WORKABOUT PRO Hand-Held

(Model Numbers 7527C-G2 & 7527S-G2)

Computer With Windows Mobile 6 Classic & Professional

User Manual

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ISO 9001 Certified
Quality Management System

PSION TEKLOGIX

Disclaimer

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INTRODUCTION

1

1.1 About This Manual

This manual describes how to configure, operate and maintain the WORKABOUT PRO (Model Numbers 7527C-G2 and 7527S-G2) hand-held computer.

Chapter 1: Introduction
> provides a basic overview of the WORKABOUT PRO hand-held.

Chapter 2: Basic Checkout
> describes the steps required to get the unit ready for operation.

Chapter 3: Getting To Know The WORKABOUT PRO
> describes the features and outlines how to charge and maintain the battery. This chapter also provides information about indicators, SD/MMC card installation and general maintenance.

Chapter 4: Working With Windows Mobile 6
> describes the Microsoft® Windows Mobile 6 *Today* screen and how to use it. This chapter also outlines basics like moving around a window, displaying menus, and so on.

Chapter 5: Settings
> provides details about Windows Mobile 6 *Settings* options and how to use them.

Chapter 6: Programs
> provides a description of the Windows Mobile 6 *Programs* options and how to use them.

Chapter 7: Peripheral Devices & Accessories
> describes the peripherals and accessories available for your hand-held.

Chapter 8: Specifications
> details radio, hand-held computer, scanner and battery specifications.

Appendix A: Summit Client Utility (SCU)
> provides details about the Summit Client Utility (SCU) screens.

Appendix B: Port Pinouts
> describes port pinouts.

1.2 Text Conventions

Note: *Notes highlight additional helpful information.*

Important: **These statements provide particularly important instructions or additional information that is critical to the operation of the equipment.**

Warning: **These statements provide critical information that may prevent physical injury, equipment damage or data loss.**

1.3   WORKABOUT PRO Features

Important: **For all safety, regulatory and warranty information, refer to the 'WORKABOUT PRO Hand-Held Computer Regulatory & Warranty Guide', PN 8000126.**

The WORKABOUT PRO is a ruggedized hand-held personal computer that can be ordered with two possible operating systems: Windows Mobile 6 Professional with a phone option or Windows Mobile 6 Classic. This hand-held is intended for use in commercial and light industrial applications with a focus on real time wireless data transactions. All possible bar code input methodologies are supported by one of a variety of scanners available. Optimization for specific operational environments is supported with a wide range of peripheral options and carrying accessories.

Note: *For a complete list of WORKABOUT PRO specifications, refer to "Hand-Held Computer Specifications" on page 297.*

Model Variants
- WORKABOUT PRO C – Model 7527C-G2
- WORKABOUT PRO S – Model 7527S-G2

Platform
- PXA270 @ 520 MHz, 32 bit RISC CPU
- 128 MB flash, 128 MB RAM

Operating System
- Microsoft Windows Mobile 6 Professional
- Microsoft Windows Mobile 6 Classic

Multi-Media Chipset
- NVIDIAGoForce 4000 Multi-Media Processor

Real-Time Clock
- CPU independent RTC capable of maintaining the system date and time for at least 3 months with a fully charged backup battery

User Interface
- Color Touchscreen Display 3.6 in.(9.144 cm) diagonal
  - Full VGA 480x640 resolution
  - Transflective, portrait mode TFT
  - Adjustable Backlight
- Touchscreen
  - Passive stylus or finger operation
  - Signature capture
- Keyboards
  - Full Alpha-Numeric (C model)
  - Numeric (S model)
  - Ergonomically enhanced for ambidextrous, one-hand operation
  - Backlit, high durability hard-capped keys

Wireless Communication
Optional expansion modules for:
- 802.11b/g (via Compact Flash) operating in the 2.4GHz band:
  - Supports IEEE 802.11b data rates of 1,2,5.5 and 11Mbps using Direct Sequence Spread Spectrum (DSSS).
  - Supports IEEE 802.11g data rates of 6,9,12,24,36,48 and 54Mbps,using Orthogonal Frequency Division Multiplexing (OFDM) base band modu-lation
- GSM/GPRS EDGE (via expansion interface)
  - Quad-Band – 850/900/1800/1900

- Voice and Data
- GPRS Class B, Multi-Slot Class 12
- EGPRS Class B,Multi-Slot Class 12
- Integrated Bluetooth class II, ver 1.2
  - Working Range: 16.4 ft.to 32.81 ft. (5m to 10m)

Note: 802.11b/g, GSM, and Bluetooth are available simultaneously.

1.3.1 The WORKABOUT PRO C Hand-Held

Figure 1.1 WORKABOUT PRO C With 52-Key Keyboard

1.3.2   The WORKABOUT PRO S Hand-Held

Figure 1.2 WORKABOUT PRO S With 25-Key Keyboard
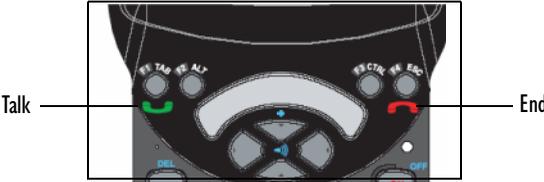
Figure 1.3 Phone Labels

> *Note:*   *The [Talk] and [End] phone keys printed on the hand-held shown in the drawing above are useful for units equipped with Windows Mobile 6 Professional that support the phone feature. Refer to "Send & End Calls Using The WORKABOUT PRO Keyboard" on page 25 for details.*

BASIC CHECKOUT 2

2.1   Preparing The WORKABOUT PRO For Operation

2.1.1   The Main Battery

Warning: ***Before charging the battery, it is critical that you review the battery safety guidelines in the "WORKABOUT PRO Hand-Held Computer Warranty & Regulatory Guide", PN 8000126.***

The WORKABOUT PRO C and WORKABOUT PRO S can be powered with one of the following lithium-ion battery packs:

- High-Capacity – Model No. WA3006, and
- Super High-Capacity – Model No. WA3010

2.1.1.1   Charging The Main Battery

Important: ***Before opening the battery cover on your WORKABOUT PRO, press [FN/BLUE] [ENTER] to turn off the hand-held. When the battery cover is removed, a power-off switch is automatically activated and the unit power is switched off; if the battery cover is opened while the hand-held is still powered on, the unit may reboot.***

Important: ***Before replacing a battery, please read "Removing And Installing The Battery Pack" on page 34 and "Safely Swapping The Main Battery" on page 36 for details about safely swapping the battery.***

Battery packs shipped from the factory are charged to approximately 40% and must be fully charged prior to use. Batteries can be charged using a variety of chargers and docking stations along with a WORKABOUT PRO internal charger. When using the internal charger, a suitable power source is required. All chargers and docking stations are described in *Chapter 7: Peripheral Devices & Accessories* beginning on page 265.

Note: *If you are powering up a new unit, a warning message may appear on the screen indicating that the backup battery capacity is low. To recharge the internal battery, you must fully charge the WORKABOUT PRO __with__ __the__ __main__ __battery__ __installed__ __in__ __the__ __unit__.*

2.1.2 The Backup Battery

To preserve data stored in your WORKABOUT PRO while you swap the main battery, the unit is equipped with an internal backup battery—a replaceable, rechargeable Lithium-Ion backup battery that can be ordered through Psion Teklogix. The backup battery will supply 5 minutes of continuous power while you install a charged, main battery.

The backup battery is trickle charged from the main battery. Provided that the main battery contains power, the backup battery will maintain a charge whether the WORKABOUT PRO is switched on or off, in a docking station or a cradle. Even when the main battery reaches its *Suspend Threshold* (refer to "Suspend Threshold" on page 125) and the hand-held shuts down, the backup battery will continue to draw a trickle charge from the main battery to protect the data stored in the unit until a charged main battery is installed.

Note: The backup battery takes approximately 3 to 4 hours to fully charge from a fully discharged (flat) state, generally the same amount of time it takes to fully charge the main battery. While you can continue to use the WORKABOUT PRO, replacing the main battery while the backup battery is not fully charged is not recommended because you risk losing the data stored on the unit.

2.1.2.1 Backup Battery Gas Gauge

To safely replace the main battery and preserve the data stored in the WORKABOUT PRO, the backup battery should contain a minimum of 80% of its charge capacity. The *Battery* tab in the *Power* applet displays a gas gauge to indicate the charge remaining in the backup battery from 0 to 100%. To check the backup battery capacity:

- Tap on **Start>Settings** and then tap on **System tab**.
- Tap on the **Power icon**.

For more details about replacing batteries, refer to "Removing And Installing The Battery Pack" on page 34 and "Safely Swapping The Main Battery" on page 35.

2.2 Turning The WORKABOUT PRO On and Off

2.2.1 Installing The Battery And Switching The Unit On

Important: **If the unit is currently on, press [FN/BLUE] [ENTER] to turn off the hand-held before opening the battery cover on your WORK-ABOUT PRO. When the battery cover is removed, a power-off switch is automatically activated switching the unit off; if the battery cover is opened while the hand-held is still powered on, the unit may reboot.**

- To unlock the battery cover, turn the left-hand battery fastener to the left, and turn the right-hand battery fastener to the right.
- Remove the battery cover.
- Ensure that the ON/OFF switch in the battery compartment is set to ON before inserting the battery.
- Snap the *charged* battery into the unit. Replace the battery cover, and lock the fasteners in place.

Note: If you are using a docking station or an external power supply, you can insert an uncharged battery, dock the unit and switch it on.

To switch on the WORKABOUT PRO:

- Press and hold down the [ENTER] key for at least one second.
- When the LED flashes green, release the [ENTER] button.

The desktop *Today* screen is displayed.

Note: If the unit was already in use—the unit may be off (suspend state)—pressing [ENTER] 'wakes' the unit from this state. The screen in which you were working prior to the suspend state is displayed. "Wakeup Keys Tab" on page 126 describes how you can assign other 'wakeup' keys or enable a two-key 'power on' sequence.

2.2.2 Switching The Unit Off (Suspend)

- Press the [FN/BLUE] key, and then press [ENTER].

2.3 The Getting Started CD

The *Getting Started* CD shipped with your unit runs automatically when inserted, Displaying a start-up screen.
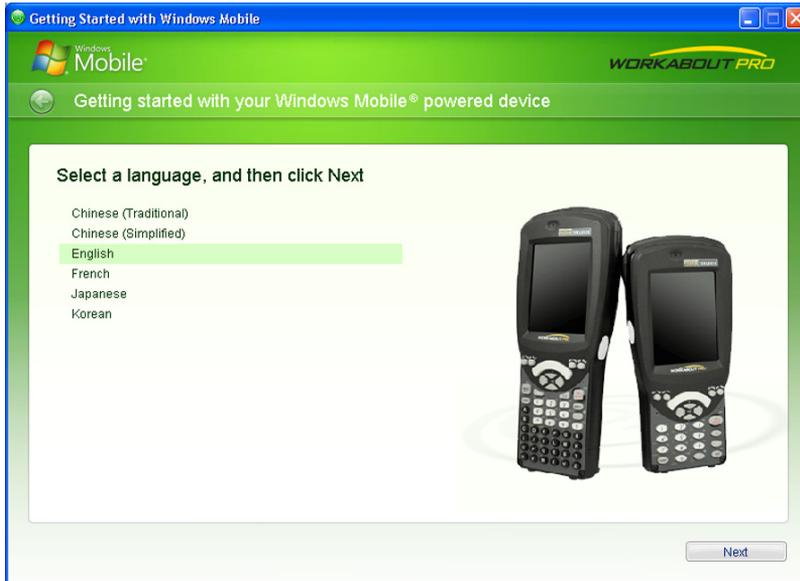
Tapping on **Next** in the start-up screen displays a screen listing your setup and installation options.
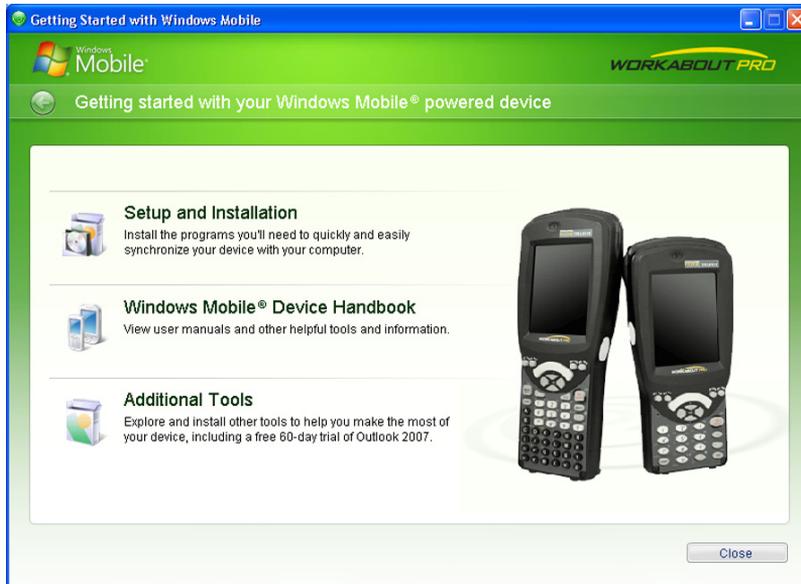
Tapping on one of the following options provides the following options:

> **Setup and Installation**–allows you to install the Windows Mobile®
> Device Handbook and ActiveSync. When you tap on this option, only items
> that are not already present on your PC are installed. For example, if you've
> previously installed ActiveSync, it is automatically detected and is not rein-
> stalled.

> **Windows Mobile® Device Handbook**–guides you through the steps
> required to access these options:

>> - **Additional Windows Mobile Resources**–lists Windows Mobile web
>>   sites that provide additional, helpful information
>> - **Free Ringtones, Downloads, Help and Other Benefits**–with regis-
>>   tration at Microsoft, you can receive free ring tones, downloads, news-
>>   letters and information to help you use your hand-held to full
>>   advantage.
>> - **Set up E-mail**–provides step-by-step instructions to help you set up
>>   your e-mail account.

> **Additional Tools**–allows you to download a 60 day trial of Microsoft
> Office Outlook 2007.

2.4 Connecting The WORKABOUT PRO To A PC

Note: *Refer to "Linking A WORKABOUT PRO To A PC" on page 277 for more details about the desktop docking station and how to link to a PC.*

The WORKABOUT PRO can be connected to a PC using the desktop docking station.

• Insert the unit in the desktop docking station.

• Use a Client USB connector to complete the communication link between the hand-held and the PC.

2.5 Data Transfer Between The PC & The Hand-Held

Data transfer options vary slightly depending on the type of operating system installed in your PC. Microsoft® ActiveSync® is PC connectivity software that can be used to connect your hand-held to PCs running this software. ActiveSync works only with the Windows XP SP2 operating system or earlier.

If the Microsoft® Vista® operating system is installed in your PC, ActiveSync is not required to transfer data between your WORKABOUT PRO and your PC.

By connecting the WORKABOUT PRO to a PC with a cable, you can:

• View WORKABOUT PRO files from Windows Explorer.

• Drag and drop files between the WORKABOUT PRO and the PC in the same way that you would between PC drives.

• Back up WORKABOUT PRO files to the PC, then restore them from the PC to the hand-held again, if needed, and so on.

2.5.1 Using Microsoft® ActiveSync®

You can install active sync using the *Getting Started CD* provided with your unit. Refer to "The Getting Started CD" on page 14 for details. You can also follow the step-by-step instructions provided at the following website:

http://www.microsoft.com/windowsmobile/activesync/activesync45.mspx

2.5.2 Using Microsoft® Vista®

If you have Windows Vista, your WORKABOUT PRO data transfers do not require ActiveSync. To transfer data between your PC and your hand-held:

• Tap on **Start>Computer** to display the drives. Your WORKABOUT PRO will be visible here.

• Open drives, files and folders as you would on your PC.

2.6 Aligning (Calibrating) The Touchscreen

Refer to "Aligning (Calibrating) The Touchscreen" on page 44 for details.

2.7 Setting Up A RA2041 Radio–Summit Client Utility

This section describes the steps required to set up the RA2041 Summit Radio using the *Summit Client Utility (SCU)*.

To review details about the option within the SCU tabs – *Main*, *Config*, *Status*, *Diags* and *Global Settings* – review *Appendix A: Summit Client Utility (SCU)*.

2.7.1 Assigning The IP Address

Before launching the *SCU*, you need to configure the method by which the IP address will be obtained.

- Tap on **Start>Settings>Connections tab>Wireless Power icon.**
- In the *Wireless Power* dialog box, tap on the **Settings** button.

In the *Configure Network Adaptors* dialog box:

- Tap on **Summit WLAN Adapter** in the adaptor list.

The *Summit WLAN Adapter* dialog box is displayed. You have two options:

- Tap on **Use server-assigned IP address** to have an address assigned automatically, *or*

  If you want to use a particular IP address, tap on **Use specific IP address**, and type the preferred address.

  If you tap on the *Name Servers* tab, you can statically configure the DNS servers; however, if you use DHCP for IP address assignment, DNS is usually supplied by the same server that supplied the IP addresses.

2.7.2 Using The SCU To Connect To The WLAN

This section provides a quick set of steps to create a profile (referred to as a *config*). Detailed information about each of the SCU tabs – *Main*, *Config*, *Status*, *Diags* and *Global Settings* – is provided under *Appendix A: Summit Client Utility (SCU)*.

To launch the *SCU* so that your hand-held can connect to a wireless LAN:

• Tap on **Start>Programs**, and then tap on the **SCU** icon.
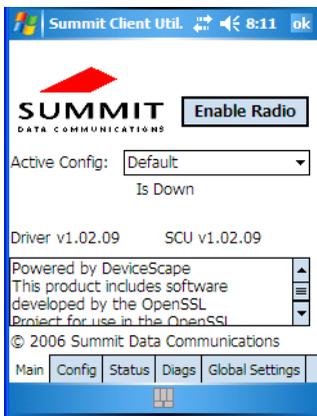
• Tap on the **Config** tab.
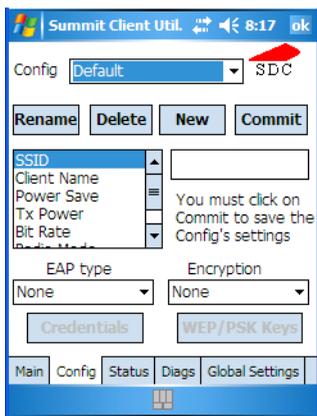
• Tap on **New** to define a new *config*.
• Type a name for your configuration using any alpha-numeric combination to uniquely identify this *config*.
• Tap on **OK** to return to the *Config* tab.
• Tap on **Commit** to save the *config* name.
• When a pop-up message indicates that your configuration will be saved, tap on **OK**.

To configure the *SSID* for the network to which you want to associate:

- Type an **SSID** in the text box to the right of *SSID*. This field is limited to 32 characters.

- Tap on **Commit** and then, in the pop-up message, tap on **OK** to save your *SSID* setting.

⚠ *Important:* ***To learn more about the other options available in the radio attributes list, refer to "Config Tab" in*** *Appendix A: Summit Client Utility (SCU)****.***

To configure authentication:

- Tap on the **EAP type** dropdown menu, and choose the appropriate type of authentication – LEAP, EAP-FAST, PEAP-MSCHAP, and PEAP-GTC.

- Next, tap on the **Credentials** button, and type credentials for IEEE 802.1X EAP types.

⚠ *Important:* ***Refer to "SCU Security Capabilities" and "EAP Credentials" in*** *Appendix A: Summit Client Utility (SCU)* ***for details about security settings.***

To configure encryption:

- Tap on the **Encryption** dropdown menu, and choose the appropriate type of encryption – Manual WEP, Auto WEP, WPA PSK, WPA TKIP, WPA2 PSK, WPA2 AES, and CCKM TKIP.

If you choose *Manual WEP*, *WPA PSK* or *WPA2 PSK*:

- Tap on the **WEP/PSK Keys** button. For *Manual WEP*, choose up to four static WEP keys. For *PSK*, type an ASCII passphrase or hex PSK.

- Configure any other settings that are supplied by the network administrator for the *SSID* to which you will associate.

- Make certain that you tap on **Commit** *following each change*.

Once you've completed the configuration:

- Tap the **Main** tab. Tap on the **Active Config** button – your new *config* will be listed in the dropdown menu.

When you tap on the *config* you created, the RA2041 radio module attempts to connect to the network using the following steps:

- Associate to the SSID.

- Authenticate to the network.
- If EAP authentication is being used, derive dynamic encryption keys.
- If DHCP is being used by the network, obtain an IP address.

If the RA2041 is not connecting properly:

- Tap on the **Status** tab.

The *Status* dialog box lists the IP and MAC address, and indicates the current state of the radio, the signal strength, channel and so on.

You can also use the *Status* screen for DHCP renewal and ICMP Echo Requests (Pings).

Important: **For details about the Status dialog box, refer to "Status Tab" in** *Appendix A: Summit Client Utility (SCU)****.***

2.8   The Phone (Windows Mobile 6 Professional Only)

WORKABOUT PROs running Windows Mobile 6 Professional are equipped with phone capabilities.

Note: *Remember that you can use the **Help** feature to find more details about phone options. Help screens are context-sensitive–that is, the help displayed is generally specific to the dialog box you have opened. To further narrow your search, tap on the **Search** softkey in the **Help** screen, and type the topic about which you require additional information.*

2.8.1   The Phone Keypad

The phone keypad provides phone services like those you use on your cellular phone. You can use the phone keypad provided with your WORKABOUT PRO to, for example, send and receive phone calls, make conference calls, view a list of your phone calls (call history), set up speed dial numbers, etc.

2.8.1.1   Send & End Phone Calls Using The Phone Keypad

To display the phone keypad:

- In the *Today* screen, tap the **Phone** softkey in the softkey bar at the bottom of the screen.

Note: *You can also press the **[Talk]** key on the WORKABOUT PRO keyboard to display the phone keypad providing it's been activated. The [Talk] key is located on the [TAB] key just below the hand-held display to send the*

phone number; it is labelled with a green telephone receiver icon.Refer to
"Send & End Calls Using The WORKABOUT PRO Keyboard" on page
25 for details.
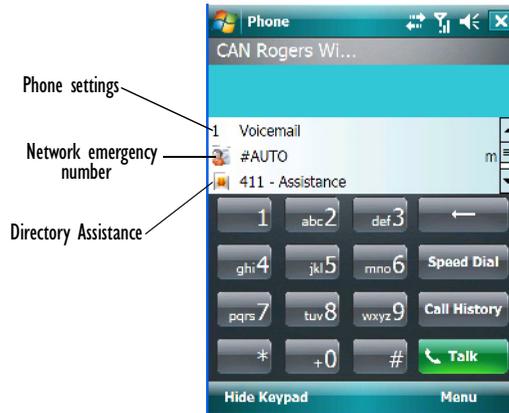
To send a number:

- Use the phone keypad to enter the phone number, and tap on **Talk** to dial
  the phone number.

To end a phone call:

- Tap on **End** button on the phone keypad.

Note: *You can also tap on the [End] key on the physical keyboard of the WORK-*
ABOUT PRO to end the call providing this key has been activated. The
[End] key is mapped to the [ESC] key just below the hand-held display
and is labelled with a red phone receiver. Refer to "Send & End Calls
Using The WORKABOUT PRO Keyboard" on page 25 for details.

2.8.1.2   Make A Conference Call

To set up a conference call between yourself and two or more other parties:

- In the phone keypad, enter the first phone number. Tap on **Talk**.
- While you are connected to the first number, tap on **Menu>Hold**.
- Enter the second number. Tap on **Talk**.
- Tap on **Menu>Conference**.
- To add another party, tap on **Menu>Hold**, enter the number, and then tap
  Menu>Conference.
- Tap on **End** to disconnect all calls.

2.8.1.3   Receive An Incoming Call

To answer an incoming call:

- • Tap on the [Talk] button located on the [TAB] key on the WORKABOUT PRO keyboard. It's labelled with a green phone receiver.

2.8.1.4   Program Speed Dial

The phone keypad provides a *Speed Dial* button for quick access to often used numbers.

- • In the phone keypad, tap on the **Speed Dial** button to display the speed dial *Phone* dialog box.
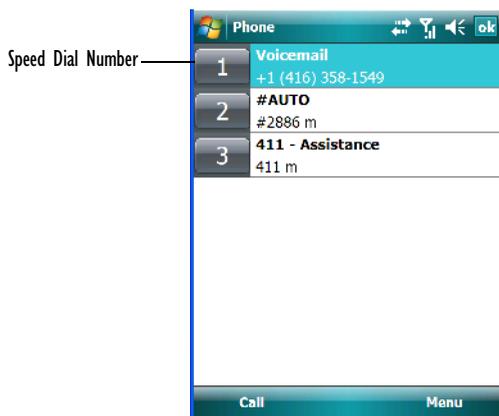
Speed Dial Number

This dialog box lists the phone numbers and the speed dial key to which the phone number has been assigned.

- • Tap on the **Speed Dial Number** (to the left of the phone number you want to dial), or

   Tap on the **Call** softkey; the number is dialed for you.

Using The Phone Keypad To Program a Speed Dial

There are a number of ways to add a speed dial number. You can create a speed dial number using the Contacts list or by using the Speed Dial button on the phone keypad.

Adding A New Phone Number

- • In the *phone keypad*, tap on the **Speed Dial** button.
- • In the speed dial *Phone* dialog box, tap on **Menu>New.**

- In the list, choose a contact for a speed dial.
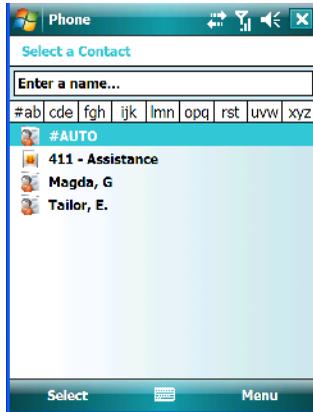
- Tap on **Enter a name**, and type a contact name, or tap on a name in the list.
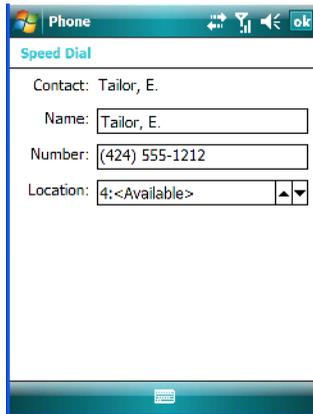
A sequential speed dial key is automatically assigned in the *Location* field. You can tap on the *Location* dropdown menu and change the auto assignment.

Using The Contact List To Program A Speed Dial

- Tap **Contact** in the softkey bar at the bottom of the *Today* screen.
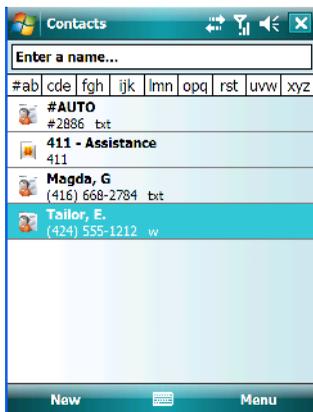
- Tap on the **Contact** to which you want to assign a speed dial number.

- In the *Summary* screen, tap on **Menu>Add to Speed Dial**.

2.8.2 Send & End Calls Using The WORKABOUT PRO Keyboard

WORKABOUT PROs that support the phone feature are equipped with a [Talk] and an [End] phone key; these keys have been mapped to the [TAB] and [ESC] keys, respectively, on the hand-held keyboard.
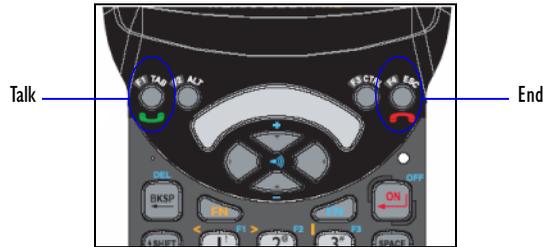
Using these phone keys, you can display the phone keypad and answer, send and terminate phone calls. If you press the [Talk] or [End] key with no result, you may first need to activate them.

Activating The [Talk] And [End] Keyboard Phone Keys

To activate the phone function of these keys:

- Tap on **Start>Settings>System** tab>**About Device** icon.
- Tap on the **Experience** tab.
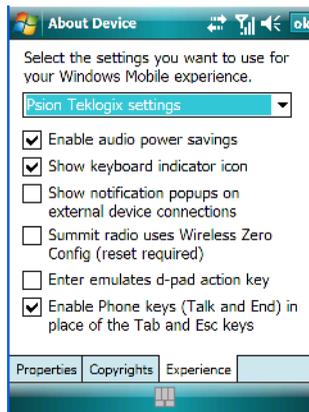
- If it's not chosen by default, choose **Psion Teklogix Settings** in the drop-down menu at the top of the screen. The checkbox next to **'Enable Phone keys (Talk and End) in place of the Tab and Esc keys'** should be checked automatically. If not, check it and tap on **OK**.

2.8.3   Managing Phone Settings

You can adjust phone settings such as the ring type and tone, choose phone services such as barring calls, and you can also determine network selections. There are a number of ways you can access phone settings.

- In the *Navigation Bar*, tap on the **Phone Settings** hotkey. In the pop-up *Phone bubble*, tap on **Settings**, or

- Tap on **Start>Settings>Phone** icon.

Phone Settings Hotkey
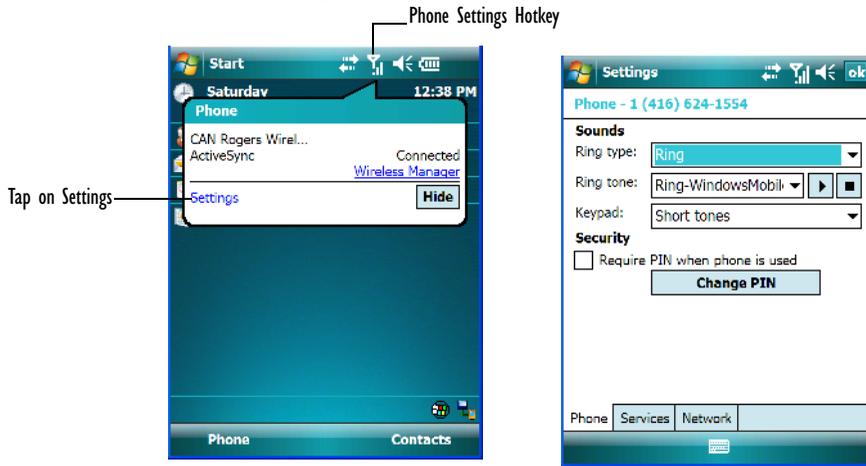
Tap on Settings

Note: *If the phone keypad is opened, tap on **Menu>Options** to display the Phone Settings dialog box.*

2.8.3.1   Phone Tab

Ring Type And Ring Tone

Ring Type allows you to tailor the type of ring used for incoming calls.

The *Ring Tone* dropdown menu allows you to determine the ring tone of incoming phone calls.

Keypad

This option allows you to determine the type of sound that keypad keys emit as you tap them. You can also turn off keypad sounds.

Security

This option allows you to assign a PIN so that your hand-held is protected from unauthorized use. Your SIM card manufacturer provides the default PIN which you can change in this field.

Change Pin

Tapping on this button allows you to change your PIN (Personal Identification Number). Your SIM manufacturer provides a default PIN that you can enter here, and then change. Remember too that you must enable the *Security* checkbox if you require that the PIN be entered phone can be used.

2.8.3.2   Services Tab
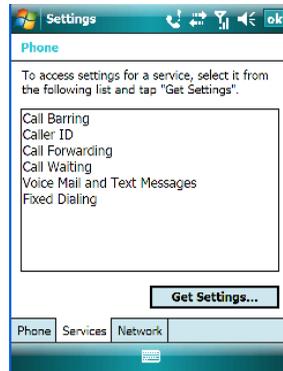
The *Services* tab allows you to customize the behaviour of your phone. You can, for example, block all incoming calls, tailor to whom your caller ID will be transmitted, set up call forwarding and so on.

- Tap on the **service** you want to set up. Tap on **Get Settings**.

The service dialog boxes allow you to tailor your available services to meet your requirements. Remember that when a particular service dialog box you've chosen is displayed, you can always tap on *Start>Help* to get additional information.

Voice Mail Setup

If your service includes Voice Mail, a temporary passcode is automatically assigned. It is mailed to you as a text message.

- Tap on **Start>Messaging** to display your temporary passcode.

To activate your voice mail:

- From a land line, dial your wireless phone number.
- Allow the hand-held to ring until it is automatically picked up by the voice mail service. At the greeting, type #.

You will be prompted to enter your temporary passcode. A tutorial will lead you through the voice mail setup. When you've assigned your personalized passcode, keep it in a secure place.

2.8.3.3 Network Tab
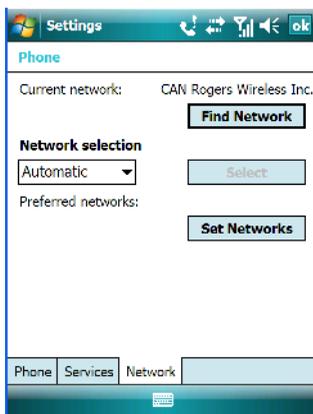
This dialog box identifies your current network, and allows you to view available networks and determine the order in which other preferred networks will be accessed if the current one is unavailable. You can also specify manual or automatic network changes, and you can add a network.

2.9 Resetting The WORKABOUT PRO Hand-Held

When you reset your hand-held, the registry settings and any installed programs (stored on the flash file system) and data are preserved.

2.9.1 Performing A Warm Reset

- Press and hold down the [FN/BLUE] key and the [ENTER] key simultaneously for a minimum of two seconds. When the screen goes blank, release the keys.

Note: *You do not need to reset your WORKABOUT PRO after configuring the radio.*

2.9.2   Cold Resetting To The BooSt Menu

To execute a reset and access the BooSt menu:

- Press and hold down the centre [SCAN] bar and then press the [FN/BLUE] and [ENTER] keys simultaneously for a minimum of two seconds.

After a reset, the BooSt menu appears, listing possible BooSt commands.

- To load the Windows Mobile 6 operating system, type **1**.

2.9.3   Cold Resetting To The Windows Mobile 6 OS

To perform a cold reset and launch the Windows Mobile 6 operating system (bypassing the BooSt menu):

- Press and hold down the [FN/BLUE] [FN/ORANGE] and [ENTER] keys simultaneously for a minimum of two seconds.

GETTING TO KNOW THE WORKABOUT PRO 3

3.1   Features Of The WORKABOUT PRO

Speaker

LED
(Light Emitting Diode)

Microphone Port

Figure 3.1 Front Of WORKABOUT PRO

Battery Cover

Back Cover

Stylus
(pointing tool)

End Cap

Figure 3.2 Back Of WORKABOUT PRO

DC IN Socket

Tether Port
Beeper Port

Low Insertion
Force Port (LIF)

Figure 3.3 Ports

3.2 The Batteries

The hand-held operates with a Lithium-Ion battery pack. Preparing the unit for operation requires that a battery pack be charged and installed in the WORKABOUT PRO.

Three levels of battery packs are available for the WORKABOUT PRO:

- High-Capacity – Model No. WA3006, and
- Super High-Capacity – Model No. WA3010

3.2.1 Battery Safety

Important: **Before attempting to install, use or charge the battery pack, it is <u>critical</u> that you review and follow the important safety guidelines in the quick reference guide entitled 'WORKABOUT PRO Hand-Held Computer Regulatory & Warranty Guide', PN 8000126.**

3.2.2 Removing The Battery Pack

Important: **Always switch the unit off before opening the battery cover to remove the battery. When the cover is removed, a power-off switch is automatically activated and the unit power is switched off; if the battery cover is opened while the hand-held is still powered on, the unit may reboot. Any active sessions may be lost.**

Keep in mind also that while the battery is being installed, the WORKABOUT PRO backup battery will save the current data for up to 5 minutes.

Refer to "Installing The Battery And Switching The Unit On" on page 13.

3.2.3 Battery Swap Time

Assuming the default power saving parameters and battery reserve level have not been altered, battery swap time is approximately 5 minutes—you will not lose data if the battery is replaced within this time frame.

To protect data, the safest place to store data is on a SD/MMC memory card or externally to the device on a USB memory stick or on a PC.

The *Suspend Threshold* feature allows you to determine the battery capacity at which the hand-held will be shut down. If left at the default value, *Maximum Operating Time*, the unit will run until the battery is completely empty; the RAM is only backed up for a short period of time. If you choose *Maximum Backup Time*, the hand-held shuts off with more energy left in the battery so RAM can be backed up for a longer period of time.

(Refer to "Suspend Threshold" on page 125 for details about reserving battery power for data backup purposes.)

3.2.3.1   Safely Swapping The Main Battery

There are a few steps you need to take to ensure that no data is lost during a battery swap. First, you need to make certain that the backup battery is holding at least 80% of its charge capacity. This information is displayed in the *Battery* tab.

- Tap on **Start>Settings>System** tab and then tap on the **Power** icon.

Check the *Backup battery* gas gauge to determine the battery charge remaining.

If the backup battery charge capacity is less than 80%:

- Insert the WORKABOUT PRO in a docking station or cradle to top up the power supply before removing the main battery from the unit.

Important: ***Before opening the battery cover on your WORKABOUT PRO to remove the battery, <u>you must turn off the hand-held</u>. If the battery cover is opened while the hand-held is still powered on, the unit may reboot.***

3.2.4   Charging The Battery

Batteries shipped from the factory are charged to approximately 40% of capacity. They must be fully charged prior to use.

Keep in mind also that, along with the main battery, the WORKABOUT PRO is equipped with an internal, backup battery that preserves data stored on the unit while the main battery is swapped.

Important: ***The backup battery is trickle charged from the main battery. To maximize battery life, avoid excessive discharging and recharging of the backup battery by keeping the main battery fully charged.***

> ***IF YOU ARE POWERING UP A NEW UNIT, a warning message may appear on the screen indicating that the backup battery capacity is low. To recharge the backup battery, you must fully charge the WORKABOUT PRO <u>with the main battery installed in the unit</u>.***

3.2.4.1   Chargers And Docking Stations

Important: *FOR DETAILED INFORMATION about chargers and docking stations, refer to Chapter 7: Peripheral Devices & Accessories beginning on page 265.*

Lithium Ion battery packs must be charged before use. These batteries can be charged with a variety of chargers and docking stations. These include:

- AC wall adaptor (Model # PS1050-G1) – operates as an AC power source and when plugged in, also charges the battery installed in the unit.

- Desktop Docking Station (Model # WA4003-G2) – operates as both a charger and a docking station. Operating as a charger, both the battery installed in the hand-held and a spare battery can be charged simultaneously.

- Quad Docking Station – (Model # WA4204-G2 for WORKABOUT PRO C & Model # WA4304-G2 for WORKABOUT PRO S) can charge the battery of up to four WORKABOUT PROs inserted in the docking station.

- Single Battery Charger (Model # WA3001-G1) – charges a single battery.

- Quad Battery Charger (Model # WA3004-G1) – charges up to four spare High-Capacity or Super High-Capacity WORKABOUT PRO battery packs.

It can take up to 4 hours to charge a battery. The WORKABOUT PRO intelligent charging system protects the battery from over-charging by terminating the charge process when the battery is at maximum capacity.

Note: *Refer to "Monitoring The Battery And Maximizing Run Time" on page 46 for additional information about the battery.*

Important: ***To avoid damaging the battery, chargers will not begin the charge process until the battery temperature is between 0° C to 45 °C (32° F to 113° F).***

3.3 Switching The Hand-Held On And Off

Switching On The WORKABOUT PRO

- Press and hold down the [ENTER] key for at least two seconds.
- When the LED flashes green, release the [ENTER] button.

The startup *Today* screen is displayed.

Note: If the WORKABOUT PRO is in suspend state, pressing [ENTER] 'wakes' the unit from this state. The screen in which you were working before the computer entered suspend state is displayed. "Wakeup Keys Tab" on page 126 describes how you can assign other 'wakeup' keys or enable a two-key 'power on' sequence.

Switching Off The WORKABOUT PRO (Suspend)

*Important: **Keep in mind that turning off the WORKABOUT PRO does not result in a complete reboot; rather, the unit enters a power-saving, "suspend" state. When the unit is turned on from suspend state, operation resumes within a few seconds.***

To switch off the WORKABOUT PRO:

- Press the [FN/BLUE] key, and then press the [ENTER] key.

3.4 The Keyboards

3.4.1 The WORKABOUT PRO Keyboard

The WORKABOUT PRO is available in two models, each with it's own keyboard layout. The WORKABOUT PRO C model is equipped with a 52-key, alphanumeric keyboard. The WORKABOUT PRO S model is equipped with a 25-key numeric keyboard.

Most of the keys on these keyboards operate much like a desktop computer. Where a key or key function is not consistent with the PC keyboard, the differences are noted.

The [FN/BLUE] and [FN/ORANGE] modifier keys provide access to additional keys and system functions. These functions are colour coded in *orange* and *blue* print above the keyboard keys.

> *Note:* *Almost all keys can be reprogrammed to suit your requirements.*

3.4.2 Modifier Keys

The [SHIFT], [CTRL], [ALT], [FN/BLUE] and [FN/ORANGE] keys are *modifier* keys. Pressing a modifier key changes the function of the next key pressed. For example, on a WORKABOUT PRO C, 52-key keyboard, a square bracket is printed in *orange* print above the [4] key. Pressing the [FN/ORANGE] key followed by the [4] key displays a square bracket rather than the number 4.

The [SHIFT], [CTRL] and [ALT] keys operate much like a desktop keyboard except that they are not chorded (two keys held down simultaneously). The modifier key must be pressed first followed by the key whose function you want modified.

3.4.2.1 Activating Modifier Keys & The Shift-State Indicator

When a modifier key is pressed, it is represented in the *shift-state indicator* icon in the softkey bar at the bottom of the screen, making it easier to determine whether or not a modifier key is active. If the *shift-state indicator* icon is not visible (you can only see the *soft keyboard* icon), you may need to take a few steps to display the shift-state indicator icon.

- Tap on **Start>Settings** followed by the **Buttons** icon.
- Tap on the **One Shots** tab at the bottom of the screen.
- Tap in the check box next to *Show modifier key state* to display the shift-state indicator icon.
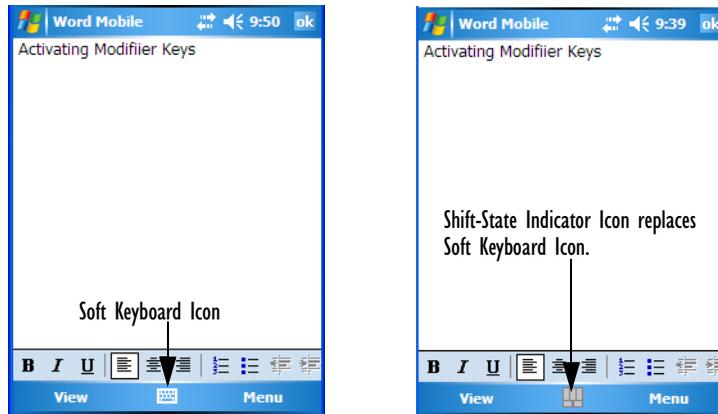
Figure 3.4 Shift-State Indicator Icon

3.4.2.2   Locking Modifier Keys

*Note: The locking behaviour of the modifier keys can be changed so that, for example, pressing a modifier key **once** will lock the key 'on'. Refer to "One Shots" on page 91 for details. Note too that by default, the [FN/ORANGE] key is locked 'on' when pressed only once.*

When a modifier key is locked 'on', it will remain active until it is pressed again to unlock or turn it off.

To help you identify when a modifier key is locked 'on', the key is represented in the *shift-state indicator* icon with a black frame around it.
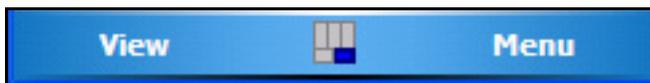
Figure 3.5 Shift-State Indicator Icon – Locked Modifier Key

Once a modifier key is unlocked or turned off, it is no longer displayed in the *shift-state indicator* icon.

3.4.3   The Keys

The [SHIFT] Key

The [SHIFT] key is used to display uppercase alpha characters and provide access to the symbols above the numeric keys. You can lock this key 'on' so that when you press an alpha key, an upper case character is displayed. When you press a numeric key, the associated symbol on the numeric key is displayed on the screen.

If you press the [SHIFT] key twice, it is locked 'on' essentially acting as a [CAPS] key, displaying uppercase characters. In this state, if you type a numeric key, the number rather than the symbol above it is displayed. Press [SHIFT] again to turn the [CAPS] function off.

The Arrow Keys

The grey Arrow keys are located near the top of the keyboard, directly below the [SCAN] bar. The arrow keys move the cursor around the screen—up, down, left and right. The cursor is the flashing box or underline character that indicates where the next character you type will appear.

The [BKSP/DEL] Key

The [BKSP] key (sometimes referred to as destructive backspace) moves the cursor one character to the left, erasing the incorrectly entered key stroke.

The [DEL] key ([FN/BLUE] [BKSP]) erases the character at the cursor position.

The [CTRL] And [ALT] Keys

The [CTRL] and [ALT] keys modify the function of the next key pressed and are application dependent.

The [TAB] Key

Typically, the [TAB] key moves the cursor to the next field to the right or downward.

The [ESC] Key

Generally, this key is used as a keyboard shortcut to close the current menu, dialog box or activity and return to the previous one.

The [SPACE] Key

Pressing this key inserts a blank space between characters. In a Windows dialog box, pressing the [SPACE] key enables or disables a checkbox.

The [SCAN] Keys

The WORKABOUT PRO is equipped with a [SCAN] bar located just below the display and two [SCAN] keys– situated on the left and the right sides of the unit. [SCAN] keys activate the scanner beam. For units that ***do not have*** internal scanners, these keys can be remapped to serve other functions.

The Function Keys–[F1] to [F10]

Function keys [F1] to [F10] perform special, custom-defined functions. These keys are accessed by pressing [FN/BLUE] followed by numeric keys [1] to [10]. They can be used with the Windows Mobile 6 operating system or another application. Keep in mind that the following function keys are used by the Windows Mobile 6 operating system: [F1] - softkey 1, [F2] - softkey 2, [F6] - volume up, and [F7] - volume down.

Function keys [F1], [F2], [F3] and [F4] labelled in grey boxes next to the [TAB], [ALT], [ESC] and [CTRL] keys allow you to remap these keys for your application.

The Macro Keys–[M1] to [M3] (WORKABOUT PRO C Only)

Macro keys [M1] to [M3] contain up to 20 programmable characters ("positions") and executable keys. These keys are accessed by pressing [FN/ORANGE] followed by alpha keys [O], [P] or [Q]. When pressed, the macro key executes a custom-defined string of characters, including executable keys.

3.4.4 The WORKABOUT PRO S – Accessing Alpha Keys

Because the WORKABOUT PRO S provides a numeric keypad, you'll need to take a few extra steps to access the alphabetic characters on this type of keyboard.

3.4.4.1 Choosing A Single Alpha Character

The examples below illustrate how to access, A, B and C, all of which are printed in *orange* characters above the numeric key [2].

