WORKABOUT PRO M/C
Hand-Held Computer

User Manual

July 13, 2004   **Part No. 8000024.A**

PSION TEKLOGIX

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Revised 8/12/2002

APPROVALS AND SAFETY SUMMARY

Declaration Of Conformity

Product:	**7525 WORKABOUT PRO**
Application of Council Directive(s):	EMC Directive: 89/336/EEC
	Low Voltage Directive: 73/23/EEC
Conformity Declared to Standards:	EN 55022: 1998 Class B;
	EN 61000-3-2; EN 61000-3-3
	EN 55024:1998;
	EN 61000-4-2; ±4kV CD; ±8kV AD
	EN 61000-4-3; 3V/m, 80-1000 MHz
	EN 61000-4-4; ±1kV Power lines
	EN 61000-4-5; ±1kV Differential mode
	EN 61000-4-6; 3VRMS, 150kHz-80MHz
	EN 61000-4-11; AC Mains Ports
	EN 60950: 2000
Manufacturer:	ASKEY COMPUTER CORP.
	10F, NO. 119, ChienKang Rd., Chung-Ho,
	Taipei, Taiwan, R.O.C.
Year of Manufacture:	2004
Manufacturer's Address in the European Community:	PSION TEKLOGIX S.A.
	La Duranne; 135 Rue Rene Descartes; BP 421000
	13591 Aix-En-Provence
	Cedex 3; France
Type of Equipment:	Information Technology Equipment
Equipment Class:	Commercial and Light Industrial

I the undersigned hereby declare that the equipment specified above conforms to the above directives and standards.

Manufacturer:	**Legal Representative in Europe:**
_____	_____
Signature	Signature
John Chiou	Dominique Binckly
Position	Position
Product Certification Manager	Vice President International Sales
Place	Place
ASKEY COMPUTER, TAIPEI	PSION TEKLOGIX S.A. France

FCC DECLARATION OF CONFORMITY (DoC)

Applicant's Name & Address: ASKEY COMPUTER CORP.
10F, NO. 119, ChienKang Rd., Chung-Ho,
Taipei, Taiwan, R.O.C.

Contact Person: <u>Piyang Chiang</u>
Telephone No.: <u>(510) 440-8694</u>
47849 FREMONT BLVD. FREMONT,
CA, 94538, USA

US Representative's Name & Address: PSION TEKLOGIX
1810 Airport Exchange Blvd., Suite 500
Erlanger, KY, 41018, USA

Contact Person: <u>Kyle Day</u>
Telephone No.: <u>(859) 372-4329</u>

Equipment Type/Environment: Computing Devices

Trade Name / Model No.: WORKABOUT PRO, Model 7525

Year of Manufacture: 2004

Standard(s) to which Conformity is Declared:

The WORKABOUT PRO, model 7525, supplied by Askey Computer Corp., has been tested and found to comply **with FCC PART 15, SUBPART B - UNINTENTIONAL RADIATORS, CLASS B COMPUTING DEVICES FOR HOME & OFFICE USE.**

I, the undersigned, hereby declare that the equipment as tested is representative within manufacturing tolerance to units.

Applicant	**Legal Representative in U.S.**
Signature	Signature
<u>Piyang Chiang</u>	<u>Kyle Day</u>
Full Name	Full Name
<u>General Manager</u>	<u>V.P. Channel Sales</u>
Position	Position
<u>Askey International Corp</u>	<u>Erlanger, KY 41018, USA</u>
Place	Place
<u>Feb. 4, 2004</u>	<u>Feb. 4, 2004</u>
Date	Date

This equipment complies with Class B Part 15 of the FCC rules.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by Psion Teklogix, the party responsible for compliance, may void the user's authority to operate the equipment.

1. FCC Information to Users

For Class B Unintentional Radiators:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

*   Reorient or relocate the receiving antenna

*   Increase the separation between the equipment and receiver

*   Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

*   Consult the dealer or an experienced radio/TV technician for help.

