USER MANUAL

# Wasp WPA 1000II

Wasp®
BARCODE TECHNOLOGIES

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# Battery Notices

The WPA 1000II 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 WPA 1000II through the following:

1. Plug the USB charging cable to the WPA 1000II and plug the 5V/3A AC-DC adapter to the power jack of the USB charging cable.
2. Place the WPA 1000II 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 WPA 1000II uncharged with the main battery removed for an extended period. For more details, refer to the section titled *Charging the Battery*.

**Note:** Rechargeable batteries should be replaced every year or when 500 charge/discharge cycles have been completed. Replacing the batteries guarantees optimal performance. Batteries may expand after one year and/or 500 cycles. Although this is not dangerous, the battery is no longer usable and must be disposed of according standard battery disposal procedures.

If performance decrease is greater than 20% in a Lithium-Ion battery, the battery is at the end of its life cycle. Discontinue use, and dispose of the battery properly.

Battery power longevity depends on the battery type and how the device is used. Conserve the battery life through the following:

- Avoid frequently depleting the battery charge. This can place additional strain on the battery. Several partial discharges with frequent recharges are better than a deep one. Recharging a partially charged lithium-Ion battery does not damage the battery.
- 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-Ion battery discharged and unused for an extended period because the battery will wear out quickly.

## Battery charge notice

It is important to consider the environment and temperature when charging your battery. 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 (32°F - 104°F). Charging batteries outside of the specified range could damage the batteries and shorten their life cycle.

**CAUTION!** Do not charge batteries at a temperature lower than 0°C (32°F). Please use a battery temperature-detecting device with your charger to ensure a safe charging temperature range. The battery is equipped with thermal protection to protect it from swelling. This prevents if from charging if the temperature of the battery is over Further, to protect the battery from swelling, the battery is detected for thermal protection and will not be charged when the temperature of battery is over 120 °F.

## 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 are covered under the Wasp Limited Warranty if free from defects during normal use:

- WPA 1000II – 1-year limited warranty.
- Lithium-Ion battery – 6-month limited warranty.

Warranty becomes void if equipment is modified, improperly installed or used, damaged 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

**Chapter 1 - Getting Started ..... 1**

1.1 Introducing the WPA 1000II ..... 1

1.2 WPA 1000II Product Introduction & Accessory Kit ..... 2

1.3 Tour of the WPA 1000II ..... 3

1.4 Setting up the WPA 1000II ..... 5

*1.4.1 Installing the Battery ..... 5*

*1.4.2 Charging the WPA 1000II ..... 6*

*1.5 Powering On the WPA 1000II ..... 7*

**Chapter 2 - Using the Hardware ..... 9**

2.1 Using the Keypad ..... 9

2.2 Using the Stylus ..... 10

2.3 Using the SDIO/MMC Slot ..... 11

**Chapter 3 - Getting Connected ..... 12**

3.1 Establishing Device-PC Connection ..... 12

*3.1.1 Installing Microsoft ActiveSync (XP only) ..... 12*

*3.1.2 Windows Mobile Device Center (Vista and Windows 7 Only) ..... 13*

3.2 WiFi Connection ..... 13

*3.2.1 Using the Summit Utilities ..... 13*

**Chapter 4 - Barcode Scanner Programs ..... 17**

4.1 Scanner Setting ..... 17

4.2 Scan2Key ..... 17

*4.3 Barcode Symbologies ..... 18*

*Barcode Symbologies 2D ..... 19*

**Chapter 5 - Advanced Settings ..... 20**

5.1 Performing a Hardware Reset .....20

*5.1.1 Performing a Warm Boot .....20*

*5.1.2 Performing a Cold Boot .....20*

**Appendix I - System Specifications ..... 22**

# Chapter 1 - Getting Started

## 1.1 Introducing the WPA 1000II

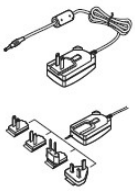
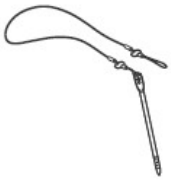
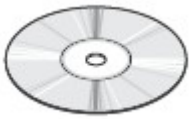
Thank you for purchasing the WPA 1000II Mobile Computer. Your WPA 1000II was designed for users who need a compact and durable portable computer for data collection and real time transactions. The WPA 1000II Mobile Computer is a compact mobile computing device designed for maximum durability.