Important: ***The letters you choose appear in the softkey bar, providing a visual indicator of which letter will be displayed on the screen.***

To choose the letter *a*:

- Press the [FN/ORANGE] key, and press the numeric key [2].

Note: *To choose the second, third or fourth alpha character assigned to a numeric key, you may want to lock the [FN/ORANGE] key 'on'. By default, the [FN/ORANGE] key is locked 'on' when pressed once. However, depending on how your unit is set up in the 'One Shots' tab, you may find that you need to press the [FN/ORANGE] key twice to lock it 'on'. Refer to "One Shots" on page 91 for details.*

To choose the *second* letter in the sequence—in this example, the letter *b*:

- Lock the [FN/ORANGE] key 'on'. A *shift-state indicator* icon in the softkey bar represents the orange key with a black frame around it to indicate that this key is locked 'on'.
- Press numeric key [2] *twice* to display the letter *b*.

To choose the ***third*** letter in the sequence—in this example, the letter *c*:

- Lock the [FN/ORANGE] key 'on'.
- Press numeric key [2] ***three times*** to display the letter *c*.

Note: *Keep in mind that there is a timeout if you pause for one second between key presses when selecting the second, third or fourth letters on a key. For example, suppose you want to type the letter 'c' – you would need to press*

the [2] key three times. With the [FN/ORANGE] key locked 'on', if you press [2] twice and then pause between key presses for 1 second, the letter 'b' will be selected automatically.

3.4.4.2   Creating Uppercase Letters

To display capital letters, you need to first lock the [SHIFT] key 'on'.

• Press the [SHIFT] key twice.

All alpha keys are displayed in uppercase until you press the [SHIFT] key again to 'unlock' (switch off) the function of this key.

3.4.4.3   Choosing Multiple Alpha Characters

• Lock the [FN/ORANGE] key 'on'.

Each time you press a numeric key from [2] through [9], an alpha character will be displayed on the screen. Remember that you can refer to the softkey bar for a visual indication of which alpha key will be displayed on the screen.

Important: ***Once you have finished typing alpha characters, remember to turn off or unlock the [FN/ORANGE] key. Check the shift-state indicator icon (refer to Figure 3.5 on page 40) to make certain that the key is turned off.***

3.4.5 The Keypad Backlight

The intensity of the keypad backlight can be configured using the *Backlight* icon accessed by tapping on *Start>Settings*. Refer to "Backlight" on page 109 for details about this option.

3.5   The Display

WORKABOUT PROs are equipped with display backlighting to improve character visibility in low light conditions. The backlight switches on when a key is pressed or the screen is tapped.

3.5.1 Adjusting The Backlight

To set the backlight intensity and the duration of time that the backlight will remain on, you'll need to choose the *Backlight* icon.

• Tap on **Start>Settings** and then, tap on **System** tab>**Backlight** icon.

Refer to "Backlight" on page 109 for details.

3.5.2 Aligning (Calibrating) The Touchscreen

If your touchscreen has never been aligned (calibrated) or if you find that the stylus pointer is not accurate when you tap on an item, follow the steps below.

- Tap on **Start>Settings**. Tap on the **System** tab to display the **Screen** icon.
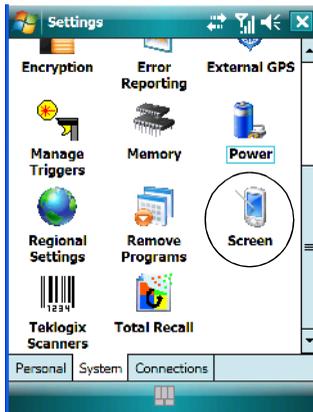
- Tap on the **Screen** icon to display the *Alignment* tab.
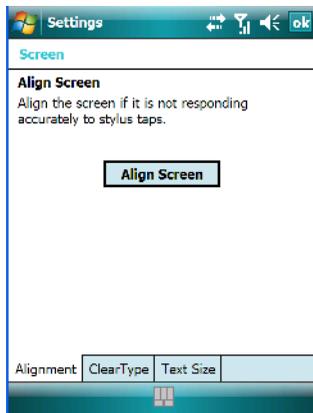
- Tap on the **Align Screen** button, and follow the directions on the screen to align (calibrate) the screen.

Note: *This window provides two additional tabs: ClearType and Text Size. Tapping on the ClearType tab allows you to enable the ClearType option to smooth screen font appearance. The Text Size tab allows you to increase or decrease the size of the font displayed on the screen.*

3.6 Indicators

The WORKABOUT PRO uses an LED (Light Emitting Diode), onscreen messages and audio tones to indicate the various conditions of the hand-held, the batteries, the scans and so on.

3.6.1 The LED

A single, two-coloured LED is located on the upper-right side of the keyboard, just above the [ENTER] key. When you press [ENTER], the LED flashes green to indicate that the unit has been powered up. The LED table following outlines the behaviour of the LED while the unit is docked in a charger.

Keep in mind that the application running on the WORKABOUT PRO can dictate how the LED operates. Review the documentation provided with your application to determine LED behaviour.

If the unit is attached to an external power supply, the hand-held LED reflects the battery charge status.

LED Behaviour	Charge Status
Solid Green	Charge complete.
Fast Blinking Green	Charge in progress. Battery charged to less than 80% capacity.
Slow Blinking Green	Battery charged to greater than 80% of capacity.
Solid Red	Temperature outside charge range (0° C to 50° C).
Blinking Red	Battery is not charging. Battery fault.

Table 3.1 WORKABOUT PRO LED BEHAVIOUR

3.6.2 Audio Indicators

The audio speaker provides a variety of sounds when a key is pressed, a keyboard character is rejected, scan input is accepted or rejected, an operator's entry does not match in a match field or the battery is low. To specify how you want your WORKABOUT PRO to respond under various conditions, refer to "Sound & Notifications" on page 106.

The volume can be adjusted using the [UP ARROW] and [DOWN ARROW]. The *increase* volume key is labelled with a plus symbol and the *decrease* volume key is labelled with a minus symbol.

3.6.2.1   Adjusting Speaker Volume

- Lock the [FN/BLUE] key 'on' and then, press [UP ARROW]—the *increase volume* key or [DOWN ARROW]—the *decrease volume* key until the volume meets your requirements.
- When you're done, you will need to unlock (turn 'off') the [FN/BLUE] key. Press [FN/BLUE] again to unlock the key.

3.7 Monitoring The Battery And Maximizing Run Time

Note: When the main battery is at 50% capacity, a 'low battery' warning is displayed. When the battery is at approximately 10% capacity, a 'very low main battery' notification bubble appears.

As Lithium Ion batteries age, their capacity decreases gradually, and they are generally considered depleted after approximately 2 years of use (less than 60% of original capacity remaining). Keep in mind however that heavy usage or operating the unit at temperature extremes will shorten the battery life.

Lithium Ion batteries do not require conditioning cycles and the WORKABOUT PRO battery system (including chargers) requires no user interaction to maintain peak performance.

To maximize the run time of your batteries, consider the following:

- The display backlight is the largest drain on the battery. Try to keep its brightness as low as possible.
- The hand-held is 'event' driven—that is, when the unit is not in use, it reverts to *sleep* mode (even when it appears to be running), saving battery power. Events include a key press, touchscreen taps and scan triggers. Power consumption is reduced if you avoid unnecessary events, and allow the unit to *sleep* as much as possible.
- The battery is a 'smart battery' with built-in intelligence. Tapping on the *Power* icon under *Start>Settings>System* tab displays a dialog box that provides detailed information about the battery status of the main and backup batteries installed in your unit.
- When the hand-held is switched off, it goes into a low-power, suspend state but continues to draw a small amount of power from the battery. This should not be an issue unless the unit is left in suspend state for more than a week—for long-term storage, the battery should be removed from the unit.

Keep in mind also that some components and settings can affect the battery life while in suspend state. For example, if the GSM module power mode is set to *Always On*, the battery life in suspend state is reduced.

3.7.1 Storing Batteries

Long term battery storage is not recommended. If storage is necessary:

- Always try to use a 'first-in first-out' approach to minimize storage time.
- Lithium Ion batteries age much faster at elevated temperatures. Store batteries at temperatures between 0° C and 20° C.
- Always charge batteries to at least 40 to 60% before storing them. Batteries can be damaged by an over-discharge phenomenon that occurs when an empty battery is stored for a long period of time such that the cell voltage drops below a lower limit.
- To minimize storage degradation, recharge stored batteries to 40 to 60% every 4 or 6 months to prevent over-discharge damage.
- A 'never used' Li-Ion battery that has been stored for 3 years may have limited or no useful life remaining once put into service. Think of batteries as perishable goods.

3.8 Uploading Data In A Docking Station

Important: ***Review the documentation provided with the user application installed in your WORKABOUT PRO before performing data uploads.***

The desktop docking station and quad docking station are typically used to upload transaction data to a server computer when a radio link is not available.

Note: *Refer to "Chargers And Docking Stations" on page 271 for more details.*

The desktop docking station can complete batch uploads to a Client USB connected PC or server. An optional 10/100baseT Ethernet module is also available.

Unlike the desktop docking station, the quad docking station supports only TCP/IP connections to a PC or server through a 10/100baseT Ethernet connection.

When a WORKABOUT PRO is properly inserted in a docking station, a *dock* icon is displayed in the navigation bar at the top of the screen. The unit also detects the presence of the Ethernet network.

3.9 Bluetooth Radio

Note: *Integrated* Bluetooth *class II radios are standard on WORKABOUT PRO C and S units. Keep in mind also that* Bluetooth *is available simultaneously with WAN and 802.11g on a single unit.*

The WORKABOUT PRO is equipped with an on-board *Bluetooth* radio. This type of radio enables short range data communication between devices. The *Bluetooth* also provides the capability to use a *Bluetooth*-enabled cellular phone as a data modem, exchanging information with other *Bluetooth* devices and providing network access. Refer to "The Bluetooth GPRS Phone" on page 211 for setup details.

3.9.1 Pairing A Bluetooth Headset Or Other Bluetooth Devices

Before pairing a headset or any other *Bluetooth* device with your unit, make certain that the *Bluetooth* device power is enabled; it is *enabled* by default. If, for some reason, it has been disabled:

- Tap on **Start>Settings**>**System tab** and then, tap on the **Power icon** to display the *Power* dialog box.
- Tap on the **Built-in Devices tab**, and tap in the checkbox next to **Enable Bluetooth**.

Next you need to make your WORKABOUT PRO visible to other *Bluetooth* devices; this option is set to *off* by default.

- Tap on **Start>Settings>Connections** tab>**Bluetooth** icon.
- Tap on the **Mode tab**, and check both **Turn on Bluetooth** and **Make this device visible to other devices**. Tap **OK**.
- Follow the headset manufacturer's instructions to place the headset in pairing mode. Some headsets will automatically initiate the pairing to the hand-held, and you will be prompted to pair with the headset.

If your headset does not initiate pairing automatically, carry out these steps:

- Tap on **Start>Settings>Connections** tab>**Bluetooth** icon.
- In the *Devices* tab, tap **Add new device**. Wait for the WORKABOUT PRO to scan for devices.
- Choose the **headset device** from the list and tap on **Next**.

The WORKABOUT PRO then prompts you to provide a passcode.

- Type the **passcode** (or PIN – Personal Identification Number), and then tap on **Next**.

The hand-held unit then displays a services list with the *Hands Free* service type checked.

- With *Hands Free* checked (enabled), tap **Finish**. The headset is now paired.

3.10 Inserting The SD/MMC Card And SIM Card

There are two card slots available in the battery compartment of the hand-held – the lower slot is provided for a SD/MMC (Secure Digital/Multi-Media Card) and the upper slot is for a SIM (Subscriber Identity Module) card.

SD/MMC cards provide additional non-volatile memory to your hand-held. SIM cards provide access to the hand-held's *voice* option, the Internet, and so on.

3.10.1 Inserting The Card

- Switch off the WORKABOUT PRO.
- Remove the battery cover and the battery.

A hinged door at the top of the battery compartment protects the connectors. It is hinged on the left side.

- Pull the hinged SD door down as the arrow icon on the door indicates.
- Orient the SD/MMC or SIM card according to the legend stamped into the battery well plastic.
- For SD/MMC cards, slide the card into the lower slot, pushing it inward until it latches into place.
- For a SIM card, slide the card into the upper slot, pushing it inward until it latches into place.
- Swing the hinged door back into place, and gently snap it shut.

To remove the card:

- Gently press the card inward until it unlatches, and the card is expelled from the slot.

3.11 General Maintenance

3.11.1 Caring For The Touchscreen

The top of the touchscreen is a thin, flexible polyester plastic sheet with a conductive coating on the inside. The polyester can be permanently damaged by harsh chemicals and is susceptible to abrasions and scratches. Using sharp objects on the touchscreen can scratch or cut the plastic, or crack the internal conductive coating.

The chemicals listed below must not come into contact with the touchscreen:

- sodium hydroxide,
- concentrated caustic solutions,
- benzyl alcohol, and
- concentrated acids.

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (WA6111-G2). These covers reduce the clarity of the display slightly but will dramatically extend the useful life of the touchscreen. When they become scratched and abraded, they are easily removed and replaced.

3.11.2 Cleaning The WORKABOUT PRO

Important: ***Do not immerse the unit in water. Dampen a soft cloth with mild detergent to wipe the unit clean.***

- Use ***only*** mild detergent or soapy water to clean the hand-held unit.
- Avoid abrasive cleaners, solvents or strong chemicals for cleaning. The plastic case is susceptible to harsh chemicals. The plastic is partially soluble in oils, mineral spirits and gasoline. The plastic slowly decomposes in strong alkaline solutions.
- To clean ink marks from the keypad or touchscreen, use isopropyl alcohol.

WORKING WITH WINDOWS MOBILE 6 4

4.1 Navigating In Windows Mobile 6 And Applications

Graphic user interfaces like Windows Mobile 6 for portable devices or desktop Windows (2000, XP, etc.) utilize 'point and click' navigation. On the WORKABOUT PRO, this is accomplished using a touchscreen and stylus rather than a mouse.

4.1.1 Navigating Using A Touchscreen And Stylus

Note: *If the touchscreen is not registering your screen taps accurately, it may need recalibration. Refer to "Aligning (Calibrating) The Touchscreen" on page 44.*

A touchscreen is a standard feature on all WORKABOUT PROs. Each is equipped with a *stylus*—a pointing tool —stored in a slot at the top of the unit.

- Use the stylus to tap on the appropriate icon to open files and folders, launch applications and programs, make selections, and so on.

4.2 Windows Mobile 6 Desktop—Today Screen

Keep in mind that if your hand-held is running *Windows Mobile 6 Professional*, the Today screen will offer *Phone* connectivity in the *Navigation Bar* at the top of the screen and a *Phone* softkey in the *Softkey Bar* at the bottom of the screen. Units running *Windows Mobile 6 Classic* provide a *Calendar* option in the *Softkey Bar*; phone options are not available with this version of Windows Mobile 6.

Connectivity Indicator

Volume Control

Start Button

Today's Date

Battery Charge State

Navigation Bar

Clock

Phone Settings

Owner Information

E-mail Notification

Tasks To Complete

Calendar-Upcoming Appointments

Softkey Bar

Windows Mobile 6 Classic

Phone Softkey

Windows Mobile 6 Professional

The *Today* screen displays all your important information—tasks, unread e-mails and upcoming appointments—all in one place. The *Start* menu provides access to everything else you'll need.

4.2.1 Windows Mobile 6 Navigation Bar

The navigation bar along the top of the screen provides icons that, when tapped, open their associated programs. If you're unit is equipped with *Windows Mobile 6 Professional*, you'll be see a *Phone* hotkey for quick access to phone settings.

Windows Mobile 6 Classic Navigation Bar

Windows Mobile 6 Professional Navigation Bar
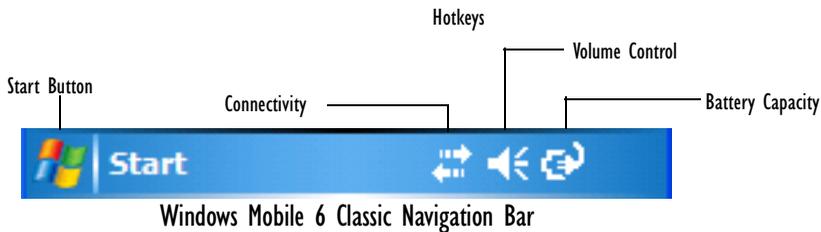
Note: *When a peripheral is attached to the tether or LIF port of the WORK-ABOUT PRO, an associated icon is displayed briefly in the navigation bar to indicate that the hand-held has recognized the connection.*

Start Button

Tapping on the **Start** button displays the *Start* menu.

Connectivity

The *Connectivity* hotkey provides a shortcut to the *Connections* tab in the *Settings* window. This tab provides access to *Bluetooth*, network, network card and internet connection setups.
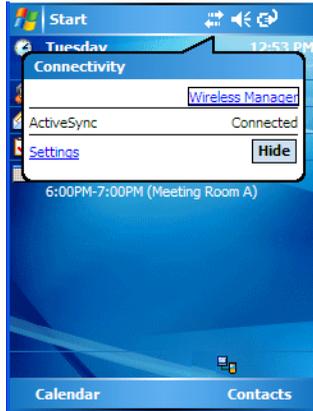
Phone Settings

If you're hand-held is running *Windows Mobile 6 Professional*, it is equipped with a phone option. A hand-held in which a SIM card and GSM radio are installed can access phone settings along with the Wireless Manager from this pop-up bubble. Any active connections are also listed here.

Volume Control

Tapping on this icon displays a sliding tab that allows you to adjust the speaker volume or turn the speaker on and off.

On units running *Windows Mobile 6 Professional*, two volume adjustments are provided – one for the speaker volume and the other for the phone dialer volume.

Windows Mobile 6 Classic
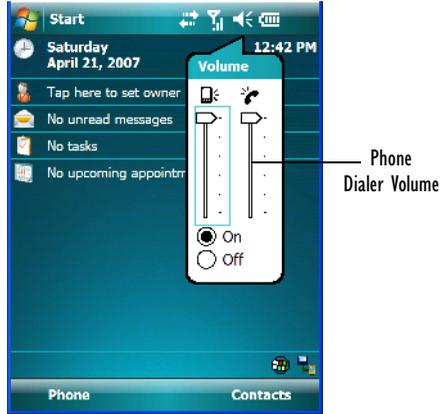
Windows Mobile 6 Professional

Battery Capacity

Tapping on the *Battery* hotkey displays the Battery tab allowing you to view the remaining battery capacity in the main battery and the backup battery.
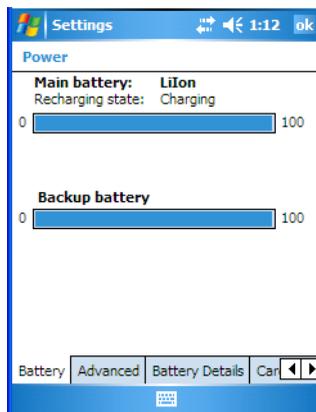
4.2.2 Today's Date, Clock And Alarm

This option displays the current date. If you need to adjust the date or set an alarm:

- In the *Today* screen, tap on **today's date**.

The *Clock & Alarms* screen is displayed.
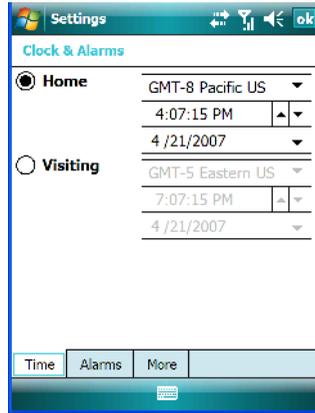
- Tap on the drop-down menu arrows to set the GMT, time and date.

An option to set the date and time for a visiting time zone is also available.

To set an alarm:

- Tap on the **Alarms** tab.
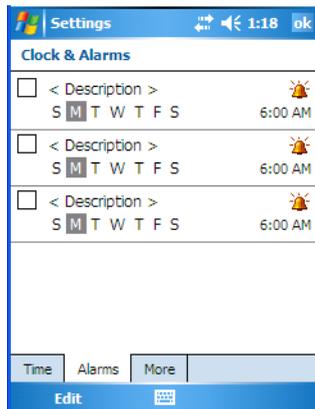
You can set a maximum of three alarms.

- Tap in the **checkbox** to enable an alarm.
- Tap the **day** on which you want the alarm to go off—**Sunday** through **Saturday**.
- Tap on the **clock** and set the time of the alarm. Keep in mind that it can only be set for hours—minutes cannot be specified.
- Tap on **OK** to save your changes.

Note: *Tapping on the 'More' tab displays a dialog box in which you can choose to 'Display the clock on the title bar in all programs'.*

4.2.3 Ownership Information

This option allows you to add your personal information to the WORKABOUT PRO. Some of this information will be displayed in the desktop *Today* screen.

- Tap on **Owner** to display a screen in which you can type information.

- Type your **name, company name, address, telephone number** and **e-mail address**.

Note: *You can type information using the WORKABOUT PRO keyboard, or you can tap on the soft keyboard icon in the bottom right corner of the softkey bar to display an onscreen keyboard.*

The *Ownership* screen has two additional tabs—*Notes* where you can add any pertinent, additional information and *Options* where you can specify whether you want the desktop to display your 'identification' information or your 'note' information.

4.2.4 E-mail Notification

If you have any e-mail, it will be indicated in the *Today* desktop screen. To view your e-mail, tap on the **E-mail Notification** option.

Refer to "Messaging" on page 259 for details about setting up your Inbox.

4.2.5 Task Notification

Tasks lets you create lists of entries representing your responsibilities, upcoming projects, and so on. If you've assigned any tasks, this option lets you know how many active tasks you have.

Note: You can synchronize the Task Notification option using ActiveSync so that any tasks are displayed on your WORKABOUT PRO as well as your PC. Refer to "Synchronization" on page 246 for details.

- Tap on the **Tasks** option to display a list of tasks.
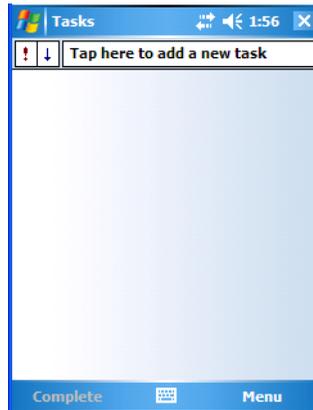
Creating A Task

- Tap in the field labelled **Tap here to add a new task**. The text is replaced with a blinking cursor. If you prefer to type the task using the soft keyboard, tap on the *soft keyboard* icon in the softkey bar.
- Type your task description.
- Tap anywhere in the blank part of the screen, or press [ENTER] to add the task to your list.

Editing A Task

- Tap on a **task** in the task list to highlight it. Tap **Edit** in the softkey bar to display a detailed task screen where you can define task characteristics.
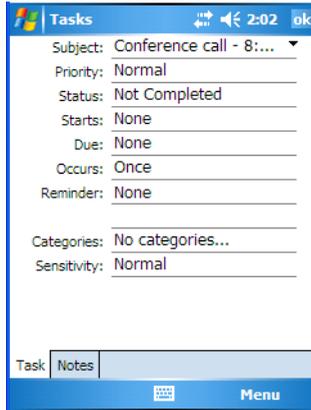
Figure 4.1 Task Details Screen

Each of the nine items in this screen, when tapped, displays a dropdown menu where you can choose from a list of options.

- Once you've completed all the appropriate fields, tap on **OK** to save your changes.

Note: You can also tap on the Notes tab to add additional information about the task your are defining.

Deleting A Task

- Press and hold the stylus on a task until a pop-up menu is displayed.
- Tap on **Delete Task**.

Marking A Task As Completed

- In the **Tasks** list, tap the **checkbox** next to the items that are completed.

Sorting Tasks

- Tap on the **Menu** option in the lower-right corner of softkey bar, and tap on **Sort By**.

You can choose from **Status, Priority, Subject, Start Date** or **Due Date**. The tasks are arranged in the list according to the criterion you chose.

Limiting The Tasks Displayed In The Task Screen

• Tap on **Menu** in the lower-right corner of softkey bar, and tap on **Filter**.

You can choose **All Tasks, Recently Viewed, No Categories, Active Tasks**, or **Completed Tasks**. The tasks are displayed on the screen according to the preference you chose.

4.2.6 Calendar Of Upcoming Appointments

This option is used to map out all your upcoming appointments, meetings and so on in the weeks, months and years ahead.

Note: *You can synchronize the Calendar using ActiveSync so that any meetings, appointments and so on are displayed on your WORKABOUT PRO Today screen as well as on your PC. Refer to "Synchronization" on page 246 for details.*

• Tap on the **Upcoming Appointments** option in the *Today* screen, or tap on **Start>Calendar** to display the calendar.

If your unit is running *Windows Mobile 6 Classic*, you can tap on **Calendar** in the *Softkey Bar*.
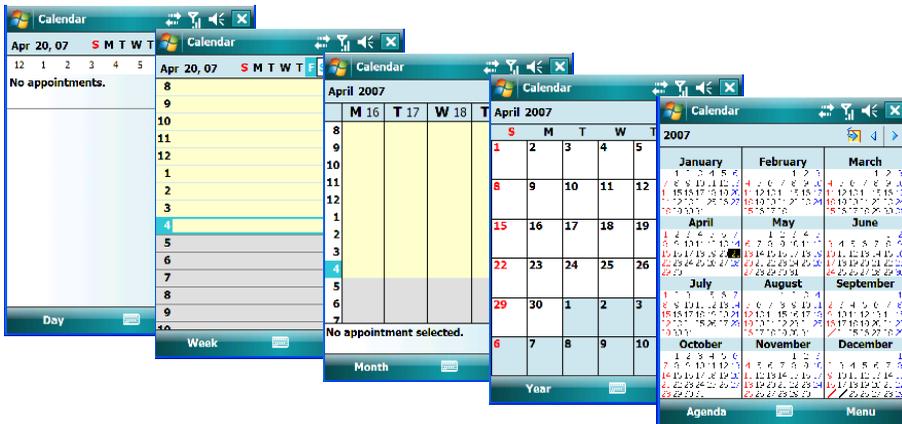
The default calendar displays an *Agenda* of appointments for the week, divided into days. You can choose to leave the calendar as is, or you can tap on the *Day* softkey to reflect the *Week, Month* or *Year*.

4.2.6.1   Creating And Editing Appointments

• In the *Calendar* screen, tap on **Menu** in the softkey bar, and then tap on **New Appointment**.
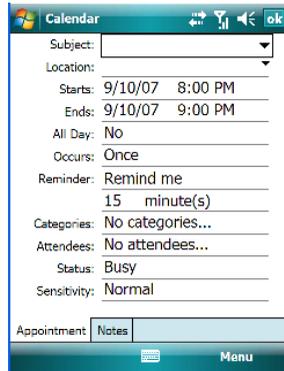
Figure 4.2 Appointment Detail Screen

• In the *Subject* field, name the appointment.

• Complete the remaining fields to reflect your appointment details.

Note: *Refer to "Adding Reminders" on page 62 for details about reminders.*
Refer to "Using Categories" on page 63 for information about this option.

• Tap on **OK** to save your changes and close the screen.

4.2.6.2   Adding Reminders

• In the *Today* screen, tap on the **appointment** for which you'd like a reminder. In the *Calendar detail* screen, tap on the **appointment**. Tap on the **Menu** softkey and then, choose the **Edit** command.
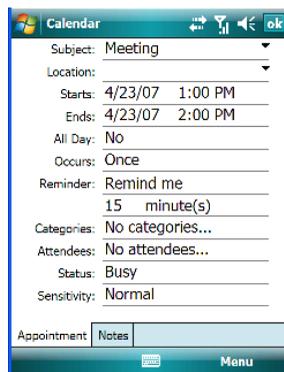
If you want to be reminded in advance of an appointment:

- In the *Reminder* field, choose **Remind me** from the drop-down menu.
- In the second *Reminder* field, tap on the number in the field to display a dropdown menu where you can define a numeric value of 1, 5, 10, 15, 30. Tap on **minute(s)** to display a dropdown menu from which you can choose the time unit for your reminder—minute(s), hour(s), day(s) or week(s).
- Tap **OK** to finish. You are returned to the view you were in before adding the reminder.
- Tap the appointment in the **Calendar** screen to display it in a summary screen. The reminder is indicated by the small, bell icon.
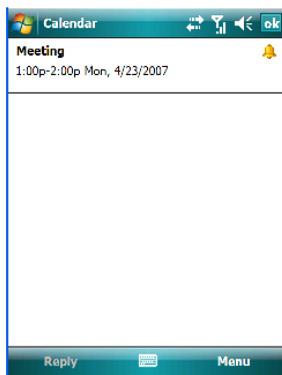
4.2.6.3   Using Categories

Categories help you organize and track the different types of data you keep on your hand-held.

To assign an appointment to a category:

- Tap on an **appointment** in the *Today* screen. In the *Calendar* screen, tap on the **appointment** again.

- • Tap the **Categories** field to display the *Categories* screen.
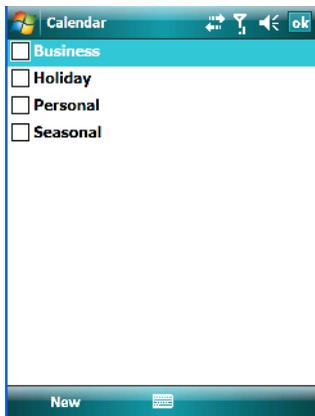
- • Tap in the **checkbox next to the category** to which you want to assign the appointment.
- • Tap **OK**. Your appointment is assigned to the category or categories you chose.

*Note: You can create a new category by tapping on **New** in the softkey bar at the bottom of the screen.*

4.2.6.4   Deleting Appointments

- • Tap and hold the stylus on the **appointment** you want to delete.
- • Tap on **Delete Appointment** in the pop-up menu.

4.3 Start Menu

To display the *Start* menu:

- • Tap on the **Start** button in the upper-left corner of the *Navigation Bar*.

Start Button —

Custom-chosen programs —

Most recently used programs —

Windows Mobile command centre —

— Navigation Bar

- Tap on the **Start** menu item with which you want to work.

*Note: Keep in mind that if your hand-held is running Windows Mobile 6 Classic, the Phone option displayed in the sample screen above is **not** available; this option is only offered on units running Windows Mobile 6 Professional.*

4.3.1 Customising The Start Menu

You can choose the items you want to appear in the *Start* menu—items you use most often.

- Tap on **Start>Settings**.
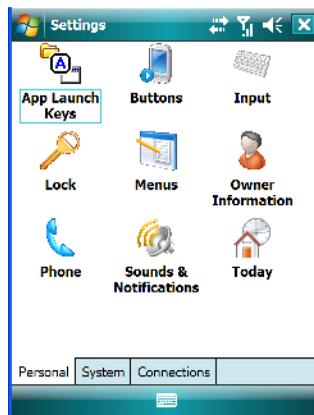
• In the *Personal* tab, tap on the **Menus** icon.
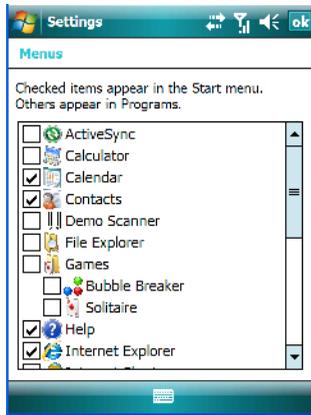
• Tap the **checkboxes** next to the items you would like to appear in your *Start* menu. When you've finished your selections, tap on **OK**.

4.4 Managing Files And Folders

Windows Mobile 6 files are stored in folders and sub-folders that are accessible with *File Explorer.* You can open, save, rename, copy and paste files in the same manner as you would on any desktop PC.

• Tap on **Start>Programs>File Explorer.**
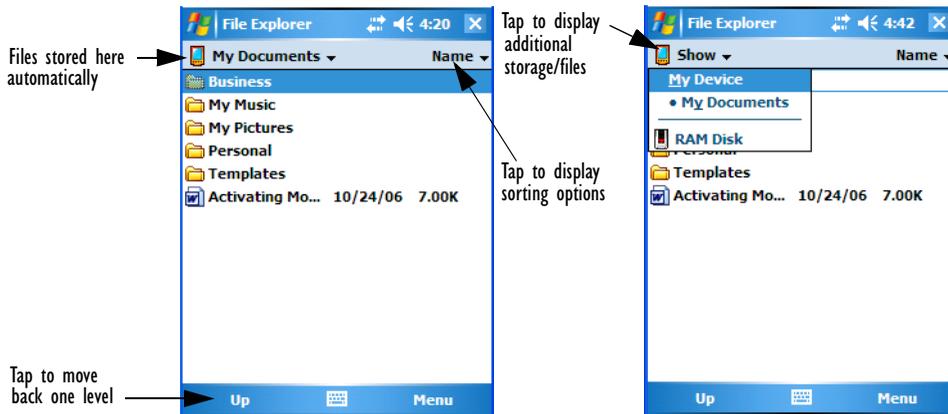
4.4.1 Creating A New Folder

- Tap **Start>Programs>File Explorer**.
- Tap **Menu>New Folder** in the softkey bar at the bottom of the screen.
- Use the WORKABOUT PRO keyboard or the soft keyboard to assign a name to the folder.

4.4.2 Renaming A File

- Press and hold the stylus on the file you want to rename. A ring of dots is displayed followed by a pop-up menu.
- Tap **Rename**. The file name is highlighted. Type a new name.

4.4.3 Copying A File

- Press and hold the stylus on the file you want to copy. A ring of dots is displayed followed by a pop-up menu.
- Tap on **Copy** in the pop-up menu.
- Navigate to the location where you want to copy the file.
- Press and hold the stylus in a blank area of the screen—away from other icons—until a pop-up menu is displayed.
- Tap **Paste** to copy the file to the new location.

4.4.4 Deleting A File

- Press and hold the stylus on the file or folder you want to delete until a pop-up menu is displayed.
- Tap **Delete** to remove the file.

4.5 Using Menus

In *Windows Mobile 6 Classic* and *Professional*, the menu is located in the *softkey bar* at the bottom of the screen.

Softkey Bar ——————— Menu ——— Menu
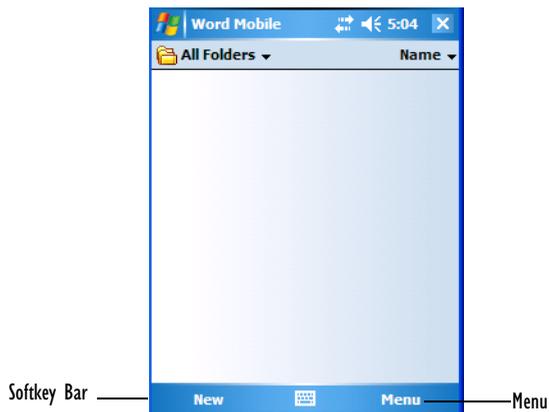
To execute a command:

- Tap on **Menu** to display the commands associated with it, and then tap on the command you want to execute.

4.5.1 Pop-Up Menus

Pop-up menus are available in many screens and programs. They offer quick access to a group of useful commands in addition to those available in the menu bar. To display a pop-up menu:

- Gently press and hold the stylus on the screen. A ring of dots is displayed on the screen followed by a pop-up menu.
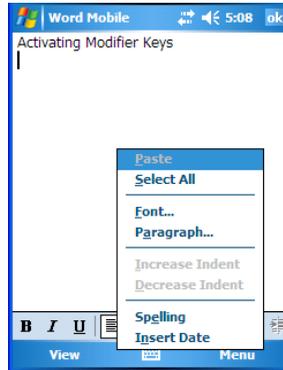
- Tap on the **command** you want to execute.

4.6 The Softkey Bar

The WORKABOUT PRO is equipped with a *softkey bar* at the bottom of the screen. It displays *softkeys* that allow you to access menus and commands. It also displays the *soft keyboard* icon.
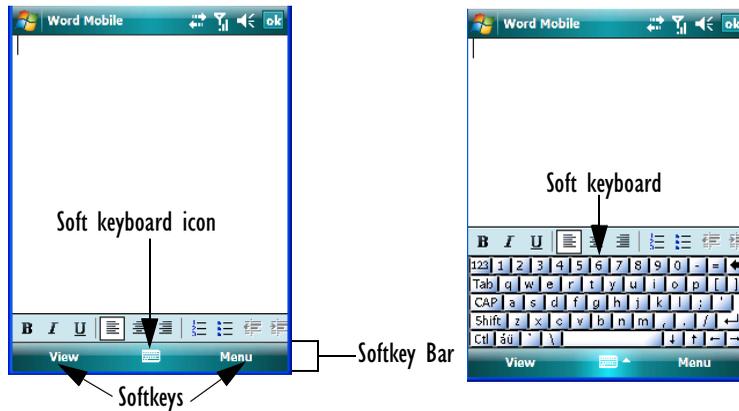
Softkey

Tapping on a softkey displays information associated with the softkey–for example, in the sample screen above, the *Menu* softkey displays the commands associated with Word Mobile. The *View* softkey lets you to tailor how the Word document will be displayed.

The Soft Keyboard Icon

Tapping on the *soft keyboard* icon displays an onscreen keyboard you can use as an alternative to the hand-held keyboard.

Shift-State Indicator Icon

The softkey bar can also display the *shift-state indicator* icon. This icon indicates active modifier keys—[SHIFT], [ALT], [CTRL], [FN/ORANGE] and [FN/BLUE].

• Tap on **Start>Settings>Buttons>One Shots**. Tap in the checkbox next to *Show modifier key state,* to replace the *soft keyboard* icon with the *shift-state indicator* icon.

Shift-state indicator icon
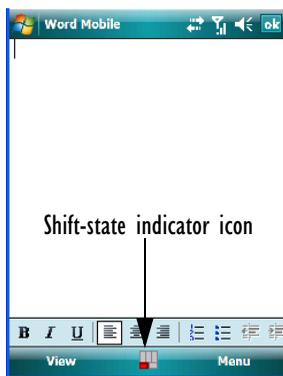
When a modifier key is pressed, it is displayed in the *shift-state indicator* icon. In the example above, the [FN/ORANGE] key was activated.

To distinguish a 'locked' modifier key—a key that has been locked 'on'—from a modifier key that is only active until the next key is pressed, 'locked' keys are encircled in a black frame in the *shift-state indicator* icon. Refer to "Activating Modifier Keys & The Shift-State Indicator" on page 39 for details.

Note: *You can still access the soft keyboard while the shift-state indicator icon is displayed. Tapping on this icon displays the soft keyboard. Tapping on the shift-state indicator icon again removes the soft keyboard.*

4.7 Programs–Using Applications

- Tap **Start>Programs** to display the programs installed on your WORK-ABOUT PRO.
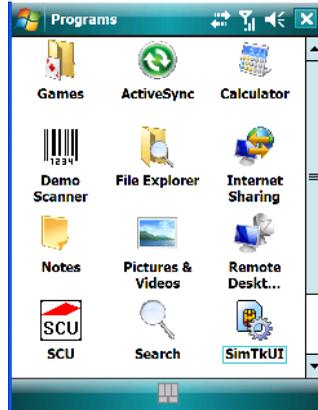
Figure 4.3 Program Screen Icons

Opening An Application

- Tap on an icon in this screen to launch the associated program.

Minimizing An Application

- Tap on the **X** button in the upper-right corner of an application screen to minimize the application. Note that sometimes, an [OK] button is displayed.

*Note: Although it looks like the application is closed, it is only minimized. To close the application, you'll need to tap on **Start>Settings>System tab>Memory icon**. Tap on the **Running Programs tab** and choose the applications you want to close.*

Closing An Application

- Tap on **Start>Settings**. Tap on the **System** tab and then the **Memory** icon—the *Memory* screen is opened.
- Tap on the **Running Program** tab to view a list of running applications.
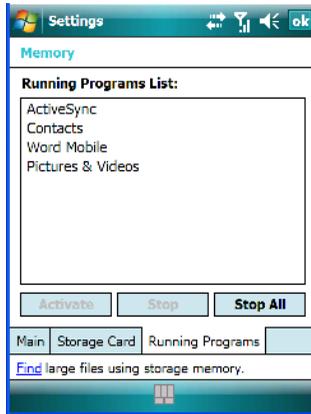
- Tap on the application you want to shut down, and then tap on **Stop**. If you want to shut down all running applications, tap on **Stop All**.
- To display a program from this list on your screen, tap on **Activate**.

4.8 Settings

- Tap **Start>Settings** to display the setting options for your hand-held.

Figure 4.4 Settings Icons

Settings are divided into three tabs—*Personal, System* and *Connections*. Refer to *Chapter 5: Settings* for details about the options available to you.

4.9 Help

Tapping on the *Help* option displays a screen of help topics that are content-specific; if for example, the *Today* screen is displayed and you tap on *Start>Help*, the help screen will provide topics about the *Today* screen. You can perform a help content search by tapping on the *Contents* or *Search* softkeys. Keep in mind that help is not always available.
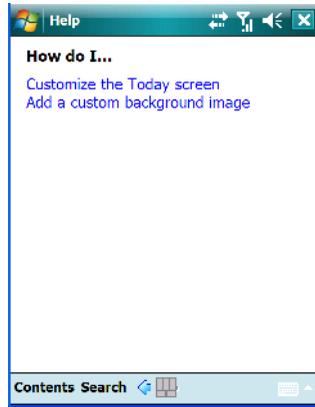
4.10 Entering Text

Note: *For additional information about tailoring text entry using the soft key-board, the transcriber, the block recognizer and the letter recognizer, refer to "Input" on page 99.*

You can enter text using either the soft keyboard or the WORKABOUT PRO keyboard. You can also use the *Transcriber* to handwrite information directly on the touchscreen using your stylus.

- Open an existing document or create a new one─ tap **Start>Office Mobile>Word Mobile** and tap on **New** in the softkey bar to create a new document.

If you're using the WORKABOUT PRO keyboard to enter text, there are no special steps. Just begin typing─the text, spaces, etc. will appear in the document.

4.10.1 Soft Keyboard

The soft keyboard is laid out just like the keypad on a PC keyboard. By tapping the stylus on letters and modifier keys like the [SHIFT] key, you can enter text in a document.

If the soft keyboard is not already displayed:

- Tap on the *soft keyboard* icon in the softkey bar.
- Tap on the letters in the keyboard to enter text in your document.

To switch to a numeric keyboard:

- Tap on the **123** key in the upper-left corner of the soft keyboard.
- Tap on this key again to return to the standard keyboard.

4.10.2 The Transcriber

To access the *Transcriber*, with your document opened:

- Tap on the **arrow** next to the keyboard icon, and choose **Transcriber** from the pop-up menu.
- Review the introductory screen. It provides some shortcut symbols you can draw on your screen to work with the *Transcriber*.
- When you've finished reading the introductory screen, tap **OK**.

The *Transcriber* menu and icon bars are displayed at the bottom of the document.
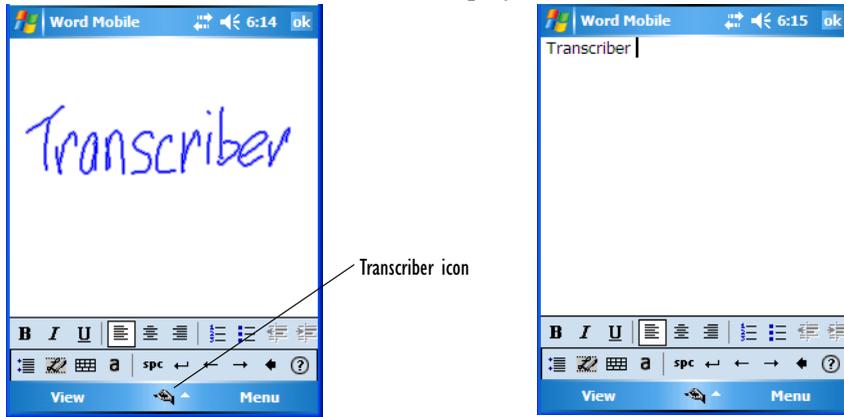
Transcriber icon

Figure 4.5 Transcriber Screen

- Use your stylus to write a few words anywhere on the screen.

After a few seconds, your words are recognized (or not) and are transcribed into typed text.

Note: *Character recognition is more successful if you write using large letters.*

Editing Text Within The Transcriber

With your document open, make certain that you are in *transcriber* mode—the *Transcriber* icon should be displayed in the lower-right corner of the softkey bar.

- Double-tap to select a word or triple-tap to select a paragraph, *or*

  Draw a line through the text you want to select and wait a few seconds until the Transcriber highlights the text.

- Once the text is highlighted, write the new text that is to replace the high-lighted information, *or*

  Press and hold the stylus on the selected text to display a pop-up menu. Choose **Cut, Copy, Paste** or **Clear** (delete).

Note: *You can also use the softkey bar tools or the shortcuts listed in the introductory screen to help you edit a document within the Transcriber.*

4.10.3 Block Recognizer And Letter Recognizer

While the *Transcriber* attempts to recognize natural handwriting and transcribe it, *Block Recognizer* and *Letter Recognizer* attempt to teach you how to conform your handwriting to what the hand-held can recognize.

Block Recognizer

• Open a document, and tap on the arrow next to the *input* icon. Choose **Block Recognizer**.
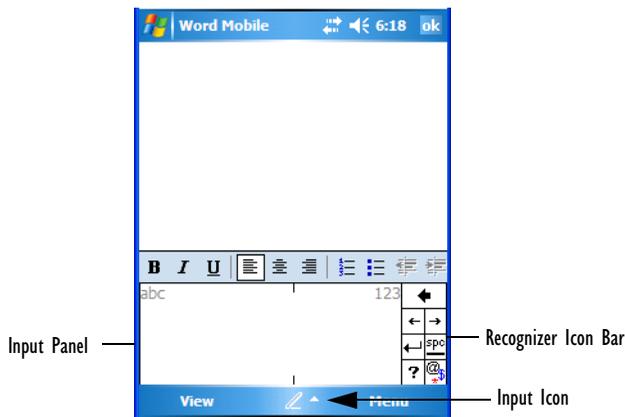
There are two points to remember when using Block Recognizer. First, limit your writing to the ***Block Recognizer input panel***–do not write in the body of the document. Second, write only ***uppercase letters*** with your stylus.

• Tap on the *?* icon in the *Recognizer Icon Bar* to display the *Character Recognizer* screen. This screen provides a visual demonstration of how to enter letters that will be recognized. Tap on a character in the soft keyboard for a demonstration of how to form a recognizable letter.

• In the *Block Recognizer* panel, write letters to the left (abc) and numbers to the right (123) on the input panel. ***Remember to write using uppercase letters***–they will be printed on the screen as lowercase unless you follow the step below to create an uppercase letter.

• To create an uppercase character, draw a line straight up the 'abc' panel.

• Use the *Recognizer Icon Bar* to move around the screen, add spaces, special characters, and so on.

Letter Recognizer

- Open a document, and tap on the arrow next to the *input* icon. Choose **Letter Recognizer**.

