				Addenda required, Include addenda
				separator, Send number system,
				Expanded UPC-E

NOTE: *Value Adjustable Scanner Control Panel Version 5.14

Barcode Symbologies 2D

Barcode Symbology	Enable / Disable	Char Check / Digit verification	Transmit Check Char/digit	Others
Aztec	YES			Runes, *data length
Codablock F	YES			*data length
Code 49	YES			*data length
Data Matrix	YES			*data length
EAN-UCC Composite	YES			UPC composite, *data
MaxiCode	YES			*data length
MicroPDF417	YES			*data length
OCR	YES			OCR mode, OCR direction, Template, Group G, Group H, Check character
PDF-417	YES			*data length
QR Code	YES			



Barcode Symbology	Enable /	Char Check / Digit verification	Transmit Check Char/digit	Others
TLC-39 (TCIF Linked	YES			
Code 39)				

NOTE: *Value Adjustable Scanner Control Panel Version 5.14



Chapter 5

Advanced Settings

Performing a Hardware Reset

You may have to perform a reset if the device freezes (i.e., the device no longer responds to the buttons or tapping on the screen).

A soft reset allows your device to get a fresh start, similar to rebooting a computer.

This will restart your device and adjust memory allocation. All records and entries are retained after a soft reset. Unsaved data in open programs may be lost.

Performing a Warm Boot

- 1. Remove the stylus from its holder.
- 2. Lightly press the tip of the stylus to the reset button located at the rear side of the terminal.



Performing a Cold Boot

A cold boot will erase all data and all programs you have added, and will restore the device to the default factory settings.

Never perform a cold boot unless a warm boot does not correct your problem. When you perform your next ActiveSync operation, you can restore any data that you previously synchronized to your computer or you can restore data that you backed up to a storage card.



Method 1: From Windows Mobile

Tap Start → BootMode.
 The BootMode Screen appears.



2. Tap Cold Boot.

The system is reset and you will lose all data including all files in the RAM memory.



Method 2: From Hardware

- 1. Remove the battery compartment cover and the main battery. See the section of *Installing the Battery*.
- 2. Turn the backup battery switch off.



- 3. Turn the backup battery switch on.
- Put the battery back into the battery compartment and replace the battery compartment cover.
 - System will cold boot.

NOTE: When you perform hard reset, the data and time settings will not be retained. Formats, preferences, and other settings are restored to their default factory settings.





Appendix I

System Specification

	CPU: Marvell PXA320 Processor, 806MHz	
System	Mobile DDR RAM: 256MB	
	NAND Flash RAM: 512MB	
	OS: Windows Embedded Handheld 6.5 Classic	
Display	Transflective color 3.5" QVGA with backlight 240×320 touch panel LCD	
Keypad	4 function keys + Navigation keys	
Notification	LED	
Symbologies	1D Barcode EngineUPC-A/E, EAN-8/13, Codabar, Code 39, Code 39 full ASCI, Code 93, Code 32, Interleaved & Std. 2 of 5, EAN 128, Code 11, Delta, MSI/Plessey, Code 128, Toshiba	
Indicator	Dual Function LED	
	Green (Data scanning)	
	Red (Charging status)	
	USB: USB1.1 Host & Client	
Communication	WLAN: IEEE 802.11 b/g/n	
	PAN: Bluetooth 2.1 + EDR	
Audio	0.8 Watts Speaker	
Expansion Slot	SD Memory with SDHC Support (up to 32GB)	
Power Source	Main Battery: 8.14 Watt-Hour 3.7V @2200 mAh	
	Backup Battery: Ni-Mh battery Supports 2 hours backup	
Enclosure	Weight: 213g (with battery)	
	Dimension: 126mm (L) x 25mm (H) x 77mm (W)	



Environmental	Operating Temperature: 14°F to 122°F (-10°C to 50°C)	
	Storage Temperature: -4°F to 140°F (-20°C to 60°C)	
	Charging Temperature: 32°F to 104°F (0°C to 40° C)	
	Relative Humidity: 5% ~ 95% (non-condensing)	
	Drop Test to Concrete: 3 feet (90 cm) on 6 faces/4 corners to	
	concrete	
Software	Microsoft Visual Studio 2005/2008	
	Auto Installer	
Mobile Device		
Management	12 Manage: Software and configuration management, Asset tracking, remote diagnostics and performance measurement	
Software and		
Service		
Accessories	USB cradle with battery charger	
	Main battery (2200mAh) USB communication and charging	
	cable	
	AC adaptor	
Regulatory	CE, FCC, BSMI, VCCI, CCC, RoHS compliance	
Approvals		



Appendix II

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	http://www.ute.com
Unitech Taiwan	http://tw.ute.com
Unitech Asia Pacific & Middle East	http://apac.ute.com; http://india.ute.com
Greater China Division	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