**Easy to Use**

The unit is equipped with a color display with touch screen, a five-way directional key, and six application keys. The WPA 1000II 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.

# 1.2 WPA 1000II Product Introduction & Accessory Kit

The following accessories are included with the WPA 1000II:

| | | |
|---|---|---|
| |  | |
| WPA 1000II Terminal | Power Adapter* | Battery Pack |
|  | | |
| Stylus with bungee lanyard | USB charging cable | USB docking station (optional) |
|  | | |
| QRG/UM CD-ROM | | |

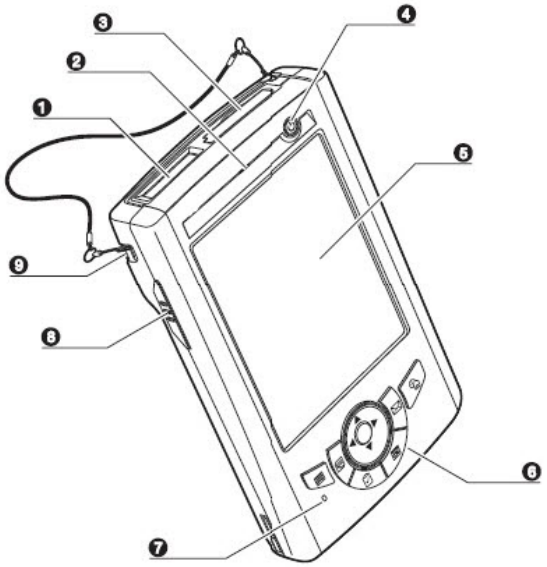
** Replaceable clip plugs are available, depending on the region.*

If anything is missing or appears damaged, contact your dealer.

# 1.3 Tour of the WPA 1000II

The following section describe the main components and features of the WPA 1000II.

**Front View**




| No. | Component | Description |
|---|---|---|
| 1 | Barcode laser scanner (optional) | Reads and captures information on a barcode label. |
| 2 | Status indicator | Indicates the battery charging and barcode scanning status.<br>**Green** - Battery is fully charged, the device is running on battery power, or barcode scanning<br>**Red** – Battery is being charged and barcode scanner is fired/activated. |
| 3 | SDIO/MMC slot | Accepts an SD (Secure Digital), MMC (Multimedia Card) or SDIO (Secure Digital Input Output) cards, allowing you to add more memory.<br>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. |
| 4 | Power button | Press this button to turn on the device.<br>Press this button approximately 2 seconds to turn the device off. |
| 5 | LCD touch screen | Displays the applications and data stored on your device. It is touch-sensitive and responds to the stylus or finger. |

| | | |
|---|---|---|
| 6 | Keypad | Includes a software keyboard button, navigation key and 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 | Battery release latch | Slide toward the right side of the device and hold firmly, then detach the battery from its bay. |
| 12 | Reset button | Press the end of the stylus into the button to reset your device. |
| 13 | Main battery | Removable and rechargeable 3.7 V, 2200 mAh battery pack. |
| 14 | Universal connector | 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 the WPA 1000II.<br>The unit can simultaneously recharge and perform an ActiveSync operation. You can also use it to connect peripheral hardware, such as a docking station, to your device.<br>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. |
| 16 | Stylus | To use the stylus, remove it from its holder and hold it the same way as you hold a pen or pencil. |

# 1.4 Setting up the WPA 1000II

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

- Install the battery pack.
- Charge your device.
- Power on the WPA 1000II

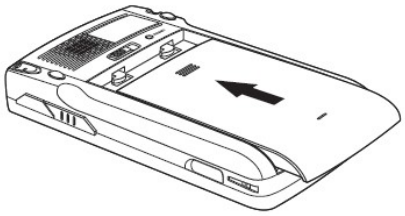
## 1.4.1 Installing the Battery

**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 of 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.

1. 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 in before the backup battery lost power, WPA 1000II will warm start.
4. If you remove the main battery and plug it back after the backup battery lost power, WPA 1000II will clean boot.