Input Panel

Recognizer Icon Bar

Input Icon
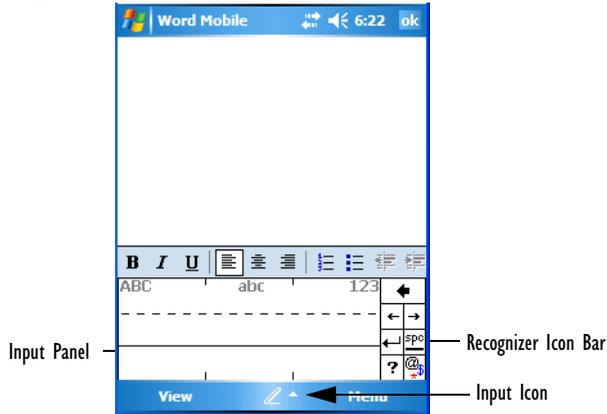
There are two points to remember when using *Letter Recognizer*. First, limit your writing to the ***Letter Recognizer Input Panel***—do not write in the body of the document. Second, write only ***lowercase letters*** with your stylus.

- Tap on the *?* icon in the *Recognizer Icon Bar* to display the *Character Recognizer* screen. This screen provides a visual demonstration of how to enter letters that will be recognized. Tap on a character in the soft keyboard for a demonstration of how to form a recognizable letter.

- To create an uppercase character, write a lowercase letter on the left side (ABC) of the input panel.

- To create a lowercase character, write a lowercase letter in the middle (abc) of the input panel.

- Write numbers on the right side (123) of the input panel.

SETTINGS 5

5.1   Settings

The *Settings* screen is divided into three tabs—**Personal, System** and **Connections.**
Keep in mind that the *Phone* applet is only available when your hand-held is
equipped with Windows Mobile 6 Professional.

- Tap on **Start>Settings** to display this screen.
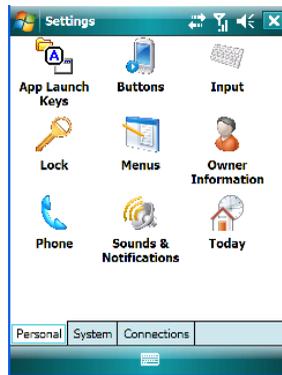
Figure 5.1 Settings Tabs

5.2   Personal Settings

The *Personal* tab allows you to tailor the general behaviour of your WORKABOUT
PRO such as defining input methods, *Start* menu options, owner information,
password assignment, sound specifications, and so on.

5.3 App Launch Keys

This icon allows you to map a key to an application so that you can then launch the application from a single key-press.
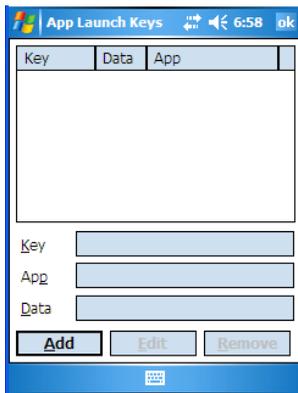
To assign an application key:

- Tap the **Add** button.
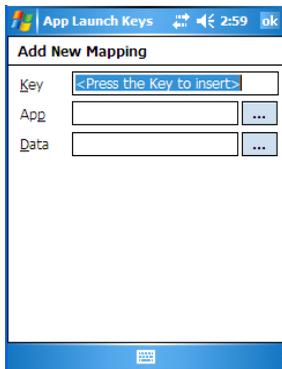
- Press the key you want to use to launch an application. (If an unsupported key is pressed, a message appears on this screen letting you know.)

The cursor moves to the *App* field and a new screen is displayed where you can choose the application to which you want to assign the application key. If you need to, you can *Browse* through the information in your hand-held until you locate the application you want to launch.
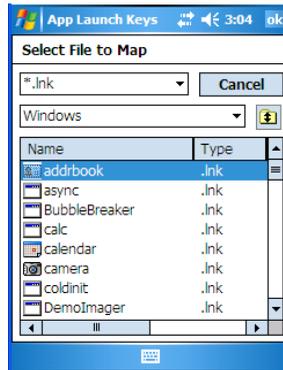
- Once you've selected the file you want to map, tap on **OK**.

The cursor moves to the *Data* field. You can use this field if you need to define special parameters to your application launch key. If you don't want to assign any parameters, you can leave the *Data* field blank. If, for example, you want to assign an application launch key to launch the *Word Mobile* application, you can leave this field blank. If you want to assign an application launch key that will open a specific document in the *Word Mobile* application, you need to browse to and choose that document while the cursor is in the *Data* field.

- Tap on **OK**.
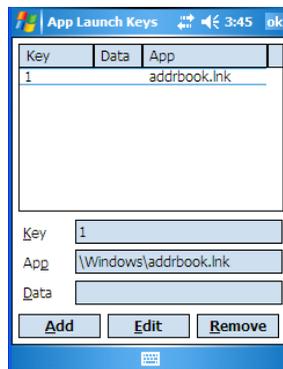
- If you need to *Edit*, *Remove* or *Add* another *App Launch Key*, you can do it from this final screen. Otherwise, tap on **OK** to save you *Application Launch Key*.

- To launch the application you chose, press the application key you assigned.

5.4 Buttons Icon

- Tap on this icon to display your options.

Note: *The 'Program Buttons' option is not available on this unit.*

5.4.1 Up/Down Control
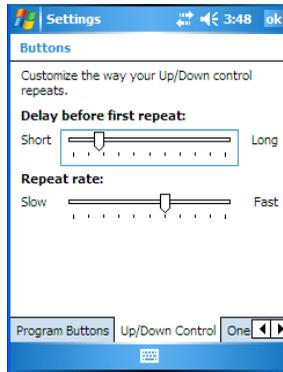
Sliding the *Delay before first repeat* bar to the left decreases the delay between key repeats while sliding the bar to the right increases the repeat delay time.

Sliding the *Repeat rate* bar to the left slows the rate at which a key repeats when pressed. Sliding the bar to the right increases the key repeat rate.

5.4.2   One Shots
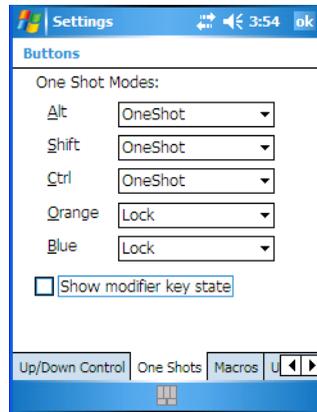
The options in this tab allows you to determine how modifier keys on your WORKABOUT PRO behave. For each modifier key—[ALT], [SHIFT], [CTRL], [FN/ORANGE] and [FN/BLUE]—you have the following options in the dropdown menu: Lock, OneShot, and OneShot/Lock.

⚠️   *Important:*   ***Once you've assigned a One Shot mode to a modifier key, you need to tap on the OK button at the top of the tab to activate your selection.***

Lock

If you choose *Lock* from the dropdown menu, pressing a modifier key ***once*** locks it 'on' until you press the modifier key a second time to unlock or turn it off.

OneShot

If you choose *OneShot*, the modifier key remains active only until the next key is pressed.

OneShot/Lock

OneShot/Lock allows you to combine these functions. When you choose this option and you *press the modifier key **once***, it remains active only until the next key is pressed.

If you *press the modifier key **twice***, it is locked 'on', remaining active until the modifier key is pressed a third time to turn it 'off'.

Show Modifier Key State

When you enable *Show modifier key state,* a *shift-state indicator* icon ▦ replaces
the soft keyboard icon in the softkey bar at the bottom of the screen. When a
modifier key is pressed, a square in this icon is highlighted. A 'locked' modifier key
is displayed in the *shift-state indicator* icon with a black frame around it.

5.4.3 Keyboard Macro Keys
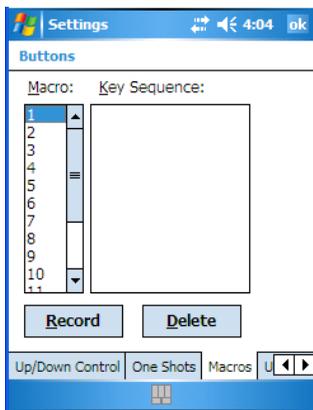
A macro has 20 programmable characters (or "positions"). The macro keys can be
programmed to replace frequently used keystrokes, along with the function of
executable keys including [ENTER], [BKSP] and [DEL] ([FN/BLUE]-[BKSP]),
function keys, and arrow keys.

Recording And Saving A Macro

You can program up to 15 macro keys.

- In the *Macro* menu, highlight a macro key number—for example, macro 1 to
  assign a macro to macro key [M1]. Tap on the **Record** button.

A *Record Macro* screen is displayed.

- Type the macro sequence you want to assign to the Macro key. You can type text and numbers, and you can program the function of special keys into a macro.

- When you've finished recording your macro sequence, tap on the **Stop Recording** button.

A new screen—*Verify Macro*—displays the macro sequence you created.

- Tap on the **Save** button to save your macro. Your macro key sequence is listed in the *Macro* screen.

- Tap on **OK** to save your macro key assignment.

Executing A Macro

- Press the macro key to which you've assigned the macro. For example, if you created a macro for macro key '1', press [M1] ([FN/ORANGE][O]) to execute the macro.

Deleting A Macro

- In the *Macros* tab, highlight the macro number you want to delete.
- Tap on the **Delete** button.

5.4.4 Unicode Mapping

• Tap on the **Unicode Mapping** tab to display this screen.
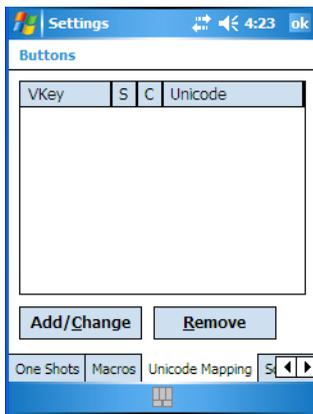
The *Unicode Mapping* tab is used to map combinations of virtual key values and [CTRL] and [SHIFT] states to Unicode™ values. This tab shows the configured Unicode character along with the Unicode value. For example, "a (U+0061)" indicates that the character "a" is represented by the Unicode value "0061", and so on. Keep in mind that Unicode configurations are represented as hexidecimal rather than decimal values.

All user-defined Unicode mappings are listed in the *Unicode Mapping* tab in order of virtual key value, and then by order of the shift state. If a Unicode mapping is not listed, the Unicode mapping is mapped to the default Unicode value.

Adding And Changing Unicode Values

Important: **Changes to Unicode mappings are not saved until you exit the Unicode Mapping tab by tapping on [OK].**

• Tap on the **Add/Change** button.
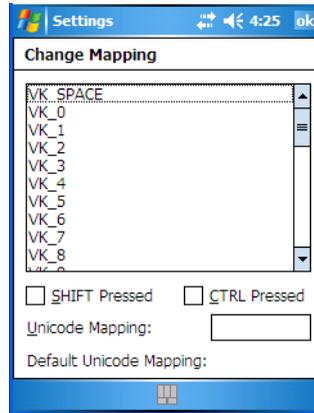
• Highlight a value in the Unicode mapping list.

• Position the cursor in the **Unicode Mapping** field, and type a Unicode value for the highlighted key.

Note: *To add a shifted state–[SHIFT] and/or [CTRL], tap on the checkbox next to 'SHIFT Pressed' and/or 'CTRL Pressed'.*

Removing Unicode Values

• In the *Unicode Mapping* tab, highlight the item you want to delete, and tap the **Remove** button.

5.4.5 Scancode Remapping

A scancode is a number that is associated with a physical key on a keyboard. Every key has a unique scancode that is mapped to a virtual key, a function, or a macro. *Scancode Remapping* allows you to change the functionality of any key on the keyboard. A key can be remapped to send a virtual key (e.g. VK_F represents the 'F' key; VK_RETURN represents the [ENTER] key, etc.), perform a function (e.g. turn the scanner on, change volume/contrast, etc.) or run a macro.

There are three different tables of scancode mappings: the *Normal table*, the *Blue table* and the *Orange table*. The Normal table defines unmodified key presses; the Blue table defines key presses that occur when the [FN/BLUE] modifier is on; the

Orange table defines key presses that occur when the [FN/ORANGE] modifier is on. The default mappings of these scancodes can be overwritten for each of these three tables using the Scancode Remapping tab.
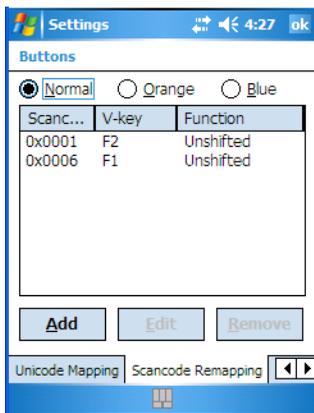
The first column in the Scancode Remapping tab displays the Scancodes in hexidecimal. If the scancode is remapped to a virtual key, that virtual key is displayed in the next column labelled 'V-Key'. A virtual key that is 'Shifted' or 'Unshifted' is displayed in the third column labelled 'Function'.

If the scancode is remapped to a function or a macro, the first and second columns remain blank while the third column contains the function name or macro key number (e.g., Macro 2).

Adding A Remap

To add a new remapping:

• Tap the **Add** button at the bottom of the dialog box.

The *Remap Scancode* dialog box is displayed.
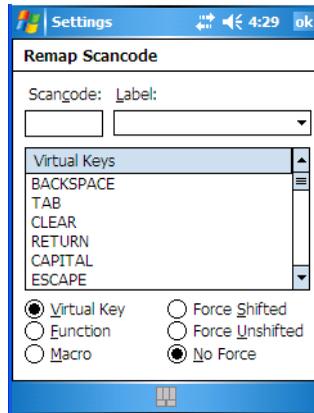
- Type the scan code in hexidecimal in the field labelled **Scancode**.

Note: The 'Label' field displays the default function of the scancode you are remapping.

Virtual Key, Function And Macro

The radio buttons at the bottom of the dialog box allow you to define to what the scan code will be remapped to: Virtual Key, Function or Macro.

When *Virtual Key* is selected, you can choose to force [SHIFT] to be on or off when the virtual key is sent. If *No Force* is selected, the shift state is dependent on whether the shift state is on or off at the time the virtual key is sent.

When *Function* is selected, a list of valid functions appears in the dialog box.

When *Macro* is selected, the macro keys available on your unit are listed in the dialog box.

- Choose **Virtual Key>Function** or **Macro**.
- Choose a function from the *Function list*, and tap on **OK**.

Editing A Scancode Remap

- In the *Scancode Remapping* tab, tap on the remap you want to edit.
- Tap on the **Edit** button, and make the appropriate changes.
- Tap on **OK** to save your changes.

Removing A Remap

- In the *Scancode Remapping* tab, highlight the scancode you want to delete, and tap on the **Remove** button.
- Tap on **OK**.

5.4.6 Lock Sequence

The *Lock Sequence* tab allows you to lock the hand-held keyboard to prevent keys from being pressed accidentally when, for example, the unit is inserted in a holster.
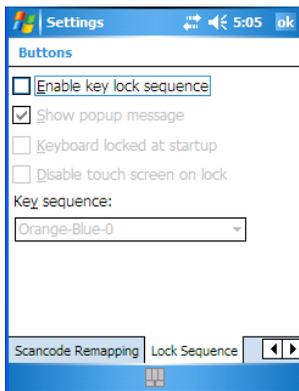
- To lock the keyboard, tap in the checkbox next to *Enable key lock sequence*.
- Tap in the checkbox next to *Keyboard locked at startup*.
- In the *Key sequence* dropdown menu, choose the key sequence you need to type to unlock the keyboard.

Note: It is useful to leave the 'Show popup message' enabled (default) so that anyone attempting to use the WORKABOUT PRO keyboard will see the key sequence they will need to enter to unlock the keyboard displayed on the screen.

A *locked keyboard* icon is displayed in the softkey bar when the keyboard is locked.

Locked Keyboard
Icon

- Type the key sequence to unlock the keyboard.

5.5   Input

Input

This icon provides access to text input options you can use to tailor the soft keyboard, block recognizer, letter recognizer and transcriber along with voice recording options.

5.5.1   Input Method Tab
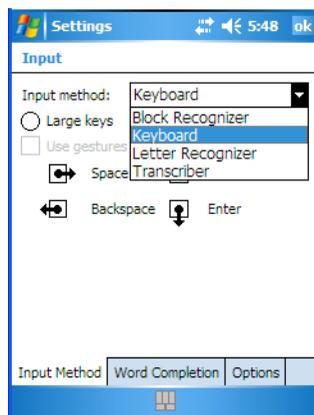
A dropdown menu next to *Input method* allows you to tailor your methods of input—*Block Recognizer, Keyboard, Letter Recognizer* and *Transcriber*.

Block Recognizer

Block Recognizer teaches you how to conform your handwriting to what the hand-held can recognize.

⚠ *Important:* **Refer to "Block Recognizer And Letter Recognizer" on page 76 for additional details.**

Keyboard Options
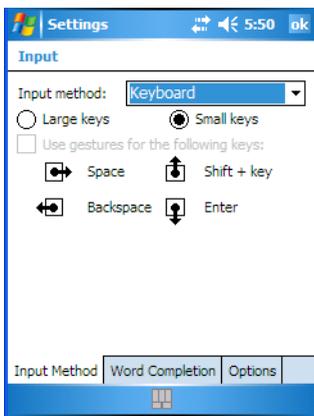
This screen is displayed when you choose *Keyboard* in the *Input method* drop-down menu. You can use it to customize the soft keyboard. You can choose *Large Keys* or *Small Keys* to increase or decrease the size of the keys displayed on the soft keyboard.

If you enable *Use gestures for the following keys*—these keys are removed from the soft keyboard. Gestures are handwriting shortcuts for the keyboard keys.

Letter Recognizer Options

Letter Recognizer teaches you how to conform your handwriting to what the hand-held can recognize.

⚠ *Important:* **Refer to "Block Recognizer And Letter Recognizer" on page 76 for additional details.**

To display additional letter recognition options, tap on the **Options** button in the *Letter Recognizer* screen.
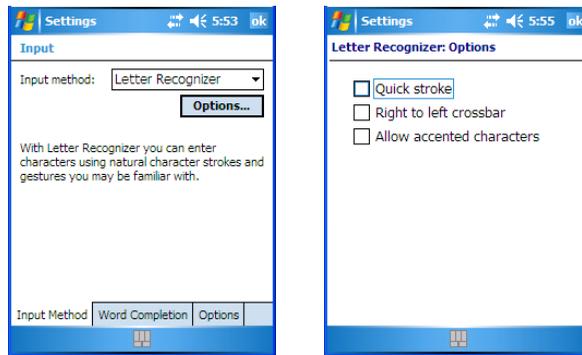
Figure 5.2 Letter Recognizer Quick Settings

These options allow the *Letter Recognizer* to better interpret any specialized strokes and accents you may wish to use.

Transcriber Options

When you choose *Transcriber* as the input method, three tabs of options are available to you—*Quick Settings, Inking* and *Advanced*.
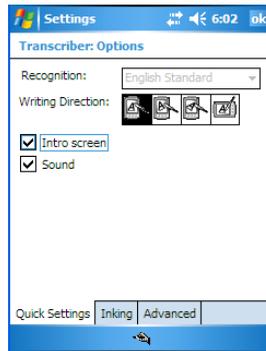
Quick Settings

The *Quick Settings* tab allows you choose the writing direction—the icons indicate direction. In addition, you can choose to enable or disable the display of the Intro screen and the sound each time you launch the *Transcriber*.

Inking

In the *Inking* tab, you are presented with a number of options. *Recognition Delay* allows you to determine the time delay between writing something on the *Transcriber* screen and its recognition into printed text.
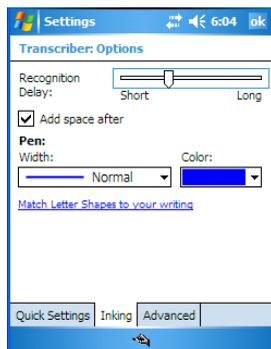
Enabling *Add space after* automatically adds a space after each word you write. The *Pen* option allows you to choose the line *Width* and *Colour*. Finally, tapping on *Match Letter Shapes to your writing* displays a screen in which you can learn how to form letters to help the hand-held to recognize the most often used characters.

Advanced

In this tab, *Shorthand* allows you to create a shortened word that the *Transcriber* will recognize and expand into a complete word automatically. You can also insert data such as a date or run a program.
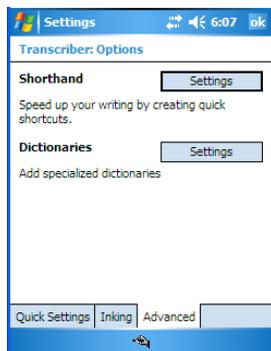
5.5.1.1   Word Completion
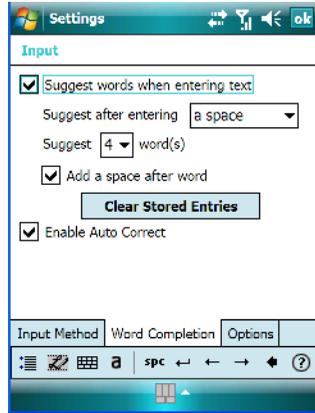
This tab speeds the writing process regardless of the input method chosen. When you begin entering a word, this option displays what it assumes is the complete word, saving you having to type the word in its entirety. You can also tailor how and when you want word suggestions made.

5.5.2 Options–Additional Choices
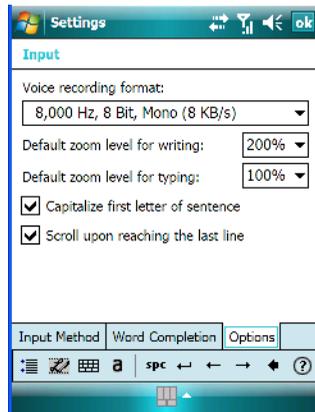
This tab offers a few choices including choosing a voice recording format, zoom percentage for writing and typing, automatic capitalization of the first letter in a sentence and automatic scrolling when you've reached the bottom of the screen.

5.6 Lock

To protect the data stored in your WORKBOUT PRO, you can assign a password that must be entered each time the unit is switched on.

- Tap on **Start>Settings**, and then tap on the **Lock** icon.
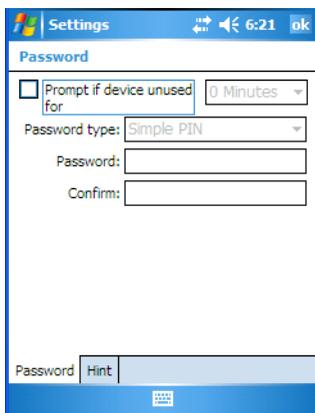
Warning: ***It is critical that you store your password in a safe place. If you forget it, a 'clean start' must be performed by certified Psion Tek-logix personnel. A clean start returns the hand-held to factory set-tings. Only the data stored in a CF or SD memory card are preserved.***

- Tap in the checkbox next to *Prompt if device unused* to turn on password protection.
- Choose the amount of time that the unit can remain idle before you are prompted to enter your password.
- In the *Password type* dropdown menu, choose the type of password you prefer to assign. *Simple PIN* allows you to enter a minimum of four numeric characters. *Strong alphanumeric* requires a minimum of 7 charac-ters and must contain at least three of the following: uppercase and lower-case alpha characters, numbers and punctuation.

- Tap on the **Hint** tab to enter a word or phrase that will remind you of your password. The WORKABOUT PRO will display the hint after the wrong password is entered five times.

- Tap on **OK**. A dialog box asks whether or not you want to save you password settings. Tap on **YES** to save your password assignment.

5.7 Menus

Tapping on *Start>Settings>Menu* icon displays options to customise menus.

5.7.1 Start Menu Tab

This tab allows you to define the items that will be listed in your *Start* menu.
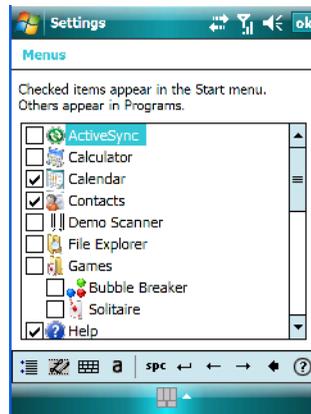
- In the *Start Menu* dialog box, tap on the items you want to appear in your *Start* menu.

The checked items will be listed in your *Start* menu.

5.8 Owner Information

This icon allows you to add your personal information to the WORKABOUT PRO. Some of this information will be displayed in the desktop *Today* screen.

Important: Refer to "Ownership Information" on page 58 for details about this option.

5.9   Phone (Windows Mobile 6 Professional Only)

Phone

This option allows you to adjust phone settings such as the ring type and tone, choose phone services such as barring calls, and you can also determine network selections.

> **Important:**   *Refer to "Managing Phone Settings" on page 26 for details about this option.*

5.10   Sound & Notifications

Sounds & Notifications

This icon allows you to specify when your WORKABOUT PRO will emit sounds.

5.10.1   Sounds
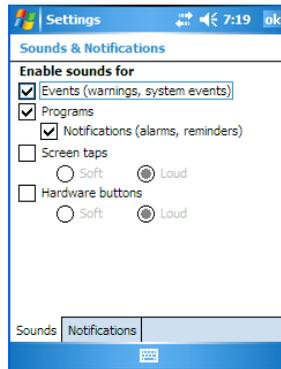
- Tap in the checkboxes and radio buttons to enable the event(s) that will cause your unit to emit a sound.

5.10.2   Notifications
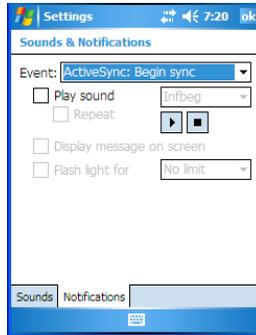
This tab allows you to determine how you are notified about different events.

- Choose an event from the *Events* drop-down menu.
- Choose the type of reminder—a special sound, a message or a flashing light —from the dropdown menu next to *Play sound*.

5.11   Today Screen

This option allows you to tailor the appearance of the *Today* screen– the desktop screen.

5.11.1   Appearance

This screen allows you to customize the background displayed on the *Today* screen.

- Choose the background you want to use from the list.

5.11.2 Items
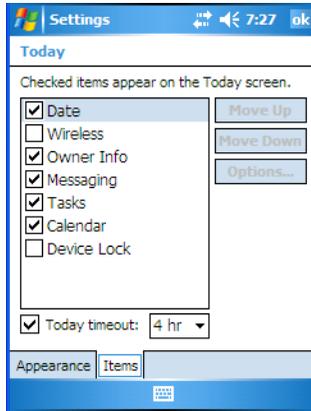
This tab allows you to choose and to sort the item(s) that you want listed in the *Today* screen.

- Tap in the checkbox to the left of the item(s) you want displayed in the *Today* screen.

- To rearrange the list of items, highlight the item you want to move up or down and tap on the **Move Up** or **Move Down** button. Keep in mind that the *Date* cannot be moved.

5.12 System Tab Settings

To display the icons grouped in the *System* tab:

- Tap on **Start>Settings**, and tap on the **System** tab.

5.13 About

About Tapping on *Start>Settings>System* tab, and then the *About* icon displays a grouping of tabs that provide device information.

Version Tab

This tab outlines the Windows Mobile 6 version, processor information, memory size and a description of the expansion card, if one is in use.

Device ID Tab

This tab provides fields in which you can assign a *Device name* and *Description* (optional) for the WORKABOUT PRO. This name is used by the WORKABOUT PRO to identify itself to other devices.

Keep in mind that this must be a unique name across a network. If you are unable to connect to a network because another device with the same name is already connected, you'll need to assign a new name here.

Copyrights

The *Copyright* tab lists the copyright information for the software loaded on your WORKABOUT PRO.

5.14 About Device

About Device Tapping on the *About Device* icon under *Settings>System* tab provides access to three tabs related to your WORKABOUT PRO. The *Properties* tab lists hardware information related to your WORKABOUT PRO. The *Copyrights* tab lists the copyrights that apply to your hand-held. The *Experience* tab allows you to choose a category to help you define your Experience. These categories include *Microsoft settings*, *Psion Teklogix settings* and create *Custom settings* in a dropdown menu. Each category contains a group of default settings. If you change a default setting, the category is automatically changed to *Custom settings*.

5.15 Backlight

Backlight Tapping on *Start>Settings>System* tab followed by the *Backlight* icon allows you to determine the power properties of the WORKABOUT PRO.

5.15.1   Battery Power
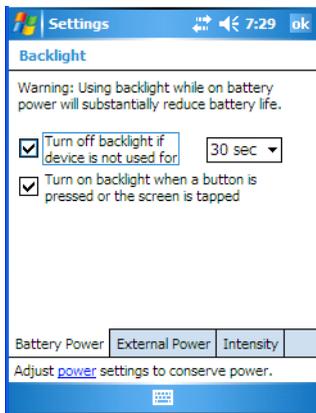
This tab allows you to tailor the WORKABOUT PRO backlight behaviour to best preserve battery life.

- • To define how long the backlight should stay on when the WORKABOUT PRO is not in use, tap in the checkbox to the left of **Turn off backlight if device is not used for.**

- • Tap on the dropdown menu, and choose the number of seconds or minutes the backlight will remain on when the hand-held is idle.

- • To **Turn on backlight when a button is pressed or the screen is tapped**, tap in the checkbox to the left of this option.

5.15.2   External Power
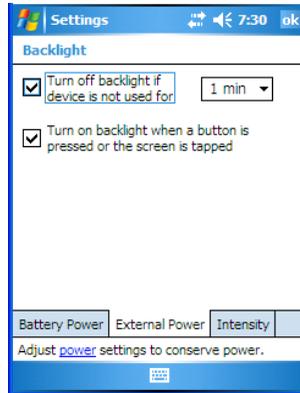
This tab determines the behaviour of the backlight when the hand-held is using external rather than battery power.

⚠️ *Important: Refer to "Battery Power" on page 110 for details about these options.*

5.15.3   Intensity
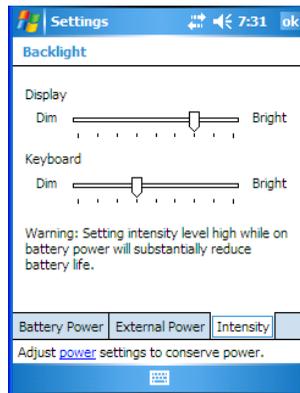
This tab is used to adjust the light intensity of the display backlight and the keyboard backlight. Sliding the bar to the left lowers the light intensity, and sliding it to the right raises the intensity.

5.16 Certificates

Certificates

- Tap on **Start>Settings**, and then tap on the **System** tab.
- Tap on the **Certificates** icon.

A public key is transmitted as part of a certificate. The certificates listed in the *Certificates* tabs ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The hand-held checks that the certificate has been digitally signed by a certification authority that the hand-held explicitly trusts.

Your WORKABOUT PRO has certificates already preinstalled in the unit. *Personal* certificates establish your identity, *intermediate* certificates, as the name suggests, identifies intermediate certification authorities and *root certificates* establish the identity of the servers with which you can connect.

Personal Tab

The *Personal* tab lists the name of the certificate issuer and the expiration date.

- To view additional information about a personal certificate, tap on a certificate in the list.
- To delete a certificate, tap and hold the stylus on the item you want to delete until a pop-up menu is displayed. Tap on the **Delete** command.

Intermediate Certificates

The items in this list help identify intermediate certification authorities.
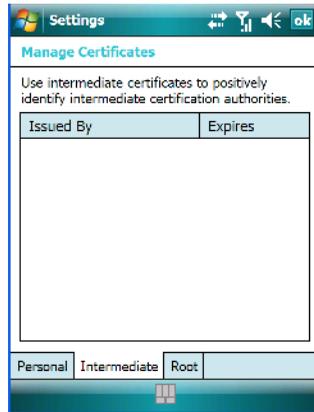
Root Certificates
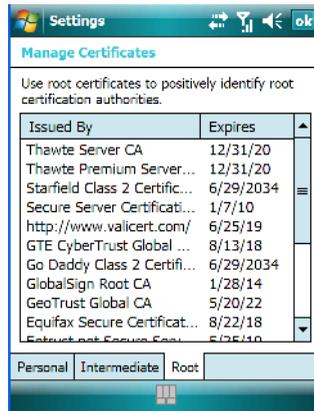
- To view details about a certificate—who issued the certificate, to whom it was issued, the issue date and the expiry date—tap on a certificate in the list.
- To delete a certificate, tap and hold the stylus on a certificate.
- In the pop-up menu, tap on the **Delete** command.

5.16.1 Choosing A Certificate

Normally, certificates already configured for your network are chosen automatically by the WORKABOUT PRO. If a certificate cannot be chosen automatically, you must choose it from the *Certificates* list.

- To choose a certificate, tap the desired certificate. Your WORKABOUT PRO will connect automatically.

5.17 Clock & Alarms

Clock & Alarms Located under *Start>Settings>System* tab, the *Clock & Alarm* icon allows you to set the current date and time, and it allows you to set up to three alarms.

> *Important:* ***Refer to "Today's Date, Clock And Alarm" on page 57 for details about setting up these options.***

5.18 Encryption

Encryption This option allows you to encrypt the data on your storage card.

- Tap on **Start>Settings>System** tab>**Encryption** icon.

5.19 Error Reporting

Error Reporting

Error Reporting allows you to enable or disable Microsoft error reporting prompts.
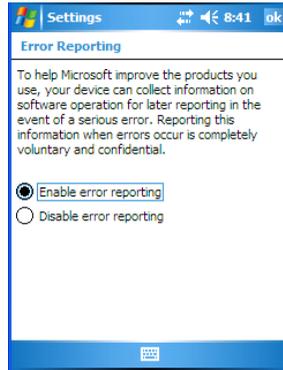
5.20 External GPS (Global Positioning System)

External GPS

With a *Global Positioning System* (GPS) receiver, you can locate your exact position on a map. However, even without a GPS receiver, several different mapping programs can run on your hand-held.

- Tap on **Start>Settings>System>External GPS.**
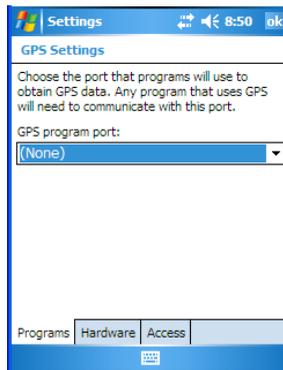
- Tap on the *GPS program port* dropdown menu and choose the communication (COM) port that the GPS software will use to communicate with the GPS receiver.

Note: *Your WORKBOUT PRO may automatically detect the GPS receiver that you are using and enter the settings in the Hardware tab. If not, you'll need to enter this information yourself. You can find this information in the user manual of the GPS receiver.*

- Tap on the **Hardware** tab, and choose a **GPS hardware port** and the appropriate **Baud rate**.
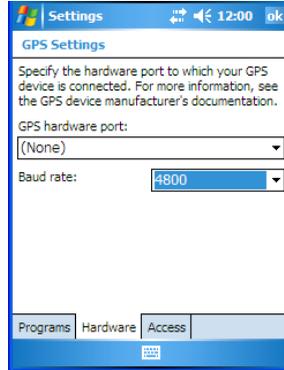
Windows Mobile 6 automatically manages access to the GPS receiver. However, some programs may not work with automatic configuration. If this is the case:

- Tap on the **Access** tab, and disable *Manage GPS automatically (recommended)*.
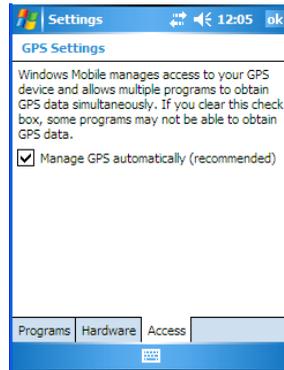
You can go to *www.microsoft.com/pocketstreets* if a map-viewing program is not included with your hand-held, and copy the file to your hand-held.

5.21 Manage Triggers

Manage Triggers allows you to configure how bar code scanners and other devices such as RFID readers are triggered. You can configure the trigger ID for each trigger button for both single- and double-click, and the double-click time.

• Tap on **Start>Settings>Manage Triggers**.
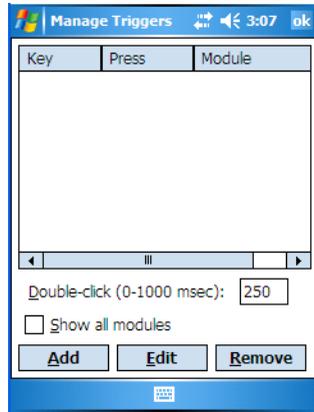
5.21.1 Trigger Mappings

A trigger mapping is an association between a particular key on the keyboard and a driver or application, the module(s)– sometimes referred to as "trigger consumer(s)"–of the trigger source. Along with keyboard keys, trigger sources can also be grip triggers, external hardware triggers or software-based. When the specified key is pressed, the trigger consumer (for example, a decoded scanner) is sent a message.

Important: *It is not possible to have two or more identical mappings—for example [F1] cannot be mapped to the Non-Decoded Scanner twice—even if the trigger type is different.*

A keyboard key that is used as a trigger source will no longer generate key data or perform its normal function. For example, if the space button is used as a trigger source, it will not be able to send space characters to applications.

Double-Click

When a key is pressed and released, then pressed again within the configured time (between 0 to 1000 milliseconds), a double-click occurs. See also "Trigger Press Type" on page 120.

Show All Modules

By default, the trigger mapping list only shows active mappings. Mappings for drivers or applications that are not currently active are not normally displayed. By checking this checkbox, all mappings, both active and inactive, are displayed.

Add

Tapping this button brings up the *Add* mapping dialog (see below), so that you can add new trigger mappings.

Edit

Tapping this button brings up the *Edit* mapping dialog, so that you can edit existing trigger mappings.

Remove

Tapping this button removes an existing mapping.

OK

The *OK* button in the top right of the *Manage Triggers* screen saves all changes made. If the [ESC] key is pressed, all changes made will be discarded.

5.21.1.1   Add And Edit Trigger Mapping

•   Tap on **Add** to add a new trigger map, or tap on **Edit** to edit an existing
    trigger map.
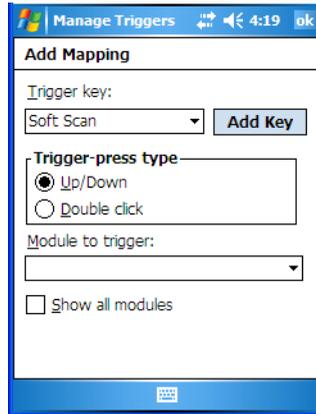
Trigger Key

This dropdown list allows you to specify the source of the trigger events, such as the
Grip Trigger, Left Scan, etc., for the *trigger module* selected.

Notes: *It is possible to map the same source to different modules (trigger con-*
sumers—for example, to both the Imager and Non-Decoded Scanner. If
so, both devices/operations will occur simultaneously. This is not recom-
mended in most cases, especially with devices such as Imagers or RFID
Readers.

It is also possible to map different sources to the same module (trigger
consumer)—for example, two different trigger keys can be mapped to the
RFID File System.

Add Key

Only existing trigger sources are shown in the *Source* combo-box. To add a new source to this list, tap on the **Add Key** button. A dialog box pops up, allowing you to select the keyboard key to use as a trigger source.
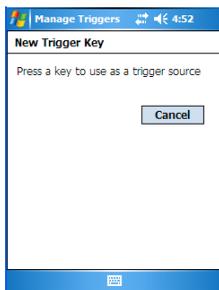
Trigger Press Type

You can enable either an **Up/Down** or **Double Click** response to a trigger press. Normally, when a trigger (keyboard key, etc.) is pressed and released, a "trigger down" event is sent to the "owner"—that is, the application receiving the trigger press information—followed by a "trigger up". If *Double Click* is chosen in this menu, when the trigger is pressed, released, and then pressed again, a "double-click" event will occur. If a mapping with the *Up/down* type has also been configured for the same source, it will only receive the first set of trigger events.

Module To Trigger

This identifies the driver or application receiving the trigger presses.

Show All Modules

By default, inactive owners are not shown. By checking this checkbox, all owners, both active and inactive, are displayed.

5.22 Memory

This applet allows you to view memory use, storage card memory allocation, and it allows you to manage opened programs.

5.22.1   Main Tab
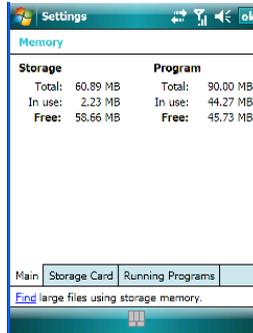
This tab lists the memory allocated for file and data storage and for program storage.

5.22.2   Storage Card
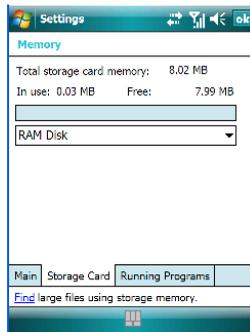
The *Storage Card* screen indicates the total storage card or RAM disk memory along with the amount in use.

5.22.3 Running Programs
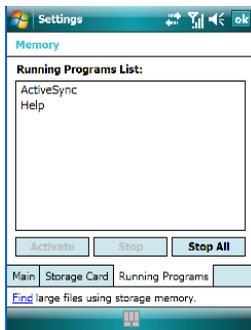
Running Programs behaves like the task manager found on your desktop PC, allowing you to activate or stop any running programs.

- Highlight an application(s).
- To end an application, tap on the **Stop** button. Tap on **Stop All** if you want to shut down all running applications, *or*

    To *activate* an application, tap on the **Activate** button.

5.23 Power Icon

This icon allows you to view and manage battery use.

5.23.1 Battery Tab
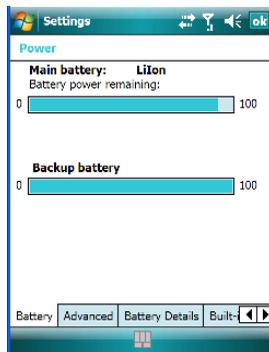
This tab allows you to view the remaining battery capacity of the main battery and the internal, backup battery.

5.23.2 Advanced Tab
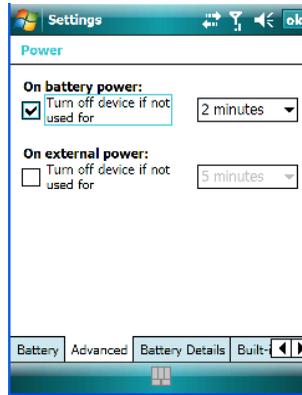
The *Advanced* tab allows you to manage battery consumption.

On Battery Power

When the WORKABOUT PRO is operating on battery power, this option allows you to determine how long the unit will remain on when it is not in use.

- Tap in the checkbox to the left of **On battery power** to enable this option. Tap in the dropdown menu to choose the number of minutes your unit can remain idle before it shuts down.

On External Power

When the hand-held is drawing external rather than battery power, this option allows you to determine the number of minutes the unit will remain on when not in use.

- Tap in the checkbox to the left of **On external power** to enable this option. Tap in the dropdown menu to choose the number of minutes your unit can remain idle before it shuts down.

5.23.3 Battery Details
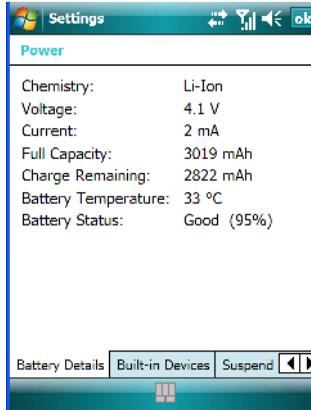
This tab lists the specifications and battery capacity status of the battery installed in the WORKABOUT PRO. This is a view-only screen.

5.23.4 Built-In Devices
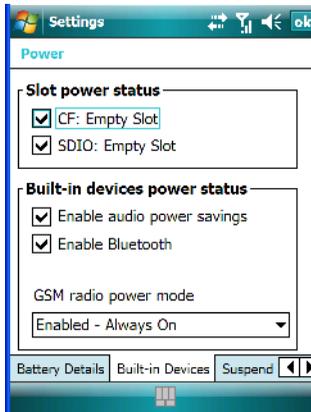
Slot Power Status

When you enable one or more of the card slots listed, power is supplied to the enabled slot(s).

Built-In Devices Power Status

This section of the dialog box allows you to enable (provide power) to the device(s) installed in your unit. Keep in mind that the content of this screen varies depending on the devices installed in your hand-held. Tapping on **OK** activates your selections.

5.23.5 Suspend Threshold

This applet allows you to determine the amount of battery power that you want to reserve in the main battery to protect the data stored in the WORKABOUT PRO.
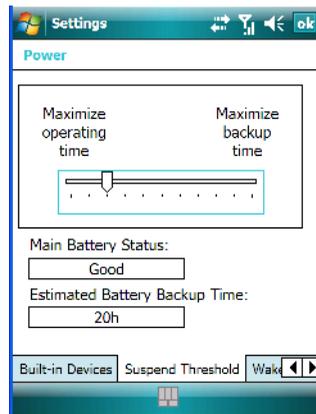
5.23.5.1 Suspend Threshold And Estimated Battery Backup

The *Estimated Battery Backup* is the amount of battery power that is reserved to protect data until a charged battery can be installed in the hand-held. When the main battery capacity is depleted up to the *Estimated Battery Backup* reserve specified in the *Suspend Threshold* tab, the hand-held shuts off automatically and uses the reserve power to preserve the data stored on the WORKABOUT PRO. Once the hand-held shuts down, it cannot be switched on until a fresh battery is installed, or the unit is inserted in a docking station or cradle.

- Slide the **Suspend Threshold** button to the *right* to increase the battery capacity reserved for backup purposes. Data will be preserved to a maximum of 124 hours.

- Slide the **Suspend Threshold** button to the left to *decrease* the power reserved for backup purposes; this increases the hand-held's operating time – the amount of time the hand-held will operate before shutting down – but reduces the power reserved for backup purposes to a minimum of 24 hours.

The backup battery draws a trickle charge from the reserved main battery power to maintain the data even after the unit power is shut down. It will protect the data stored in the WORKABOUT PRO while the main battery is swapped for a fully charged one.

⚠️ *Important:* **Once the main battery is removed, the backup battery will preserve the data stored on the WORKABOUT PRO for approximately 5 minutes. It is critical that you install a charged main battery before this time elapses.**

5.23.6 Wakeup Keys Tab

This option allows you to define which key can be pressed to wake the hand-held from a suspend state.

If the *Two key wakeup* option is checked, the operator will need to press two keys – [FN/BLUE][ENTER] – to switch the hand-held on.
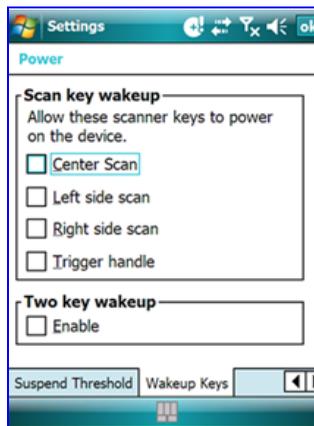
5.24 Regional Settings

To display the *Regional Settings* screen, tap on **Start>Settings**, and then tap on the **System** tab followed by the **Regional Settings** icon.
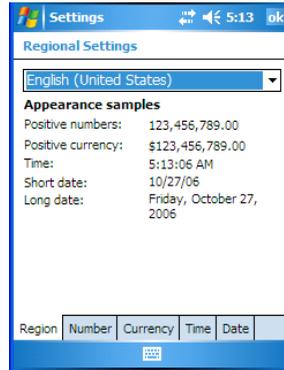
- Tap on the dropdown menu to choose your language and region.