2. Warning to Users

Warning: **Changes or modifications not expressly approved by Psion Teklogix Inc. could void the user's authority to operate the equipment.**

This product complies with 21 CFR 1040.10, 1040.11 Class II and IEC 60825-1: 2001, Class 2 laser product.

LASER WARNINGS

For your own safety, it is critical that you comply with the following warnings:

CAUTION

Do not look into the laser beam or point the beam at people or animals.

CAUTION

Using controls or adjustments, or performing procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION

The use of optical instruments with this product will increase eye hazard.

This product contains a laser scanner that emits less than 1.2 mW maximum radiant power at a wavelength of 650nm or 680nm. This product complies with 21 CFR 1040.10, 1040.11 and DIN EN 60825-1: 2001, and is classified as a Class 2 laser product.

DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE

Operating Psion Teklogix equipment where explosive gas is present may result in an explosion.

DO NOT REMOVE COVERS OR OPEN ENCLOSURES

To avoid injury, the equipment covers and enclosures should only be removed by qualified service personnel. Do not operate the equipment without the covers and enclosures properly installed.

Caution!

Danger of explosion if a battery is incorrectly handled, charged, disposed of or replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the instructions described in "Lithium Ion Battery Safety Precautions" on page 140. Carefully review all battery safety issues.

Vorsicht!

Explosiongefahr bei unsachgemäßem Austausch der Batterie Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

INTRODUCTION 1

1.1 About This Manual

This manual describes how to configure, operate and maintain the WORKABOUT PRO 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 indicators, installing a SD/MMC card and general maintenance.

Chapter 4: Working With Windows CE .NET
>   describes the Microsoft® Windows CE .NET desktop and how to use it. This chapter also outlines the basics of moving around a Windows CE .NET window, selecting and opening icons, files, folders and working with a dialogue box.

Chapter 5: Configuration
>   provides a description of the Windows CE .NET Control Panel and how to use it to configure the WORKABOUT PRO, along with the scanners attached to the hand-held, and so on.

Chapter 6: Connecting To A LAN With 802.11b
>   describes how to insert and configure an 802.11b radio.

Chapter 7: Expansion Modules
>   provides instructions about installing expansion modules – the PCMCIA module, the GSM/GPRS module and the scanner module.

Chapter 8: Peripheral Devices & Accessories
>   describes the peripherals and accessories available for your hand-held.

Chapter 9: Specifications
>   details radio, hand-held computer, scanner and battery specifications.

Appendix A: Support Services And Worldwide Offices
>   provides the helpdesk phone number at the Mississauga, Ontario, Canada office and details the support services available. This appendix also lists the world-wide office addresses and phone numbers.

Appendix B: Port Pinouts
>   includes port pinouts.

Appendix C: USB Setup Application
>   details how to use the USB Setup application.

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 About The WORKABOUT PRO Hand-Held Computer

The WORKABOUT PRO is a ruggedized hand-held personal computer, running the Microsoft® Windows CE .NET operating system. It is intended for use in commercial and light industrial applications with a focus on real time wireless data transactions. This hand-held is optimized for mobile computing applications and third party expansion. It is available with a monochrome or colour touchscreen.

1.3.1 Features

- Rugged design:
  - sealed from water and dust to IP54 (light rain) rating.
  - withstands multiple drops of up to 1.2m (4 ft.) drop to concrete.
- WORKABOUT PRO Model Variants
  - WORKABOUT PRO M:
    - Monochrome touchscreen display
    - 32 MB Flash
    - 64 MB RAM
  - WORKABOUT PRO C:
    - 32 MB Flash
    - 128 MB RAM