## 1.4.2 Charging the WPA 1000II

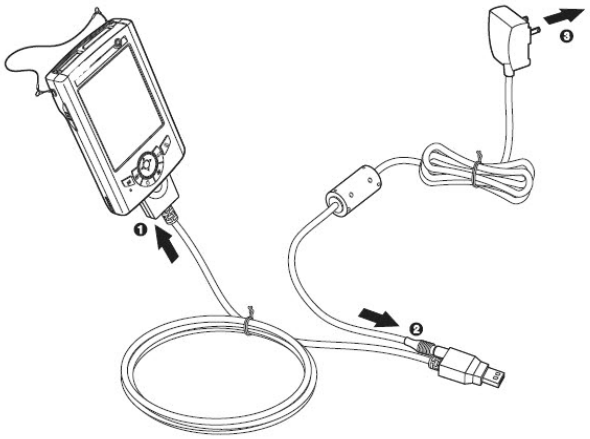
For initial use, you need to charge your device for about 16 hours. After that, you can charge it everyday to recharge the battery to full capacity. You can charge your device using the USB charging cable or the docking station.

**CAUTION!** Operating the WPA 1000II 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.

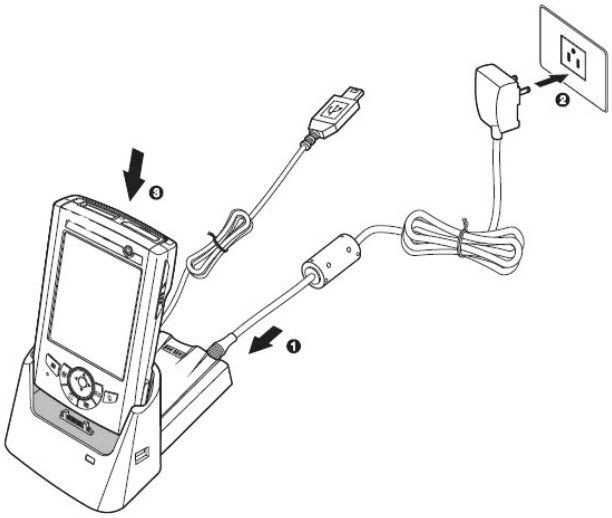
***To charge the device using the USB charging cable:***

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 WPA 1000II (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

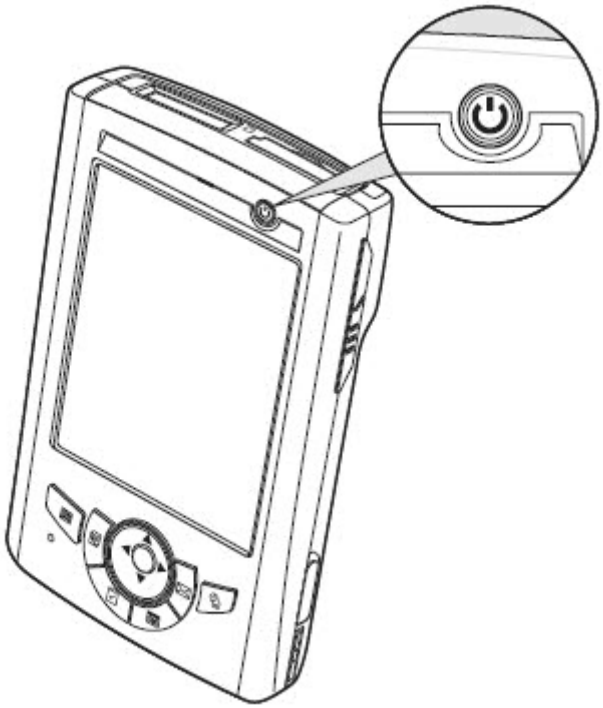
– Solid green: Charging complete

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.

## 1.5 Powering On the WPA 1000II

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.

1. Turn on your device by pressing the Power button on the front panel.



**NOTE:** The WPA 1000II 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.

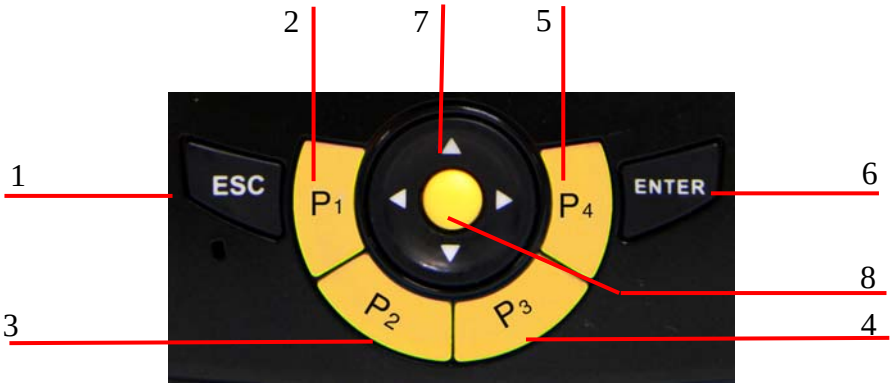
The WPA 1000II welcome screen appears. The Windows Mobile screen will appear shortly.