Once you've selected a language and region, you may need to adjust the way numbers, currency, the time and the date appear in your WORKABOUT PRO.

- Tap on the tab associated with each of the items and choose how each item will be displayed on your WORKABOUT PRO.

5.25 Remove Programs
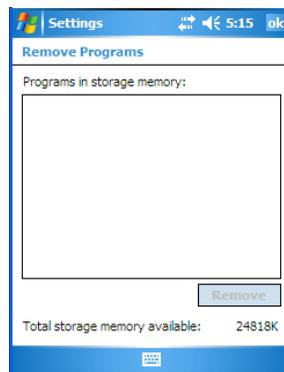
Tapping on the *Remove Programs* icon displays a screen listing the programs that can be removed from your unit.

•   To remove a program, highlight it and then click on the **Remove** button.

5.26 Screen Icon

This icon allows you to *align* (calibrate) your touchscreen, turn *ClearType* on and off and adjust the size of the text displayed on the WORKABOUT PRO screen.

•   Tap **Start>Settings>System** tab, and then tap on the **Screen** icon.
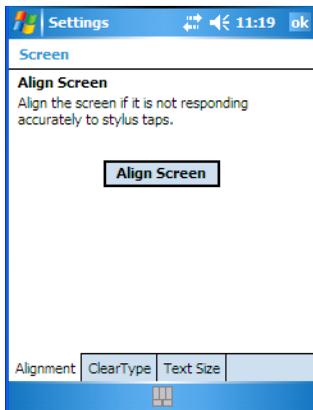
Important: ***Refer to "Aligning (Calibrating) The Touchscreen" on page 44 for details about this option.***

5.27 Scanner Settings

The *Teklogix Scanners* icon in the *Settings* menu provides access to dialog boxes in which you can tailor bar code options and choose the bar codes your scanner will recognize.

- Tap on **Start>Settings**, and then tap on the **System** tab followed by the **Teklogix Scanner** icon.
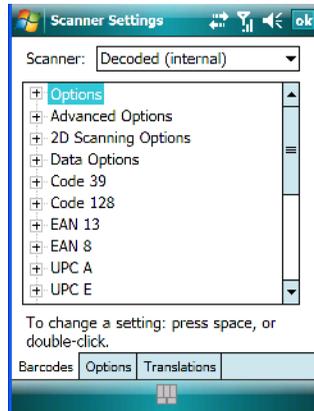
Scanner Menu

The dropdown menu to the right of the *Scanner* option allows you to choose from one of the following scanner types used with your hand-held: Decoded (internal), Decoded (HHP), Decoded (Intermec ISCP) and Imager.

The symbologies listed change to reflect the scanner you choose and the bar codes it supports.

⚠️ ***Important:*** ***To improve the decode speed and performance, enable only those codes that are required by the application.***

Keep in mind that some bar code types are only available when an internal imaging scanner is installed. All internal scanners can be configured using the *Barcode* dialog boxes.

5.27.1 Decoded (Internal) Scanners
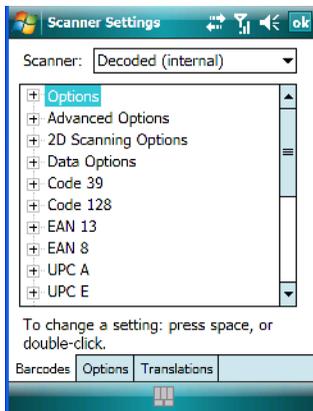
5.27.1.1 Options–Decoded (Internal) Scanner

Dot Time (msec)

The value selected for "Dot Time (msec)" determines (in milliseconds) how long the targeting dot remains on before the scanner switches to a normal scan sweep. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value of 0 msec, 200 msec or 400 msec. A value of 0 (zero) disables the target dot.

Aim Duration

This parameter determines the total time the aiming pattern appears before the scanner laser begins sweeping. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value from 0 to 30 (0 to 3 sec.). A value of 0 (zero) disables the aiming-dot.

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.

Double-tapping on this parameter displays a dialog box in which you can enter a value between 5 and 99, each number representing 0.1 seconds.

5.27.1.2   Decoded (Internal) Advanced Options

Continuous Scan Mode

Setting this parameter to 'on' keeps the laser on and continuously decoding as long as the scanner button is pressed and held down.

Minimum Cancel Time

The value assigned to this parameter determines the time delay before the scanner is turned off, once the scanner trigger or button is released. This gives the scanner a minimum amount of time to complete its current decode before the scan is cancelled when the user quickly triggers on/off.

Low Power Timeout

To extend laser life, you can select the length of time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned – a successful decode restores normal blinking.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a value of 30 sec, 1 min, 2 min or 3 min.

Note: This parameter is only used if the Trigger Mode has been set to Continuous On and the hand-held is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

Parameter Scanning

Setting this parameter to *on* enables decoding of parameter bar codes.

Linear Security Level

This parameter allows you to select the security level appropriate for your bar code quality. There are four levels of decode security for linear code types (e.g., Code 39, Interleaved 2 of 5). Higher security levels should be selected for decreasing levels of bar code quality. As security levels increase, the scanner's decode speed decreases.

Double-tapping on this parameter displays a dialog box in which you can enter a value from 1 to 4.

"Linear security level 1" specifies that the following code types must be successfully read twice before being decoded:

Code Type	Length
Codabar	All
MSI Plessey	4 or less
D 5 of 5	8 or less
I 2 of 5	8 or less

"Linear security level 2" specifies that all types of codes must be successfully read twice before being decoded.

"Linear security level 3" specifies that code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Code Type	Length
MSI Plessey	4 or less
D 2 of 5	8 or less
I 2 of 5	8 or less

"Linear security level 4" requires that all code types be successfully read three times before being decoded.

Bi-Direction Redundancy

Note: *This parameter is only valid if a "Linear Security Level" is enabled.*

When this parameter is enabled, a bar code must be successfully scanned in both directions (forward and reverse) before being decoded.

5.27.1.3   Decoded (Internal) 2D Scanning Options

Scanning Mode

When you double-tap on this parameter, a dialog box is displayed in which you can choose one of the following scanning modes: Smart Raster, Always Raster, Programmable Raster, Slab Pattern, Cyclone Pattern or Semi-Omni Pattern.

Raster Height And Raster Expand Rate

These parameter determine the laser pattern's height and rate of expansion.

> *Note:* *These parameters are only used when either Programmable Raster or*
> *Always Raster is assigned to the "2D Scanning Mode" parameter.*
> *"2D Raster Height" and "2D Raster Expand Rate" are intended*
> *for very specific applications and are usually not required for normal*
> *scanning purposes.*

Double-tapping on this parameter displays a dialog box in which you can enter a
value from 1 to 15.

5.27.1.4   Data Options–Decoded (Internal) Scanner

Transmit Code ID Char

A code ID character identifies the scanned bar code type. In addition to any single
character prefix already selected, the code ID character is inserted between the
prefix and the decoded symbol.

When you double-tap on this parameter, a dialog box is displayed in which you can
choose a transmit code: *None, AIM* or *Symbol*.

Scan Data Format

This parameter allows you to change the scan data transmission format. Double-
tapping on "Scan Data Format" displays the following options from which you can
choose a data format: data (as-is), data [S1], data [S2], data [S1][S2], [P] data, [P]
data [S1], [P] data [S2] and [P] data [S1][S2].

Prefix [P], Suffix [S1] And Suffix [S2]

A prefix and/or one or two suffixes may be appended to scan data for use in data
editing.

When you double-tap on these parameters, a dialog box is displayed in which you
can enter a value from 0 to 255.

Delete Char Set ECIs

Setting this parameter to *on* enables the scanner to delete any escape sequences
representing Character Set ECIs – Extended Channel Interpretations (also known as
GLIs) from its buffer before transmission.

When this parameter is enabled, the scanner transmits data from PDF417 and MicroPDF417 bar codes containing Character Set ECIs, even when the ECI Protocol is disabled.

ECI Decoder

Setting this parameter to *on* enables the scanner to interpret any Extended Channel Interpretations (ECIs) supported by the scanner. This parameter has no effect on symbols that were not encoded using ECIs.

If this parameter is set to *off* and a symbol that was encoded using an ECI escape is scanned, the scanner transmits the ECI escape followed by the uninterpreted data.

5.27.1.5   Code 39

Enabled

Setting this parameter to *on* enables "Code 39".

Enable Trioptic Code 39

Note: *"Trioptic Code 39" and "Full ASCII" should* **not** *be enabled simultaneously. The scanner does not automatically discriminate between these two symbologies.*

Trioptic Code 39 symbols always contain six characters. Setting this parameter to *on* allows this type of symbology to be recognized.

Convert To Code 32

Note: *"Code 39" must be enabled in order for this parameter to function.*

Setting this parameter to *on* allows the scanner to convert the bar code from "Code 39" to "Code 32".

Code 32 Prefix

Note: *"Convert to Code 32" must be enabled in order for this parameter to function.*

When this parameter is enabled, the prefix character "A" is added to all "Code 32" bar codes.

Set Length L1 And Set Length L2

Lengths for "Code 39" can be set for *Any length, Length within a range, One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be decoded by your scanner.
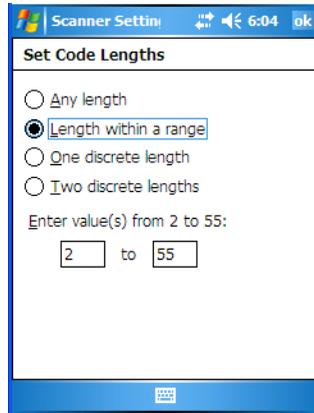
Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 1 to 55.

Check Digit Verification

When this parameter is enabled (set to *on*), the integrity of a "Code 39" symbol is checked to ensure that it complies with specified algorithms.

Note: *Only those "Code 39" symbols that include a Mod 43 check digit are decoded when this parameter is enabled.*

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must to enabled.

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Decode Performance

If this parameter is enabled, one of three decode levels can be chosen in the "Decode Performance Level" parameter.

Decode Perf. Level

This parameter provides three levels of decode performance or "aggressiveness" for Code 39 symbols. Increasing the performance level reduces the amount of required bar code orientation – this is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a decode performance level of between 1 and 3.

Field Size/Chars

Field Size

The field size is the length of the field after the first character is stripped and the prefix and suffix characters are added. If the field size is non-zero, only bar codes of that length are passed through.

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Suffix Char

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.

Note: *For Code 39 bar codes, the "AIAG Strip" is performed before the "Strip Leading".*

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.27.1.6   Code 128

Enabled

Set this parameter to *on* to enable "Code 128".

Enable GS1-128/GS1 US

Previously UPC/EAN and UCC, these types of bar codes include group separators and start codes.

Enable ISBT 128

To successfully scan this variation, "Enable ISBT 128" must be set to *on*.

Decode Performance

If this parameter is set to *on*, one of three decode levels assigned to the "Decode Performance Level" parameter can be selected.

Decode Perf. Level

This parameter provides three levels of decode performance or "aggressiveness" for Code 128 symbols. Increasing the performance level reduces the amount of required bar code orientation – this is useful when scanning very long and/or truncated bar codes. Keep in mind that increased levels reduce decode security.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a decode performance level of between 1 and 3.

Field Size/Char

Refer to page 136 for details.

5.27.1.7 EAN 13

Enabled

Set this parameter to *on* to enable "EAN 13".

Prefix/Suffix

Prefix Char

This character, if non-zero, is added before a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Suffix Char

This character, if non-zero, is added after a successfully decoded bar code. Press the key you want to insert in the dialog box attached to this parameter. The ASCII/Unicode key value of the keypress is displayed.

Strip Leading

This parameter determines the number of characters that will be removed from the beginning of the bar code before the prefix character is added.

Note: The appended character is treated as any other keyboard character. For example, if [BKSP] is pressed, the usual action for that key is performed.

Strip Trailing

The value entered in this parameter determines the number of characters that will be removed from the end of the bar code before the suffix character is added.

5.27.1.8 EAN 8

Enabled

Set this parameter to *on* to enable "EAN 8".

EAN-8 Zero Extend

When this parameter is enabled, five leading zeros are added to decoded EAN-8 symbols, making them compatible in format to EAN-13 symbols. Disabling this parameter returns EAN-8 symbols to their normal format.

Prefix/Suffix

Refer to page 138 for details.

5.27.1.9   UPC A

Enabled

Set this parameter to *on* to enable "UPC A".

UPC-A, Check Digit

If you enable this parameter, the check digit is included with the decoded bar code data.

UPC-A, Preamble

When you double-tap on this parameter, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-A symbols transmitted to the host device: *System Char* – system character transmitted with the data, *Country code and System Char* – both the country code ("0" for USA) and system character are transmitted with the data or *None* – no preamble is transmitted. The lead-in characters are considered part of the symbol.

Prefix/Suffix Chars

Refer to page 138 for details.

5.27.1.10   UPC E

Enabled UPC-E

Set this parameter to *on* to allow "UPC E" bar code scans.

Enabled UPC-E1

Set this parameter to *on* to allow "UPC-E1" (zero suppressed) bar code scans.

UPC-E And UPC-E1 Check Digit

If you enable one or both of these parameters, a check digit is included with the decoded bar code data.

UPC-E And UPC-E1 Preamble

When you double-tap on one of these parameters, a dialog box is displayed where you can choose one of three options for lead-in characters for UPC-E and UPC-E1 symbols transmitted to the host device: *System Char* – system character transmitted with the data, *Country code and System Char* – both the country code ("0" for USA) and system character are transmitted with the data or *None* – no preamble is transmitted. The lead-in characters are considered part of the symbol.

Conv. UPC-E To UPC-A

This parameter converts UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Conv. UPC-E1 To UPC-A

This parameter converts UPC-E1 (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Prefix/Suffix

Refer to page 138 for details.

5.27.1.11 UPC/EAN Shared Settings

The parameters you set here are a shared across all available UPC and EAN bar codes.

Enable Bookland EAN

Setting this parameter to *on* allows your scanner to recognize "Bookland EAN" bar codes.

Supplementals

'Supplementals" are additionally appended characters (2 or 5).

Double-tapping this parameter displays a list of options. If *Ignore* is chosen, UPC/EAN is decoded and the supplemental characters are ignored. If *Decode* is chosen, UPC/EAN symbols are decoded **with** supplementals. *Autodiscriminate* works in conjunction with the Supp. Redundancy parameter.

Supp. Redundancy

With *Autodiscriminate* selected in the *Supplementals* parameter, "Supp. Redundancy" adjusts the number of times a symbol without supplementals is decoded before transmission.

When you double-tap on this parameter, a dialog box is displayed in which you can enter a value between 2 and 20. A value of 5 or above is recommended when *Autodiscriminate* is selected and you are decoding a mix of UPC/EAN symbols with and without supplementals.

Security Level

This parameter controls the tolerance for decoding edge-to-edge UPC/EAN bar codes. Double-tapping on this parameter displays a dialog box in which you can choose a level from 0 to 3. Lower values have a lower tolerance for misreads, but they also increase the time it takes to decode the bar code.

Linear Decode

"Linear Decode" applies to code types containing two adjacent blocks (e.g., UPC-A, EAN-8, EAN-13). When enabled (set to *on*), a bar code is transmitted only when both the left and right blocks are successfully decoded within one laser scan. This option should be enabled when bar codes are in proximity to each other.

2D UPC Half Block Stitching

Setting this parameter to *on* enables "UPC Half Block Stitching" for the SE 3223 omnidirectional engine only.

5.27.1.12   Code 93

Enabled

Set this parameter to *on* to enable "Code 93" or *off* to disable it.

Set Length L1 And Set Length L2

Lengths for "Code 93" can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 4 to 55.

Field Size/Char

Refer to page 136 for details.

5.27.1.13 Codabar

Enabled

Set this parameter to *on* to enable "Codabar" or *off* to disable it.

Set Length L1 And Set Length L2

Lengths for "Codabar" can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 5 to 55.

CLSI Editing

When enabled, this parameter strips the start and stop characters and inserts a space after the first, fifth, and tenth characters of a 14-character Codabar symbol.

Note: *Symbol length does not include start and stop characters.*

NOTIS Editing

When enabled, this parameter strips the start and stop characters from decoded Codabar symbol.

Field Size/Char

Refer to page 136 for details.

5.27.1.14 MSI Plessey

Enabled

Set this parameter to *on* to enable "MSI Plessey".

Set Length L1 And Set Length L2

Lengths for "MSI Plessey" can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 6 to 55.

Check Digits

Double-tapping on this parameter displays a dialog box in which you can choose One or Two check digit(s).

If this parameter is set to *One*, it is assumed that the last digit is a check digit. If "Check Digits" is set to *Two*, it is assumed that the last two digits are check digits.

Note: If Two check digits is selected, an MSI Plessey "Check Digit Algorithm: must also be selected. See below for details.

Transmit Check Digit

If this parameter is enabled, the check digit is included with the bar code data.

Check Digit Algorithm

When the *Two MSI Plessey* check digits option is selected, an additional verification is required to ensure integrity. Double-tapping on this parameter displays a dialog box n which you can choose the algorithm to be used: MOD 10/MOD 11 or MOD 10/MOD 10.

Field Size/Char

Refer to page 136 for details.

5.27.1.15 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable "Interleaved 2 of 5" .

Set Length L1 And Set Length L2

Lengths for "Interleaved 2 of 5" can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 4 to 14.

Check Digit Verification

When enabled, this parameter checks the integrity of an I 2 of 5 symbol to ensure it complies with a specified algorithm – either USS (Uniform Symbology Specification) or OPCC (Optical Product Code Council).

Transmit Check Digit

If this parameter is enabled, the check digit is included with the bar code data.

Convert To EAN 13

If this parameter is enabled, the I 2 of 5 bar code is converted to EAN 13.

Field Size/Char

Refer to page 136 for details.

5.27.1.16 Discrete 2 of 5

Enabled

Set this parameter to *on* to enable "Discrete 2 of 5".

Set Length L1 And Set Length L2

Lengths for "Discrete 2 of 5" can be set for *Any length*, *Length within a range*, *One discrete length* or *Two discrete lengths*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on this parameter displays a dialog box labelled *Set Code Lengths* where you can define the code length that will be recognized by your scanner.

Choosing *One discrete length* allows you to decode only those codes containing a selected length. Choosing *Two discrete lengths* allows you to decode only those codes containing two selected lengths. *Length within a range* allows you to decode a code type within a specified range from 1 to 12.

Field Size/Char

Refer to page 136 for details.

5.27.1.17 RSS Code

Enable

Setting this parameter to *on* enables "2D RSS Code" scanning capability.

Enable RSS-14 (Reduced Space Symbology)

RSS-14 code can be either purely linear or split in half with one half stacked on top of the other half. Stacking the code reduces the bar code length, and providing the nominal height of the code is maintained, it can be omni-directionally scanned.

Enable RSS Limited

"RSS-Limited" is restricted, in that it can only encode 14 digit GTINs (global trade item number) that begin with either a *0* or a *1*. It is not stackable and is not designed to be read omni-directionally.

Enable RSS Expanded

"RSS Expanded" uses the same application identifiers as UCC/EAN-128 codes but it can be split into sections and stacked several rows high, reducing the length of the symbol, while increasing the capacity of data that can be stored. "RSS Expanded" code can be omni-directionally scanned.

Field Size/Char

Refer to page 136 for details.

5.27.1.18 Composite

Important: ***To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled. In addition, "Center Bar Code Only" must be disabled.***

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners.

The options available for this parameter represent multi-level components of a composite symbol.

Enable CC-C And Enable CC-AB

To activate these components, set these parameters to *on*.

Enable TLC-39

This composite component integrates MicroPDF417 with the linear code. Setting this parameter to *on* enables this parameter.

5.27.1.19 PDF-417

Enable

Setting this parameter to *on* enables PDF-417 two dimensional (2D) coding.

Field Size/Char

Refer to page 136 for details.

5.27.1.20 Micro PDF-417

Enable

Setting this parameter to *on* enables "Micro PDF-417" bar code scanning. Micro PDF-417 is a multi-row symbology that is useful for applications requiring greater area efficiency but lower data capacity than PDF-417.

Code 128 Emulation

When this parameter is enabled, the scanner transmits data from certain Micro PDF-417 symbols as if it was encoded in Code 128 symbols.

If Code 128 Emulation is enabled, the following Micro PDF-417 symbols are transmitted with one of the following prefixes:

>]C1 if the first codeword is 903-907, 912, 914, 915
>
>]C2 if the first codeword is 908 or 909
>
>]C0 if the first codeword is 910 or 911

If Code 128 Emulation is set to off, the Micro PDF-417 symbols are transmitted with one of the following prefixes:

>]L3 if the first codeword is 903-907, 912, 914, 915
>
>]L4 if the first codeword is 908 or 909
>
>]L5 if the first codeword is 910 or 911

Field Size/Char

Refer to page 136 for details.

5.27.2   Decoded (HHP)
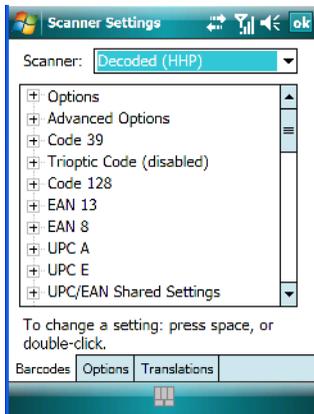
5.27.2.1   Options — Decoded (HHP) Scanner

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.

Double-tapping on this parameter displays a dialog box in which you can enter a value from `1` to `10`.

5.27.2.2   Decoded (HHP) Advanced Options

Continuous Scan Mode

Setting this parameter to *on* keeps the laser on and continuously decoding as long as the scanner button is pressed and held down.

Minimum Cancel Time

The value assigned to this parameter determines the time delay before the scanner is turned off, once the scanner trigger or button is released. This gives the scanner a minimum amount of time to complete its current decode before the scan is cancelled when the user quickly triggers on/off.

Low Power Timeout

To extend laser life, you can select the length of time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned – a successful decode restores normal blinking.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a value of 30 sec, 1 min, 2 min or 3 min.

Note: *This parameter is only used if the Trigger Mode has been set to Continu-*
ous On and the hand-held is mounted in a fixed position; otherwise, 'Low
Power Timeout' is not used.

5.27.2.3   Code 39

Enabled

Setting this parameter to *on* enables "Code 39".

Strip Start/Stop Chars

Codabar uses the characters A, B, C, and D as start and stop characters. Thus, the first and last digits of a Codabar message must be A, B, C, or D, and the body of the message should not contain these characters. Setting this parameter to *on* strips the start and stop characters from this bar code.

Check Char

When this parameter is set to *Validate only*, the integrity of a "Code 39" symbol is checked to ensure that it complies with specified algorithms.

If "Check Char" is set to *Validate and Transmit*, the check character is validated and transmitted with the data.

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

Minimum and Maximum lengths for the bar code can be set from *0 to 48*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Append

If this parameter enabled, any Code 39 bar code that contains a space as the first character will be "stored in memory". Once a Code 39 barcode containing a non-space first character is scanned, this bar code will be appended to the bar codes containing the spaces and the imager will transmit the ALL the data. The spaces are then removed.

Pharmaceutical

This is a numeric (0-9) fixed length barcode used by Italian pharmacies. It is also referred to as *Code 32 Pharmacode* and is a form of Code 39.

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Field Size/Char

Refer to page 136 for details.

5.27.2.4   Trioptic Code

This code is used for labelling magnetic storage media.

Note: If you are scanning Code 32 Pharmaceutical codes, Trioptic Code must be off.

5.27.2.5   Code 128

Enabled

Setting this parameter to *on* enables "Code 128".

ISBT Concatenation

These codes are not concatenated by default. You need to set this parameter to *on* to send concatenated code.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *0 to 80.*

Field Size/Char

Refer to page 136 for details.

5.27.2.6 EAN 13 Settings

Enabled

Set this parameter to *on* to enable "EAN 13".

Check Digit

If you enable this parameter, a check digit is included with the decoded bar code data.

Addendum Add-on 2 And Addendum Add-on 5

An addendum is a separate bar code, supplementary to the main bar code. Enabling these parameters defines the length of the addendum bar code to either *2* or *5* characters.

Addendum Required

When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Addendum Separator

"Addendum Separator" is a space that is added between the EAN 13 bar code and the *Add-on code/Addenda*. When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

ISBN Translate

When this parameter (International Standard Book Number) is enabled, the first 3 characters ('978') are ignored and the checksum (0.9, 'X') is calculated on the remaining characters.

Prefix/Suffix

Refer to page 138 for details.

5.27.2.7   EAN 8

Enabled

Set this parameter to *on* to enable "EAN 8".

Check Digit

If you enable this parameter, a check digit is included with the decoded bar code data.

Addendum Add-on 2 And Addendum Add-on 5

An addendum is a separate bar code, supplementary to the main bar code. Enabling these parameters defines the length of the addendum bar code to either *2* or *5* characters.

Addendum Required

When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Addendum Separator

Addendum Separator is a space that is added between the EAN 13 bar code and the *Add-on code/Addenda*. When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Prefix/Suffix

Refer to page 138 for details.

5.27.2.8   UPC A Settings

Enabled

Set this parameter to *on* to enable "UPC A" bar code scanning recognition.

Check Digit

If you enable this parameter, a check digit is included with the decoded bar code data.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Addendum Add-on 2 And Addendum Add-on 5

An addendum is a separate bar code, supplementary to the main bar code. Enabling these parameters defines the length of the addendum bar code to either *2* or *5* characters.

Addendum Required

When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Addendum Separator

"Addendum Separator" is a space that is added between the UPC A bar code and the *Add-on code/Addenda*. When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Prefix/Suffix

Refer to page 138 for details.

5.27.2.9   UPC E Settings

Enabled

Set this parameter to *on* to enable "UPC E".

Enabled UPC-E1

Set this parameter to *on* to allow "UPC-E1" (zero suppressed) bar code scans.

Expand

This parameter expands the UPC E code to a 12 digit UPC-A format.

Check Digit

If you enable this parameter, a check digit is included with the decoded bar code data.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Addendum Add-on 2 And Addendum Add-on 5

An addendum is a separate bar code, supplementary to the main bar code. Enabling these parameters defines the length of the addendum bar code to either *2* or *5* characters.

Addendum Required

When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Addendum Separator

"Addendum Separator" is a space that is added between the UPC E bar code and the *Add-on code/Addenda*. When this parameter is set to *on*, the scanner does not accept the main bar code without an addendum.

Prefix/Suffix

Refer to page 138 for details.

5.27.2.10 UPC/EAN Shared Settings

Extended Coupon Code

This parameter specifies whether or not the imager will read only UPC-A/EAN-13 bar codes that have addenda.

Note: The 2 or 5 digit addenda must be turned on/off, depending on the desired behavior.

5.27.2.11   Code 93

Enabled

Set this parameter to *on* to enable "Code 93".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *0 to 80*.

Field Size/Char

Refer to page 136 for details.

5.27.2.12   Codabar

Enabled

Set this parameter to *on* to enable "Codabar".

Start/Stop Transmit

Codabar can use the following sets of characters as start and stop characters:

> a, b, c, d
> A, B, C, D
> a, b, c, d, /, t, n, *, e
> DC1, DC2, DC3, DC4

Thus, when a set is chosen, the first and last digits of a Codabar message must be one of those characters and the body of the message should not contain these characters. Setting this parameter to *off* strips the start and stop characters from this bar code.

Check Char

When this parameter is set to *Validate only*, the integrity of a "Code 39" symbol is checked to ensure that it complies with specified algorithms.

If "Check Char" is set to *Validate and Transmit*, the check character is validated and transmitted with the data.

Setting this parameter to *None* disables this function.

Concatenation

"Codabar" supports symbol concatenation. When you enable *Concatenation*, the imager looks for a Codabar symbol with a "D" *start* character that is adjacent to a symbol with a "D" *stop* character. In this case, the two messages are concatenated into one with the "D" characters omitted.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 60*.

Field Size/Char

Refer to page 136 for details.

5.27.2.13 MSI Plessey

Enabled

Set this parameter to *on* to enable *MSI*.

Enable Plessey

Set this parameter to *on* to enable *Plessey*.

Check Char

When this parameter is set to *Validate only*, the integrity of the symbol is checked to ensure that it complies with specified algorithms.

If "Check Char" is set to *Validate and Transmit*, the check character is validated and transmitted with the data.

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

These parameters apply to *MSI* bar codes. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *4 to 48*.

Plessey Minimum And Plessey Maximum Length

These parameters apply to *Plessey* bar codes. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *4 to 48*.

Field Size/Char

Refer to page 136 for details.

5.27.2.14 Code 11

Enabled

Set this parameter to *on* to enable "Code 11".

Check Digits

Double-tapping on this parameter displays a dialog box in which you can choose *One Check Digit* or *Two check digits*.

If this parameter is set to *One Check Digit*, it is assumed that the last digit is a check digit. If it is set to *Two Check Digits*, it is assumed that the last two digits are check digits.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 80*.

Field Size/Char

Refer to page 136 for details.

5.27.2.15 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable "Interleaved 2 of 5".

Check Digit

When this parameter is set to *Validate only*, the integrity of a symbol is checked to ensure that it complies with specified algorithms.

If "Check Digit" is set to *Validate and Transmit*, the check digit is validated and transmitted with the data.

Setting this parameter to *None* disables this function.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 80.*

Field Size/Char

Refer to page 136 for details.

5.27.2.16 Matrix 2 of 5

Enabled

Set this parameter to *on* to enable "Matrix 2 of 5".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 80.*

Field Size/Char

Refer to page 136 for details.

5.27.2.17 IATA 2 of 5

Enabled

Set this parameter to *on* to enable "IATA 2 of 5".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 48*.

Field Size/Char

Refer to page 136 for details.

5.27.2.18 Discrete 2 of 5

Enabled

Set this parameter to *on* to enable "Discrete 2 of 5".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 48*.

Field Size/Char

Refer to page 136 for details.

5.27.2.19 Telepen

Enabled

Set this parameter to *on* to enable "Telepen".

Output

If you choose *AIM* Output, the imager reads symbols with start/stop pattern 1 and decodes them as standard full ASCII (start/stop pattern 1). If you choose *Original* Output, the imager reads symbols with start/stop pattern 1 and decodes them as compressed numeric with optional full ASCII (start/stop pattern 2).

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 60*.

Field Size/Char

Refer to page 136 for details.

5.27.2.20 RSS Code (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables "RSS Code" scanning capability.

Enable RSS Limited

'RSS-Limited" is restricted, in that it can only encode 14 digit GTINs (global trade item number) that begin with either a 0 or a 1. It is not stackable and is not designed to be read omni-directionally.

Enable RSS Expanded

"RSS Expanded" uses the same application identifiers as UCC/EAN-128 codes but they can be split into sections and stacked several rows high, reducing the length of the symbol, while increasing the capacity of data that can be stored. "RSS Expanded" code can be omni-directionally scanned.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 74*.

Field Size/Char

Refer to page 136 for details.

5.27.2.21 PosiCode (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables "PosiCode" scanning capability.

PosiCode

"PosiCode" is a "position" based symbology. A position based symbology de-couples the widths of the bars from their positions. The centers of the bars are specified to be laid out on a grid of equally spaced parallel lines. The distance between these grid lines is called the G-dimension and is analogous to the X-dimension of conventional bar codes.

There are two variations of this code: PosiCode A, and PosiCode B. The options available with this parameter allow to choose *A and B*, *A and B and Limited A* or *A and B and Limited B*.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 80*.

Field Size/Char

Refer to page 136 for details.

5.27.2.22 Composite

*Important: **To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled.***

A composite symbol includes multi-row 2D components making it compatible with linear and area CCD scanners along with linear and rastering laser scanners.

The options available for this parameter represent multi-level components of a composite symbol.

GS1 128

"GS1 128" is the GS1 implementation of the Code 128 barcode specification. The former correct name was UCC/EAN-128.

"GS1-128" uses a series of *Application Identifiers* to include additional data such as best before dates, batch numbers, quantities, weights and many other attributes needed by the user.

EAN/UCC 128 Emulation

The options in this parameter allow you to turn this emulation *on* or *off*, or to enable *RSS Emulation*.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2435*.

5.27.2.23 TLC-39

This composite component integrates MicroPDF417 with the linear code.

Enabled

Setting this parameter to *on* enables this parameter.

Field Size/Char

Refer to page 136 for details.

5.27.2.24 PDF-417

Enabled

Set this parameter to *on* to enable "PDF-417".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2750*.

Field Size/Char

Refer to page 136 for details.

5.27.2.25 Micro PDF-417

Enabled

Set this parameter to *on* to enable "Micro PDF-417".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 366.*

Field Size/Char

Refer to page 136 for details.

5.27.2.26 Code 16K

The "Code 16K" bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. It uses existing UPC and Code 128 character set patterns. Up to 77 full ASCII characters or 154 numeric characters can be encoded into 2 to 16 rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable "Code 16K".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 160.*

Field Size/Char

Refer to page 136 for details.

5.27.2.27   Code 49

The "Code 49" bar code is a multiple-row bar code that can encode the full ASCII character set below ASCII 128. Up to 49 alphanumeric characters or 81 numeric characters can be encoded into two to eight rows. Each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.

Enabled

Set this parameter to *on* to enable "Code 49".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 81*.

Field Size/Char

Refer to page 136 for details.

5.27.2.28 Codablock

Enable

Set this parameter to *on* to enable "Codablock".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 2048*.

Field Size/Char

Refer to page 136 for details.

5.27.2.29 2D Data Matrix

Enable

Set this parameter to *on* to enable "2D Data Matrix".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 1500.*

Field Size/Char

Refer to page 136 for details.

5.27.2.30 2D QR Code

Enabled

Set this parameter to *on* to enable "2D QR Code".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 3500.*

Field Size/Char

Refer to page 136 for details.

5.27.2.31 2D Maxicode

Enabled

Set this parameter to *on* to enable "2D Maxicode".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 150*.

Field Size/Char

Refer to page 136 for details.

5.27.2.32 2D Aztec

Enabled

Set this parameter to *on* to enable "2D Aztec".

Aztec Runes

Aztec Runes, the smallest type of Aztec Code symbol, has the ability to encode a very short license plate message.

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *1 to 3750.*

Field Size/Char

Refer to page 136 for details.

5.27.2.33 Postal: PlaNET

Enabled

Set this parameter to *on* to enable "Postal: PlaNET".

Check Digit

If enabled, the check digit will be transmitted at the end of the scanned data.

Field Size/Char

Refer to page 136 for details.

5.27.2.34 Postal: PostNET

Enabled

Set this parameter to *on* to enable "Postal: PostNET".

Check Digit

If enabled, the check digit will be transmitted at the end of the scanned data.

Field Size/Char

Refer to page 136 for details.

5.27.2.35 Postal: Australian

Enabled

Set this parameter to *on* to enable "Postal: Australian".

Field Size/Char

Refer to page 136 for details.

5.27.2.36 Postal: Canadian

Enabled

Set this parameter to *on* to enable "Postal: Canadian".

Field Size/Char

Refer to page 136 for details.

5.27.2.37 Postal: China

Enabled

Set this parameter to *on* to enable "Postal: China".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 80*.

Field Size/Char

Refer to page 136 for details.

5.27.2.38 Postal: Japanese

Enabled

Set this parameter to *on* to enable "Postal: Japanese".

Field Size/Char

Refer to page 136 for details.

5.27.2.39 Postal: Kix

Enabled

Set this parameter to *on* to enable "Postal: Kix".

Field Size/Char

Refer to page 136 for details.

5.27.2.40 Postal: Korean

Enabled

Set this parameter to *on* to enable "Postal: Korean".

Minimum And Maximum Length

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s). Double-tapping on these parameters displays a screen in which you can set the minimum and maximum allowable code lengths – *2 to 48*.

Field Size/Char

Refer to page 136 for details.

5.27.2.41 Postal: Royal

Enabled

Set this parameter to *on* to enable "Postal: Royal".

Field Size/Char

Refer to page 136 for details.

5.27.3   Decoded
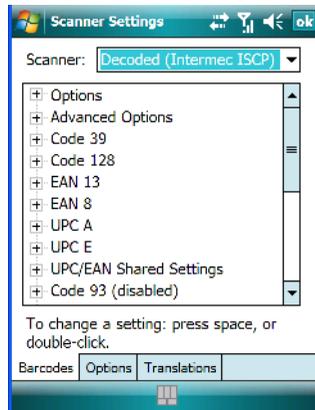
- Tap on the **Scanner** dropdown menu, and choose **Decoded (Intermec ISCP).**

5.27.3.1   Options—Decoded Scanner

Laser On Time

The value assigned to this parameter determines how long the laser will remain on when the scan button or trigger is pressed.

Double-tapping on this parameter displays a dialog box in which you can enter a value between 1 and 10 seconds.

5.27.3.2   Advanced Options—Decoded Scanner

Continuous Scan Mode

Setting this parameter to 'on' keeps the laser on and continuously decoding as long as the scanner button is pressed and held down.

Minimum Cancel Time

The value assigned to this parameter determines the time delay before the scanner is turned off, once the scanner trigger or button is released. This gives the scanner a minimum amount of time to complete its current decode before the scan is cancelled when the user quickly triggers on/off.

Low Power Timeout

To extend laser life, you can select the length of time the scanner remains active following a successful decode. The scanner wakes from low power mode when a bar code is scanned – a successful decode restores normal blinking.

When you double-tap on this parameter, a dialog box is displayed in which you can choose a value of 30 sec, 1 min, 2 min or 3 min.

Note: This parameter is only used if the Trigger Mode has been set to Continuous On and the hand-held is mounted in a fixed position; otherwise, 'Low Power Timeout' is not used.

Parameter Scanning

Setting this parameter to *Enabled* allows decoding of parameter bar codes.

Same Read Validate

The data is only transmitted after repeated reads give the same result. The value assigned at this parameter determines the number of reads required, from 0 to 10 times.

Same Read Timeout

Prevents the same bar code from being read more than once. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

Diff Read Timeout

Prevents unwanted reading of other bar codes on the same label. The value assigned determines after what time period the scanner will timeout, from 0 to 2550 msec.

5.27.3.3   Code 39

Enable

Setting this parameter to *on* enables "Code 39".

Full ASCII

If this parameter is enabled, the characters +, %, and / are used as escape characters. The combination of an escape character and the next character is converted to an equivalent ASCII character.

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Start/Stop Transmit

Setting this parameter to *on* enables the transmission of start and stop characters, which are usually not transmitted. Code 39 can start and end with either a ***** or a **$** character (see also next parameter *Accepted Start Char*).

Accepted Start Char

This parameter allows the user the option of using one of the two start/stop characters or both ($ char, * char, $ and * char).

Check Digit Verification

Uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted. The available options are: Disabled, MOD 43 Check, French CIP, or Italian CIP.

Notes: *French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.*

Italian CIP (Italian pharmaceutical) is also known as Code 32. It is transmitted as a standard Code 39 if checksum is not validated.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.4   Code 128

Enable

Setting this parameter to *on* enables "Code 128".

GS1-128

"GS1-128" is the GS1 implementation of the Code 128 barcode specification. The former correct name was UCC/EAN-128.

GS1-128 Identifier

"GS1-128 Identifier" allows the AIM ID "]C1" for EAN 128 to be transmitted or removed. By default, this identifier is transmitted if EAN 128 is enabled.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.

⚠️ *Important:* **When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.**

FNC1 Conversion

"FNC1 Conversion" allows the embedded FNC1 character to be converted to another character for applications that cannot use the default <GS> Group Separator or hex (1d).

Double-tapping on this option displays a dialog box listing the allowable range – 0 to 255.

Enable ISBT 128

To successfully scan this type of bar code (International Society of Blood Transfusion), this option must be set to *on*. If you enable this type of bar code, Code 128/EAN 128 is deactivated to avoid any confusion.

ISBT Concat Transmit

The codes are not concatenated by default. You need to choose one of the options provided for this parameter to send concatenated code. Choosing *Only Concatenated Codes* transmits only concatenated codes—single codes will not be transmitted. Choosing *Concatenated or Single* transmits single codes or concatenated codes. If only one code of a pair is read, that code will be transmitted as a single code. If both codes in a pair are detected, they will be concatenated provided that *ISBT Concat Any Pair* (see below) is enabled.

ISBT Concat Any Pair

Enabling this parameter causes all code pairs that can be, to be concatenated even if they do not comply with Section 4.1 of the "ISBT 128 Bar Code Symbology and Application Specification for Labeling of Whole Blood and Blood Components" (June 2000, Version 1.2.1).

Reading Range

Determines the reading distance from which a bar code can be successfully scanned. The default setting *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are Disabled or French CIP. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Note: *French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.*

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.5   EAN 13

Enabled

Set this parameter to *on* to enable "EAN 13".

ISBN Conversion

When this parameter (International Standard Book Number) is enabled, the first 3 characters ('978') are ignored and the checksum (0.9, 'X') is calculated on the remaining characters.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Prefix/Suffix

Refer to page 138 for details.

5.27.3.6   EAN 8

Enabled

Set this parameter to *on* to enable "EAN 8".

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Convert To EAN 13

If this parameter is enabled, an EAN 8 bar code is converted to EAN 13.

Prefix/Suffix

Refer to page 138 for details.

5.27.3.7   UPC A

Enabled

Set this parameter to *on* to enable "UPC A" bar code scanning recognition.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Convert To EAN 13

If this parameter is enabled, a UPC A bar code is converted to EAN 13.

Prefix/Suffix

Refer to page 138 for details.

5.27.3.8   UPC E

Enabled

Set this parameter to *on* to enable "UPC E".

Enable UPC-E1

Set this parameter to *on* to allow "UPC-E1" (zero suppressed) bar code scans.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Transmit Number System

If this parameter is enabled, the number system digit is transmitted with the decoded bar code data.

Convert To UPC-A

This parameter converts UPC E (zero suppressed) decoded data to UPC A format before transmission. After conversion, data follows UPC A format and is affected by UPC A programming selections (e.g. Check Digit).

Prefix/Suffix

5.27.3.9   UPC/EAN Shared

The setting assigned to the "Addendum" parameter associated with this option is shared across all UPC and EAN bar codes.

Addendum

An addendum is a separate bar code, supplementary to the main bar code.
This parameter provides two options: *Not Required but Transmitted if Read* or *Required and Transmitted*.

- Double-tap on **Addendum** to display a dialog box listing your options.
- Highlight an item, and tap on **OK**.

When "Addendum" is set to *Not Required but Transmitted if Read*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required and Transmitted*, the scanner does not accept the main bar code without an addendum.

Addendum Add-on 2 And Addendum Add-on 5

Enabling these parameters sets the length of the addendum bar code to either *2* or *5* characters.

GTIN Compliant

GTIN (global trade item number) processing transmits EAN 128 as the 14-character EAN/UCC GTIN. To use GTIN processing, you must activate the EAN 128 symbology.

⚠ *Important:* ***When EAN 128 and GTIN processing are both activated, it is not possible to read normal EAN 128 Codes.***

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

5.27.3.10 Code 93

Enabled

Set this parameter to *on* to enable "Code 93".

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.11 Codabar

Enabled

Set this parameter to *on* to enable "Codabar".

Start/Stop Transmit

Codabar can use the following sets of characters as start and stop characters:

   a, b, c, d
   A, B, C, D

a, b, c, d, /, t, n, *, e

DC1, DC2, DC3, DC4

Thus, when a set is chosen, the first and last digits of a Codabar message must be one of those characters and the body of the message should not contain these characters. Setting this parameter to *Not Transmitted* strips the start and stop characters from this bar code.

CLSI Library System

When enabled, spaces are inserted after characters 1, 5, 10 in the 14-character label (used in the USA by libraries using the CLSI system).

Check Digit Verification

When enabled, this parameter checks the integrity of a symbol to ensure it complies with a specified algorithm – either *USS* (Uniform Symbology Specification) or *OPCC* (Optical Product Code Council).

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, And Set Length L3

Lengths for "Codabar" can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can choose to set L1 as Minimum Length or L1,L2,L3 as Fixed Length.

Field Size/Char

Refer to page 136 for details.

5.27.3.12 MSI Plessey

Enabled

Set this parameter to *on* to enable "MSI".

Enable Plessy

Set this parameter to *on* to enable "Plessy".

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*. This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Plessy Transmit Check Digit

If the check digit is to be transmitted with the Plessy data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Plessy Minimum Length

Minimum lengths for the Plessy bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.13 Code 11

Enabled

Set this parameter to *on* to enable "Code 11".

Check Digit Verification

The available options for this parameter are *MOD 10 Check* and *Double MOD 10 Check*.This parameter uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.14 Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable "Interleaved 2 of 5".

Reading Range

This parameter determines the reading distance from which a bar code can be successfully scanned. The default setting, *Extended*, allows for increased reading distance.

Check Digit Verification

The available options for this parameter are *Disabled, MOD 10 Check* and *French CIP*. "Check Digit Verification" uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Note: French CIP (French pharmaceutical) is only used with bar codes containing 7 characters.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, And Set Length L3

Lengths for "Interleaved 2 of 5" can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can chose to set L1 as Minimum Length or L1,L2,L3 as Fixed Length.

Field Size/Char

Refer to page 136 for details.

5.27.3.15 Matrix 2 of 5

Enabled

Set this parameter to *on* to enable "Matrix 2 of 5".

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.16 Discrete 2 of 5

Enabled

Set this parameter to *on* to enable "Discrete 2 of 5".

Standard 2 of 5 Format

This parameter allows you to choose a standard format – either *Identicon (6 start/stop bars) or Computer Identics (4 start/stop bars)*.

Check Digit Verification

The available options for this parameter are *Disabled* and *MOD 10 Check*. "Check Digit Verification" uses the specified algorithm of the option you've chosen to ensure the integrity of the symbol data before transmitting. If the data does not contain that algorithm, the data is not transmitted.

Transmit Check Digit

If the check digit is to be transmitted with the data, this parameter must be enabled.

Set Length L1, Set Length L2, And Set Length L3

Lengths for "Discrete 2 of 5" can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Double-tapping on these parameters displays dialog boxes where you can define the code length that will be recognized by your scanner.

Length Mode

You can chose to set *L1 as Minimum Length or L1,L2,L3 as Fixed Length*.

Field Size/Char

Refer to page 136 for details.

5.27.3.17 Telepen

Enabled

Set this parameter to *on* to enable "Telepen".

Format

This parameter allows you to set the bar code character format to either *ASCII or Numeric*.

Minimum Length

Minimum lengths for the bar code can be set from *0 to 255*. The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s).

Field Size/Char

Refer to page 136 for details.

5.27.3.18 RSS Code (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables "RSS Code" scanning capability.

Enable RSS-14

RSS-14 code can be either purely linear or split in half with one half stacked on top of the other half. Stacking the code reduces the bar code length, and providing the nominal height of the code is maintained, it can be omni-directionally scanned.