- Integrated Bluetooth

- Processor:
    - 400 MHz Intel Xscale PXA255

- Operating System:
    - Microsoft Windows CE .NET 4.2

- Programming Environment:
    - HTML, XML
    - Psion Teklogix Mobile Devices SDK
    - HDK - Hardware Development Kit for third-party developed expansion modules.
    - Compact Framework
    - java
    - Standard protocol APIs
      Windows sockets (Windows CE .NET)
    - Psion Teklogix Mobile SDK

- Wireless Communications:
    - Optional expansion modules for:
    - 802.11b (via expansion interface)
      GSM/GPRS (via expansion interface)
      CDMA/lxRTT (via expansion interface) *(future project)*
    - Internet Bluetooth class II, version 1.1 standard on WORKABOUT PRO C
      Note: WAN, 802.11b and Bluetooth are available simultaneously on WORKABOUT PRO C units.

- Application Software:
    - Internet Explorer 6.0 for CE
    - Open TekTerm (optional)
    - ANSI, TESS terminal emulations IBM 3270, IBM 5250, HP 2392 (optional)

- User Interface:
  - Monochrome Touchscreen Display
    - 3.5 in. (8.9 cm) diagonal, 1/4 VGA 240 x 320 transflective portrait mode LCD
      Backlight on/off control, adjustable contrast
      Sunlight readable for outdoor use
      High reliability EL backlight
  - Colour Touchscreen Display
    - 3.5 in. (8.9 cm) diagonal 1/4 VGA, 240 x 320 transflective portrait mode TFT
      16-bit colour
      Adjustable backlight
      Sunlight readable for outdoor use
      High reliability LED backlight
  - Touchscreen
    - Passive stylus or finger operation
      Signature capture
      Stylus held on main unit
  - Keyboards
    - Alphanumeric
      Ergonomic ambidextrous one-hand operation
      Backlit, high durability hard-capped keys
  - Indicators and Controls
    - Internal speaker with volume control
      LED indicating battery charge status
- Bar Code Applications:
  - Optional 2D Imager expansion module*
  - Optional 1D SE 1223HP laser scanner expansion module*
  - Optional field-upgradeable/replaceable pistol grip*
  - * Note: All are field upgradeable
- Expansion Slots:
  - One SD/MMC memory card slot – user accessible

- 100 Pin High-Speed Expansion connector, accessible through end-cap or back cover
  Supports serial, USB, PCMCIA

- Type II Compact Flash slot accessible through end-cap

• Other Expansion Modules:

- Type II PCMCIA slot – field upgradeable

- Third Party accessories

• External Ports:

- USB Host port on base of tethered USB devices (printers, etc.)

- Low Insertion Force Docking Station Port with:
  USB device port
  USB Host port
  Power

• Power Management:

- Lithium Ion 3.7V Standard Battery

- Long life Lithium Ion 3.7V High-Capacity Battery

- Quick swap pack

- Advanced Smart Battery with gas gauge

- 3 power source options:
  Battery
  Wall adaptor
  Cigarette light adaptor

- Built-in charger

- Also accepts standard consumer available AA Alkaline batteries

- Rechargeable, user replaceable coin-cell backup battery

• Environmental (Standard):

- Operating temperature: 14˚ F to 122˚ F (-10˚ C to 50˚ C)

- Storage temperature: -13˚ F to 140˚ F (-25˚ C to 60˚ C)

- Humidity: 5-95% RH non-condensing

- Rain/Dust: IEC 529, classification IP54

- Shock: Multiple 4 ft. (1.2m) drops to polished concrete

• Power Accessories

- AC Wall adaptor (charge and operate hand-held)

- Single battery charger
- Quad battery charger
- Charger/Docking Station (charges hand-held and spare battery)
- Vehicle cradle with optional charge capability
- Automotive adaptor

- Communication Accessories:
  - Quad Dock (4-site) with 10/100BaseT Ethernet and charge functions
  - Desktop Charger/Docking Station supports USB host and device ports and optional 10/100Base T Ethernet module.
  - Powered/non-powered cradle for vehicle applications
  - Port Replicator for vehicle cradles (field installable option) includes 3 RS232 ports plus USB device port.