2. Calibrate the WPA 1000II
   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 → Settings → System tab → Screen.
   The WPA 1000II 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.
3. 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 assigning 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

## 2.1 Using the Keypad

The WPA 1000II keypad has a navigation key and six special keys to launch particular applications and display the on-screen keyboard.

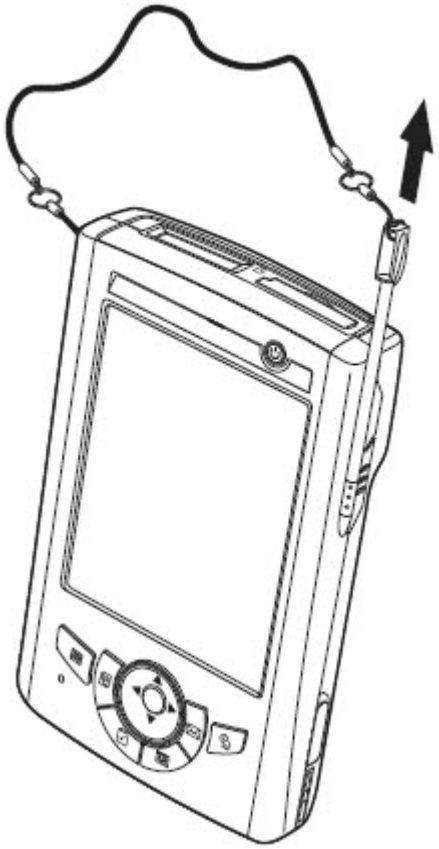



| No. | Button Name | Description |
|---|---|---|
| 1 | ESC | Press the ESC button to exit from the section you entered. |
| 2 | $P_1$ | Press $P_1$ to enable Task Manager. |
| 3 | $P_2$ | Press $P_2$ to enable scanner. |
| 4 | $P_3$ | Press $P_3$ to enable Battery. |
| 5 | $P_4$ | Press $P_4$ to enable Device Settings. |
| 6 | Enter | Press the Enter button to access the menu options and confirm your selection. |
| 7 | Navigation key | Use the up, down, left, and right arrow keys to navigate through the menu options. |
| 8 | OK | Press the OK button to access the menu options and confirm your selection. |

## 2.2 Using the Stylus

**CAUTION!** Never use anything other than a WPA 1000II stylus on the screen; using a different device may cause permanent damage.

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



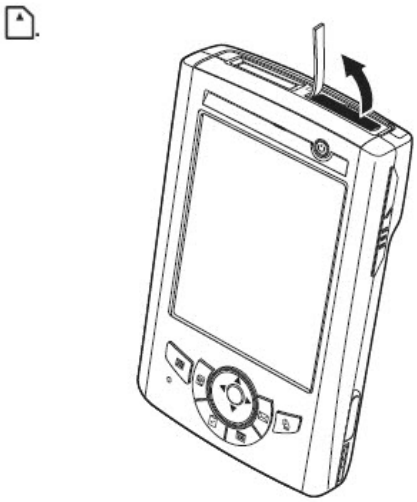
2. Hold the stylus like holding a pencil.
3. To make a choice from a menu, lightly tap the tip of the stylus on that choice.
4. To write data into a field on a form, use the stylus to print the letters or numbers (of on-screen keyboard). Use very light pressure.

## 2.3 Using the SDIO/MMC Slot

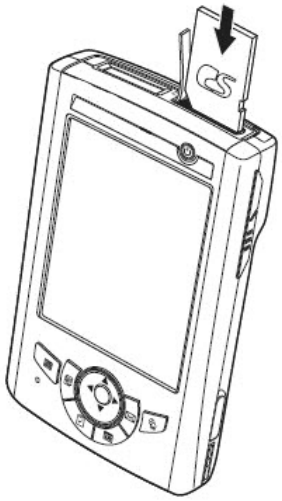
Your device has an expansion slot compatible with a range of SD, SDIO, and MMC storage cards, which are primarily used to back up or transfer files and data.