Enable RSS Limited

"RSS-Limited" is restricted, in that it can only encode 14 digit GTINs (global trade item number) that begin with either a 0 or a 1. It is not stackable and is not designed to be read omni-directionally.

Enable RSS Expanded

"RSS Expanded" uses the same application identifiers as UCC/EAN-128 codes but they can be split into sections and stacked several rows high, reducing the length of the symbol, while increasing the capacity of data that can be stored. "RSS Expanded" code can be omni-directionally scanned.

Field Size/Char

Refer to page 136 for details.

5.27.3.19 PDF-417

Enabled

Set this parameter to *on* to enable "PDF-417".

Field Size/Char

Refer to page 136 for details.

5.27.3.20 Micro PDF-417

Enabled

Set this parameter to *on* to enable "Micro PDF-417".

Code 128 Emulation

When this parameter is enabled, the scanner transmits data from certain Micro PDF-417 symbols as if it was encoded in Code 128 symbols.

If Code 128 Emulation is enabled, the following Micro PDF-417 symbols are transmitted with one of the following prefixes:

>]C1   if the first codeword is 903-907, 912, 914, 915
>
>]C2   if the first codeword is 908 or 909
>
>]C0   if the first codeword is 910 or 911

If Code 128 Emulation is set to *off*, the Micro PDF-417 symbols are transmitted with one of the following prefixes:

>]L3   if the first codeword is 903-907, 912, 914, 915
>
>]L4   if the first codeword is 908 or 909
>
>]L5   if the first codeword is 910 or 911

Field Size/Char

Refer to page 136 for details.

5.27.3.21 Codablock

Enable Codablock A

Set this parameter to *on* to enable "Codablock type A".

Enable Codablock F

Set this parameter to *on* to enable "Codablock type F".

Field Size/Char

Refer to page 136 for details.

5.27.4   Imager
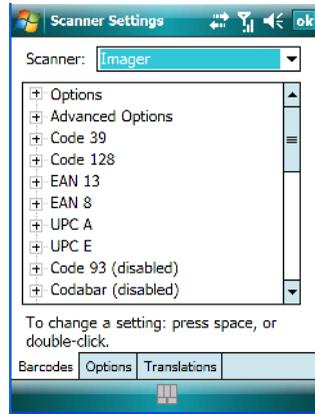
- Tap on the **Scanner** dropdown menu, and choose **Imager**.

5.27.4.1   Options–Imager

TekImager Enabled

Setting this option to *on* enables the imager installed in your hand-held.

Continuous Scan Mode

Setting this parameter to *on* keeps image capture active and continuously decoding as long as the scanner button is pressed and held down.

Center Bar Code Only

Note: This parameter must be disabled when reading Composite bar codes.

When more than one bar code is visible in a single snap shot, this parameter allows you to specify that only the centre image within the imager framing marker be read. When this parameter is set to *on*, the target dot is pointed at the centre image and only that image is returned.

Max Number Barcodes

This parameter specifies the maximum number of bar codes the imager will attempt to decode in an image. A maximum of 6 bar codes can be decoded at one time.

Barcodes Must Decode

This parameter specifies the minimum number of bar codes that the imager must decode in order to report success.

Note: This number must be less than the number of bar codes assigned to "Max Number Barcodes". The driver validates and reassigns the value if necessary.

Window Width

"Window Width" determines the width of the captured image in pixels.

Note: The driver will validate and reassign the value assigned to this parameter, if necessary; the driver will also use the Window Width value to horizontally center the image in the field of view.

Window Height

This parameter determines the height of the captured image in pixels.

Note: The driver will validate and reassign the value assigned to this parameter, if necessary; the driver will also use "Window Height" value to vertically center the image in the field of view.

Dot Time (msec)

The value selected for "Dot Time (msec)" determines (in milliseconds) how long the targeting dot remains on before the scanner begins capturing images. When you double-tap on this parameter, a dialog box is displayed in which you can enter a value of between 0 and 3000. A value of 0 disables the target dot.

5.27.4.2   Advanced Options – Imager

*Important: **Do not adjust the advanced options without first consulting Psion Teklogix technical support.***

Factory Defaults On Reboot

The value assigned to this parameter determines whether or not the driver will restore the factory defaults to the imager device on the next reboot.

Note: The driver will default the imager device on a 'clean' reset, regardless of the value of this parameter.

Min Scan Duration

This parameter defines the minimum amount of time in seconds that the imager will scan when the trigger is pressed and held down without successful decode.

Note: *The actual scan duration when the trigger is pressed relies on the value assigned to* Captures Per HW Trigger*, below.*

Captures Per HW Trigger

The value assigned to this parameter determines the number of captures the imager device will take while the imager's internal hardware trigger is held down.

Note: *This parameter, together with "Min Scan Duration", determines the actual scan duration. When the scan trigger is pressed and held down, the driver starts a timer based on the value of "Min Scan Duration" and also sends a command to emulate the hardware trigger. When completed, if the time has not yet expired, it will send another command to the imager device, forcing the imager to flash again using the value assigned to "Captures Per HW Trigger".*

Auto Exposure

Important: ***This parameter value should only be changed by qualified Psion Teklogix personnel. It should be left at the default value – 'on'.***

Setting this parameter to *on* allows the imager to make automatic gain, integration and illumination adjustments based on ambient light before capturing the bar code. If the adjustment is insufficient, further adjustments are made automatically before another image is captured.

Fast Converge

Note: *"Auto Exposure" must be set to 'on' in order for this parameter to function.*

Keep in mind that while this parameter can improve imager performance, "Fast Converge" increases battery power consumption.

Setting this parameter to *on* speeds the "Auto Exposure" process. It allows the imager to rapidly snap a number of bar code capture attempts while finding ideal values for gain, integration and illumination.

Max Gain, Max Integration And Max Illumination

Important: ***These parameter values should only be changed by qualified Psion Teklogix personnel.***

These parameters represent internal values used by the 2D imager. The "Auto Exposure" parameter automatically adjusts the "Max Gain", "Max Integration" and "Max Illumination" parameters to produce the best bar code read. Keep in mind that "Auto Exposure" must be set to *on* in order for these parameter values to be automatically adjusted.

Double-tapping on any of these parameters displays an associated dialog box in which an allowable range is displayed: Max Gain – 357 to 7920, Max Integration – 0 to 65535, Max Illumination – 0 to 7.

Decoder Timeout

The decoder is a set of algorithms that examine the image and attempt to find the bar codes, and then turn the pixels into data that the computer can use—this process takes time. "Decoder Timeout" limits the amount of time the decoder will spend attempting to decode an image, and forces it to stop and grab a new image, which will probably be easier to decode.

Note: *When decoding multiple bar codes in one image, the value assigned to 'Decoder Timeout' should be increased to 200ms/extra bar code after the first.*

Adaptive Windowing

"Adaptive Windowing" is an advanced technique used to speed up bar code recognition in certain applications. This parameter automatically reduces the size of the window to the user-programmed window size when it successfully decodes (which reduces decode time the next time it is used), but increases it to the full size window on a failed decode.

Note: *This feature assumes that you have reached an understanding about how the device operates in your application, and that, after a learning period, operators will get used to using the imager in one particular way. It also assumes that a trained operator will usually only have near miss scenarios.*

Constant Illumination

"Constant Illumination" is used to reduce the intrusiveness of the device's illumination on the observer. Instead of the illumination turning on and off every time the device attempts a decode (2-4 times per second), the illumination stays on from the time the trigger is pulled until a decode is successful. This feature is useful in low light environments, since it will also reduce the distraction that the illumination can have on nearby coworkers.

5.27.4.3   Code 39 Settings

Enabled

Set this parameter to *on* to enable "Code 39".

Field Size/Char

Refer to page 136 for details.

5.27.4.4   Code 128 Settings

Enabled

Set this parameter to *on* to enable "Code 128".

Field Size/Char

Refer to page 136 for details.

5.27.4.5   EAN 13

Enabled

Set this parameter to *on* to enable "EAN 13".

Addendum

An addendum is a separate bar code, supplementary to the main bar code. This parameter provides three options: Disabled, Optional and Required. Depending on the value chosen for this parameter, an addendum is recognized or ignored.

- Double-tap on **Addendum** to display a dialog box listing your options.
- Highlight an item, and tap on **OK**.

When "Addendum" is set to *Disabled*, the scanner does not recognize an addendum. If this parameter is set to *Optional*, the scanner searches for an addendum and if one exists, appends it to the main bar code. When the parameter is set to *Required*, the scanner does not accept the main bar code without an addendum.

Note: Setting "Addendum" to 'Optional' reduces performance. It should only be chosen if at least some of the bar codes being read have addendums.

Prefix/Suffix

Refer to page 138 for details.

5.27.4.6   EAN 8

Enabled

Set this parameter to *on* to enable "EAN 8".

Addendum

Refer to "Addendum" on page 189.

Prefix/Suffix

Refer to page 138 for details.

5.27.4.7   UPC A

Enabled

Set this parameter to *on* to enable "UPC A".

Addendum

Refer to "Addendum" on page 189.

Prefix/Suffix

Refer to page 138 for details.

5.27.4.8   UPC E

Enabled

Set this parameter to *on* to enable "UPC E".

Addendum

Refer to "Addendum" on page 189.

Prefix/Suffix

Refer to page 138 for details.

5.27.4.9   Code 93

Enabled

Set this parameter to *on* to enable "Code 93".

Field Size/Char

Refer to page 136 for details.

5.27.4.10 Codabar

Enabled

Set this parameter to *on* to enable "Codabar".

Field Size/Char

Refer to page 136 for details.

5.27.4.11   Interleaved 2 of 5

Enabled

Set this parameter to *on* to enable "Interleaved 2 of 5".

Field Size/Char

Refer to page 136 for details.

5.27.4.12 RSS Code (Reduced Space Symbology)

Enable

Setting this parameter to *on* enables "RSS Code" scanning capability.

Field Size/Char

Refer to page 136 for details.

5.27.4.13 Composite

⚠️ *Important:* **To successfully read this type of bar code, the two types of symbologies included in a composite bar code must be enabled.**

Enabled

Set this parameter to *on* to enable "Composite" bar codes.

5.27.4.14 PDF-417

Enable

Setting this parameter to *on* enables PDF-417 two dimensional (2D) coding.

Field Size/Char

Refer to page 136 for details.

5.27.4.15 Micro PDF-417

Enable

Setting this parameter to *on* enables "Micro PDF-417" bar code scanning. Micro PDF-417 is a multi-row symbology that is useful for applications requiring greater area efficiency but lower data capacity than PDF-417.

Field Size/Char

Refer to page 136 for details.

5.27.4.16 2D Data Matrix

Enable

Set this parameter to *on* to enable "Data Matrix".

Field Size/Char

Refer to page 136 for details.

5.27.4.17 2D QR Code

Enabled

Set this parameter to *on* to enable "2D QR Code".

Field Size/Char

Refer to page 136 for details.

5.27.4.18 2D Maxicode

Enabled

Set this parameter to *on* to enable "2D Maxicode".

Field Size/Char

Refer to page 136 for details.

5.27.4.19 2D Aztec

Enabled

Set this parameter to *on* to enable "Aztec".

Field Size/Char

Refer to page 136 for details.

5.27.4.20 Postal: PlaNET

Enabled

Set this parameter to *on* to enable "Postal: PlaNET".

Field Size/Char

Refer to page 136 for details.

5.27.4.21 Postal: PostNET

Enabled

Set this parameter to *on* to enable "Postal: PostNET".

Field Size/Char

Refer to page 136 for details.

5.27.4.22 Postal: Australian

Enabled

Set this parameter to *on* to enable "Postal: Australian".

Field Size/Char

Refer to page 136 for details.

5.27.4.23 Postal: Japanese

Enabled

Set this parameter to *on* to enable "Postal: Japanese".

Field Size/Char

Refer to page 136 for details.

5.27.4.24 Postal: Korean

Enabled

Set this parameter to *on* to enable "Postal: Korean".

Field Size/Char

Refer to page 136 for details.

5.27.4.25   Postal: Royal

Enabled

Set this parameter to *on* to enable "Postal: Royal".

Field Size/Char

Refer to page 136 for details.

5.27.5   Options Tab

This tab allows you to tailor the double-click parameters and the display options associated with your scanner.
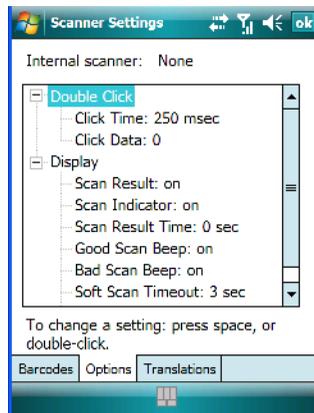
5.27.5.1   Double Click Parameters

Click Time (msec)

This parameter controls the maximum gap time (in milliseconds) for a double-click. If the time between the first and second clicks of the scanner trigger is within this time, it is considered a double-click. The allowable range is 0 to 1000. A value of zero disables this feature.

A double-click produces different results depending on whether or not a value is assigned in the "Click Data" parameter. When a value is not assigned for the "Click Data", double-clicking the scanner trigger overrides the target dot delay set in the

"Dot Time" parameter and initiates a normal scan sweep. If a value is assigned for the "Click Data" parameter, double-clicking the scanner trigger inserts the "Click Data" value rather than initiating a scan.

Click Data

For both integrated and external scanners, this parameter determines which character is sent to the application installed in your hand-held following a double-click. A dialog box appears, asking that you press the key you want to insert. The ASCII/Unicode key value of the keypress is displayed.

5.27.5.2   Display Parameters

Scan Result

When this parameter is enabled, the type of bar code and the result of the scan appear on the screen. Note that this information is only displayed after a successful decode and is visible only while the scanner trigger is pressed. When the trigger is released, this information is cleared from the screen.

Scan Indicator

When this parameter is enabled, the laser warning logo appears on the display whenever the scanner is activated.

Scan Result Time (sec)

The value assigned to the "Scan Result Time (sec)" parameter determines how long the scan results of a successful scan are displayed on the screen. Time is measured in seconds, and a value of "0" (zero) disables the parameter. When you choose this option, a dialog box appears where you can enter a value.

Note: To remove the scan result from the screen before the "Result Time" has expired, point the scanner away from the bar code and press the trigger.

Good Scan Beep And Bad Scan Beep

These parameters determine whether or not the hand-held emits an audible scanner 'beep' when a good (successful) scan or a bad (unsuccessful) scan is performed. Set these parameters to either *on* to enable the beeper or *off* to disable it.

Soft Scan Timeout

This parameter is used by the SDK "Scan" function (soft-scan: starting a scan session via the SDK function, instead of a physical user trigger press). The value assigned to this parameter determines the soft-scan timeout from 1 to 10 sec. (default is 3 sec.).

Scan Log File

If this parameter is enabled, the input barcode and the modified/translated output bar code are logged in the file \Flash Disk\ScanLog.txt. Keep in mind that if the "Scan Log File" is enabled, there is a slight performance effect when performing multiple scans since the log file is written to persistent storage.

5.27.6 Translations Tab

The *Translations* tab allows you to define up to 10 *cases*, each consisting of up to 10 *rules* in sequential order. Only one *case* will be applied to a bar code and a case will only be applied if all *rules* specified in the case are successful – if a *rule* within a *case* fails, the entire *case* fails.
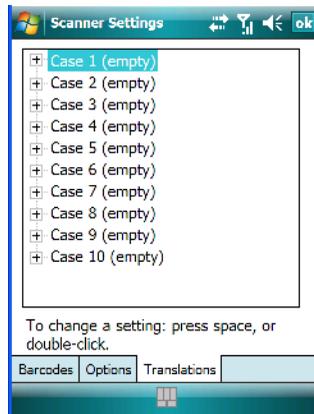
•   In the *Translation* tab, tap on the **Case #** to create rules.
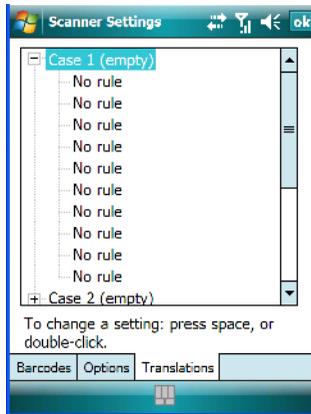
•   Tap on the **No rule** dropdown menu to display the rules.
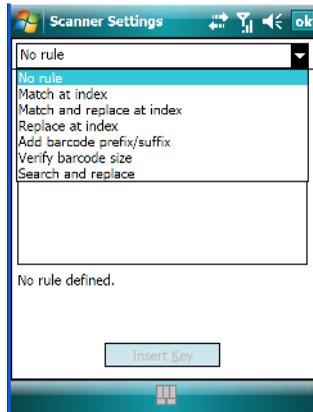
When you choose a rule, an associated screen is displayed in which you can define
the rule.

5.27.6.1   Case Rules

The case rules are defined as follows:

- No rule – ignored.
- Match at index – matches the match string at a specified index.
- Match and replace at index – matches the match string at a specified index
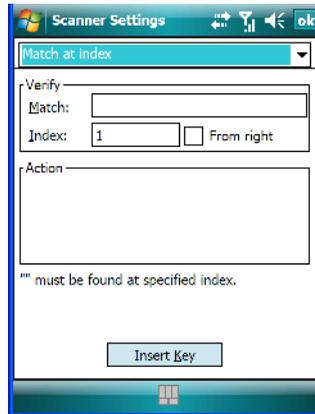 and replaces/changes it.
- Replace at index – replaces/changes unspecified data in a given range.
- Add barcode prefix/suffix – adds a global prefix or suffix.
- Verify barcode size – verifies the bar code size. This rule should generally
  be assigned first, before creating subsequent rules.
- Search and replace – replaces *all* instances of the match string. (Note that
  this rule cannot fail.)

*Note: Keep in mind that the effects of previously applied rules must be taken
into account when creating subsequent rules. For example, if the bar code
size is important, it should be checked before any rules that might change
the size are applied.*

Translation information about the status of each case/rule is displayed in the scan
log file (see "Scan Log File" on page 197) when enabled. This is useful if a case
fails, and you are trying to determine why a rule is failing.

5.28 Total Recall

Total Recall is a Psion Teklogix utility developed to back up/restore applications and settings.

Note: *In Windows Mobile 6, the registry and installed programs are stored in the Flash file system and are not lost on reset.However, in special cases where Psion Teklogix personnel find it necessary to perform a **clean** start, this will reset not only the registry settings to factory defaults, but will also erase any files or applications stored or installed on the built-in Flash file system, including any Total Recall profiles. This is why any data that needs to be protected must be stored on a SD/MMC card or externally to the device on a USB memory stick or on a PC.*

• Tap on **Start>Settings**. Tap on the **Total Recall** icon.
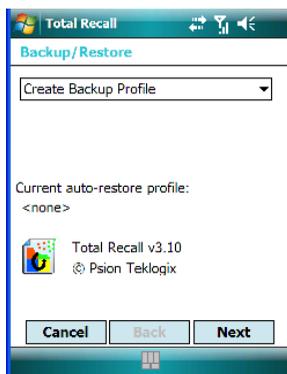
In the dropdown menu, you can choose: *Create Backup Profile, Restore Selected Profile, View Selected Profile Data*, and *Delete Selected Profile*. Keep in mind that until a profile is created, only one option is available–*Create Backup Profile*.

5.28.1 Creating A Backup Profile

• Tap on the **Next** button to begin the process.

```
┌─────────────────────────────────────┐
│  Total Recall          ⇄ ▊ ◀        │
│  Profile Information                  │
│                                       │
│  Profile Name:                        │
│  ┌─────────────────────────────────┐ │
│  │ Default1                        │ │
│  └─────────────────────────────────┘ │
│  Profile Type:                        │
│  ┌─────────────────────────────┬───┐ │
│  │ For this device only        │ ▼ │ │
│  └─────────────────────────────┴───┘ │
│  Profile Location:                    │
│  ┌─────────────────────────────┬───┐ │
│  │ \My Documents\Total Recall  │ ▼ │ │
│  └─────────────────────────────┴───┘ │
│  Image: Psion Teklogix 7527C          │
│  OS Version: 5.2 (318)                │
│  Registry Type: Hive registry         │
│                                       │
│  ┌────────┐ ┌────────┐ ┌────────┐    │
│  │ Cancel │ │  Back  │ │  Next  │    │
│  └────────┘ └────────┘ └────────┘    │
│               ▦                       │
└─────────────────────────────────────┘
```
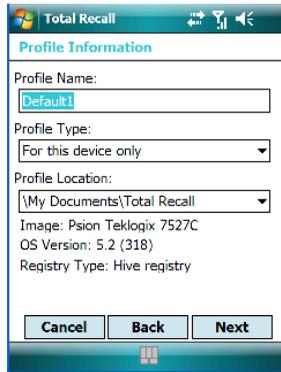
Profile Information

This dialog box lists the possible storage destinations for the profile file.

• To begin, type a name for the profile in the field labelled *Profile Name.*

• Next, choose the *Profile Type* you want to create:

  • *For this device only* – creates a backup that is manually restored by the operator.

  • *AutoRestore for this device only* – creates a profile that automatically restores itself following a cold start.

• Finally, choose a *Profile Location* – The location for the profile is either *\Flash Disk* or *\SD-MMC Card*.

• Tap on the **Next** button to display the next dialog box, *Add Files*.

Add Files
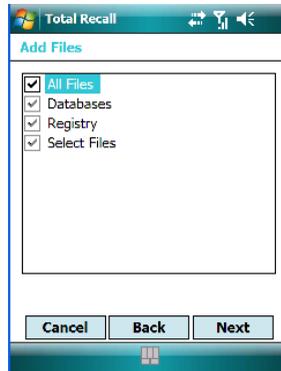
By default, **All Files** is selected so that all installed or copied files, database entries, and the Registry will be saved. You can, however, limit the backup to databases, the registry and/or Selected Files.

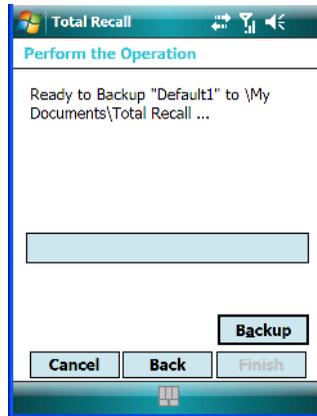- Tap on the **Next** button to view your selections.

View Selections

Depending on what you have selected for inclusion in your profile, you can view a list of all files, selected files, databases, and/or the registry.
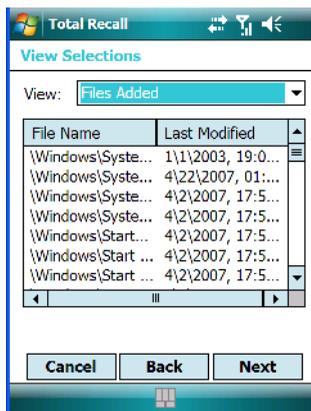
- If you're satisfied with the items in the profile, tap on **Next**.
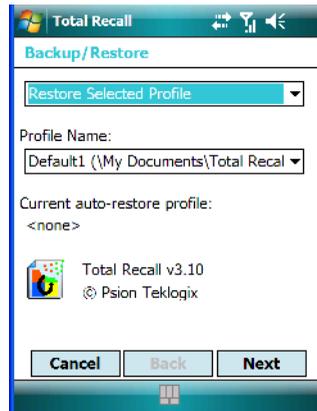
Performing The Backup

- Tap on **Backup** to begin the process and create a profile.

When the backup is finished, a dialog box is presented stating that the backup has been completed successfully.

- Tap on **Finish** to exit *Total Recall.*

5.28.2   Restoring A Profile

To manually restore a profile:

- Choose **Restore Selected Profile** from the dropdown menu, and choose the **Profile Name** you want to restore.
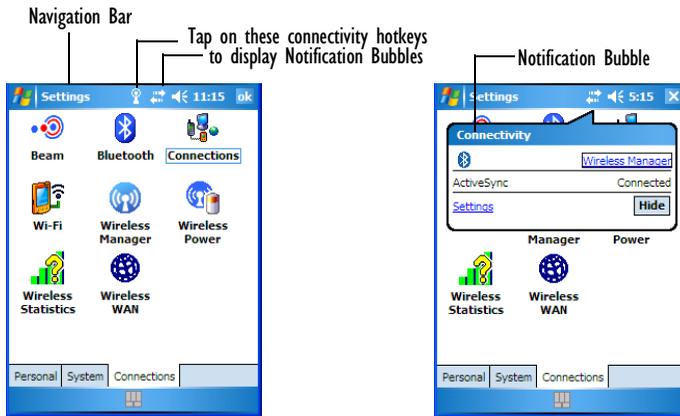- In the next screen, tap on **Restore** to restore your profile.

5.29 Connections Tab

This tab is used to setup connections using *Bluetooth*, 802.11 radios, and you can also set up Wireless WAN connections.

The *Wireless WAN* icon is only visible when *Windows Mobile 6 Classic* is installed in your WORKABOUT PRO.

*   • Tap on **Start>Settings>Connections** tab to display your connection options.

Navigation Bar

Tap on these connectivity hotkeys to display Notification Bubbles

Notification Bubble

Navigation Bar Connectivity Hotkeys

Some of the connectivity icons in the *Navigation Bar* along the top of the screen are *hotkeys* that offer shortcuts to connection setups. Tapping on a hotkey displays a bubble that provides information about your connections and provides a shortcut to the *Wireless Manager* applet where you can set up your connections.

Automatic Network Detection

If a wireless network is available when you switch on your unit, a *notification bubble* may appear letting you know which networks have been found. You can choose a network from here.
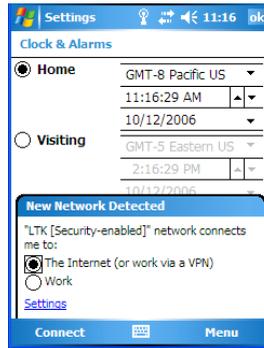
Tapping on *Connect* in the softkey bar at the bottom of the screen will automatically connect to a network that's already been set up. Tapping on *Settings* in the *network bubble* will launch the *Wireless Manager* applet.

If you prefer not see this *notification bubble*, you can tap on the *Menu* button in the softkey bar, and choose not to display the *notification bubble*.

5.30 Beam

If your unit is equipped with an IrDA end-cap, tapping on *Beam* allows you to enable *Receive all incoming beams* so that your unit can accept incoming data from other IrDA devices.

5.31 Bluetooth Setup

Bluetooth is a global standard for wireless connectivity for digital devices and is intended for Personal Area Networks (PAN). The technology is based on a short-range radio link that operates in the ISM band at 2.4 GHz. When two *Bluetooth*-equipped devices come within a 10 meter range of each other, they can establish a connection. Because *Bluetooth* utilizes a radio-based link, it does not require a line-of-sight connection in order to communicate.

5.31.1 The Devices Tab

This tab allows you to scan for other Bluetooth enabled devices, and it allows you to pair devices.
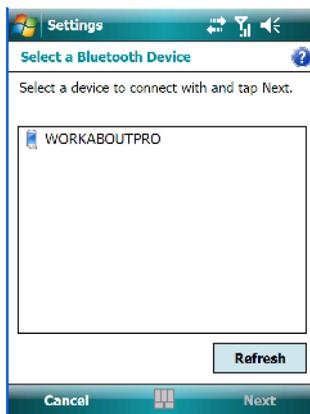
Note: *You may need to enable your Bluetooth radio before you begin. Refer to* *"Bluetooth Mode" on page 208 for details.*
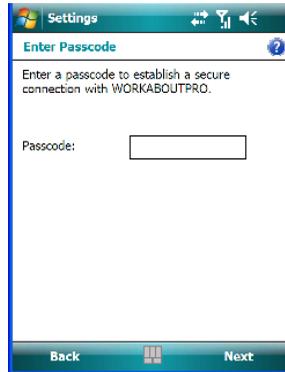
To add a new device:

• Tap on **Add new device...**.

The WORKABOUT PRO scans for a *Bluetooth* device within a 10 meter range. Any *Bluetooth* devices within range appear in the *Bluetooth* list box

• Highlight the device you want to add. Tap on **Next**.

- Type your **Passcode**. Tap on **Next**.
- In the *Display Name* screen, edit the name of the device. This is *optional*.
- Tap on **Finish**.

Note: To connect to a Bluetooth-*equipped device that's already been added, tap on the item in* Bluetooth *list box.*

5.31.1.1   Pairing A Device

If you intend to pair devices (a headset, for example), power on and bring the device within 10 meters of the hand-held before proceeding with the discovery process described below.

Important: Follow the steps under "Pairing A Bluetooth Headset Or Other Bluetooth Device" on page 49 to pair a **Bluetooth** *device with your hand-held.*

5.31.2 Bluetooth Mode

- Tap **Start>Settings**. Tap on the **Connections** tab>*Bluetooth* icon and then tap on the **Mode** tab.
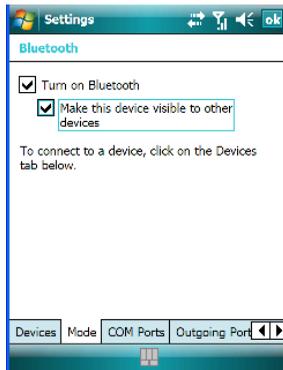
When *Turn on Bluetooth* is enabled (a checkmark is displayed in the checkbox), *Bluetooth* features are available. If this option is disabled, you cannot send or receive information using *Bluetooth*.

When *Make this device visible to other devices* is enabled, other *Bluetooth* devices within range (approximately 10 meters) can detect your WORKABOUT PRO and can establish a bond or use a *Bluetooth* service. Note that other devices can detect your unit whether or not a bond has been created.

5.31.3   Bluetooth COM Ports
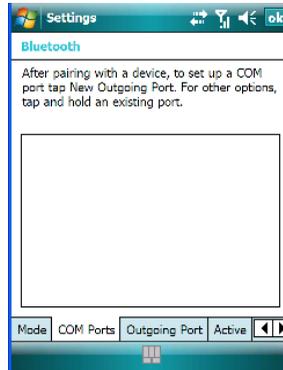
New Incoming Port

The *Bluetooth COM Ports* dialog box allows you to assign a COM port number. If a port number has not been assigned, tapping on *New Incoming Port* allows you to choose a COM port number. If a port number already exists that you'd like to change, tap and hold the stylus on *Incoming Port (COM #)* to display a pop-up menu. Choose *Edit* and assign a new COM port number.

New Outgoing Port

When you pair the WORKABOUT PRO with another device, *New Outgoing Port* is listed in this dialog box. Tapping on this option allows you to assign an outgoing COM port number.

•   To work with an existing COM port number, tap and hold the stylus on an existing port
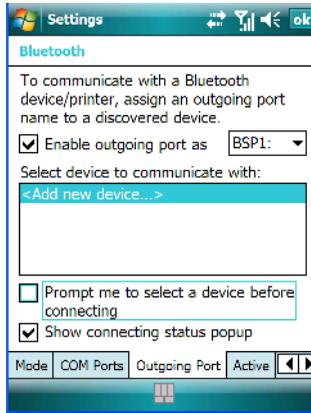
To assign a *new* port number, make certain that your WORKABOUT PRO is connected to the other device via Bluetooth.

•   In the COM Ports tab, tap on **New Outgoing Port**.
•   Choose a COM port number from the list.

Note: *If a port cannot be created, the number you've chosen is already in use. Choose a different port number.*

5.31.4 Outgoing Port

Outgoing Port acts as a serial port that can be used to connect to a list of *Bluetooth* devices (one at a time). This tab allows you to assign and enable an outgoing port and choose the device with which you want to communicate from the list. You can also tailor the behaviour of your hand-held so that you are prompted to choose the device with which you want to communicate.

5.31.5 Active Connections List
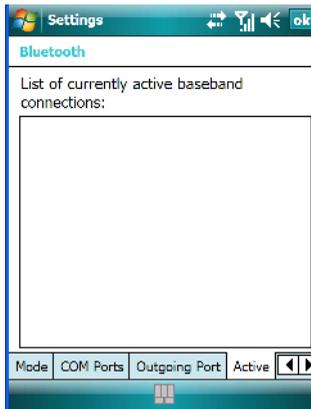
This tab displays the currently active *Bluetooth* connections, listing the device name(s). The type of link is also included with the device name(s). Keep in mind that the information listed in this tab is 'view only'; it cannot be edited.

5.31.6   About Tab
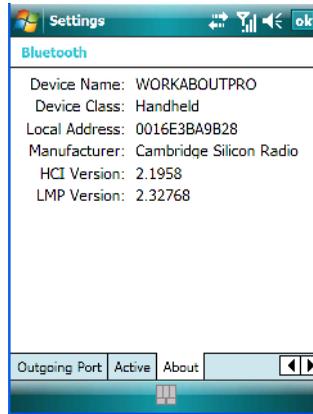
The *About* tab displays information about the *Bluetooth* module, such as the manufacturer name, local address and version. Like the *Active* tab, this information cannot be edited.

5.31.7   The Bluetooth GPRS Phone

Once you've completed the *Bluetooth* settings, you can go ahead and set up communication through your *Bluetooth*-equipped phone.

1. Before you begin, make certain that the *Bluetooth* phone is turned on, that the *Bluetooth* radios in your WORKABOUT PRO and phone are enabled (turned on), and that the hand-held and phone are within 10 metres of each other. Both should be discoverable.

2. Tap on **Start>Settings** and then tap on the **Connections** tab.

3. Tap on the **Connections** icon. Tap on **Add a new modem connection**.

4. Type a name for the connection.

5. Tap on the **Select a modem** dropdown menu, and choose *Bluetooth*. Tap on **Next**.

6. Make certain that the phone is discoverable. Some phones also need to be pairable in order to accept a bonding request. Refer to your phone documentation for additional information.

7. If the phone appears in the *My Connections* list, skip to step 13.

8. In the list, tap the **phone** and then tap on the **Next** button.

9. In the *PIN* screen, type a personal identification number (PIN)—you can enter up to 16 characters.

10. Enter the *same* PIN on the phone.

11. If you wish, you can edit the name of the phone in the *Name* field.

12. Tap on the **Finish** button.

13. In the *My Connections* list, tap on the phone and then on **Next**.

14. Enter the dial-up phone number for this connection, and tap on **Next**.

15. In the *User name, Password* and *Domain* fields, enter the logon information for this connection, and tap on **Finish**.

You can begin using the *Bluetooth* phone connection, for example, to send and receive e-mail, browse the Internet with Internet Explorer, and so on.

5.32 Connections – Connecting To The Internet

Connections

To activate a connection, make certain that any necessary equipment is installed in your hand-held such as a radio.

You'll need the following information from your ISP to make an internet connection: ISP server phone number, user name and password.

1. Tap **Start>Settings**, and then tap on the **Connections** tab.

2. Tap on the **Connections** icon.

3. Under **My ISP**, tap on **Add a new modem connection**.

Note: *In the Connections window the **Tasks** tab is used to create new connections and manage existing ones. The **Advanced** tab allows you to choose a network. If you need to change these settings, contact your ISP or network administrator before making changes.*

4. In the **Select a modem** dropdown menu, choose a modem connection. If you haven't already created a modem connection, refer to "Modem Connection Setup" on page 214.

5. To connect to the Internet, launch the program you want to use. For example, launch Internet Explorer on your WORKABOUT PRO to browse the Internet. Your hand-held automatically connects.

Note: *To set up a network card or wireless network connection to your ISP, add a new connection under My Work Network.*

5.32.1 Modem Connection Setup

Before you begin, you'll need the following information from your ISP or network administrator: telephone number, user name, password, domain name and TCP/IP settings.

If your WORKABOUT PRO does not have access to a mobile phone network, insert a modem card in the unit.

1. Tap **Start>Settings**. Tap on the **Connections** tab followed by the **Connections** icon.
2. To create a new connection in either My ISP or My Work Network, tap on **Add a new modem connection**.
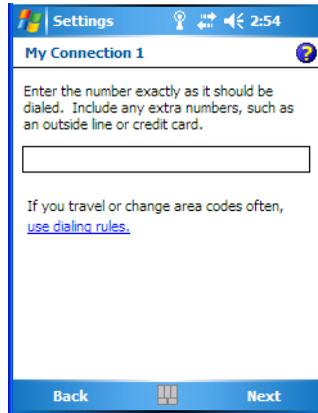3. In the *Make New Connection* screen, type a name for the connection.
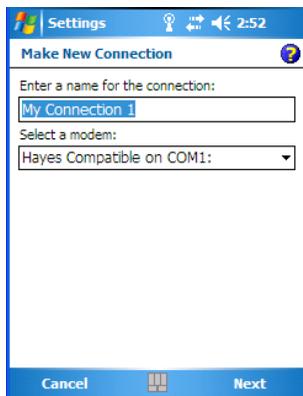
4. In the dropdown menu below *Select a modem*, tap on your modem type.
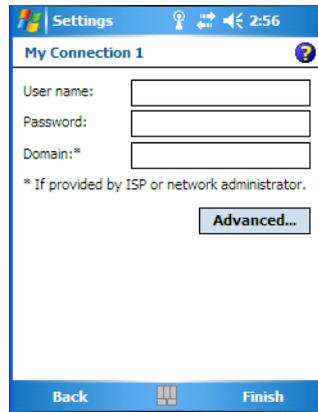
Note: *If your modem is not listed in the dropdown menu, choose Hayes Compatible on COM1.*

5.   Tap on the **Next** button.

6.   In the next screen, enter the phone number *exactly* as you want it dialed. If, for example, you need to dial *9* for an outside line, enter *9* at the beginning of the phone number.

7.   Tap on the **Next** button.

8.   Type the **User Name, Password** and **Domain Name** as provided by your ISP or network administrator.

*Note: Generally, you will **not** need to change any of the Advanced settings. For information about the Advanced settings, refer to"Advanced Modem Settings" on page 216.*

> *Changes to Advanced settings are only required in the following instances:*
>
> *To change the baud rate settings, dialing string commands or credit card options.*
>
> *To change port settings.*
>
> *To enter TCP/IP settings because the server to which you are connecting does not dynamically assign addresses.*
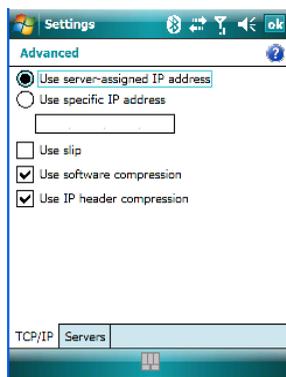
9. Tap on the **Finish** button.

   If you need to edit the Advanced settings, refer to "Advanced Modem Settings" in the next section.

5.32.1.1   Advanced Modem Settings

TCP/IP Settings Tab

If your server assigns IP addresses dynamically, you will not need to change these settings. If you need to make changes, contact your ISP or network administrator for addresses.

Server Settings Tab

If your server assigns IP addresses dynamically, you will not need to change these settings.

Servers requiring assigned IP addresses may also need a way to map computer names to IP addresses. The WORKABOUT PRO supports a variety of name resolution options: DNS, Alt DNS, WINS and Alt WINS.

Your ISP or network administrator can determine which name resolution you need, and can also provide the server address. In addition, you will want to ask if alternate addresses are available. An alternate address may allow you to connect when the primary server is not available.

Wireless Power

5.33 Wireless Power Icon

While you can access network card settings through the *Wi-Fi* icon, and you can access *Bluetooth* settings through the *Bluetooth* icon, and for units that support it, *GSM/GPRS* connections, the *Wireless Power* icon acts as a connection manager, providing access to all these types of network connections.

*Note: The **Wireless Manager** icon, as the name implies, also provides connection management. However, if you need to disable all connections (Flight Mode), the Wireless Manager icon will not be available. The **Wireless Power** icon, on the other hand, is always visible even when you disable all network connections.*

Important: The 'Wireless Power' option provides detailed Help files to assist you in setting up your hand-held. Help is available from the Connections tab–not from within the Wireless Power dialog box.

> *To access Wireless Power help files, tap on Start>Settings>Con-*
> *nections tab. Tap on Start>Settings>Help.*

• Tap on **Start>Settings>Connections>Wireless Power** icon.
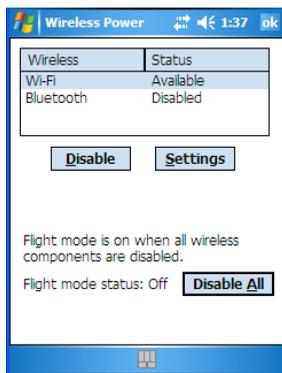
5.33.1 Flight Mode – Disabling Wireless Components

To disable all wireless components when, for example, you are taking your hand-held onto a plane where wireless connections need to be shut down:

• Tap on the **Disable All** button.

To enable wireless components:

• Tap on **Enable All**.

To disable a *particular* radio connection rather than all connections:

• Highlight an *Available* (enabled) radio listed in this dialog box, and then tap on the **Disable** button.

5.33.2 Setting Up A Network Card

Network (802.11) cards are used to connect to a network so that you can browse the Internet, download e-mail and so on. You can connect to an existing network or you can set up a new connection on your WORKABOUT PRO.

⚠️ *Important:* *The WORKABOUT PRO is equipped with context sensitive Help Files. If you find that you're unsure how to proceed with a network connection at any point during setup, tap on the question mark icon in the navigation bar at the top of the screen.*

5.33.3 Network Adaptor Cards

⚠️ *Important:* ***For RA2041 (Summit) CF card adaptor setup details, refer to "Setting Up A RA2041 Radio–Summit Client Utility" on page 17.***

When the network card is inserted in your unit for the first time, the *Network Settings* screen is displayed automatically so that you can configure the card. If it does not appear, or if you want to change settings:

- Tap on **Start>Settings>Connections**.
- Tap on the **Network Adapters** icon.
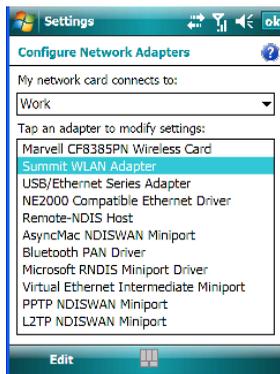
- If you need to specify server information, double-tap on the appropriate **adaptor**, and then tap on the **IP Address** and/or **Name Servers** tab.
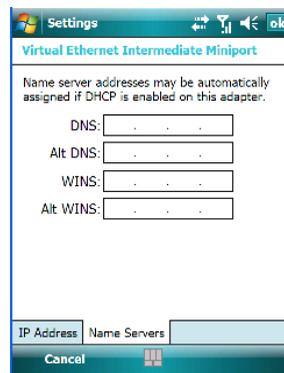
📖 *Note:* *Because most networks use DHCP, you should not need to change these settings unless instructed to do so by your network administrator.*

- If necessary, use a network cable to connect the network card to your network. Refer to the documentation shipped with your network card for details.

- To activate the connection, launch the desired program (e.g., Internet Explorer). The WORKABOUT PRO will connect automatically.

5.33.4 Changing Network Card Settings

- If you use your network card in two locations like work and home, you'll need to change the network to which the network card connects.

- Tap on **Start>Settings>Connections>Network Cards**.

- In the *Configure Network Adapters* dialog box, tap on the dropdown menu below *My network card connects to,* choose either **The Internet** or **Work**.

5.33.5 VPN Connection Setup

A *VPN* connection provides a secure connection to servers through the Internet.

Before you begin, you need the following information from your network administrator: password, domain name, TCP/IP settings and a host name or IP address of the VPN server.

- Tap on **Start>Settings**. Tap on the **Connections** tab followed by the **Connections** icon.

- Under *My Work Network*, tap on **Add a new VPN server connection**.

- In the *Name* field, type a name for this connection.

- In *Host name/IP*, type the **VPN server name** or **IP address**.

- Tap on the *VPN type* radio button next to the type of authentication for your WORKABOUT PRO: **IPSec/L2TP** or **PPTP**. Your network administrator will let you know which option applies to your unit.

- Tap on **Next**.

- Choose the type of authentication in this screen. If you choose *A pre-shared key*, type the key provided by your network administrator.

- Tap on **Next**.

- Type your **user name, password** and **domain name**. If a domain name was not provided to you, try the connection without entering a domain name.

Note: Normally, you will not need to change any advanced settings. You will

need to make changes only under only the following circumstances:

The server to which you are connecting does not dynamically assign addresses, and TCP/IP settings need to be entered.

Server DNS or WINS settings need to be changed.

If you need to edit the Advanced settings, refer to "Advanced Modem Settings" on page 216 for details about this tab.

- • Tap on **Finish**.
- • Launch a program like Internet Explorer to activate the connection. The VPN connection will start automatically.

5.33.6 Managing An Existing Connection

Once you've defined a connection, a new option appears in the first Connections screen—*Manage existing connections*.

5.33.6.1 Editing A Connection

- • Tap on **Settings>Connections** tab. Tap on the **Connections** icon.
- • Tap on **Manage existing connections**.

Tap here ──────►
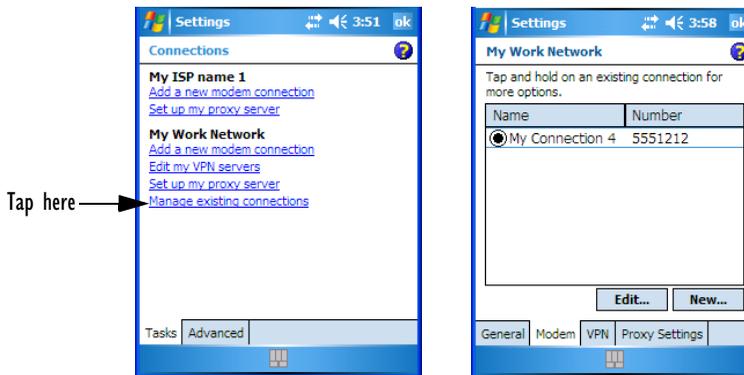
- • To launch a connection from this screen, press and hold the stylus on the connection you want to activate. Choose **Connect** from the pop-up menu.
- • To delete a connection, press and hold the stylus on the connection you want to delete. Choose **Delete** from the pop-up menu.

Note: *You can also create a new connection by tapping on the **New** button. To make changes to the settings for this connection, tap on **Edit**.*

5.33.6.2   Changing A Connection Setting Name

Your WORKABOUT PRO has two sets of connection settings: *My ISP* and *My Work Network*. If you want to change one or both of these options to something more familiar to you, follow these steps.

- Tap on **Start>Settings**. Tap on the **Connections** tab followed by the **Connections** icon.
- Under *My Work Network* or *My ISP*, tap on **Manage existing connections**.
- Tap on the **General** tab.
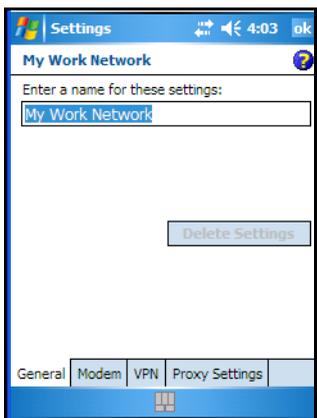
- Type the name you prefer in the field below *Enter a name for these settings*.
- Tap on **OK**.