- Carrying Accessories:
  - handstrap, pistol grip w/ trigger, shoulder strap.
  - holster, belt loop, protective vinyl carrying case with belt clip.

1.3.2 The WORKABOUT PRO Hand-Held Computer

Figure 1.1 WORKABOUT PRO

Audio Jack

Low Insertion
Force Port (LIF)

Tether Port

Figure 1.2 Tether Port, Low Insertion Force (LIF) Port And Audio Jack

1.3.3 Regulatory Labels

Warning: *Using controls or adjustments or performing procedures other than those specified herein may result in hazardous radiation exposure.*

Figure 1.3 Scanner Module—Laser Warning Label
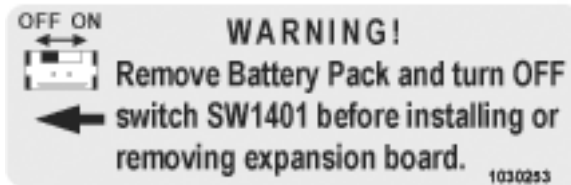
Figure 1.4 End- Cap—Expansion Module Warning
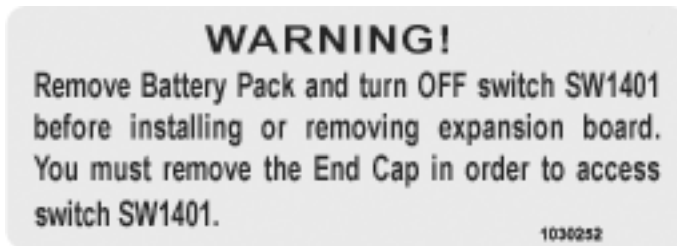
Figure 1.5 Back Plate—Expansion Module Warning Label

Figure 1.6 Manufacturer Label — WORKABOUT PRO C Unit

Figure 1.7 Manufacturer Label — WORKABOUT PRO M Unit

Figure 1.8 FCC Compliance Label

WARNING!
Burn hazard, do not incinerate or heat above 80°C (176°F).
Do not disassemble. Not for use below -30°C (- 22°F).

Recycle or dispose of properly

P/N 1030285   Made in Taiwan
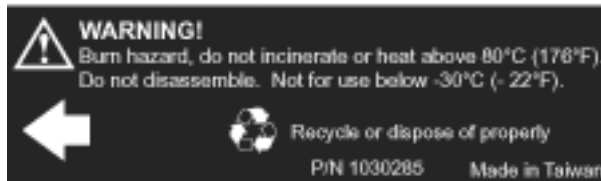
Figure 1.9 Standard Capacity Battery Label

WARNING!
Burn hazard, do not incinerate or heat above 80°C (176°F).
Do not disassemble. Not for use below -30°C (- 22°F).

Recycle or dispose of properly

P/N 1030286   Made in Taiwan

Figure 1.10 High-Capacity Battery Label

BASIC CHECKOUT 2

2.1 Preparing The WORKABOUT PRO For Operation

2.1.1 The Main Battery

The WORKABOUT PRO can be powered with one of the following battery packs:

- Standard Battery
- High-Capacity Battery, *or*
- 3 AA alkaline batteries.

2.1.2 Charging The Battery

Important: ***It is critical that you review the battery safety guidelines in “Lithium Ion Battery Safety Precautions” on page 140 before charging the battery.***

Battery packs shipped from the factory are not charged. They must be fully charged prior to use. Full capacity may not be reached until at least 5 full charge/discharge cycles have been performed.