***To insert a storage card:***

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



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:***

1. 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 WPA 1000II 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 overview of WPA 1000II communication options.

## 3.1 Establishing Device-PC Connection

### 3.1.1 Installing Microsoft ActiveSync (XP only)

In order to exchange data between your computer and the WPA 1000II, Microsoft ActiveSync 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.

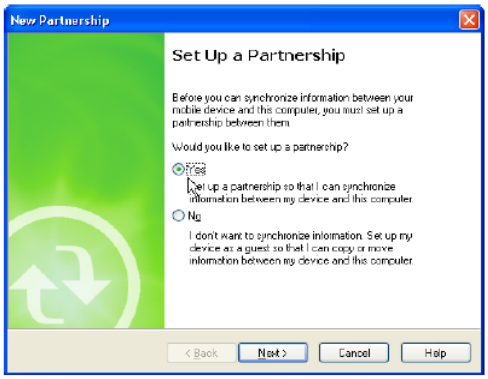
**NOTE:** If you have a previous version of Microsoft ActiveSync installed on your computer, uninstall it before installing the latest version of Microsoft ActiveSync.

To install Microsoft ActiveSync on your computer:

1. Close any open programs, including those that run at startup, and disable any virus-scanning software.
2. Download the ActiveSync software from the Microsoft ActiveSync Download page at http://www.microsoft.com/download/en/details.aspx?id=8847.
3. Follow the instructions on the Microsoft website to download ActiveSync.

**Connecting the Device to Your Computer**

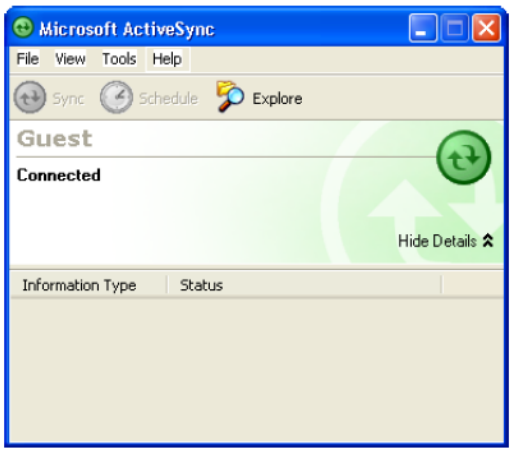
1. After ActiveSync has been installed, connect the WPA 1000II to your PC as described in connecting the terminal to a host (PC/Notebook) to a PC.
2. Turn on the WPA 1000II.
3. ActiveSync starts automatically and configure the USB port to work with the WPA 1000II. The New Partnership setup wizard automatically starts.



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

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.
5. 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 WPA 1000IIs. Also, a WPA 1000II can create a partnership with up to two computers.

### 3.1.2 Windows Mobile Device Center (Vista and Windows 7 Only)

Windows Mobile Device Center offers device management and data synchronization between a Windows Mobile-based device and a computer.

To download Windows Mobile Device Center, please go to http://support.microsoft.com/kb/931937. This link contains detailed instructions for downloading and installing Windows Mobile Device center, as well as instructions for connecting your device and troubleshooting tips.

## 3.2 WiFi Connection

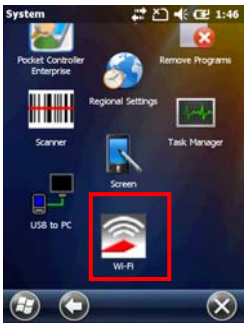
The WPA 1000II comes with built-in RF capability. A wireless network can be added either when the network is detected or by manually entering settings information. Before following these instructions, make sure if authentication information is needed.

### 3.2.1 Using the Summit Utilities

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

## Admin Login

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



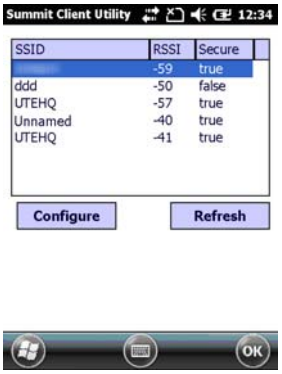

2. To login as an administrator, tap Admin Login.

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.
6. If you want to disconnect the AP, tap Disable Radio.