5.33.7   Selecting A Network

Important: ***Normally, you will not need to change these settings. Contact your ISP or network administrator before making any changes.***

Private networks are used for work-related activities. Internet networks are used for home connection to your ISP. The *My Work Network* settings are used for private network connections (corporate networks), while *My ISP* settings are used for Internet network connections.

When you use programs such as *Internet Explorer*, your WORKABOUT PRO automatically connects using private network settings under *My Work Network* or Internet settings under *My ISP*, depending on specifications. You can determine how your WORKABOUT PRO connects.

- Tap **Start>Settings**. Tap on the **Connections** tab followed by the **Connections** icon.
- Tap on the **Advanced** tab.
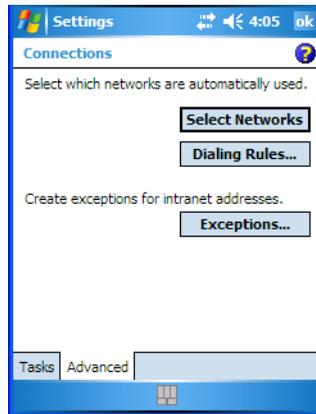
- Tap on **Select Networks**.
- In the appropriate lists, choose **My ISP** or **My Work Network**.

5.33.8 Proxy Server Setup

Note: If you are connected to your ISP or private network during synchronization, the WORKABOUT PRO will download the appropriate settings during synchronization from your PC. If these settings are not on your PC, or if they need to be changed, you'll need to set up the proxy server connection manually.

To set up the proxy server connection manually, you'll need the following information: proxy server name, server type, port, type of Socks protocol used and the user name and password.

- Tap **Start>Settings**. Tap on the **Connections** tab followed by the **Connections** icon.

• Under *My Work Network*, tap on **Set up my proxy server**.
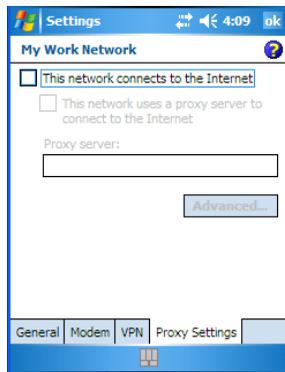
• Add a checkmark next to **This network connects to the Internet** and **This network uses a proxy server to connect to the Internet**.

• In the *Proxy server* field, type the proxy server name.

• Tap on **OK** to save your changes.

Note: *If you need to change advanced settings such as a port number or proxy server type, you'll need to tap on the **Advanced** button rather than tapping on **OK**. Advanced settings are described in "Changing Advanced Proxy Server Settings" on page 224.*

5.33.8.1 Changing Advanced Proxy Server Settings

• To change advanced settings such as the port number or proxy server type, tap on the **Advanced** button.
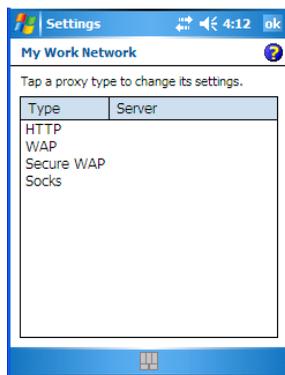
- Tap on the proxy type you want to change. For the appropriate server type, type the proxy server name and port.

- Tap on **OK**.

5.34 Wireless Statistics

- Tap on **Start>Settings>Connections>Wireless Statistics** icon to display the communication statistics of your wireless connection along with the radio card name, MAC address, driver version and NDIS Compliance information.

- Tap on the **Zero** button to reset the statistics.

5.35 Wireless WAN (Windows Mobile 6 Classic Only)

This applet is visible for WORKABOUT PROs running *Windows Mobile 6 Classic*. A hand-held equipped with a GSM/GPRS, CDMA/1xRTT or UMTS radio has wide area networking data transfer capabilities.

5.35.1 Softkey Bar Icons

Wireless WAN icons in the softkey bar indicate the status of your wide area network connection. Note that these icons are only visible when a GSM/GPRS, CDMA/1xRTT or UMTS radio is installed in the unit, and the interface is enabled.

The letter in the signal strength icon (G for GSM/GPRS, U for UMTS and X for CDMA/1xRTT) indicates that a packet data service is available and initialized. Keep in mind that the signal strength icon is displayed without a letter if packet data service is not available or if it is available but not yet initialized.

User interaction is required (e.g. the user is required to enter a PIN).

A non-recoverable (fatal) error has occurred.

GSM/GPRS Status Indicators

Signal strength is between 1% and 20%.

Signal strength is between 21% and 40%.

Signal strength is between 41% and 60%.

Signal strength is between 61% and 80%.

Signal strength is between 81% and 100%.

A GPRS packet data connection is active.

CDMA/1xRTT

Signal strength is between 1% and 20%.

Signal strength is between 21% and 40%.

Signal strength is between 41% and 60%.

Signal strength is between 61% and 80%.

Signal strength is between 81% and 100%.

A CDMA/1xRTT packet data connection is active.

5.35.2 Establishing A Connection

- • Tap on **Start>Settings**. Tap on the **System** tab followed by the **Wireless WAN** icon.
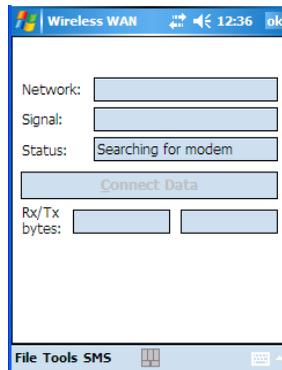
Note: *If you are prompted to enter a PIN, refer to "Entering A PIN" on page 228 for details.*

The *Status* field indicates when the unit is ready to connect–the *Connect Data* button is enabled.

- Tap on the **Connect Data** button.

The progress of the connection is tracked in the *Status* field.

- PPP link to modem active
- Authenticating user
- User authenticated
- Connected

Note: *Keep in mind that these states may be displayed fairly quickly if the progress of the connection is rapid.*

When the connection state reaches *PPP link to modem active*, the softkey bar icon changes to indicate an active connection. The *Connect Data* button changes, displaying *Disconnect.*

5.35.3 Disconnecting From A Network

To disconnect from the network:

- Tap on the **Disconnect** button, and then on **OK**.

When the WORKABOUT PRO network connection is severed, the *Status* field displays *Ready to Connect*.

A unit equipped with a GSM/GPRS expansion board displays the signal strength in the main *Wireless WAN* screen, even while a connection is active. Units equipped with certain other modems (e.g. Sierra Wireless UMTS and CDMA modems, Novatel UMTS modems) do not display the signal strength while a connection is active.The *Rx bytes* and *Tx bytes* fields estimate the amount of data transmitted and received, respectively.

5.35.3.1 Shutting Down The Wireless WAN User Interface

While it is not usual to shut down the GSM/GPRS user interface, you can accomplish this by tapping on the *File* menu and choosing the *Exit* command in the *Wireless WAN* screen.

Note: *Once you've shut down the user interface, you can only enable the radio by tapping on the Wireless WAN icon to display the dialog box.*

5.35.4 Advanced Information

In most cases, when a GSM/GPRS radio and SIM are installed in your hand-held, setup is automatic. Follow the steps outlined under the heading "Establishing A Connection" on page 226 to make a connection. The information in this section is for advanced setup purposes.

5.35.4.1 Entering A PIN

If a PIN is required, a PIN entry dialog box is displayed.

• Type your **PIN**, and press [ENTER].

Note: If you exceed the number of allowable attempts, a PUK entry window is brought to the foreground. You'll need to enter a new PIN number.

Once the correct PIN or PUK is entered or if none was required, the modem is instructed to perform a GSM network registration followed by a GPRS attach. The main *Wireless WAN* dialog box reflects the progress of the initialization.

• Searching for modem
• Initializing modem
• SIM is ready
• Searching for network
• Registered on network
• Searching for packet data
• Ready to connect

If the modem loses the connection to the GSM network, the following states are repeated: *Searching for network*, *Registered on network*, *Searching for packet data* and *Ready to connect*.

5.35.4.2 Error States

The following temporary error states–states that may disappear without interaction– may be displayed:

• Emergency calls only

  The modem has found a network but is not allowed to register (e.g. no roaming agreement between networks). The modem keeps searching for another network.

• No network found

A network is not currently available. The modem continues searching for a network.

- Packet data not available

  The current network does not support packet data.

- Packet data not allowed

  The modem is not allowed to use packet data on the current network (e.g. no packet data roaming agreement between network; a roaming agreement for voice may still be in place). It is also possible that you do not have a subscription for packet data at all.

The remaining error states are permanent:

- SIM is missing

  The SIM card is missing. After the SIM has been inserted a reset may be required.

- SIM failure

  The SIM card is permanently disabled (e.g. because the wrong PUK has been entered too many times). A new SIM is needed.

- Modem failure

  The modem did not respond to commands as expected. If a reset does not clear this condition, the modem may need to be replaced.

- NDIS error

  An internal software error has occurred. If a reset does not clear this condition, Psion Teklogix technical support may need to investigate further.

5.35.5 Tools Menu

The *Tools* menu in the main *Wireless WAN* dialog box offers some additional, advanced setup features.

5.35.5.1   Data Connection Configuration
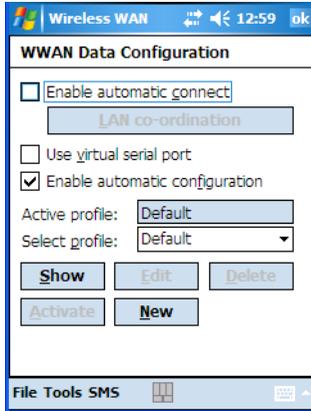
Enable Automatic Connect

If the *Enable automatic connect* checkbox is checked (unchecked by default), the
Wireless WAN user interface will attempt to establish a packet data connection
whenever packet data is available (e.g. after resume from suspend without further
user interaction).

To activate the automatic connection mode:

• Tap on the **OK** button.

While automatic connection mode is enabled, the *Connect Data* button in the main
Wireless LAN dialog box changes to *Disable Auto*.

To close the currently active connection (if any) and disable the automatic
connection mode:

• Tap on **Disable Auto.**

Important: *Automatic connection mode should not be used if applications*
other than the Wireless WAN user interface (e.g. Connection
Manager) are expected to open and close connections.
If the automatic connection mode is enabled and another applica-
tion closes the packet data connection, the WWAN user interface
will immediately try to re-establish the connection.

Use Virtual Serial Port

If *Use virtual serial port* is enabled, packet data connections are established through the virtual serial port of the WWAN driver rather than through the WWAN driver directly. This checkbox should only be checked if certain third-party VPN (Virtual Private Network) clients are used that do not work correctly otherwise. The default setting is disabled (unchecked).

Note: The connection setup takes longer through the virtual serial port.

Enable Automatic Configuration

In most cases, ***the data connection is configured automatically and no user interaction is required.*** This is true even if multiple SIM cards from different operators are used with the same device. The connection parameters are adjusted automatically when a new SIM card is detected (this may require a reset). The connection parameters are retrieved from a database.

Manual configuration should be necessary only if:

- One or more parameters in the database are incorrect or a new operator is not yet in the database. (The database should be corrected for subsequent software releases.)
- An operator has assigned individual packet data user names and passwords.
- A very large site has their own APN. Such connections always have to be configured manually.
- A customer has subscribed for a static IP address. By definition this must be configured manually.

Important: For CDMA/1xRTT, automatic configuration is not available – connections must be configured manually. Under APN, the packet service access number must be entered (typically "#777").

In the following section, all the parameters that need to be configured for a connection (such as APN, user name, password, DNS server addresses etc.) are referred to as a profile. Every profile is identified by an arbitrary, unique name. The profile named *Default* is special in that it is always present and can neither be edited nor deleted. (A sample dialog box is presented on the page following.) The *Default* profile uses parameters from a built-in database. The home network (the network that issued the SIM) is used for the database look-up. While there can be many configured profiles, only one profile can be active at any time.

If connection profiles are configured manually then the *Enable automatic configuration:* checkbox should normally be unchecked.

In one particular use case, manually configured profiles may be combined with automatic configuration. If multiple SIM cards are used with the same device, each SIM card being from a different operator and some or all of them requiring a manually set up profile, automatic configuration may be used to automatically pick the correct manually configured profile for each SIM card. For this to work each profile has to be configured while the corresponding SIM card is inserted in the device and initialized (i.e. the status is at least SIM is ready).

The *Select profile* drop-down list in the data configuration profile selects which profile a subsequent action applies to. A profile named *Default* is always present and contains the current parameters from the database. The following actions are available:

Show

The parameters for the selected profile are displayed when you tap on this button. For the *Default* profile, the publicly known password is shown – otherwise, the password is hidden.

Edit

The parameters of the selected profile can be edited when you choose the *Edit* button. Keep in mind that you cannot edit the *Default* profile.

Delete

The selected profile is deleted. You cannot delete the *Default* profile.

Activate

When this button is chosen, the selected profile is made the active profile. Activation is possible only if the *Enable automatic configuration:* checkbox is unchecked.

<u>N</u>ew

Tapping on the *New* button allows you to create a new profile.
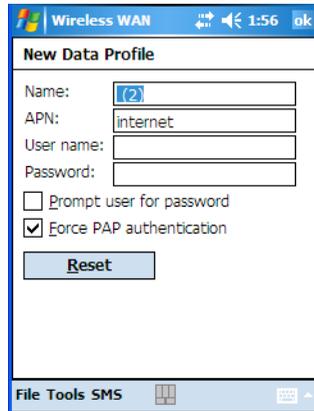

The name of the newly created profile must be different from all existing profiles. Also, the name cannot be *Default*. When the *New Data Profile* dialog box is opened, a proposal for a unique name is filled in the corresponding entry field. If a manually configured profile has a secret password and unauthorized access to the device is a concern even after the SIM PIN has been entered, the password should not be entered in the *New Data Profile* dialog box and the *Prompt user for password* checkbox should be checked instead. In this case, you will be prompted for the password each time a connection is initiated (the *Connect Data* button in the main *Wireless WAN* dialog box is selected).

<u>R</u>eset

The *Reset* button in the *New Profile* and *Edit Profile* dialog boxes resets all entry fields to the values they had when the dialog box was opened.

A̲dvanced IP
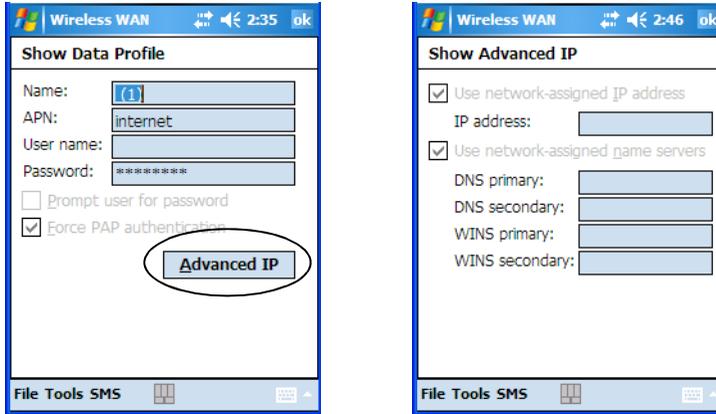
The *Advanced IP* button in the *Show Profile* and *Edit Profile* dialog boxes opens another dialog box that allows you to configure a static IP address as well as the IP addresses for the primary and secondary DNS and WINS resolvers.

5.35.5.2   Security Configuration

The *Security Configuration* dialog box is called up through the *Tools* menu.

Note: Security configuration is not available with CDMA modems.

The *Security Configuration* dialog box allows you to enable, disable and change the PIN. You will need the current PIN to make any of these changes. The PIN must be enabled in order to be changed. (If the PIN is disabled, the *New PIN* entry field is greyed out.)

Note: Keep in mind that some network operators do not allow the SIM PIN to be disabled. A new PIN must consist of 4 to 8 numeric digits.

The *Require PIN on resume* checkbox is independent of the aforementioned settings. By default, this checkbox is unchecked. While the checkbox remains unchecked, any PIN entered on startup or through the *Security Configuration* dialog box and submitted successfully to the modem is stored in memory for as long as the device is not rebooted. This stored PIN is then used without further user interaction whenever the modem requires a PIN (such as resume after suspend or modem removal). The stored PIN is also automatically entered in the *Current PIN* text box whenever the *Security Configuration* dialog box is called up.

If unauthorized access to the device is a concern, the *Require PIN on resume* checkbox should be checked. In this case, you will be prompted whenever a PIN is required and the PIN is not stored.

5.35.5.3 Network Configuration

Note: Network configuration is not available with CDMA modems.

In the main *Wireless WAN* screen:

• Tap on the **Tools** menu, and choose **Network**.

By default the GSM radio modem automatically chooses from the available and allowed networks (allowed networks are the home network and all other networks with which the home network has a roaming agreement). You may find there are some situations in which you want to override this default behaviour. For example, you may want to disable roaming if you find yourself in a border area where the home network is not available but a foreign roaming partner is available. Abroad, you may find that an available network does not have packet data roaming agreements. In this case, you'll need to manually select the network which you know to support packet data roaming.

Automatic network selection is enabled or disabled by checking or unchecking *Enable automatic network select* in the *Network* dialog box. When automatic network selection is disabled, you must select a network manually.

Available networks can also be viewed without changing any settings. Scanning for available networks is a lengthy operation – a progress bar is shown while the scan is active. For every network that is found, the network name, country, status and numeric network identifier (MCC/MNC, Mobile Country Code followed by the Mobile Network Code) is displayed.

Note: Your home network operator will need to let you know which other networks have roaming agreements. Even when a network is listed with an 'Available' status, it does not necessarily follow that it can be used or that the roaming agreement covers packet data.

A status of 'Forbidden' indicates that the network cannot be used. If you choose a network that is not covered by a roaming agreement, the status in the main WWAN dialog box changes to 'Emergency calls only', 'No network found', 'GPRS not available' or 'GPRS not allowed'.

5.35.5.4   Driver Mode Configuration
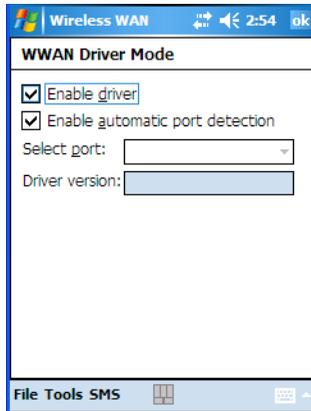
By default, the Wireless WAN driver is enabled (the *Enable driver* checkbox is checked). The driver must be disabled in order to access the modem directly (e.g. dial-up data, fax, or in order to manually submit AT commands to the modem for development, testing, approvals, etc.). In most cases, the Virtual WWAN serial port can be used and it is not necessary to disable the WWAN driver. If the *Enable driver* checkbox is **not** checked, the driver is shut down as soon as the *OK* button in the *Driver Mode* dialog box tapped.

If, on the other hand, the Wireless WAN driver is not running and the *Enable driver* checkbox is checked, the Wireless WAN driver is started as soon the *Driver Mode* dialog box is closed using the *OK* button.

Note: When the driver is not running, no network status or signal strength can be displayed.

Since all currently supported modems are automatically detected, the *Enable automatic port detection* checkbox should always be checked. If this checkbox is not checked, a serial port can be selected manually. This experimental feature allows the driver to be used with an internal GSM modem that was not recognized by the automatic detection or an external GSM modem connected to a serial port of the computer through USB or through Bluetooth. An external modem connected to a serial port must support 115.2kbit/s, 8bit, no parity and hardware flow control.

5.35.5.5   Modem Information

The fields in this dialog box cannot be edited – they only display information about the WORKABOUT PRO modem. If the network operator has not programmed a user's phone number into the SIM, the *Phone* field remains empty. The modem serial number is called IMEI for GSM modems and ESN for CDMA modems.

The SIM ID is sometimes referred to as the ICC ID (International Charge Card Identifier). Not all modems support the retrieval of the SIM ID. In particular, the Novatel Merlin UMTS modems and the Option Globetrotter modems do not support SIM ID retrieval.

If the main menu shows an error status, at least partial modem information may be available.

Modem Power Modes

The power mode of the modem is controlled through the *Power* icon rather than through the *Wireless WAN* user interface.

To adjust PC Card and CF card modems settings:

- Tap on **Start>Settings**, and then tap on the **System** tab followed by the **Power** icon.
- Tap on the **Built-in Devices** tab.

If the checkbox for a modem is unchecked, power is not applied to the modem and a driver is not loaded (neither the serial port driver nor the Wireless WAN driver). If the checkbox is checked, power is applied to the modem and the drivers are loaded when the hand-held is turned on. Power is removed from the modem when the WORKABOUT PRO enters suspend mode.

To enable a modem module that is built into the unit:

- Tap on **Start>Settings**, and then tap on the **System** tab followed by the **Power** icon.

For a modem module that is built into the WORKABOUT PRO, the settings can be found under the *Built-in Devices* tab. In this case, one of the following power modes can be selected:

- Disabled – No power is applied to the modem and no driver is loaded.
- Enabled – Off in Suspend

    Power is applied to the modem and the drivers are loaded when the hand-held is turned on. Power is removed from the modem when the terminal

enters suspend mode.

- Enabled – Always On

    When the WORKABOUT PRO enters suspend mode, the modem remains powered indefinitely.

- Enabled – Keep on for 5 min

- Enabled – Keep on for 15 min

- Enabled – Keep on for 30 min

- Enabled – Keep on for 1 hour

- Enabled – Keep on for 2 hours

    When the hand-held enters suspend mode, the modem remains powered. If the WORKABOUT PRO is not turned on again during the configured time, the unit briefly wakes up from suspend mode, shuts down the modem, and enters suspend mode again. The default mode is *Enabled - Keep on for 1 hour.*

At the cost of a slightly increased power consumption in suspend mode, the modes where the modem remains powered during suspend mode have several advantages. When the hand-held wakes from suspend mode, the modem is ready immediately; modem or network initialization is not required. A packet data session can thus remain active during suspend mode. In these modes, the modem is also able to wake up the hand-held if the network status changes, or there is a new incoming SMS.

5.35.6 SMS Menu

SMS functions are accessed through the SMS menu. For modems that support a
SIM card, the SIM initialization typically takes longer than the network initializa-
tion, resulting in a noticeable delay before the SMS functions become available.
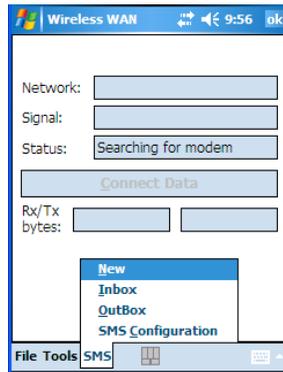
5.35.6.1   New SMS

Tapping on *New* opens a dialog box for sending a new SMS message. The
recipient's phone number (to be entered in the *To* field) can consist of the digits 0
through 9, as well as the * and # characters, optionally preceded by one + character,
indicating an international number (i.e. the country code follows immediately after
the + character).

By checking the *Store message in Outbox* field, a new message can be stored in the
Outbox before being sent. If no storage space is available or the modem does not
support the storage of outgoing messages, this checkbox is disabled.

5.35.6.2   Inbox
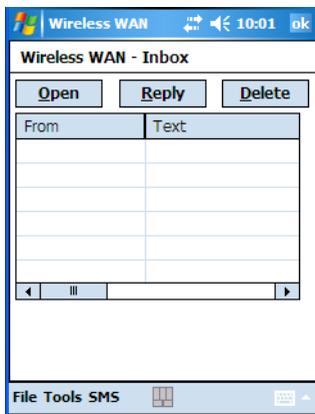
Tapping on *Inbox* opens the list of received messages. Reading 50 messages, for example, from the SIM can take about 30 seconds. By default the list of messages is sorted with the most recently received message first. The list can be sorted by any other column by clicking on the corresponding column heading.

Clicking the same column heading twice reverses the sort order. Pressing any letter or digit moves the highlight to the next message whose address begins with that letter or number.

Note: The date and time formats can be changed through the Regional Settings in the Control Panel. For a new date or time format to take effect, the Inbox has to be closed and re-opened.

The *Open* button opens the selected message in a new window such that the entire message can be read including the original formatting (line breaks are replaced by spaces in the Inbox message list). Pressing the *Reply* button opens the new message dialog as described above, except the destination phone number is already filled in. Pressing the *Delete* button erases the message.

5.35.6.3 Outbox
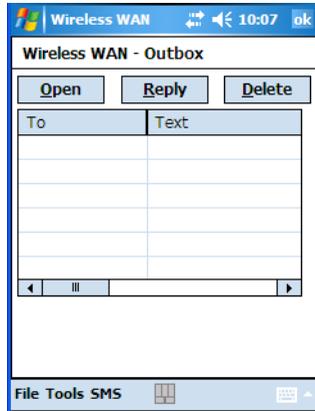
Tapping on *Outbox* opens a list of sent messages. Otherwise the *Outbox* behaves exactly as the *Inbox* described above. The date and time when a message was sent is not available for GSM modems.

5.35.6.4 SMS Configuration

Tapping on *SMS Configuration* opens the SMS configuration dialog. The *SMS Centre Address* follows the same rules as the recipient's phone number in the *New* message dialog. The *Message Validity Period* parameter is sent to the SMS Centre with each message sent subsequently and instructs the SMS Centre on how long it should attempt to deliver the message to the recipient (the SMS Centre may impose an upper limit on the validity period regardless of the setting).

> ***Note:*** *Only certain discrete validity period values can be sent and thus, the validity period is rounded to the nearest allowed value. The next time the SMS configuration dialog is opened, the rounded value is shown.*

The user interface tries to keep the SMS storage location available for a new incoming message if the *Delete oldest message when full* checkbox is checked. In this case, when a new message arrives and the SMS storage becomes full, the oldest received message is deleted. If any string is entered as the *Message Suppression Prefix*, messages beginning with that string will not be shown in either the *Inbox* or *Outbox*. In this way, messages intended for another application running on the same device can be hidden.

PROGRAMS 6

6.1 Programs

The *Programs* menu provides access to all the applications available on your WORKABOUT PRO.

• Tap on **Start>Programs** to display this screen.

Tapping on an icon in this screen launches the associated applet.
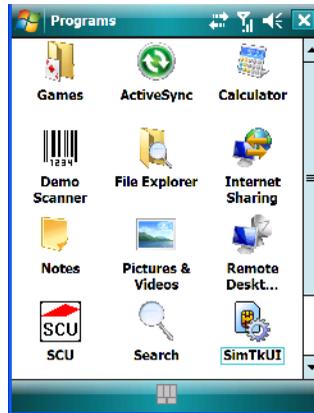
Figure 6.1 Programs Tabs

6.2 Games

Your WORKABOUT PRO is equipped with a few standard games—Bubble Breaker and Solitaire—should you feel the need to pass the time.

6.3 ActiveSync®

For PCs using the Microsoft Windows XP operating system, ActiveSync®—Microsoft PC connectivity software—can be used to connect the WORKABOUT PRO to PCs running this software. By connecting the hand-held to a PC through your desktop docking station and running ActiveSync on the PC, you can view WORKABOUT PRO files, drag and drop files between the hand-held and the PC, connect to the Internet, and so on.

ActiveSync can be installed from the *Getting Started CD* included with your WORKABOUT PRO. Refer to "The Getting Started CD" on page 14 for details.

6.3.1 Synchronization

For details about synchronizing your PC with you hand-held, visit the following Microsoft internet site:

http://www.microsoft.com/windowsmobile/activesync/default.mspx

6.4 Calculator

Calculator Tapping on *Start>Programs>Calculator* displays a standard calculator with regular functions.

- Use your stylus to tap the calculator buttons.

6.5 Demo Scanner

Demo Scanner The *Demo Scanner* icon is used to test how the hand-held reads and writes bar codes. The *Demo Scanner* dialog box contains buttons at the bottom of the dialog box that allow you to **Scan, Reset** or change bar code **Settings**.

6.6 Office Mobile

Office Mobile This icon contains the following abridged Microsoft programs: Excel Mobile, PowerPoint Mobile and Word Mobile. Keep in mind that if *Office Mobile* is listed in your *Start* menu, this icon will not be displayed in the *Programs* window.

6.6.1 Excel Mobile

Excel Mobile *Excel Mobile* is an abridged version of Microsoft Excel, an electronic spreadsheet program. If you're familiar the Excel application on your PC, you'll be able to navigate *Excel Mobile*.

In addition to providing the tools to manipulate text and numeric values like statistics, percentages, using formulas that perform calculations, and so on, this program can also include graphics such as pie charts.

Excel Mobile allows you to copy Excel workbooks from your PC onto your WORKABOUT PRO and update them while you're away from your desk.

- Tap on **Start>Programs>Office Mobile>Excel Mobile**.

  If *Office Mobile* is listed in your *Start* menu, tap on **Start>Office Mobile** and then tap on **Excel Mobile**.

- If a list of workbooks is displayed rather than a new sheet, you'll need to create a new workbook. To create a workbook:
- In *Excel Mobile*, tap the **Menu>File>New**.

6.6.1.1   Workbook Components
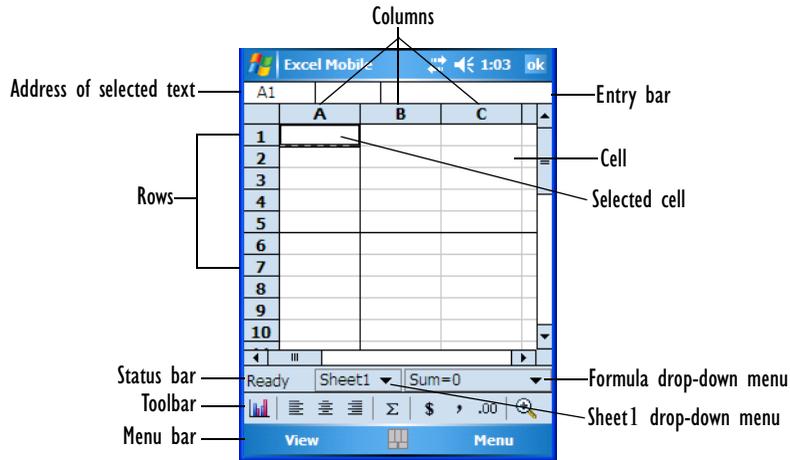
- If the toolbar is not visible, tap on the **View>Toolbar**.

You can enter data, work with rows and columns and create formulas as you would when working with Excel on your PC.

Using Excel Mobile Help

If you need help using this application, you can review the instructions in the associated help files. To display Excel Mobile help files:

- Launch the *Excel Mobile* program.
- Tap on **Start>Help**, and review the instructions provided.

6.6.2 Word Mobile

If you've used Microsoft Word on your Mac or PC, Word Mobile will be familiar to you. Keep in mind however that *Word Mobile* is designed for a small screen and limited memory.

Note: Keep in mind also that a Word document created on your PC can lose key formatting features such as styles and tables if you make changes to it on your WORKABOUT PRO.

- Tap on **Start>Programs>Office Mobile>Word Mobile**.

  If *Office Mobile* is listed in your *Start* menu, tap on **Start>Office Mobile** and then tap on **Word Mobile**.

If you've already create a *Word Mobile* document, it will be listed in the *Word Mobile* window.
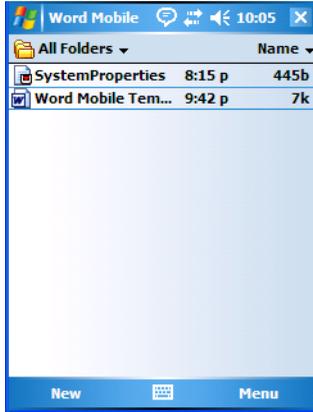
- Tap on **New** in the softkey bar to create a new Word document.

Using Word Mobile Help

If you need help using this application, you can review the instructions in the associated help files. To display Word Mobile help files:

- Launch the *Word Mobile* program.
- Tap on **Start>Help**, and review the instructions provided.

6.6.2.1   Data Entry Modes

In addition to the soft keyboard, you can enter text using Block Recognizer, Letter Recognizer or Transcriber. Refer to "Entering Text" on page 73 for details.

You can also use the WORKABOUT PRO keyboard for data entry.

6.6.2.2   Sharing Documents With Your PC

Documents created on a PC are recognized by your WORKABOUT PRO. However, some formatting is lost when a Word document is converted to a *Word Mobile* document. This loss also occurs when you open a .doc file and change it on the WORKBOUT PRO.

> *Important:* ***To avoid translation problems, you can work on copies of .doc files. In addition, keep in mind that you can use the Terminal Services Client program to log onto a desktop PC that is also running Terminal Services, and then you can use any program on your PC, including Microsoft Word (rather than Word Mobile). Refer to "Remote Desktop Mobile" on page 262 for details.***

6.6.3 PowerPoint Mobile

PowerPoint Mobile works just like the desktop version that may be installed on your PC. To launch this program on your hand-held:

• Tap on **Start>Programs>Office Mobile>PowerPoint Mobile**.

 If *Office Mobile* is listed in your *Start* menu, tap on **Start>Office Mobile** and then tap on **PowerPoint Mobile**.

Using PowerPoint Mobile Help

If you need help using this application, you can review the instructions in the associated help files. To display PowerPoint help files:

• Launch the *PowerPoint Mobile* program as described above.

• Tap on **Start>Help**, and review the instructions provided.

6.7 File Explorer

Windows Mobile 6 files are stored in folders and sub-folders that are accessible through *File Explorer.* You can open, save, rename, copy and paste files in the same manner as you would on any desktop PC.

> *Important:* ***Refer to "Managing Files And Folders" on page 66 for details about this program.***

6.8 Internet Sharing

This option allows you to use your WORKABOUT PRO to connect your PC to the Internet. Before you can use *Internet Sharing*, you must make certain that you have established a data connection on your WORKABOUT PRO.

6.8.1 Creating An Internet Connection

Follow the steps in this section only if you have not already setup an Internet connection.

You'll need the following information before you begin:

> **From your cellular service provider:** data connectivity information, access point name and PAP/CHAP security settings.

> **From your Internet service provider (ISP) or wireless service provider:** access point name and password and any additional security information.

For a GPRS, 1xRTT or dialup connection:

- Tap on **Start>Settings>Connections** tab. Tap on the **Connections** icon.
- Under *My Work Network*, tap **Add a new modem connection**.
- Type a **name** for the connection, and choose **Cellular Line (GPRS)**, or for 1xRTT connections, choose **Cellular Line**. Tap on **Next**.
- Type the **phone number** or **access point name** provided by your service provider, and tap **Next**.
- Type the **credentials** supplied by your service provider, and tap **Finish**.

6.8.2 Using Internet Sharing

- Make certain that your data connect is running, and that you can access the Internet from the WORKABOUT PRO.

If you are using a USB cable to connect to your PC, you will need to disable the ActiveSync USB connection.

- On your PC, open the **ActiveSync** window, and click on **File>Connection Settings.**
- Disable **Allow USB connection** by clicking in the checkbox to the left of this option.
- Connect the WORKAOBUT PRO to your PC using *Bluetooth* or a *USB cable*.
- On your WORKABOUT PRO, tap **Start>Programs>Internet Sharing**.
- Choose the **PC Connection** type–USB or Bluetooth.
- Choose the **network connection** that the WORKABOUT PRO should use to connect to the Internet.

- Tap **Connect**. It takes approximately 30 seconds to establish a connection. (If you are prompted to turn on *Bluetooth*, tap **Yes**.)

If your are using a ***Bluetooth*** connection, execute the following steps *on your PC*:

- Click **Start>Control Panel>Network Connections**.
- Right-click on **Bluetooth Network Connections**, and click on Vie**w Bluetooth Network Devices.**
- If the WORKABOUT PRO is listed as a *Network Access Point*, click **Connect**. If it is not listed, click **Create a new connection** and use the *New Connection Wizard* to add the WORKABOUT PRO to the list.

6.9 Notes

The *Notes* application is an electronic notepad you can use to jot down your ideas quickly. You can enter text using the soft keyboard, the WORKABOUT PRO keyboard, or you can write on the screen using your stylus. You can also record a message.

Notes can also be shared through e-mail and synchronization with your PC.

- Tap on **Start>Programs>Notes** to launch this application.
- If a blank *Note* like the sample screen here is not displayed, tap on **New** in the softkey bar.

6.9.1 Creating A Note

- Choose an entry mode for your note.

To enter text with the *soft keyboard*, *Transcriber* or the *Block* or *Letter Recognizer*, tap the stylus on the arrow to the right on the soft keyboard icon to choose your text input method.

To use your stylus to handwrite on the screen, tap on the pen icon .

Important: *Refer to "Entering Text" on page 73 for text entry details.*

- Compose your note using the method you've chosen.
- Tap on **OK** when you're done.

Your note is automatically saved. The file name is the first line of the note if you used the keyboard—otherwise, it's named Note1, Note2 and so on.

6.9.2 Converting Handwritten Notes To Text

When you use the pen tool, you can write notes in your own handwriting and keep them as is, if you like. You can also teach the WORKABOUT PRO to recognize your handwriting and convert it into printed text.

To convert handwriting into text:

- Tap on the pen tool and compose a note using your stylus.

- Tap on **Menu>Tools>Recognize**.

The text in the note is converted from handwritten to printed text.
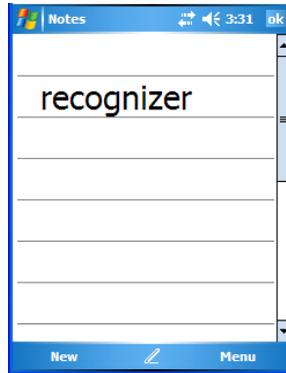
Note: *To convert only a specific portion of your handwritten note into printed type, tap the stylus just before the first letter of the text, pause for a second, and then drag your stylus across the text you want to select. Then, tap on **Tools>Recognize** to convert only the highlighted text.*

Failed Conversions

The *Recognize* tool sometimes gets the conversion wrong. If some words are not converted properly:

- Press and hold the stylus on the incorrectly converted word.
- In the pop-up menu, choose **Alternative** to display a list of possible alternatives to the incorrectly converted word. Your handwritten version is displayed along the top of the menu.
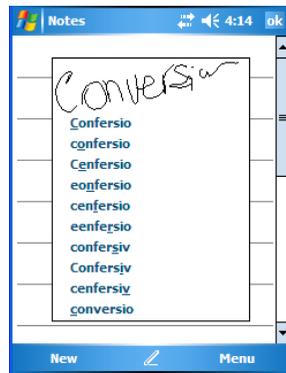
Figure 6.2 Incorrect Conversions

- Tap on the correct word in the list.
- If the correct word is not listed, as is the case in the sample screen above, tap on the soft keyboard icon 🔲▲ to display the soft keyboard, and type the correct word.

6.9.3 Renaming A Note

- Press and hold the stylus on the file name in the *Notes* screen that you want to rename. In the pop-up menu, choose **Rename/Move,** *or*

  Tap the file name to select it, and tap on **Menu>Rename/Move**.
- In the *Name* field, type the new name, and tap **OK**.

6.9.4 Recording Notes

It's sometimes easier to record a note than to write it down just to make certain that you've captured an idea before it drifts away. To make an audio recording:

- Tap on **New** to open a fresh note.
- Tap on **Menu>View Recording Toolbar**.
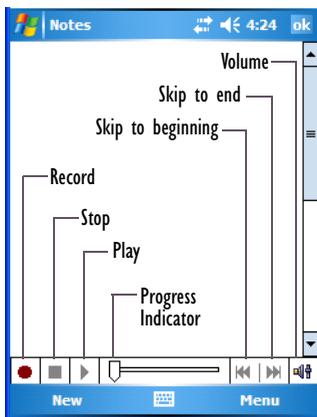
- Tap on the **Record** button—a beep alerts you that your device is now ready to record.
- Begin speaking into the microphone on the WORKABOUT PRO, or move the hand-held to within a few feet of the source of the sound you want to record.
- Tap on the **Stop** button when you've completed your recording.

• Tap on **OK** to save the note.

A speaker icon is displayed in the note indicating the presence of a recording within the note.
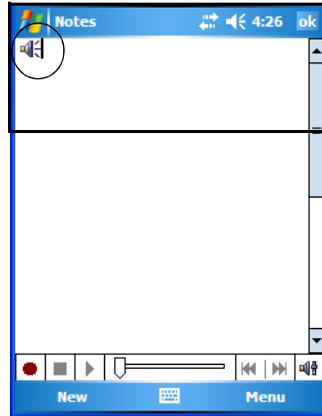
• To play the recorded note, tap on the **speaker** icon.

6.9.5 Synchronizing A Note

Like *Tasks, Contacts* and so on, the *Notes* program can be synchronized with Outlook on your PC. In this way, all notes, recordings and drawings created in the *Notes* program are copied to your PC and can be edited in Outlook's Notes module.

• To review the steps required to synchronize a note, with a *Note page opened*, tap on **Start>Help**.

Follow the steps in the WORKABOUT PRO help file to synchronize your note.

6.10 Pictures & Videos

Pictures & Videos is a photo and video viewing program. This program also provides a number of tools that allow you to crop, adjust picture contrast and brightness, zoom in and out of photos and save your adjustments.

⚠️ *Important:* *The Pictures & Videos program can only display .bmp or .jpg formats. Photos in other formats will need to be converted on your PC before they are transferred to the WORKABOUT PRO.*

6.10.1 Moving Photos To The WORKBOUT PRO

- Connect your device to your PC with ActiveSync.

- On your PC, using Windows Explorer (right-click *My Computer* and click on *Explorer*), drag photos from their folder to the Mobile Device, My Pictures folder.

6.10.2 Opening A Photo

- Tap on **Start>Programs>Pictures & Videos**. You'll see a thumbnail of your photos.
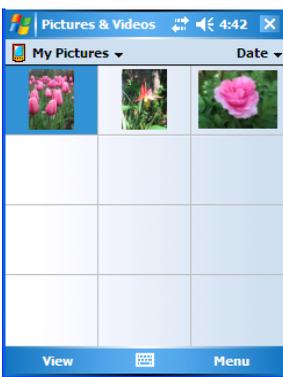
Note: *If you've stored your photos on a storage card, you'll need to tap on the storage card icon to display your photos.*

- Tap on a thumbnail to open a photo.

6.10.3 Deleting A Photo

- Press and hold the stylus on the thumbnail photo you want to delete to display a pop-up menu. Tap on **Delete**.

- Confirm your choice when prompted.

6.10.4 Editing A Photo

- Tap a thumbnail photo to open it.

- Tap on **Menu>Edit**.

The *Rotate* command is now displayed in the softkey bar. Additional editing tools are now listed in the *Menu*.

6.10.5 Creating A Slide Show

To view a slide show:

•   Tap on the **Menu>Play Slide Show**.

The slide show begins—in slide show mode, photos are displayed for about five seconds, one after the other.

•   To display the slide show tool bar, tap anywhere on the photo.
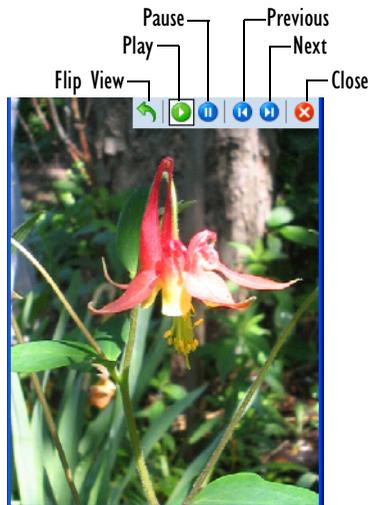
6.11 Summit Client Utility (SCU)

The *SCU* provides the utilities you will need to configure the Summit 802.11g Compact Flash radio module, model number RA2041 so that it can communicate through a wireless LAN network effectively and securely. Refer to "Using The SCU To Connect To The WLAN" on page 17 for setup details.

6.12 Search

*   Tap **Start>Programs**, and then tap on the **Search** icon.
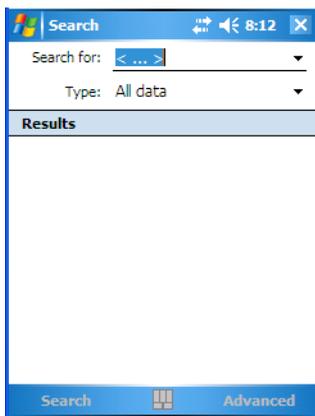
*   In the *Search for* field, type the item for which you're looking.
*   To narrow your search, tap on the **Type** dropdown menu and choose from a list of pre-existing programs. To search through all files, leave this option at *All Data*.

6.12.1 Internet Explorer

You can connect to *Internet Explorer* in two ways: by connecting the WORK-ABOUT PRO directly to the Internet or by connecting through your PC while the hand-held is attached via ActiveSync (see "ActiveSync®" on page 245).

6.12.2 Browsing Web Sites

There is little difference between the standard Internet Explorer found on your PC and that found on your WORKABOUT PRO, sometimes referred to as *Pocket Internet Explorer*. You can enter URLs, set a 'home page', turn images on and off, e-mail links to friends, and so on.

To go to a web site:

*   Connect your WORKABOUT PRO to the Internet. (If you're not certain how to do this, tap on **Start>Internet Explorer** to display a blank window. Next, tap on **Start>Help** and follow the steps listed.)

- Tap on **Start>Programs>Internet Explorer** to open *Internet Explorer*.

  If *Internet Explorer* is also from the *Today* screen, tap on **Start>Internet Explorer**.
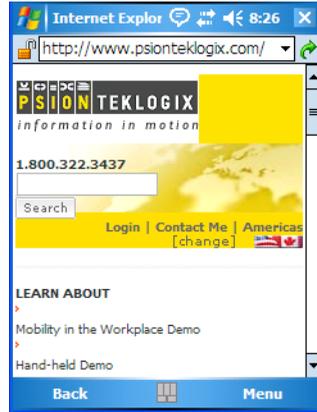
- Tap on the address bar—the field near the top of the screen where URLs are entered—to highlight the current URL.
- Type a new URL in the address bar.

Tapping on the *softkeys* in the softkey bar at the bottom of the screen display *Internet Explorer* commands like those you find on your PC.

6.13 Messaging

The *Messaging* program is used to send and receive e-mail on your WORKABOUT PRO. To send and receive e-mail, you'll need to synchronize your PC or connect to a Post Office Protocol 3 (POP3) or Internet Message Access Protocol 4 (IMAP4) mail server.

For each of these methods, you need to set up an e-mail account with one exception—Outlook e-mail accounts are set up by default.

6.13.1 Folders

If you use an Outlook e-mail account, messages in the Inbox folder in Outlook are automatically synchronized with your WORKABOUT PRO. You can use ActiveSync on your PC to synchronize additional folders. The folders and messages you move are mirrored on the server.

For POP3 accounts, if you move e-mail messages to a folder you create, the link between the messages on the WORKABOUT PRO and the copies on the mail server are broken. When you next connect, the mail server will recognize that the messages are missing from the WORKABOUT PRO Inbox folder and delete them from the server, preventing duplication of messages. Keep in mind however that you will not have further access to messages that you moved to folders from anywhere except with the hand-held.

For IMAP4 accounts, the folders you create and the messages you move are reflected on the server, making messages available any time whether you connect to your mail server from your WORKABOUT PRO or your PC.