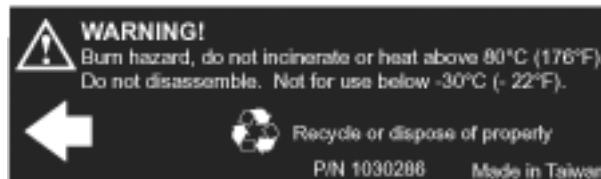Batteries can be charged using a variety of chargers and docking stations along with a Workabout internal charger. When using the internal charger, a suitable power source is required. All chargers and docking stations are described in *Chapter 8: Peripheral Devices & Accessories* beginning on page 150.

2.1.3 The Internal Battery

To preserve data stored in your WORKABOUT PRO while you swap the main battery, the unit is equipped with an internal battery – a standard Lithium Alloy Manganese Dioxide coin battery – a Maxell ML2032. This battery is easily accessible by removing the back cover of the unit.

2.2 Turning The WORKABOUT PRO On and Off

2.2.1 Installing The Battery And Switching The Unit On

- Turn the fasteners at the base of the battery cover counter-clockwise to unlock the cover and remove it. The top of the stylus is shaped to help you loosen the fasteners.
- Slide the *charged* battery into the unit. Replace the battery cover, and turn the fasteners at the base of the battery cover clockwise to lock the battery 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/ON> key for at least one second.
- When the LED flashes green, release the <ENTER/ON> button.

A splash screen displaying the Psion Teklogix logo and the Microsoft® Windows CE .NET logo appears followed by the startup desktop.

> *Note:* *If the unit was already in use – the unit may be off (suspend state) – pressing <ENTER/ON> 'wakes' the unit from this state. The screen in which you were working prior to the suspend state is displayed.*

2.2.2 Switching The Unit Off (Suspend)

- Press the <BLUE> key, and then press <ENTER/ON> to switch off the WORKABOUT PRO.

2.3 Connecting The WORKABOUT PRO To A PC

> *Note:* *Refer to "Linking A WORKABOUT PRO To A PC" on page 146 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 the Client USB connector to complete the communication link between the hand-held and the PC.

2.3.1 Using Microsoft® ActiveSync® To Work With Files

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 WORKABOUT PRO and the PC, back up WORKABOUT PRO files to the PC, and so on.

> *Note:* *You'll need the USB setup utility to configure the .ini file. For information about this USB application, refer to Appendix C: USB Setup Application.*

To install ActiveSync, follow the step-by-step instructions provided with the program's setup wizard. Refer to the following website for details:
http://www.microsoft.com/windowsmobile/resources/downloads/pocketpc/activesync35.mspx

2.4 Calibrating The Touchscreen

Refer to "Calibrating The Touchscreen" on page 30 for details.

2.5 Resetting The WORKABOUT PRO Hand-Held

Important: ***Because Psion Teklogix cannot guarantee what has been saved (registry) after a reset, this should be considered as a last resort.***

To reset the unit:

- Press and hold down the <BLUE> key and the <ENTER/ON> key simultaneously for a minimum of six seconds.

A reset results in a complete reboot of the unit. All RAM memory contents are lost. The contents of the flash memory and memory card may be preserved, but Psion Teklogix cannot guarantee this.