# Chapter 4 - Barcode Scanner Programs

The WPA 1000II provides an option for the barcode scanner, allowing you to scan and decode various types of 1D/2D barcodes.

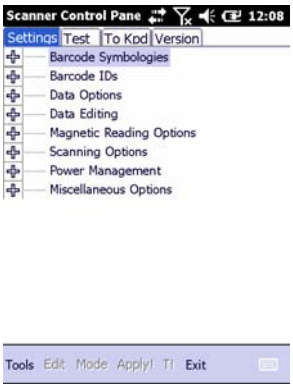
## 4.1 Scanner Setting

The user can change the default barcode symbology using the Scanner Control Panel. From the Scanner Control Panel, the user can change the default symbology, place delimiter characters behind scanned data, and save the settings.

Tap Start → Settings → System → Scanner.

The Scanner Control Panel appears.

**NOTE:** Press Func key and “7” button.




## 4.2 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.

## 4.3 Barcode Symbologies

| Barcode Symbology | Enable / Disable | Char Check / Digit verification | Transmit Check Char/digit | Others |
|---|---|---|---|---|
| Australian Post | YES | | | Send bar width data |
| British Post | YES | | | |
| Canadian Post | YES | | | |
| Codabar | YES | YES | YES | Transmit start & stop char, *data length |
| Code 11 | YES | YES | | *data length |
| Code 128/EAN 128 | YES | | | *data length |
| Code 39 | YES | YES | YES | For ASCII, Transmit start & stop char, Append mode, *data length |
| Code 93 | YES | | | *data length |
| Dutch (KIX) Post | YES | | | |
| 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 2 of 5 | YES | YES | YES | *data length |
| ISBT | YES | | | |
| Japanese Post | YES | | | |
| Korean Post | YES | | | *data length |
| Matrix 2 of 5 | YES | | | *data length |
| MSI | YES | | YES | *data length |
| Planet | YES | | YES | |
| Postnet | YES | | YES | |
| RSS | YES | | | *data length |

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

**NOTE:** *Value Adjustable Scanner Control Panel Version 5.14

# Chapter 5 - Advanced Settings

## 5.1 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.

### 5.1.1 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.

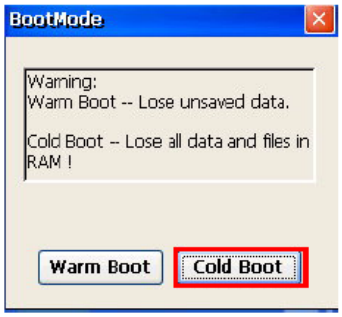
### 5.1.2 Performing a Cold Boot

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**

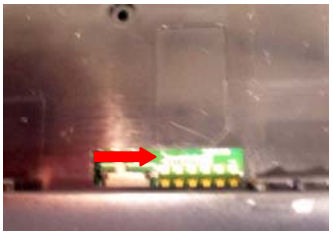
1. Tap Start → BootMode.
   The BootMode Screen appears.

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

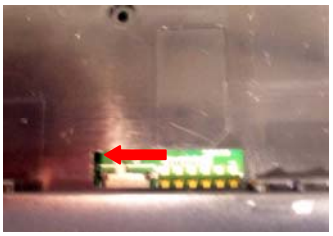



**Method 2: From Hardware**

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.
4. 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 Specifications

| | |
|---|---|
| **System** | CPU: Marvell PXA320 Processor, 806MHz<br>Mobile DDR RAM: 256MB<br>NAND Flash RAM: 512MB<br>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,Code32, Interleaved & Std. 2 of 5, EAN 128, Code 11, Delta, MSI/Plessey,Code 128, Toshiba** |
| Indicator | **Dual Function LED**<br>**Green (Data scanning)**<br>**Red (Charging status)** |
| Communication | **USB: USB1.1 Host & Client**<br>WLAN: IEEE 802.11 b/g/n<br>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**<br>Backup Battery: Ni-Mh battery Supports 2 hours backup |
| Enclosure | **Weight: 213g (with battery)**<br>Dimension: 126mm (L) x 25mm (H) x 77mm (W) |

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