6.13.2 Synchronizing E-mail With Outlook

By synchronizing the WORKABOUT PRO *Messaging* program with Outlook on your PC, your e-mail is available on both the hand-held and on your PC.

Note: Synchronizing e-mail does not require that the WORKABOUT PRO have an independent connection to the Internet.

• In ActiveSync on your PC, tap on **Tools>Options** in the tool bar at the top of the screen.
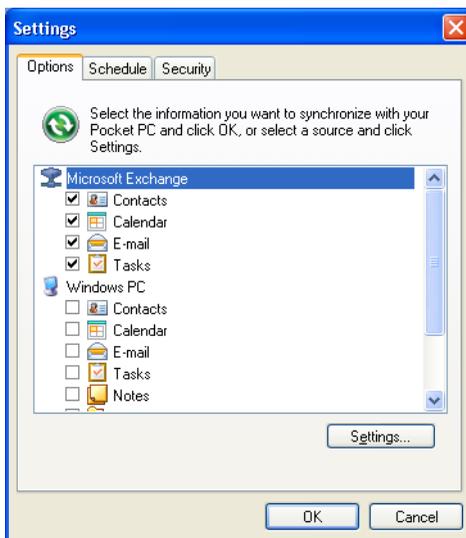
• Make certain that a check mark is displayed in the checkbox next to *E-mail*. Tap on **OK**.

Once you check *E-mail* for synchronization, Outlook e-mail messages are synchronized as part of the general synchronization process. The next time you synchronize with ActiveSync, the e-mail in Outlook on your PC will be transferred to the Messaging program on your WORKABOUT PRO.

6.13.3 Changing Synchronization Settings

- In ActiveSync on your PC, double-tap the **E-mail** item in the *Sync Options* tab.
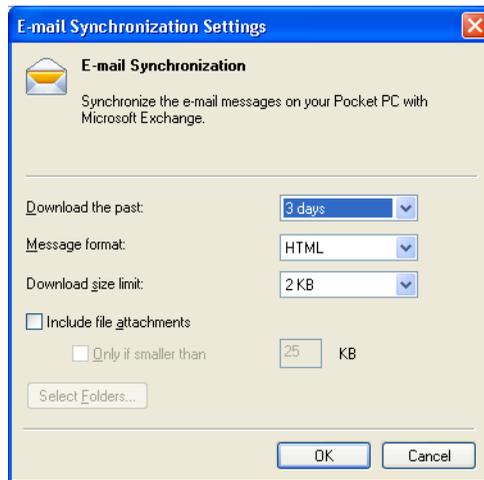
- Tap on the **Select Folder** button.

- Add a checkmark next to the folders in this screen that you want to synchro-nize with your WORKABOUT PRO, and tap on **OK**.

The *E-mail Synchronization* screen is displayed again.

- If you want to accept file attachments, add a check mark next to *Include file attachments*. To limit the size, tap on **Only if smaller than**, and specify a size in the KB box.
- Tap on **OK**.

6.14 Tasks

This program helps you stay ahead of your schedule by managing your tasks, appointments, and so on. For details about Tasks, refer to "Task Notification" on page 59.

6.15 Remote Desktop Mobile

This program allows you to log onto a Windows Terminal Server and run the desktop programs from the server on your WORKABOUT PRO.

6.15.1 Connecting To A Terminal Server

- Tap on **Start>Programs>Remote Desktop Mobile**
- In the *Server* dialog box, type the **Terminal Server name** or **TCP/IP address**, or choose a server from the dropdown menu.
- Tap on **Connect**.
- In the *Remote Desktop Connection* window, type your **user name, pass-word**, and **domain** (if required). Tap on **OK**.

6.15.2 Disconnecting Without Ending A Session

Important: *These commands are accessed from the Start menu in the Termi-nal Services screen used to access the PC's commands. Do <u>NOT</u> use the Start menu on your WORKABOUT PRO.*

- In the *Remote Desktop Connection* window, tap on **Start>Shutdown**.
- Tap on **Disconnect>OK**

6.15.3   Ending A Session

- In the *Terminal Services Client* screen, tap on **Start>Shutdown**.
- Tap on **Log Off>OK**.

6.16   Windows Media

Windows Media Player Mobile allows you to play music and videos on your WORKABOUT PRO. You can use Windows Media to play digital audio and video files that are stored on your device or on the Web.

- To work with this applet, tap on **Start>Programs>Windows Media**.
- To find detailed instructions about this option, tap on **Start>Help**.

6.17   Windows Update

This program checks for software updates, and if found, downloads updates to your WORKABOUT PRO. You can choose to have updates checked automatically, or if you prefer, you can determine when your unit will check for updates.

PERIPHERAL DEVICES & ACCESSORIES 7

7.1 Carrying Accessories

There are a variety of carrying accessories to help the operator work safely and comfortably with the WORKABOUT PRO.

Carrying Accessory	Model Number
Hand Strap	WA6025 for WORKABOUT PRO C WA6125 for WORKABOUT PRO S
Pistol Grip	WA6001-G1
Protective Carrying Case for WORKABOUT PRO C (Model # varies depending on the end-cap installed on hand-held)	WA6090-G2 (with a belt clip – works with scanners) WA6094-G2 with GSM or 802.11b/g end cap WA6095-G2 with 1D Scan or 1D Imager end cap WA6096-G2 with 2D scan or 1D imager end cap WA6097-G2 with universal end cap (case's top open)
Protective Carrying Case for WORKABOUT PRO S (Model # varies depending on the type end-cap installed on hand-held)	WA6190-G2 (with a belt clip – works with scanners) WA6194-G2 with GSM or b/g end cap WA6195-G2 with 1D Scan or 1D Imager end cap WA6196-G2 with 2D scan or 1D imager end cap WA6197-G2 with universal end cap (case's top open)
Soft Shell Holster	WA6050

Table 7.1 Carrying Accessories

Important: ***Do not use adhesives such as Loctite to secure screws on carrying accessories. These chemicals may damage the plastic casing.***

7.1.1 Attaching The Hand Strap

The hand strap can be attached to the back of the WORKABOUT PRO to provide a secure means for operators to carry the hand-held.

The hand strap is attached to the back of unit using two Phillips head screws provided with this accessory.

- Use a Phillips screwdriver to attach the strap to the two threaded inserts on the back of the WORKABOUT PRO, near the top of the unit
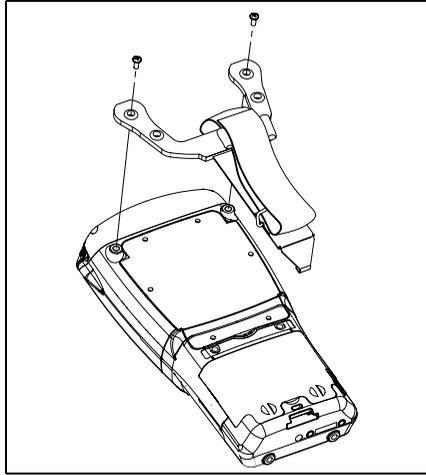

- Stretch the hand strap toward the base of the WORKABOUT PRO, and hook the bottom of the strap into the slot near the base of the battery pack. A tethered stylus and optional external stylus tube can be attached to the hand strap as illustrated below

Tethered Stylus

Stylus Tube
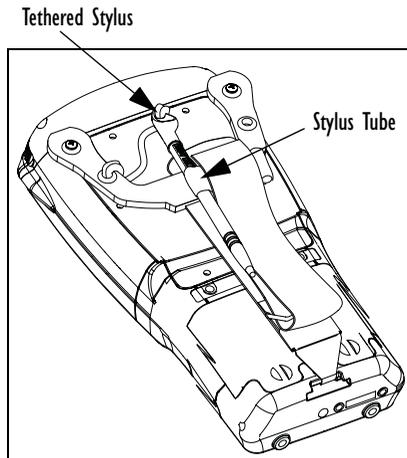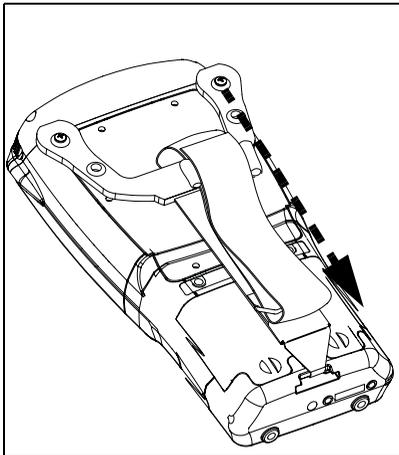
7.1.2 Attaching The Pistol Grip

The pistol grip is attached to the four threaded inserts on the back of the WORK-ABOUT PRO. Four Phillips head screws are provided with this accessory.
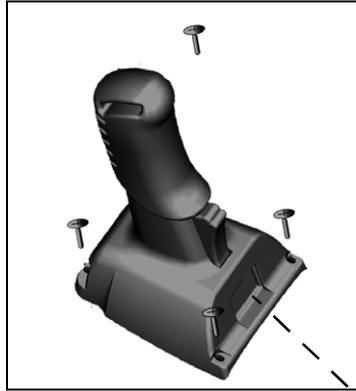
Note: *Prior to installation, make sure the trigger mechanism is securely snapped into the pistol grip body and that the trigger operates properly.*

- Position the pistol grip so that it fits snugly over the back of the unit and the holes in the pistol grip are aligned with the threaded inserts on the back of the WORKABOUT PRO.
- Tighten the screws to a torque of 3 lbs-in (3kgf-cm) to secure the pistol grip in place.

7.1.3 Protective Carrying Case

A carrying case is available for WORKABOUT PROs to shield the unit from damage. It is equipped with a soft plastic window to protect the unit display and keyboard. A variety of cases are available, depending on the type of end-cap attached to your unit.

7.1.4 Soft Shell Holster

A soft shell holster with removable belt and swivel holster pad can be used to hang a WORKABOUT PRO with a pistol grip from you waist

Soft Shell Holster

Swivel Holster Pad and
Removable Belt

Figure 7.1 Soft Shell Holster

- Insert the belt in the swivel holster pad.
- Attach the pad on either the left or right side of the holster case, depending on whether you are left- or right-handed.
- Fasten the belt comfortably around your waist. Slide the adjustable ring on the belt to tighten the holster in place.
- Connect the safety tether cord to one of the clips on the bottom of the soft shell holster. Connect the other end to the hole in the end of the WORK-ABOUT PRO pistol grip. This tether will catch the unit in case of a drop. The tether can be adjusted to the operator's height. The clips will break away in case of a severe force.

7.2 The Batteries

Note: Review "Specifications" on page 295 for detailed information.

The WORKABOUT PRO will operate with any of the following Lithium-Ion battery packs:

- High-Capacity – Model WA3006
- Super High-Capacity – Model WA3010

In addition to the main battery, the hand-held is equipped with a replaceable, rechargeable Lithium-Ion backup battery.

7.3 Adaptor Cable Options

The following are adaptors can be ordered for your WORKABOUT G2:

Model Number	Adaptor Cable Description
WA1002	Tether to USB device. This cable is used to connect USB devices such as USB Flash memory devices.
WA4020-G2	Tether to RS232. This is a full RS232 port on COM2.
WA4001-G2	Tether to USB Client. (For ActiveSync)
WA4010-G1	USB to Ethernet adaptor.
WA4015	USB/RS232 adaptor. This cable is used with docking station WA4003-G2.

7.4 Chargers And Docking Stations

*Important: **Keep in mind when ordering a charger or docking station, you must also order the appropriate power cord separately.***

Psion Teklogix offers a variety of chargers and docking stations for the WORKABOUT PRO. These include:

- AC Adaptor–Model No. PS1050-G1
- Cigarette Lighter Adaptor–Model No. WA3113-G2
- Single Battery Charger–Model No. WA3001-G1
- Quad Battery Charger–Model No. WA3004-G1
- Desktop Docking Station–Model No. WA4003-G2
- Quad Docking Station For 7527C-G2–Model No. WA4204-G2
- Quad Docking Station For 7527S-G2–Model No. WA4304-G2

7.4.1 Installation–Chargers And Docking Stations

When installing a charger or docking station, consider the following guidelines.

- Keep chargers and docking stations away from excessive dirt, dust and contaminants.
- Chargers will not charge batteries outside an ambient temperature range of 0° C to 45 °C (32° F to 113° F). It is recommended that the charger or docking station be operated at room temperature–between 18° C and 25° C (64° F to 77° F) for maximum performance.

After unpacking your unit:

- Visually inspect the charger for possible damage.
- Install the IEC power cord and apply power.

7.4.2 Power Consumption Considerations

Check to ensure the mains circuit supplying chargers and/or docking stations is adequate for the load, especially if several chargers and docking stations are being powered from the same circuit.

- Quad charger–can consume up to 2A @ 120VAC or 1A @ 240VAC.
- Quad docking station–can consume up to 3A @ 120VAC or 1.5A @ 240VAC.

7.4.3 Operator Controls

WORKABOUT PRO docking stations and chargers have no operator controls or power switches.

7.4.4 Important Charger Safety Instructions

- **SAVE THESE INSTRUCTIONS**—This manual contains important safety and operating instructions for battery charger s.
- Before using the battery charger, read all instructions and cautionary markings on (1) battery charger, (2) battery, and (3) product using battery.
- The mains power cord shall comply with national safety regulations of the country where the equipment is to be sold.
- Use of an attachment not recommended or sold by the battery charger manufacturer may result in fire, electric shock, or personal injury.
- To reduce risk of damage to the electric plug and cord when unplugging the charger, pull the plug rather than the cord.
- Make sure the cord is positioned so that it is not stepped on, tripped over, or otherwise subjected to damage or stress.
- Do not operate the charger with a damaged cord or plug. Replace immediately.
- Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged in any way; it should be inspected by qualified service personnel.
- Do not disassemble the charger; it should be repaired by qualified service personnel. Incorrect reassembly may result in electric shock or fire.
- To reduce risk of electric shock, unplug the charger from the outlet before attempting any maintenance or cleaning.
- An extension cord should not be used unless absolutely necessary. Use of an improper extension cord could result in fire or electric shock.
  If an extension cord must be used, make sure:
  - The plug pins on the extension cord are the same number, size, and shape as those on the charger.
  - The extension cord is properly wired and in good electrical condition and that the wire size is larger than 16 AWG.
- Do not expose the charger to rain or snow.
- Do not place batteries in the charger if they are cold from extended exposure to a freezer or outside temperatures below 10°C (50°F). Allow them to warm up to room temperature for at least two hours.
- Do not use the charger if, after an overnight charge, any of the batteries feel warmer than the charger housing. The charger should be inspected by qualified service personnel.
- Do not use the charger if any of the batteries or the charger get more than lukewarm. The equipment should be inspected by qualified personnel.

7.5 Desktop Docking Station

The WORKABOUT PRO can be inserted in a desktop docking station, model number WA4003-G2.
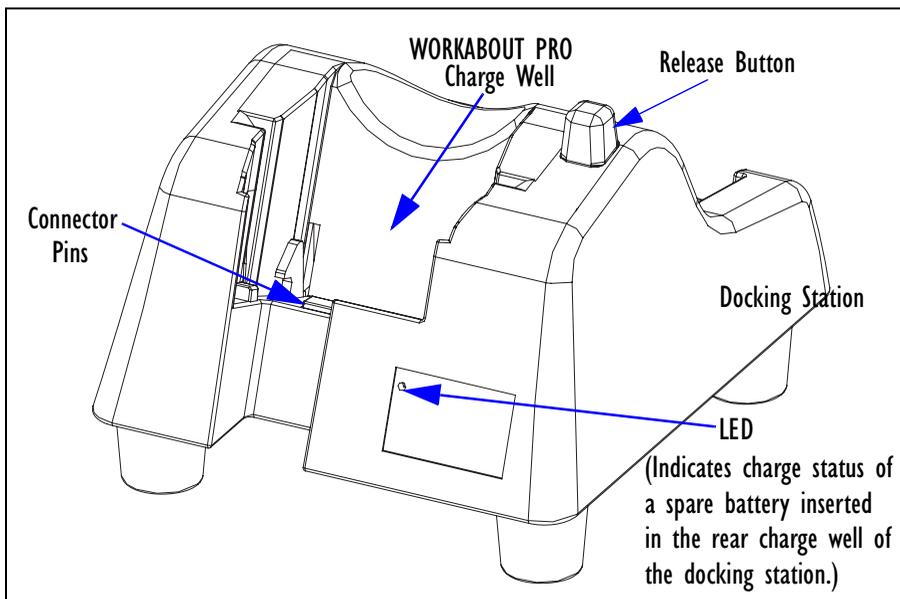
Figure 7.2 Desktop Docking Station

Note: *The desktop docking charger is shipped with its own user manual. It is critical that it be reviewed for additional information and updates.*

The desktop docking station is designed to charge the battery installed in the WORKABOUT PRO along with a spare battery pack. It is equipped with two USB ports—a Host USB port to connect peripherals such as a printer, keyboard, etc. and a Client USB to connect the docking station to a PC.
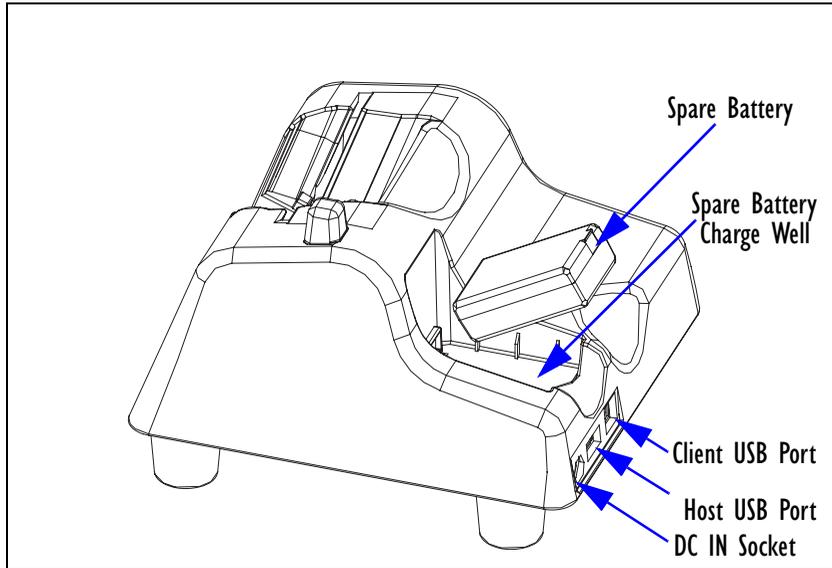
Figure 7.3 Back Of Desktop Docking Station

*Important: **This docking station can only be used to charge Psion Teklogix approved Lithium-Ion batteries.***

7.5.1 Charging A Battery Installed In The WORKABOUT PRO

- Insert the DC power cable to the DC IN socket on the desktop docking station. Plug the pronged end of the cable into an AC outlet.
- Slide the hand-held into the docking station, making certain that the LIF (Low Insertion Force) port on base of the WORKABOUT is securely seated on the docking station connector pins. An icon is displayed briefly in the *navigation bar* at the top of the hand-held screen indicating that the unit is properly installed in the station— . This icon is only displayed when the unit is switched on.

The LED on the WORKABOUT PRO lights up indicating that the unit has external power and battery charging will begin. It is safe to leave the unit in the desktop docking station while it is not in use—the battery will not be overcharged.

7.5.2 Charging A Spare Battery

• Insert the battery in the spare battery charge well at the back of the docking station, aligning the contacts on the battery with the contacts in the spare battery charge well.

7.5.3 Battery Charge Duration

A fully discharged battery can take up to 5 hours to charge. The desktop docking station stops applying power to the battery when it is fully charged—there is no risk of overcharge if the battery remains in the charge well.

7.5.4 Charger LED Indicators

The desktop docking station is equipped with a single dual-coloured LED indicator in the lower-right corner of the front panel.

LED Behaviour	Charge Status
Off	No battery detected in the slot.
Solid Green	Charge complete.
Fast Flashing Green	Battery charged to less than 80% of capacity.
Slow Flashing Green	Battery charged to greater than 80% of capacity.
Solid Red	Battery temperature outside of charge range– 0° C to 50 °C.
Flashing Red	Battery is not charging. Battery fault.

Table 7.2 Desktop Battery Charger LED Behaviour

Note: *Battery charging continues whether the hand-held is switched on or off.*

7.5.5 Troubleshooting The Charging Operation Of The Dock

The quad battery charger troubleshooting section beginning on page 282 also applies to the charging behaviour of the desktop docking station.

7.5.6 Linking A WORKABOUT PRO To A PC

The desktop docking station can be connected to a PC so that you can exchange files in the same way that you would between PC drives. A USB cable is included with your docking station.

Note: *For details about data transfer through Windows XP and ActiveSync and through Vista, refer to "Data Transfer Between The PC & The Hand-Held" on page 16.*

To link the WORKABOUT PRO to a PC:

- Insert the hand-held in the desktop docking station.
- Insert the USB cable into the docking station Client USB connector. Attach the other end of the cable to a USB port on the PC.

7.5.7 Linking A WORKABOUT PRO To An Ethernet Network

An USB-Ethernet adaptor cable — model number WA4010-G1 — is used to connect the WORKABOUT PRO to an Ethernet network through a desktop docking station.

Ethernet Port

USB Connector

Figure 7.4 USB-Ethernet Adaptor Cable

- Insert the adaptor's USB connector into the Host USB port on the desktop docking station.
- Connect your network Ethernet cable to the Ethernet port on the adaptor cable.

7.5.7.1 Network Access

The hand-held unit automatically detects insertion into the desktop dock and loads the appropriate drivers to communicate with the USB-Ethernet converters.

Network Addressing

The host application uses standard TCP/IP protocol to name, locate and communicate with a specific WORKABOUT PRO on the network. If a link is established between a WORKABOUT PRO and a host, the application on the host and on the hand-held must have a recovery mechanism in the event that the WORKABOUT PRO is removed from the dock, interrupting the link.

7.5.8 Troubleshooting The Docking Station Operations

The indicators, applications and drivers required to use and monitor the desktop docking station as a *dock* (as opposed to a charger) are installed on the WORKABOUT PRO—no applications are present on the docking station itself.

7.6 AC Wall Adaptor— Model #PS1050-GI

The AC wall adaptor available for your WORKABOUT PRO allows you to operate your hand-held using AC power while charging the battery inserted in the unit.

Adaptor plugs suitable for use in the following countries are shipped with the AC wall adaptor: United Kingdom, Australia, Europe and North America.

Universal AC Power Supply · Adaptor Plugs · DC Power Plug
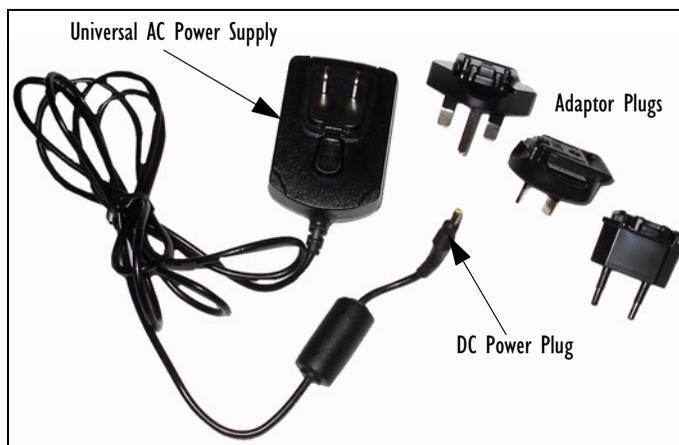
• Choose the adaptor plug that is suitable for use in your country. Slide the adaptor plug into the Universal AC power supply, snapping it into place. These two pieces, coupled together, are referred to as an AC wall adaptor.
• Insert the DC power plug into the DC IN socket at the base of WORKABOUT PRO, located between the tether and LIF ports.
• Plug the pronged end into an AC outlet.

7.7 Cigarette Lighter Adaptor–Model #WA3113-G2

⚠ *Important:* ***It is critical that you review the safety instructions outlined in the quick start guide enclosed with your cigarette lighter adaptor before using the accessory.***

The cigarette lighter adaptor allows you to power your hand-held and recharge your battery using power drawn from your vehicle's cigarette lighter outlet.
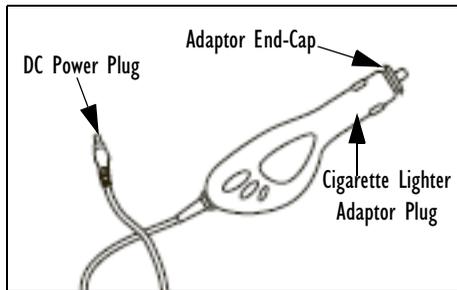
Figure 7.5 Cigarette Lighter Adaptor

- Unscrew the adaptor end-cap, and remove the fuse inside the adaptor.
- Replace it with the fuse provided with your kit, and screw the adaptor end-cap back into position.
- Insert the DC power plug into the DC IN socket at the base of the WORK-ABOUT PRO.

Insert the cigarette lighter adaptor plug into cigarette lighter outlet in your vehicle.

7.8 Single Battery Charger–Model #WA3001-G1

Figure 7.6 Single Battery Charger

The single battery charger is designed to charge a single battery. It has a DC IN socket and is equipped with one LED that indicates the status of the charge process.

7.8.1 Inserting A Battery In The Single Battery Charger

- Insert the DC power plug into the charger. Plug the pronged end of the power cable into an AC outlet.
- Install the battery, aligning the contacts on the battery with the contacts in the battery charge well.

7.8.2 Battery Charge Duration

It can take up to 4 hours to fully charge a battery. The single battery charger stops applying power to the battery when it is fully charged—there is no risk of overcharge if the battery remains in the charge well. The 75% charge indicator is handy if you need a quick recharge—a quick charge often takes less than one hour.

7.8.3 Charge Indicators—The LED

The LED on the top of the charger indicates battery charge progress.

LED Behaviour	Charge Status
Off	No battery detected in the charge well.
Solid green	Battery is fully charged.
Fast flashing green	Battery is charged to 75% of capacity.
Slow flashing green	Charge in progress.
Solid red	Battery is outside ambient temperature range of 0° C to 45 °C (32° F to 113° F).
Flashing red	Charge alarm indicating a charging circuit problem. Refer to "Troubleshooting" on page 282 for details.
Flashing red then green in a 3 second cycle	Power up test sequence.

Table 7.3 Single Battery LED Behaviour

Note: *Battery charging continues whether the hand-held is switched on or off.*

7.9 Quad Battery Charger–Model #WA3004-G1

Table 7.4 Quad Battery Charger

The quad battery charger is designed to charge up to four Lithium Ion batteries at one time.

Note: *The gang charger is shipped with a user manual. It is critical that this manual be reviewed for additional information and updates.*

7.9.1 Charging Batteries

•   Slide the battery into a charge well, aligning the contacts on the battery with the contacts in the charge well.

7.9.2 Battery Charge Duration

A fully discharged battery can take up to 4 hours to charge. The quad battery charger stops applying power to the battery when it is fully charged—there is no risk of overcharge if the battery remains in the charge well. The 75% charge indicator is handy if you need a quick recharge—a quick charge often takes less than one hour.

7.9.3 Charge Indicators—The LEDs

Each battery charge well is equipped with an LED to indicate the charge status of the battery. When a battery is inserted in the charger, the colour and behaviour of the LED associated with the charge well in use indicates the status of the charge. Refer to Table 7.3 on page 280 for details.

7.9.4 Troubleshooting

7.9.4.1 Excessive Charge Duration

The charger is equipped with a recalibration function—a function that fully discharges and then fully recharges the battery. This process is necessary to recalibrate the battery capacity gauge internal to the battery. The charger attempts recalibration when:

- the battery capacity is at less than 30%, and
- the battery has undergone more than 40 partial charge cycles since the last full discharge.

The recalibration function extends the charge time by up to 2 hours.

7.9.4.2 Indicator Flashing Red

If the indicator flashes red:

- Remove all batteries and disconnect the mains power cable.
- Wait at least 20 seconds, and then plug the cable in again.

If any of the charge well LEDs continue to flash red, the charger is defective and requires service. If all indicators are flashing red, there is a power supply problem and the charger requires service.

7.9.4.3 Power LED Does Not Light Up

- Remove all batteries, and unplug the charger.
- Connect another device to the mains outlet to ensure there is power.
- Remove the IEC mains power cable from the charger, and check it for damage.
- Reconnect the mains cable in the charger and mains outlet.

If the power LED still does not light up:

- Unplug the mains cable, and check the fuse at the rear of the charger.

If the fuse appears to be intact, the charger requires service.

7.9.4.4 Indicator Does Not Light When Battery Installed

- Remove the battery, and clean the contacts on the battery and the charge well.
- Reinstall the battery, and check that it is fully seated in the charger well.
- Inspect the charge well contacts for damage (are they bent, flattened, twisted or broken).

- Try inserting a battery that you know to be working in the charger well.
- Reconnect the mains power cable, and check that the charger well indicator flashes at power up.

7.10 Quad Docking Station—WA4204-G2 & WA4304-G2

Figure 7.7 Quad Docking Station

Note: *WA4204-G2 is designed for WORKABOUT PRO C models; WA4304-G2 is designed for WORKABOUT PRO S models.*

The quad docking station is shipped with a docking manual. It is critical that this manual be reviewed for additional information and updates.

The quad docking station permits each of four docked WORKABOUT PROs to communicate with a 10/100 BaseT Ethernet network at greater than 2Mbps. It also provides sufficient power to operate and fast charge the batteries in the units.

7.10.1 Quad Docking Station Setup

After unpacking the unit:

- Visually inspect the unit for any damage.
- Install the IEC power cord and apply power.

A green indicator in the lower-right corner of the front panel lights up to indicate that power is present.

- Attach a CAT5 RJ45 network patch cable (supplied) between your network and the RJ45 jack on the rear of the dock.

A green LED is illuminated next to the RJ45 connector when a valid network link is established.

A user application must be loaded onto each WORKABOUT PRO that utilizes the quad dock for communication. When the network is connected and this application is loaded, the quad dock is ready for use.

7.10.2 Quad Indicators

The quad dock is equipped with a power indicator LED and RJ45 link and traffic indicator LEDs. When a valid network link is established, a green LED is illuminated next to the RJ45 connector.

7.10.3 Inserting A WORKABOUT In The Quad Docking Station

- Slide the WORKABOUT PRO into the cradle portion of the quad dock until lightly latched.

The hand-held detects that it is in a quad dock and momentarily displays the appropriate icon in the navigation bar at the top of the screen— . The LED on the hand-held unit lights up to show it has external power and may start charging the battery.

Interaction with the WORKABOUT PRO while in the quad dock is a function of the user application software used to communicate with the host network.

7.10.4 Network Access

The quad docking station has one 10/100 Ethernet port. You can insert up to four hand-held units. The hand-helds are connected to an internal USB hub. The hand-held unit automatically detects insertion into a quad docking station and loads the appropriate drivers to communicate with the USB/Ethernet converters.

7.10.4.1 Network Addressing

Although the USB converters have fixed Ethernet MAC addresses, there is generally no correlation between these addresses and a specific hand-held. The host application uses standard TCP/IP protocol to name, locate and communicate with a specific WORKABOUT PRO on the network.

If a link is established between a WORKABOUT PRO and a host, the application on the host and on the hand-held must have a recovery mechanism in the event that the WORKABOUT PRO is removed from the dock and the link is interrupted.

7.10.5 Battery Charging–LED Behaviour

The quad docking station supplies DC power to enable the WORKABOUT PRO internal fast charger. Charge status is displayed on the hand-held LED—the LED turns red while the battery is being charged and turns green once the charge is complete. If the battery is fully charged when the unit is inserted in the docking station, the LED flashes red for less than a second and then turns green. Battery charging continues whether the WORKABOUT PRO is switched on or off.

It can take up to 4 hours to fully charge the internal battery.

7.10.6 Troubleshooting

The indicators, applications and drivers required to use and monitor the docking station are installed on the WORKABOUT PRO—no indicators or applications are present on the docking station itself.

7.10.6.1 Network Link Unsuccessful

If a network link fails, the WORKABOUT PRO application alerts the operator that the link was unsuccessful.

7.10.6.2 Hand-Held LED Does Not Light When Docked

- Check that the quad docking station has power—is the Power LED on the docking station illuminated?
- Try inserting the WORKABOUT PRO in another well in the quad dock.
- Check for dirt or contamination on the docking contacts at the bottom of the WORKABOUT PRO. Wipe the contacts with a damp cloth if necessary.
- Check the pogo pins inside the dock cradle for dirt. Gently wipe with a damp cloth if they appear to be dirty or discoloured.
- Check that the pogo pins are not bent or damaged.
- Remove and reinsert the WORKABOUT PRO in the cradle, and check that the latch is holding the unit in place (the pogo pins must be compressed for proper contact).
- Make certain that the battery installed in the WORKABOUT PRO is not defective.

7.11 The Vehicle Cradle

The vehicle cradle is a highly ruggedized, single station dock. Although it provides quick insertion and removal, the cradle holds the WORKABOUT PRO securely even when operated in high vibration environments.

Note: Shock and vibration specifications for the WORKABOUT PRO are veri-fied using Psion Teklogix-approved RAM mounts and mounting hardware. Use of non-certified Psion Teklogix mounting hardware is not recom-mended, and may void warranty coverage.

The model number for vehicle cradles varies depending on the type of hand-held:

- •   WORKABOUT PRO C – Model # WA1210-G2
- •   WORKABOUT PRO S – Model # WA1310-G2

A port replicator option is available for powered vehicle cradles. Refer to "The Port Replicator" on page 290 for details.

7.11.1 Vehicle Cradle Mounting Recommendations

Warning: Before mounting a vehicle cradle in a vehicle, there are a number of operator safety issues that require careful attention. An improp-erly mounted cradle may result in one or more of the following: operator injury, operator visibility obstruction, operator distraction and/or poor ease of egress for the operator. Psion Teklogix strongly recommends that you seek professional mounting advice from the vehicle manufacturer.

Cable routing within a vehicle cab also requires careful consider-ation, especially for separately tethered scanners and other devices with loose cables. If you are unable to obtain suitable advice, contact Psion Teklogix for assistance (see Appendix A: Summit Client Utility (SCU)). Note also that for better protection, the equip-ment should be mounted inside the vehicle roll cage.

Pedestal mounts are recommended for all fixed mount locations because they offer optimal operator access. In addition, for safety reasons, only pedestal mounts with fully locking joints should be used in vehicles. Always adjust the pedestal for the optimum viewing angle, and securely tighten the hex and wing screws.

The most effective way to mount the vehicle cradle is to use the four #8-32 threaded inserts on the rear of the unit. Bolts must not extend more than 10mm (3/8") into the cradle.

To accommodate the service loop of the connector cable, leave a 4" clearance at the bottom of the cradle. Leave a 7" (minimum) clearance at the top of the cradle to allow easy removal of the hand-held. Also remember to leave at least a 3" clearance at the sides of the cradle to allow activation of the release knobs. Refer to the detailed assembly instructions that are packaged with the cradle when selecting a mounting location.

7.11.1.1   Mounting Template

The vehicle cradle is shipped with detailed mounting instructions including a drill template.

7.11.2   Wiring Guidelines

Before installing cables between the cradle and other devices, review the following:

- Ensure that drilling holes will not damage the vehicle or its wiring.
- Protect cable runs from pinching, overheating and physical damage.
- Use grommets to protect cables that pass through metal.
- Use plastic straps and tie-downs to secure cables and connectors in their desired location, away from areas where they may get snagged or pulled.
- Keep cables away from heat sources, grease, battery acid and other potential hazards.
- Keep cables away from control pedals and other moving parts that may damage the cables or interfere with the operation of the vehicle.

7.11.3   Using The Vehicle Cradle

If your WORKABOUT PRO is equipped with a shoulder strap or cover, these accessories need to be removed before installing the unit in a vehicle cradle. There is no need to remove handstraps, pistol grips or tethered devices from the unit.

- Slide the WORKABOUT PRO into the cradle, and press firmly downward until it locks into place. On a vehicle, it's a good idea to pull up on the WORKABOUT PRO to be certain that it is secure.
- To remove the unit, press firmly on the RELEASE button on the front face of the unit until it releases from it latch. The hand-held will be slightly raised so that it can be removed.

7.11.4 Maintaining The Vehicle Cradle

Two latches in the cradle hold the WORKABOUT PRO firmly in place. Although these latches are designed for robustness and endurance, they will wear over time and will no longer lock the hand-held securely in the cradle. For replacement parts and instructions contact Psion Teklogix. Partial disassembly is required.

7.11.5 Powered Cradle Installation In High Voltage Vehicles

Warning: ***Voltages exceeding 60VDC are considered hazardous. For powered cradle installations on vehicles with batteries above this voltage, ensure the powered cradle power connector is mounted in a dry location on the vehicle, or that the connector is insulated with an appropriate waterproof material after installation. The connector must also be installed out of the vehicle operator's reach. Exposing an accessible power connector to water or other liquids could create a hazardous situation resulting in serious injury or death.***

Installation of powered cradles in vehicles that operate above 60VDC require special consideration.

Due to the hazardous voltages present on these vehicles, it is necessary to ensure that the powered cradle power supply cable connector is not accessible to the vehicle operator, and does not get exposed to water or other liquids. This can be accomplished in one of the following ways:

- Ensure the power connector is installed in a dry location on the vehicle, away from the vehicle operator's reach (perhaps under a vehicle dash or in a sealed housing).
- Cover the power connector with a waterproof heat shrink material.
- Wrap the connector securely with a waterproof electrical tape in an area out of the vehicle operators reach.

All other installation requirements outlined in this document should also be followed for High Voltage vehicles to insure safe installation and operation of the powered cradle.

7.11.6 Powered Vehicle Cradle Installation

The powered cradle is designed to allow the WORKABOUT PRO to be powered by a vehicle battery. The battery installed in the hand-held is also recharged by the vehicle battery. This option accepts DC power sources ranging from 9 to 20V, with optional pre-regulator.

The vehicle cradle can be ordered with the powered cradle option installed.

Warning: ***Applying a voltage greater than that specified or reversing or reversing polarity may result in permanent damage to the cradle power option and will void the product warranty.***

7.11.6.1 Wiring Vehicle Power To The Cradle

A 1.8 meter (6 foot) extension power cable (PN 13985) is supplied with your powered vehicle cradle.   This cable should be wired to a filtered, fused (maximum 10A) accessory supply on the vehicle.   The power cradle draws no more than 8A (less if the accessory supply is greater than 12V). Any additional wiring, connectors or disconnects used should be rated for at least 10A.

The red lead of the power cable attaches to the positive vehicle supply. The black lead connects to the negative supply—this should be connected to a proper terminal block and not to the vehicle body. The power cradle is fully isolated and can be used with both negative and positive chassis vehicles.

You may have the option of connecting power before or after the 'key' switch. It is preferable to wire the power cradle *after* the key switch—that is, it cannot be turned on without the key on. However, if the operator switches the key off repeatedly for long periods during a shift, it may make more sense to wire the cradle *before* the switch.

Keep in mind that the WORKABOUT PRO will continue to operate with or without vehicle power as long as its battery has sufficient charge.

If an unfused power source must be used, a fuse assembly (PN 19440) must be added to the extension power cable (the fuse and instructions are supplied with the cable). Use only a 10A slow blow UL approved fuse in the fuse assembly.

7.12 The Port Replicator

The port replicator (Model# WA4005-G1) is an optional accessory that allows tethered devices as well as mounted peripherals (e.g., bar code printers or weigh scales) to be attached to the vehicle cradle. The replicator can be used with or without the cradle power option.

The functionality of the WORKABOUT PRO tether port is replicated into RS-232 serial interfaces by the port replicator. It provides the user with 3 DB9 serial interfaces as well as one Type B USB port (for connecting a Host device).

7.13 Scanners And Imagers

The WORKABOUT PRO supports a wide range of scanner/imager options to address a variety of user application requirements. The scanner/imager installed in your unit can be configured using the *Scanner Settings* located under Settings>System>Teklogix Scanners *(see page 128) and the Manage Triggers application (see* page 117).

Scanner/imagers available for your hand-held include:

Scan Engine	Kit Model Number
1D Laser SE955	WA9102-G1 WA9112-G1 WA9002-G1
1D Laser SE1223HP	WA9000-G1
1D Laser SE1223LR	WA9005-G1
1D Laser SE1223ALR	WA9006

1D Imager EV15	WA9103-G1 WA9113-G1 WA9003-G1
2D Imager HHP 5180	WA8010-G1 WA8110-G1 WA9012-G1

It is critical that you review the safety information in the *WORKABOUT PRO Hand-Held Computer Regulatory & Warranty Guide*, PN 8000126 before proceeding.

7.13.1 Scanning Techniques

- Hold the scanner at an angle. Do not hold it perpendicular to the bar code.
- Do *not* hold the scanner directly over the bar code. In this position, light can reflect back into the scanner's exit window and prevent a successful decode.
- Scan the entire bar code. If you are using a 1D or PDF laser scanner, make certain that the scan beam crosses every bar and space on the bar code, including the margins on either end of the symbol.
- If you are using a 2D imaging scanner, make certain the red, oval shaped framing mark is centered within the bar code you want to scan.
- When using imaging scanners, do not move the scanner while decoding the bar code. Movement blurs the image.
- Hold the scanner farther away for larger bar codes.
- Hold the scanner closer for bar codes with bars that are close together.

A bar code icon appears on the screen during a scan. While the scanner beam is active, the onscreen message states: SCANNING. If you want to turn off the onscreen message, disable "Scan Indication" in the *Options* tab of the *Scanner Settings* menu in the Control Panel

When the scan is successful, the bar code data is displayed on the screen until the scan button (or pistol trigger) is released, but only if "Scan Result" is turned on in the *Options* tab of the *Scanner Settings* menu in the Control Panel.

7.13.2 Troubleshooting

If the scanner is not working, investigate the following:

- Is the unit on?
- Check that the bar code symbology being scanned is enabled for the hand-

held you are using. Check any other parameters that affect the scanning procedure or the bar code.

• Check the bar code to make sure it is not damaged. Try scanning a different bar code to verify that the problem is not with the bar code.

• Check that the bar code is within the proper range.

• Does the hand-held display the warning without scanning? This suggests a hardware problem in the hand-held.

• Is the laser beam scanning across the bar code?

• Once the scan beam has stopped, check the scanner window for dirt or fogging.

7.13.3 Operating One Dimensional (1D) Laser Scanners

• Turn the hand-held on. Wait until the unit has booted up completely.

Important: ***If an aiming dot is available on the installed scanner, the dot will be enabled for a configurable time period (including off), after which normal scanning begins. Refer to "Dot Time (msec)" on page 130 for details.***

Double-clicking the trigger will override the aiming delay and initiate an immediate scan. Note that the aiming dot is standard on long-range and high visibility internal scanners.

• Aim at the bar code and press the scan key or the trigger. A scan beam and a warning indicator appear until a successful decode is achieved or six seconds have elapsed.

7.13.4 Operating Two Dimensional (2D) Imagers

An imager takes a snap shot of a single bar code or multiple bar codes (at one time). It can find a bar code regardless of its orientation—that is, even a bar code printed at a 45 degree angle to the hand-held will be decoded successfully.

Note: *When scanning **multiple** bar codes, ensure that all of the desired bar codes are within the field of view of the scanner. It is possible that even when all bar codes are within the field of view, not all of them will be decoded. Only successfully decoded bar codes are passed to the application program. The application program then issues a warning, asking that you scan the missing bar codes.*

> *When scanning a **single** bar code, ensure that only the desired bar code is within the field of view of the scanner.*

Because imagers generally have a shorter depth of field than laser scanners, some practise may be required to find the optimal distance from the types of bar codes being scanned. Although the imager includes illumination LEDs, ambient light will help the imager decode the bar codes, especially if the bar code is far from the hand-held.

⚠️ *Important:*   ***Keep in mind that the imager scanner is a camera, and the LED illumination is a flash. Glare can be an issue on reflective media such as plastic coated bar codes, just as glare is an issue for photographers. When pointing at a shiny surface, either shift the bar code to the side or top, or angle the bar code so that the glare reflects away from the imager scanner.***

                       Most imagers take several 'snap shots' of the bar code in order to decode it. It is normal for the LEDs to flash two or three times. Hold the unit steady between flashes to improve decode performance.

- Turn the hand-held computer on. Wait until the unit has booted up completely.
- Aim at the bar code and press the scan key or the trigger. Hold the trigger until a successful or failed scan result is obtained.
- When the scan button or trigger is pressed, a red, oval shaped light (the framing marker) is displayed. Centre the framing marker in the field— either in the centre of the bar code you want to scan or in the centre of the area in which multiple bar codes are to be scanned.

The illumination LEDs will flash (typically several times) and a picture of the bar code(s) is taken.

7.14 Bluetooth Peripherals

The WORKABOUT PRO is equipped with a *Bluetooth* radio, making it is possible to communicate with a variety of *Bluetooth* peripherals, including GSM/GPRS handsets, scanners, printers, and so on.

The range of the *Bluetooth* radio is limited to approximately 5 meters.

Psion Teklogix provides built-in support for the *Bluetooth* peripherals listed below.

- GSM/GPRS universal handset

- *Bluetooth* printer
- *Bluetooth* headset

Keep in mind that *Bluetooth* and IEEE 802.11b/g radios both operate in the 2.4GHz band. Although the WORKABOUT PRO includes features to minimize interference, performance of the system will not be optimal if you use both radios simultaneously. Typically, when both radios operate in the hand-held at the same time, they cannot transmit simultaneously—this has a negative impact on overall system throughput. To minimize the impact on the backbone 802.11g network, Psion Teklogix recommends using Bluetooth peripherals that have low transaction rates (such as printers and scanners).

Refer to "Bluetooth Setup" on page 205 for information about setting up your *Bluetooth* devices for communication. In addition, review the manual shipped with your *Bluetooth* device to determine the method used to pair with the WORKABOUT PRO host.