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

GETTING TO KNOW THE WORKABOUT PRO 3

3.1   Features Of The WORKABOUT PRO

Figure 3.1 Front Of WORKABOUT PRO M Or C

End Cap

Back Cover

Battery Cover

Battery Cover Fasteners

Tether Port

Low Insertion Force (LIF) Port

Audio Jack
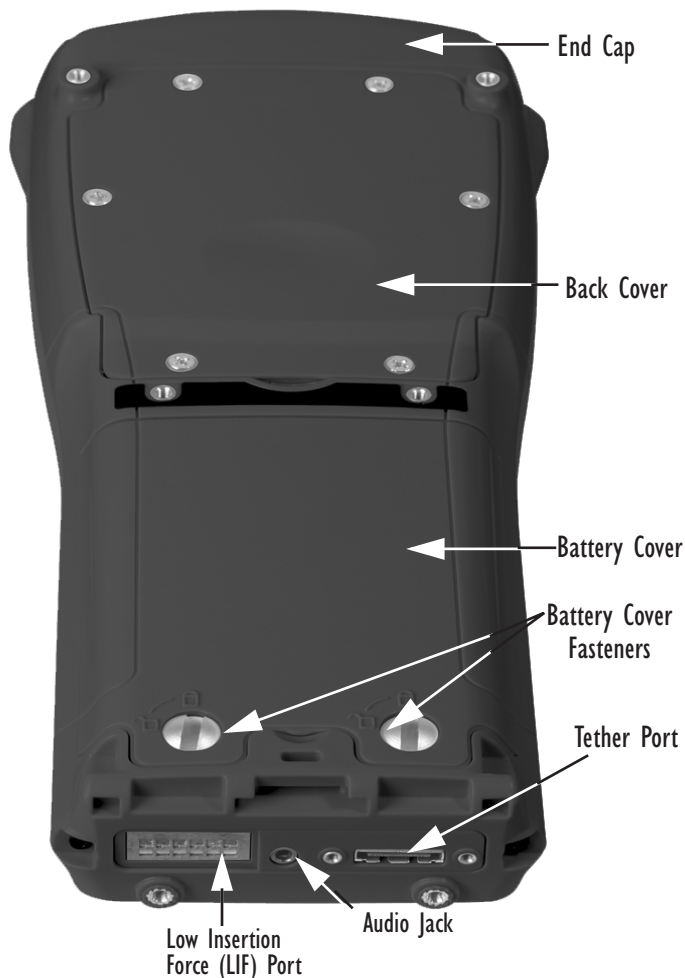
Figure 3.2 Back Of WORKABOUT PRO

3.2 The Batteries

The WORKABOUT PRO hand-held can operate with a Standard Lithium Ion battery pack, a High Capacity Lithium Ion battery pack or three AA alkaline batteries. If you are using a Lithium Ion battery pack, preparing the hand-held unit for operation requires that the battery pack be charged before it is installed in the unit.

To maintain data during a battery swap, the WORKABOUT PRO is also equipped with an easily accessible coin backup battery.

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 section entitled "Lithium Ion Battery Safety Precautions" beginning on page 140.*

3.2.2 Removing And Installing The Battery Pack

Removing The Battery Cover

• Turn the fasteners at the base of the battery cover counter-clockwise to unlock the cover. The top of the stylus has a screwdriver shaped end to help you loosen the fasteners.

• Lift and remove the cover.

Battery Cover Fasteners

Figure 3.3 The Battery Cover

Installing The Battery

• Insert the ***charged*** battery in the unit.

• Replace the battery cover, and turn the fasteners at the base of the battery cover **clockwise** to lock the battery in place.

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

3.2.3 Charging The Battery

Important: ***FOR DETAILED INFORMATION about chargers and docking stations, refer to** Chapter 8: Peripheral Devices & Accessories **beginning on page 131.***

For battery safety, refer to** "Lithium Ion Battery Safety Precautions" **beginning on page 140.

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

- Desktop Docking Station (Model #WA4002) – 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 #WA4004) – can charge the battery of up to four WORKABOUT PROs inserted in the docking station.
- Single Battery Charger (Model #WA3001) – charges a single battery.
- Quad Battery Charger (Model #WA3004) – charges up to four spare Standard or High-Capacity WORKABOUT PRO battery packs.

It can take up to 5 hours to charge a battery. The WORKABOUT PRO's 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 35 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/ON> key for at least one second.
- When the LED flashes green, release the <ENTER/ON> button.

A splash screen displaying the Psion Teklogix logo and the Windows CE .NET logo appears followed by the startup desktop.

Note: If the WORKABOUT PRO is in suspend state, pressing <ENTER/ON> key 'wakes' the unit from this state. The screen in which you were working before the computer entered suspend state is displayed.