SPECIFICATIONS 8

Note: *Performance specifications are nominal and subject to change without notice.*

8.1 Hand-Held Computer Specifications

Model Variants
- WORKABOUT PRO C – Model 7527C-G2
- WORKABOUT PRO S – Model 7527S-G2

Platform
- PXA270 @ 520 MHz, 32 bit RISC CPU
- 128 MB flash, 128 MB RAM

Operating System
- Microsoft® Windows® Mobile® 6 Classic
- Microsoft® Windows® Mobile® 6 Professional

Wireless Communication

Optional expansion modules for:

- 802.11b/g (via Compact Flash) operating in the 2.4GHz band:
    - Supports IEEE 802.11b data rates of 1,2,5.5 and 11Mbps using Direct Sequence Spread Spectrum (DSSS).
    - Supports IEEE 802.11g data rates of 6,9,12,24,36,48 and 54Mbps, using Orthagonal Frequency Division Multiplexing (OFDM) base band modulation
- GSM/GPRS EDGE (via expansion interface)
    - Quad-Band – 850/900/1800/1900
    - Voice and Data
    - GPRS Class B, Multi-Slot Class 12
    - EGPRS Class B,Multi-Slot Class 12
- Integrated Bluetooth class II, ver 1.2
    - Working Range:16.4 ft.to 32.81 ft. (5m to 10m)

Note: *802.11b/g, GSM, and Bluetooth are available simultaneously.*

Bar Code Applications

- Optional 1D imager expansion module
- Optional 2D imager expansion module
- Optional 1D SE955 laser scanner expansion module
- Optional 1D SE1223 High Performance laser scanner expansion module
- Optional bolt-on pistol grip

Note: All are user upgradeable

RFID Modules

- HF Module
    - Frequency: 13.56 MHz
    - Tags supported: ISO 15693, Philips ICode™; TI TagiIt™; Tagsys (C210,C220,C240,C270)
    - Read/write range up to: 3.15 in.(80 mm)
- MIFARE module
    - Frequency: 13.56 MHz
    - Tags supported: ISO 14443 A&B, Mifare
    - Read/write range up to: 1.97 in.(50 mm)
- LF module
    - Frequency: 125 KHz, 134.2 KHz
    - Tags supported: EM 4x0x, EM 4x50; Hitag 1 & 2; ISO HDXA & FDXB
    - Read/write range up to: 2.756 in.(70 mm)
- UHF module
    - Frequency: 868 MHz or 915 MHz
    - Read range: up to 4.92 ft.(150 cm) [915MHz] and up to 2.62 ft.(80 cm) [868 MHz]
    - Tag supported: EPC Class 1 Gen 2, other protocols depending on regions

User Interface

- Color Touch Screen Display 3.6 in.(9.144 cm) diagonal
    - Full VGA 480x640 resolution
    - Transflective, portrait mode TFT
    - Adjustable Backlight

- Sunlight readable (for outdoor use)
        - High reliability LED backlight
        - Easily replaceable and customizable bezel
- Touchscreen
    - Passive stylus or finger operation
        - Signature capture
- Keyboards
    - Full Alpha-Numeric (C model)
        - Numeric (S model)
        - Ergonomically enhanced for ambidextrous, one-hand operation
        - Backlit, high durability hard-capped keys
- Indicators And Controls
    - LED indicates battery charge status

Programming Environment
- HTML, XML
- Psion Teklogix Mobile Devices SDK
- Hardware Development Kit (HDK)
- .NET and C++ programming using Microsoft® Visual Studio® 2005
- Java programming supporting JDK 1.2.2 or higher
- Standard Protocol APIs
    - Windows sockets (CE.net)

Application Software
- Internet Explorer® Mobile included with Windows® Mobile® 6
- Windows Mobile Device Center
- Voice dialer and Personal Information Manager (PIM) included with Windows Mobile 6 Professional
- PTX Connect VoIP
- Optional Open TekTerm terminal emulation software, supports IBM 5250,IBM 3270, HP2392, ANSI and TESS
- Mobile Control Center (MCC) device management

Expansion Slots
- One SD/MMC memory card slot – user accessible
- End-cap USB Interface supports GPS expansion module
- 100-PIN expansion interface: supports PCMCIA (type II),GSM/GPRS EDGE and other third-party expansion modules developed using Psion Teklogix WORKABOUT PRO Hardware Developer's Kit
- Flex cable interface with robust connector: supports scanner (serial) and imager (USB) modules
- One Type II CF Card Slot

External Connectors
- One Tether connection with full RS232 and USB 1.1 functionality
- One Low-Insertion Force (LIF) docking connector
- DC Power Jack

Power Management
- Optional 3.7V, 3000 mAh High-Capacity Battery Pack
- Optional 3.7V, 4000 mAh Super High-Capacity Battery Pack
- Advanced Smart Battery with gas gauge
- 3 power source options: Runs off battery, AC power, or automotive power supplies
- Built-in charger
- Rechargeable, user replaceable backup battery pack

Environmental
- Withstands 26 drops (on 12 edges,8 corners, 6 faces) at 5 ft.(1.5 meters) to polished concrete while powered on and configured with accessories such as CF radio, scanner/imager, and pistol grip
- Rain/Dust: IP65,IEC 60529
- Operating Temperature: 14°F to 122°F (-10°C to +50°C)
- 5%-95% RH non-condensing
- Storage Temperature: -40°F to 140°F (-40°C to +60°C)

Physical Dimensions And Weight
- WORKABOUT PRO C:
    - 8.775 in. x 2.95/3.94 in. x 1.22/1.65 in. (223 mm x 75/100 mm x 31/42 mm)
- WORKABOUT PRO S:
    - 7.87 in. x 2.95/3.94 in. x 1.22/1.65 in. (200 mm x 75/100 mm x 31/42 mm)
- Weight (w/o battery pack):
    - WORKABOUT PRO C:1 lbs (455 g)
    - WORKABOUT PRO S:.859 lbs (390 g)

Power Accessories
- AC power supply (charge & operate hand-held)
- Automotive power supply (charge & operate hand-held)
- Single and Quad slot battery pack chargers
- Powered cradle for vehicle mount applications

Communication Accessories
- Quad Dock (4-site) with 10/100 BaseT Ethernet and charge functions
- Desktop Docking Station (charges hand-held & spare battery) provides USB1.1 host and device ports and supports optional plug-on expansion modules supporting 10/100 BaseT Ethernet or RS232 connections
- USB cable supports Active Sync without requiring a docking station
- Optional End-Caps supporting RS232, TTL, and IrDA

Carrying Accessories
- Hand-strap, pistol grip with trigger, holster and various protective carrying cases and pouches

Approvals
- Safety:
    - CSA/UL60950-1, IEC 60950-1, EN60950-1
- EMC:
    - FCC Part 15 Class B
    - EN 55022
    - EN 55024

- EN 301 489
- Laser:
    - IEC 60825-1, Class 2
    - FDA 21 CFR 1040.10.
    - 1040.11 Class II
- Bluetooth: 1.2
- RF:
    - Bluetooth and 802.11b/g: EN300 328, Part 15.247
    - GSM/GPRS: EN301 511; EN50360/361, NAPRD03; 3GPP51.010; FCC Parts 22 & 24; Industry Canada; RSS-132 & 133
- In-Vehicle Cradle: e Mark

8.2 Radio Specifications

Model RA2041: 802.11b/g Direct Sequence Spread Spectrum (DSSS)

Form factor	Compact Flash Type I extended
Antenna port	Two Hirose U.FL connectors for antenna diversity
Transmit Power	802.11g: 32mW maximum (+15 dBm)
	802.11b: 80mW maximum (+19 dBm)
Frequency Range	2.400 - 2.4897 GHz
Channels	FCC: 11
	ETSI: 13
	TELEC: 13
RX Sensitivity	-96dBm @ 1Mbps, -90dBm @ 11Mbps,
	-94dBm @ 6Mbps, -75dBm @ 54Mbps
Data Rates	802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps
	802.11b: 1, 2, 5.5, 11 Mbps

Model RA3030-G2- GSM/GPRS/EDGE Radio

Quad-Band GSM 850/900/1800/1900 MHz
EDGE (E-GPRS) multi-slot class 10
GPRS multi-slot class 12
GSM release 99

Output power:	- Class 4 (2 W) for EGSM850
	- Class 4 (2 W) for EGSM900
	- Class 1 (1 W) for GSM1800

                           - Class 1 (1 W) for GSM1900

Control via AT commands
(Hayes 3GPP TS 27.007 and 27.005)
SIM Application Toolkit (release 99)
TCP/IP stack access via AT commands

Internet Services:	TCP, UDP, HTTP, FTP, SMTP, POP3
Supply voltage range:	3.2 to 4.3 V

Specifications for:

EDGE data transmission:	EDGE class 10: max 236.8 kbps (downlink)
	Mobile station class B
	Modulation and coding scheme MCS 1-9
GPRS data transmission:	GPRS class 12
	Mobile station class B
	PBCCH support
	Coding schemes CS 1-4
CSD data transmission:	Up to 14.4 kbps
	V.110
	Non-transparent mode
	USSD support
SMS:	Point-to-point MO and MT
	SMS cell broadcast
	Text and PDU mode
Fax:	Group 3, class 1
Voice:	Triple-rate codec for HR, FR, and EFR
	Adaptive multi-rate AMR
	Basic hands-free operation
	Echo cancellation
	Noise reduction
Interfaces:	Hirose U.FL-R-SMT 50 ohm antenna connector
	Antenna solder pad
	Molex 80-pin board-to-board connector
	- Power supply
	- Audio: 2x analog, 1x digital
	- 2 x serial interface (ITU-T V.24 protocol)
	- USB 2.0 full speed

- SIM card interface 3 V, 1.8 V

- I2C bus

Bluetooth Radio

Embedded (920 kbps serial interface)

Bluetooth Version	1.2 compliant (features Adaptive Frequency Hopping for better co-existence with 802.11 radio)
Chip Antenna	2dBi peak
Transmit Power	-3dBm (0.5mW) minimum, +4dBm (2.5mW) max
Frequency Range	2.400 - 2.4835 GHz
RX Sensitivity (BER<=0.1%)	-80dBm max
Data Rate	732.2 kbps and 57.6 kbps asymmetric, 433.9 kbps symmetric

8.3   Battery Specifications

8.3.1   High-Capacity (Model WA3006)

8.3.1.1   Electrical Specifications

Note: *The electrical specifications apply for ambient temperature TAMB of 0° to +40°C unless otherwise stated.*

Item	Description	Specification	Remark
1	Interface Chipset	Maxim DS2762	-
2	Rated Voltage	3.7V	Typical
3	Rated Capacity	3000mAh	Typical
4	Rated Charge Current	1.5A	Maximum
5	Charge Voltage	4.2 +/- 0.05V	Maximum
6	Discharge Cut-off voltage	2.6V	Typical
7	Discharge Current	Constant voltage Current limited	-
8	Discharge Current	0.5C (-20°C to 60°C)	Typical
9	Internal Resistance	200 mΩ	Maximum

Battery Pack Electrical Specifications

Description	Specification		
	Minimum	Typical	Maximum
Over voltage detection voltage	4.325V	4.350V	4.375V
Charge enable	4.10V	4.15V	4.20V
Under voltage detection voltage	2.5V	2.6V	2.7V
Over current detection current	-	3.5A	-
Short-circuit detection current	5.0A	8.0A	11.0A
Short-circuit detection voltage	150mV	200mV	250mV
Over voltage delay time	0.8s	1s	1.2s
Under voltage delay time	90ms	100ms	110ms
Over current delay time	5ms	10ms	20ms
Short-circuit delay time	160μs	200μs	240μs
Recovery charge current	0.5mA	1mA	2mA

8.3.1.2 Standard Discharge

Note: Standard charge is defined as charging with constant voltage limit of 4.2V and constant current limit of 0.9A; the termination charge occurs when the current drops to 45mA.

Standard discharge is defined as discharging at a constant current of 350mA until the battery protection circuit switches the battery output off in over-discharge mode.

Acceptance Test Specifications

Description	Condition	Standard
Open circuit voltage	After standard charge, measure within 24 hours.	4.15V or more
Internal Resistance	After standard charge, measure within 24 hours.	200 mΩ max.
Capacity_1	After standard charge, measure time taken for a fast discharge.	110 minutes or more
Charge/Discharge Cycle	After repeating standard charge and fast discharge, measure the fast discharge time after 300 discharge cycles.	90 minutes or more
Capacity_2	After standard charge, measure the time taken for a standard discharge.	500 minutes or more

Description	Condition	Standard
Over Discharge	After standard charge, apply a standard discharge followed by a standby discharge. Then measure capacity after carrying out standard charge and then a fast discharge.	110 minutes or more
Self discharge	After a standard charge, keep battery at 25°C for 30 days. Measure the time taken for a fast discharge.	100 mins or more
Temperature	Perform a standard charge and fast discharge at 0°C, 25°C and 40°C and measured the time taken for a fast discharge at 25°C.	100 mins. @ 0°C 110 mins. @ 23°C 105 mins. @ 40°C
Temp./Humidity Cycle	After standard charge, carry out 5 cycles of the following: 65°C and 90% humidity for 8 hrs. 25°C and 65% humidity for 4 hrs. -20°C for 8 hrs. 25°C and 65% humidity for 4 hrs. Following that, perform a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
Dry heat	After standard charge, keep the battery at 60°C for 8 hrs. Carry out a fast discharge, standard charge and then a fast discharge, measured the time taken for the second discharge.	100 minutes or more
EMC/CE Testing	The battery will need to pass the requirements of the EMC directive 89/336/EEC (and amendments) when fitted into the product: Emissions to EN55022 Class B (1998) Immunity to EN55024 (1998)	Test to be performed by manufacturer.
Electro-Static Discharge Test	EN61000-4-8: A. Contact Discharge: +/-8kV for each contact pad by 10 times. B. Air Discharge: +/-15kV for 10 times (the discharge test point is for around battery casing.)	No damage

8.3.1.3 Safety Data

Description	Condition	Test Condition/Result
Short Circuit Test	After a standard charge, short terminals and discharge for 1 hr.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Over Charging Test	After a standard charge, charge continuously at 4.2V and 4A for 8 hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.

Description	Condition	Test Condition/Result
Reverse Charging Test	After a standard discharge, reverse-charge continuously at 4.2V and 4A for 8hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.

8.3.1.4 Safety License

Item	License	Standard
1	UL 1642	The lithium-ion cell has been listed and pass the UL1642 standard by UL Lab.
2	UL 2054	The battery pack is in the process to apply the UL 2054 battery standard.
3	89/336 EEC-EMC directive.	The battery pack is in the process to apply the below standard: -EN55022 -LVD 72/23 EEC -EN55024 -EN61326
4	RoHS Directive	The battery pack is in the process to apply the RoHS directive applicable report by SGS Lab.

8.3.1.5 Environmental Test

Description	Test Reference	Test Condition/Result
Drop	(mechanical)	Drop sample battery on all faces from height of 1.2 meters onto concrete floor. No explosion, fire, vent, leakage and the open circuit voltage higher than 3.7V.
Storage at high temp.	EN60068-2-2 Test	+60°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at low temp.	EN60068-2-1 Test	-20°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at high temp. and high humidity	IEC68-2-3 Test	+40°C at 90%RH for 240 hours. No explosion, fire, vent or leakage.
Storage temp. cycling	IEC68-2-14 Test	+60oC (2C) for 1 hour (T1), -20oC (2C) for 1 hour. 3 minutes Max allowed for change between T1 and T2. Cycle 10 times No explosion, no fire, no vent, and no leakage.
Vibration resistance	BS2011 Part 2.1 FDC (IEC68-2-37)	After standard charge, tested under the following conditions: Random vibration 5Hz-500Hz ASD 0.02g2/Hz in 3 axis for 15 mins. After which, carry out a standard discharge, charge, discharge. No parting joints/cracks or damage to connectors. No leakage or critical damage.

Description	Test Reference	Test Condition/Result
Impact shock resistance	-	3 cycles of 50G 11ms, 1/2 sine pulse acceleration applied in 6 directions. 18 shocks total.
ESD protection	-	Accordance with EN61000-4-8

8.3.2   Super High-Capacity (Model WA3010)

8.3.2.1   Electrical Specifications

Note: *The electrical specifications apply for ambient temperature TAMB of 0° to +40°C unless otherwise stated.*

Item	Description	Specification	Remark
1	Interface Chipset	Maxim DS2762	-
2	Rated Voltage	3.7V	Typical
3	Rated Capacity	4000mAh	Typical
4	Rated Charge Current	1.2A	Maximum
5	Charge Voltage	4.2 +/- 0.05V	Maximum
6	Discharge Cut-Off Voltage	2.6V	Typical
7	Charge Method	Constant voltage Current limited	-
8	Discharge Current	0.5C (-20°C to 60°C)	Typical
9	Internal Resistance	150 mΩ	Maximum
10	Charging Temperature	0 to 40	Typical

Battery Pack Electrical Specifications

Item	Description	Specification		
		Minimum	Typical	Maximum
1	Over voltage detection voltage	4.325V	4.350V	4.375V
2	Charge enable	4.10V	4.15V	4.20V
3	Under voltage detection voltage	2.5V	2.6V	2.7V
4	Over current detection current	2.97A	3.17A	3.36A
5	Short-circuit detection current	9.9A	13.33A	16.83A
6	Short-circuit detection voltage	150mV	200mV	250mV
7	Over voltage delay time	0.8s	1s	1.2s
8	Under voltage delay time	90ms	100ms	110ms
9	Over current delay time	5ms	10ms	20ms

Item	Description	Specification		
10	Short-circuit delay time	160μs	200μs	240μs
11	Recovery charge current	0.5mA	1mA	2mA

8.3.2.2   Standard Discharge

Note: *Standard charge is defined as charging with constant voltage limit of 4.2V and constant current limit of 0.9A; the termination charge occurs when the current drops to 45mA.*

Standard discharge is defined as discharging at a constant current of 350mA until the battery protection circuit switches the battery output off in over-discharge mode.

Acceptance Test Specifications

Description	Condition	Standard
Open circuit voltage	After standard charge, measure within 24 hours.	4.15V or more
Internal Resistance	After standard charge, measure within 24 hours.	150 mΩ max.
Capacity_1	After standard charge, measure time taken for a fast discharge.	110 minutes or more
Charge/Discharge Cycle	After repeating standard charge and fast discharge, measure the fast discharge time after 300 discharge cycles.	90 minutes or more
Capacity_2	After standard charge, measure the time taken for a standard discharge.	500 minutes or more
Over Discharge	After standard charge, apply a standard discharge followed by a standby discharge. Then measure capacity after carrying out standard charge and then a fast discharge.	110 minutes or more
Self discharge	After a standard charge, keep battery at 25°C for 30 days. Measure the time taken for a fast discharge.	100 mins or more
Temperature	Perform a standard charge and fast discharge at 0°C, 25°C and 40°C and measured the time taken for a fast discharge at 25°C.	100 mins. @ 0°C 110 mins. @ 23°C 105 mins. @ 40°C

Description	Condition	Standard
Temp./Humidity Cycle	After standard charge, carry out 5 cycles of the following: 65°C and 90% humidity for 8 hrs. 25°C and 65% humidity for 4 hrs. -20°C for 8 hrs. 25°C and 65% humidity for 4 hrs. Following that, perform a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
Dry heat	After standard charge, keep the battery at 60°C for 8 hrs. Carry out a fast discharge, standard charge and then a fast discharge. Measure the time taken for the second discharge.	100 minutes or more
EMC/CE Testing	The battery will need to pass the requirements of the EMC directive 89/336/EEC (and amendments) when fitted into the product: Emissions to EN55022 Class B (1998) Immunity to EN55024 (1998)	Test to be performed by manufacturer.
Electro-Static Discharge Test	EN61000-4-8: A. Contact Discharge: +/-8kV for each contact pad by 10 times. B. Air Discharge: +/-15kV for 10 times (the discharge test point is for around battery casing.)	No damage

8.3.2.3   Safety Data

Description	Condition	Test Condition/Result
Short Circuit Test	After a standard charge, short terminals and discharge for 1 hr.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Over Charging Test	After a standard charge, charge continuously at 4.2V and 4A for 8 hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.
Reverse Charging Test	After a standard discharge, reverse-charge continuously at 4.2V and 4A for 8hrs.	Protection circuit board to operate. No explosion, fire, smoke, or leakage.

8.3.2.4   Safety License

Item	License	Standard
1	UL 1642	The lithium-ion cell has been listed and pass the UL1642 standard by UL Lab. File No. MH12383

Item	License	Standard
2	UL 2054	The battery pack is in the process to apply the UL 2054 battery standard. File No. MH29921.
3	89/336 EEC-EMC directive	The battery pack is in the process to apply the below standard: -EN55022 -LVD 72/23 EEC -EN55024 -EN61326
4	RoHS Directive	The materials of battery pack are used in accordance with the European RoHS directive.

8.3.2.5   Environmental Test

Description	Test Reference	Test Condition/Result
Drop	(mechanical)	Drop sample battery on all faces from height of 1.2 meters onto concrete floor. No explosion, fire, vent, leakage and the open circuit voltage higher than 3.7V.
Storage at high temp.	EN60068-2-2 Test	+60°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at low temp.	EN60068-2-1 Test	-20°C dry for 240 hours No explosion, fire, vent or leakage.
Storage at high temp. and high humidity	IEC68-2-3 Test	+40°C at 90%RH for 240 hours. No explosion, fire, vent or leakage.
Storage temp. cycling	IEC68-2-14 Test	+60°C (2C) for 1 hour (T1), -20oC (2C) for 1 hour. 3 minutes Max allowed for change between T1 and T2. Cycle 10 times No explosion, no fire, no vent, and no leakage.
Vibration resistance	BS2011 Part 2.1 FDC (IEC68-2-37)	After standard charge, tested under the following conditions: Random vibration 5Hz-500Hz ASD 0.02g2/Hz in 3 axis for 15 mins. After which, carry out a standard discharge, charge, discharge. No parting joints/cracks or damage to connectors. No leakage or critical damage.
Impact shock resistance	-	3 cycles of 50G 11ms, 1/2 sine pulse acceleration applied in 6 directions. 18 shocks total.
ESD protection	-	Accordance with EN61000-4-8

8.4 Scanner/Imager Model Numbers

Scanner/Imager Engine	Kit Model Number	Form Factor
1D Laser SE955	WA9102-G1	End-Cap without GSM
	WA9112-G1	End-Cap with GSM
	WA9002-G1	Pod
1D Laser SE1223HP	WA9000-G1	Pod
1D Laser SE1223LR	WA9005-G1	Pod
1D Laser SE1223ALR	WA9006	Pod (non-RoHS)
1D Imager EV15	WA9103-G1	End-Cap without GSM
	WA9113-G1	End-Cap with GSM
	WA9003-G1	Pod
2D Imager HHP 5180	WA8010-G1	End-Cap without GSM
	WA8110-G1	End-Cap with GSM
	WA9012-G1	Slim Pod

8.5 Scanner Specifications

8.5.1 SE 1223HP, LR, ALR And SE 955HP Specifications

Scan Engine	SE 1223HP	SE 1223LR	SE 1223ALR	SE 955HP
Scan Angle	42º ± 2º	23º ± 2º	13º ± 2º	47° ± 3° default / 35° ± 3° reduced
Scan Rate	35 (± 5) scans/sec (bi-directional)	35 (± 5) scans/sec (bi-directional)	35 (± 5) scans/sec (bi-directional)	104 (± 12) scans/sec (bi-directional)
Scan Pattern	Linear	Linear	Linear	Linear
Wavelength	650nm	650nm	650nm	650nm

Scan Engine	SE 1223HP	SE 1223LR	SE 1223ALR	SE 955HP
Input Voltage	5.0 VDC ± 10%	5.0 VDC ± 10%	5.0 VDC ± 10%	3.0-5.5 VDC ± 10%
Input Current	110 mA typical	115 mA typical	115 mA typical	65 mA typical
Standby Current	130 μA typical	70 μA max.	70 μA typical	8 μA max
Operating Temperature	-40ºC to 60ºC -40ºF to 140ºF	-30º to 55ºC -22ºF to 131ºF	-30ºC to 55ºC -22ºF to 131ºF	-20º to 60º C -4º to 140º F
Print Contrast	Minimum 20% absolute dark/light reflectance measured at 650 nm	Minimum 40% absolute dark/light reflectance measured at 650 nm	Minimum 40% absolute dark/light reflectance measured at 650 nm	Minimum 25% absolute dark/light reflectance measured at 650 nm
Dimensions	1.93 cm max. H x 3.84 cm max. W x 3.51 cm max. D 0.76 in. max. H x 1.51 in. max. W x 1.38 in. max. D	1.93 cm max. H x 3.84 cm max. W x 3.51 cm max. D 0.76 in. max. H x 1.51 in. max. W x 1.38 in. max. D	1.93 cm max. H x 3.84 cm max. W x 3.51 cm max. D 0.76 in. max. H x 1.51 in. max. W x 1.38 in. max. D	1.21 cm H x 2.16 cm W x 1.55 cm (max) 0.47 in. H x 0.85 in. W x 0.61 in. D (max)
Symbologies	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, TriOptic Code 39	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, TriOptic Code 39	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, TriOptic Code 39	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI Plessey

8.5.1.1   SE 1223HP Decode Zone

4,844 Lux to 86,112 Lux				
	Minimum range	Width of field	Maximum range	Width of field
Mil Size	Inches	Inches	Inches	Inches
5	2.75	1.25	7	3
7.5	2.25	1	11	4
10	1.75	0.5	15.75	6
UPC	2	1	22	9
15	2	1	25	10
20	2	1	30	12.5
40	3.75		56	23
55	5		66	25

8.5.1.2   SE 1223LR Decode Zone

4,844 Lux to 86,112 Lux				
	Minimum range	Width of field	Maximum range	Width of field
Mil Size	Inches	Inches	Inches	Inches
10	11	2	24	5
15	7.5	1	39	8
20	7.5	1	48	10
40	10	2	90	19
55	10	2	120	24
70 reflective	48		200	40
100 reflective	60		240	48
High quality symbols in normal room light.				

8.5.1.3   SE 1223ALR Decode Zone

4,844 Lux to 86,112 Lux				
	Minimum range	Width of field	Maximum range	Width of field
Mil Size	Inches	Inches	Inches	Inches

4,844 Lux to 86,112 Lux				
UPC	19	2	39	4
15	20	2	50	6
30	33	4	98	11
55	27	2	115	12
70 reflective	114	12	250	28
100 reflective	125	14	360	41
High quality symbols in normal room light.				

8.5.1.4   SE 955HP Decode Zone

Decode Zone Typical	
4 mil	1.0 in. - 5.5 in. / 2.54 cm - 13.97 cm
5 mil	1.25 in. - 8 in. / 3.18 cm - 20.32 cm
7.5 mil	1.5 in. - 13.25 in. / 3.81 cm - 33.66 cm
10 mil	1.5 in. - 17.5 in. / 3.81 cm - 44.45 cm
UPC 100%	1.5 in. - 23.5 in. / 3.81 cm - 59.69 cm
15 mil	1.5 in. - 29.5 in. / 3.81 cm - 74.93 cm
20 mil	1.75 in. - 35.5 in. / 4.45 cm - 90.17 cm
40 mil	* - 40 in. / * - 101.6 cm
55 mil	* - 55 in. / * - 139.7 cm
* dependent on width of bar code	

8.5.2   EV15 Imager Specifications

Parameter	EV15
Light Source	617nm Highly Visible LED
Scan Angle	40º
Minimum Print Contrast	Minimum 25%
Min x. Dimension	0.1 mm (4 mils)
Reading Distance	Up to 90cm (35 in)

Parameter	EV15
Symbologies	UPC (E&A), EAN, RSS, Code 39, Code 128, UCC/EAN 128, ISBN, ISBT, Interleaved, Matrix, Industrial and Standard 2 of 5, Codabar, Code 93/93i, Code 11, MSI, Plessey, Telepen, PDF417, Micro PDF417
Ambient Light	Works in any lighting conditions, from 0 to 100,000 lux
Shock	2000G, 0.7ms, half sinus, 3 axes
Vibration	50G r.m.s

8.5.2.1   EV15 Imager Decode Zone

0 Lux to 100,000 Lux		
	Minimum range	Maximum range
Mil Size	Inches	Inches
5	2.5	7
10	3	14
UPC	2	14.5
20	2.5	22
40	3	35.5
High quality symbols in normal room light.		

8.5.3 HHP5180 Imager

Parameter	HHP5180
Image Sensor	752 X 480 CMOS sensor
Motion Tolerance	4 in. (10.2cm) per second
Rotational Sensitivity	360°
Viewing Angle	±40°
Ambient Light	Total darkness to 100,000 lux (full sunlight)
Illumination LEDs	626nm ±30nm
Aiming:	LEDs: 526nm ±30nm Laser: 650nm ±10nm

Parameter	HHP5180
Symbologies supported	2D: PDF417, MicroPDF417, MaxiCode, Data Matrix, QR Code, Aztec, Aztec Mesa, Code 49, UCC Composite Linear: Code 39, Code 128, Codabar, UPC, EAN, Interleaved 2 of 5, RSS, Code 93, Codablock Postal: Postnet (US), Planet Code, BPO 4 State, Canadian Post, Japanese Post, KIX (Netherlands) Post OCR Fonts: OCR-A, OCR-B
Size	1.78cm Depth x 2.79cm Width (without mounting tabs) x 1.21cm Height 0.7 in. Depth x 1.1 in. Width (without mounting tabs) x 0.475 in. Height
Weight	5.9 grams (.21 ounces)
Operational Input Voltage:	Imager: 3.3 VDC ±5% (23°C) Illumination + Aimer 5300: 3.0 VDC to 5.5 VDC (23°C)
Current Draw:	Imager: Operating Current – 100 mA Standby Current: 100 µA
Operating Temperature	-30° to +50°C (-34° to 122°F)
Storage Temperature	-40° to +70°C (-40° to 158°F)
Humidity	up to 95% RH, non-condensing at 122° F (50°C)
Shock	18 shocks of 3,500 G for 0.5 msec at 23°C (73° F)

8.5.3.1 HHP5180 Imager Decode Zone

Performance						
Focal Point						
SR	7 inches (17.8 cm) from lens plate					
SF	4.5 inches (11.4 cm) from lens plate					
SR Working Range*	8.3 mil Linear (.020 cm)	10 mil PDF417 (.025 cm)	13 mil UPC (.033 cm)	15 mil Data Matrix (.038 cm)6	15 mil QR (.038 cm)	35 mil Maxicode (.089 cm)
Near	3.5 in. (8.9 cm)	3.1 in. (7.9 cm)	2.1 in. (5.3cm)	2.3 in. (5.8 cm)	2.1 in. (7.9 cm)	2.0 in. (5.1 cm)
Far	7.6 in. (19.3cm)	9 in. (22.9 cm)	13.2 in. (33.5 cm)	10.2 in. (25.9 cm)	8.8 in. (22.4 cm)	13.0 in. (33 cm)

Performance						
SF Working Range*	6.6 mil PDF417 (.017 cm)	7.5 mil Linear (.019 cm)	8.3 mil Data Matrix (.021 cm)	8.3 mil QR (.021 cm)6	10 mil Linear (.025 cm)	13 mil UPC (.033 cm)
Near	2.8 in. (7.1cm)	2.5 in. (6.4cm)	3.4 in. (8.6cm)	3.4 in. (8.6cm))	2.2 in. (5.6cm)	2.0 in. (5.1cm)
Far	6 in. (15.2cm)	6.5 in. (16.5cm)	5.7 in. (14.5cm)	5.4 in. (13.7cm)	7.6 in. (19.3cm)	8.9 in. (22.6cm)
*Data characterized at 23°C and 0 lux ambient light.						

SUMMIT CLIENT UTILITY (SCU)

For quick setup instructions for the RA2041 Summit radio using the Summit Client Utility, refer to "Setting Up A RA2041 Radio–Summit Client Utility" on page 17.

A.1 SCU Tabs

This section provides a detailed description of each of the tabs available in the SCU – Main, Config, Status, Diags and Global Settings.

A.2 Main Tab

The *Main* tab is displayed when you tap on the *Start>Programs>SCU* icon.
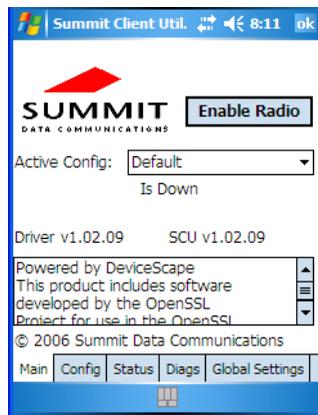
- • **Enable/Disable Radio:** Enables or disables the radio. This is a toggle button; when the radio is enabled, this button reads *Disable Radio*, and when the radio is disabled, the button reads *Enable Radio*.

- • **Active Config:** Lists the name(s) of the active configuration profile(s) which are referred to as *configs*. When a *config* is chosen from the *Active Config* dropdown menu, the settings for that config become active.

If *ThirdPartyConfig* is selected, after the WORKABOUT PRO goes through a power cycle, WZC is used for configuration of the radio. See "ThirdPartyConfig" on page 6 for details.

- **Association Status:** Indicates if the radio is associated to an access point. If this is not the case, *Association Status* indicates the radio status.

- **Software Version:** This field displays the version of the device driver and the *SCU* that are running on the WORKABOUT PRO.

- **About Box:** This box provides information about the *SCU*.

A.3 Config Tab

The *Config* tab allows you to define radio and security settings that are stored in the registry as part of the configuration profile or *config*.

The *config* you create and save is listed in the *Active Config* dropdown menu in the *Main* tab. You can define up to 20 *configs*.
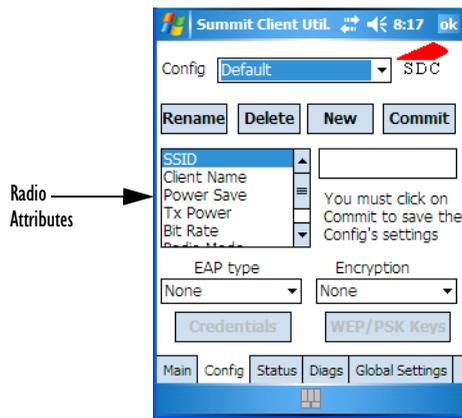
- **Config:** Used to choose the *config* to be viewed or edited. If *ThirdParty-Config* is chosen, after the WORKABOUT PRO goes through a power cycle, WZC is used for configuration of the radio.

- **Rename:** Allows you to assign a *config* name.

- **Delete:** Deletes the *config* unless it is currently active.

- **New:** Allows you to create a new *config* with default settings and assign it a name.

- **Commit:** Saves all changes.

• **Radio Attributes:** Lists radio attributes. These attributes can be individually chosen from this menu. When an attribute is chosen, an associated list of options is displayed where you can assign new settings or view existing settings.

The following table describes the options in the *Radio Attributes* dropdown menu:

Radio Attribute	Description	Value	Default
Config	Name of config (configuration profile). Use Rename button to change name.	Maximum of 32 characters.	None
SSID	Service set identifier (SSID) for WLAN to which the radio connects.	Maximum of 32 characters.	None
Client Name	Name assigned to radio & WORKABOUT PRO into which it is installed.	Maximum of 16 characters.	None
Power Save	Power save mode for radio.	CAM: Constantly awake. Maximum: Maximum power savings. Fast: Fast power save mode.	Fast
Tx Power	Maximum transmit power.	Max: Maximum defined for current regulatory domain. Measured in mW: 50,30,10, 1.	Max
Bit Rate	Used by radio when interacting with WLAN access point.	Auto: Rate automatically negotiated with access point. Rates in Mbps: 1, 2, 5.5, 6.9 11, 12, 18, 24, 36, 48, 54.	Auto
Radio Mode	Used by 802.11g when interacting with access point.	B rates only: 1, 2, 5.5, & 11 Mbps. G rates only: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps. BG rates full: All B and G rates. BG rates optimized: 1, 2, 5.5, 6, 11, 24, 36 & 54 Mbps.	BG rates optimized
Auth Type	802.11 authentication type used when associating with access point.	Open, shared-key, or LEAP (Network-EAP).	Open

Radio Attribute	Description	Value	Default
EAP Type	Extensible Authentication Protocol type used for 802.1X authentication to access point.	None, LEAP, EAP-FAST, PEAP-MSCHAP – To use EAP-TLS, you must use WZC.	None
Credentials	Authentication credentials for the selected EAP type. *Refer to "EAP Credentials" on page 6.*	User: Username or Domain/Username (up to 64 characters). Password: up to 64 characters. For PEAP: CA Cert–CA server certificate filename.	None
Encryption	Type of encryption used to protect transmitted data.	Off, Manual WEP, Auto WEP (generated during EAP authentication), WPA-PSK, WPA-TKIP, WPA2-PSK, WPA2-TKIP, WPA2-AES, CCKM-TKIP. For Manual WEP: Up to four static WEP keys. For PSK: ASCII passphrase or hex PSK.	None

- **EAP-Type & Encryption:** Security settings. These settings allow you to enhance the security of data across the wireless LAN. Refer to "EAP Credentials" on page 6 and "SCU Security Capabilities" on page 4 for details about these settings.

A.3.1 SCU Security Capabilities

The *SCU* provides integrated security to protect transmitted data as well as the hand-held and wireless WAN infrastructure that transmit and receive data.

A foundational element of the IEEE 802.11i WLAN security standard is IEEE 802.1X and a critical application on a mobile device is an 802.1X supplicant. This supplicant provides an interface between the radio and the operating system and supports the authentication and encryption elements required for 802.11i, also known as Wi-Fi Protected Access 2 (WPA2), as well as predecessors such as WPA and WEP. Summit software includes an integrated supplicant that supports a broad range of security capabilities, including:

- 802.1X authentication using pre-shared keys or an EAP type, required for WPA2 and WPA.

- Data encryption and decryption using WPA2 AES, WPA TKIP or WEP.

Common EAP types include:

- **EAP-TLS:** Uses the same technology as a follow-on to Secure Socket Layer (SSL). It provides strong security, but relies on client certificates for user authentication.

- **PEAP:** Provides secure user authentication by using a TLS tunnel to encrypt EAP traffic. Two different inner methods are used with PEAP:

    - EAP-MSCHAPV2, resulting in PEAP-MSCHAP: This is appropriate for use against Windows Active Directory and domains.

    - EAP-GTC, resulting in PEAP-GTC: This is for authentication with one-time passwords (OTPs) against OTP databases such as SecureID.

- **LEAP:** Is an authentication method for use with Cisco WLAN access points. LEAP does not require the use of server or client certificates. LEAP supports Windows Active Directory and domains but requires the use of strong passwords to avoid vulnerability to offline dictionary attacks.

- **EAP-FAST:** Is a successor to LEAP and does not require strong passwords to protect against offline dictionary attacks. Like LEAP, EAP-FAST does not require the use of server or client certificates and supports Windows Active Directory and domains.

Note: PEAP and EAP-TLS require the use of Windows facilities for the configuration of digital certificates.

SCU EAP Types

The following EAP types are supported by the integrated supplicant and can be configured in SCU: PEAP-MSCHAP, PEAP-GTC, LEAP and EAP-FAST. With each of these four types, if authentication credentials are not stored in the *config*, you will be prompted to enter credentials the first time the radio attempts to associate to an access point that supports 802.1X (EAP).

Consider the following when configuring one of the EAP types:

- **PEAP-GTC**: SCU supports static (login) passwords only.
- **LEAP:** Strong passwords are recommended.
- **EAP-FAST:** SCU supports automatic, not manual, PAC provisioning.

EAP-TLS will work with a RA2041 radio module when *Windows Zero Config* (WZC) rather than the *SCU* is used to configure the type. With WZC, *the native Windows supplicant* instead of the *SCU* integrated supplicant is used.

A.3.2   EAP Credentials

Keep the following in mind when defining security settings:

- If the credentials specified in the *config* are incorrect and that *config* is used, the authentication fails without an error message; you will not be prompted to enter correct credentials.

- If the credentials are not specified in the *config*, when the radio tries to associate using that config, you will be prompted to enter the credentials.

- When prompted, you can enter valid credentials, enter invalid credentials, or cancel the operation.

  - If you enter valid credentials and tap OK, the radio will associate and authenticate.

  - If you enter invalid credentials and tap on OK, the radio will associate but will not authenticate; you will be prompted again to enter credentials.

  - If you tap on Cancel or clear the credentials fields and tap on OK, the radio will not attempt to associate with that *config* until you perform one of the following actions (while the *config* is the *active config*):

    - Cause the WORKABOUT PRO to go through a power cycle or suspend/resume.

    - Disable and enable the radio, or tap the **Reconnect** button on the *Diags* windows.

    - Modify the *config,* and tap on **Commit**.

Alternatively, you can choose another *config* as the active *config* and then switch back to the *config* for which EAP authentication was cancelled.

A.3.3   ThirdPartyConfig

If you choose to configure *ThirdPartyConfig*, the *SCU* will work with the operating system's *Windows Zero Config* (WZC) to configure radio and security settings for the CF radio installed in the unit.

Choosing this *config* means that *WZC* must be used to define the following radio and security options: SSID, Auth Type, EAP Type and Encryption.The *SCU* settings for *ThirdPartyConfig* include: Client Name, Power Save, Tx Power, Bit Rate and Radio Mode. These *SCU* settings along with SCU global settings and the WZC settings will be applied to the radio module.

A.4 Global Settings Tab
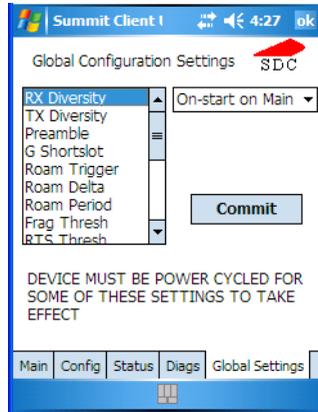
The *Global Settings* tab allows you to define radio and security settings that apply to all *configs* (profiles), along with settings that apply specifically to the *SCU*.

The *Global Settings* in the table below can be edited in the *SCU*:

Global Setting	Description	Value	Default
CCX features	Activates three CCX features: AP-assisted roaming, AP-specified maximum transmit power & radio management.	On, Off	Off
Cert Path	Directory where certificates for EAP authentication are stored.	Valid directory path up to 64 characters.	Dependent on device.
Frag Thresh	Packet is fragmented when packet size (in bytes) exceeds threshold.	Integer from 256 to 2346.	2346
G Shortslot	802.11g short slot timing mode.	Auto, Off, On	Auto

Global Setting	Description	Value	Default
Hide Passwords	On - SCU as well as EAP authentication dialog boxes hide passwords, WEP keys and other sensitive information.	On, Off	Off
LED	Available only with MCF10G.	On, Off	Off
Preamble	Type of radio preamble or headers.	Auto, Short, Long	Auto
Ping Payload	Amount of data to be transmitted on a ping.	Bytes: 32, 64, 128, 256, 512 & 1024	32
Ping Timeout ms	Amount of time in milliseconds that passes without a response before ping request is considered a failure.	Integer from 0 to 30000.	5000
Ping Delays ms	Amount of time in milliseconds between successive ping requests.	Integer from 0 to 7200000.	1000
Roam Delta	Amount by which second AP's RSSI must exceed the moving average RSSI for the current AP before the radio will attempt to roam to a second AP.	dBm: 5, 10, 15, 20, 25, 30, 35	15
Roam Period	Following an association or roam scan (with no roam), the number of seconds the radio collects RSSI scan data before considering roaming.	Seconds: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	10
Roam Trigger	If RSSI from AP is less than roam trigger value, radio performs roam scan or probes for an AP with stronger signal.	dBm: -50, -55, -60, -65, -70, -75	-70
RTS Thresh	Packet size above which RTS/CTS is required on link.	An integer from 0 to 2347.	2347

Global Setting	Description	Value	Default
RX Diversity	Defines how to handle antenna diversity when receiving data from AP.	-On-Start on Main: On startup, use main antenna. -On-Start on Aux: On startup, use auxiliary antenna. -Main only: Use main antenna only. -Aux only: Use auxiliary antenna only.	On-Start on Main
TX Diversity	Defines how to handle antenna diversity when transmitting data to AP.	-Main only: Use main antenna only. -Aux only: Use auxiliary antenna only. -On: Use diversity.	On
WMM	Use Wi-Fi Multimedia Extensions, also know as WMM.	On, Off	Off

A.5 Status Tab
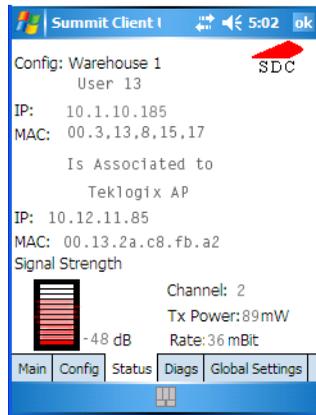
The *Status* tab provides status information including IP address and MAC address for the client radio, IP address and MAC address for the AP, signal strength, channel, transmit power and data rate.

A.6   Diags Tab
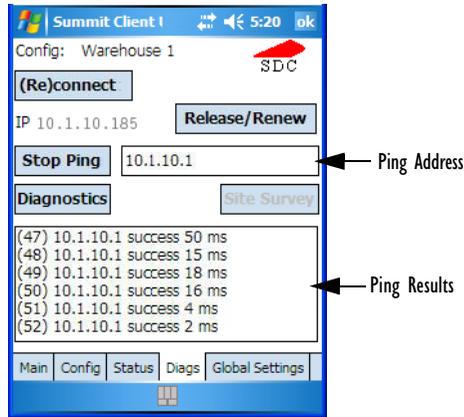
Use the *Diags* tab as a troubleshooting tool. The functions are as follows:

- **(Re)Connect:** Enables/Disables the radio, applies/reapplies current *config* and tries to associate and authenticate to the wireless LAN, logging all activity in the output area at bottom of the dialog box.

- **Release/Renew:** Obtains a new IP address through DHCP and logs all activity in the output area.

- **Start Ping/Stop Ping:** Starts a continuous ping to the address in the text box next to this button. This a toggle button so when you tap on it, it changes to *Stop Ping*. Closing this window or tapping on another button also stops the ping.

- **Diagnostics:** Attempts to connect or reconnect to an AP, and provides a more detailed dump of data than if you used *(Re)connect*. The dump includes the radio state, config settings, global settings and BSSID list of APs. The SCU is saved to a file called *_sdc_diag.txt* in the Windows directory.

APPENDIX **B**

PORT PINOUTS

B.1 LIF (Low Insertion Force) Port Pinout

PIN #	Signal Name
1	Ground
2	Ground
3	USB Host Data Plus, For connecting USB devices
4	USB Host Data Minus, For connecting USB Devices
5	USB Host Power, for powering USB devices (5V, 100mA Max)
6	DC Power in, for supplying power to WORKABOUT PRO / charging battery (5V, 3A)
7	DC Power in, for supplying power to WORKABOUT PRO / charging battery (5V, 3A)
8	LIF Detect, determines if a device is attached to the LIF
9	USB Device Data Minus, for operating the WORKABOUT PRO as a USB device
10	USB Device Data Plus, for operating the WORKABOUT PRO as a USB device
11	Ground
12	Ground

B.2 Tether Port Pinout

PIN #	Signal Name
1	Ground
2	USB Data Plus (can be configured as Host or Device)
3	USB Data Minus (can be configured as Host or Device)

PIN #	Signal Name
4	USB VBUS (can provide 5V, 100mA Max for powering USB Devices)
5	RS232 Tx data
6	RS232 Rx Data
7	Tether detect resistor ID. Determines what kind of device is attached to the Tether port
8	DC Power In
9	DC Power In
10	DC Power In
11	RS232 CTS
12	RS232 RTS
13	RS232 DSR
14	RS232 DTR
15	RS232 DCD
16	RS232 RI
17	Ground
18	Ground
19	Ground
20	Ground

B.3   Battery Contact Pinout–WA3006 & WA3010

PIN #	Signal Name	Function
1	P-	Power Pin for Battery Pack Negative
2	DQ	Maxim DS2762 Data
3	TH (GND)	Ground
4	P+	Power Pin for Battery Pack Positive
5	PS	Power Switch Sensor
-	Plastic Rip	-
6	P-	Power Pin for Battery Pack Negative

B.3.1   Positive Female Battery Connector

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