Switching Off The WORKABOUT PRO (Suspend)

*Important: **Keep in mind that turning off the WORKABOUT PRO does <u>not</u> 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 <BLUE> key, and then press the <ENTER/ON> key.

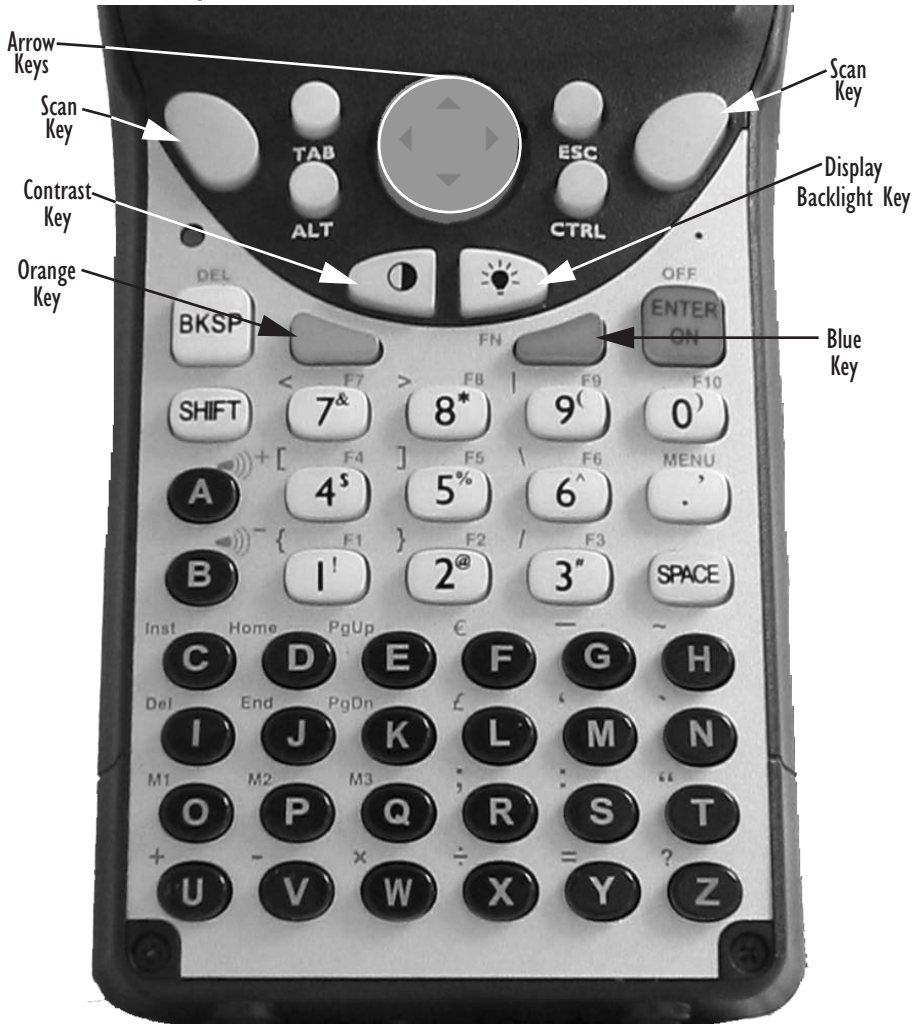## 3.4 The Keyboard

Figure 3.4 The Keys

The WORKABOUT PRO is equipped with a 55-key alphanumeric keyboard. Along with the standard keyboard keys, the <ORANGE> and <BLUE> 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.

3.4.1 Modifier Keys

The <SHIFT>, <CTRL>, <ALT>, <ORANGE> and <BLUE> keys are *modifier* keys. Pressing a modifier key changes the function of the next key pressed. For example, a square bracket is printed in *orange* print above the <4> key. Pressing the <ORANGE> key followed by the <4> key displays a square bracket rather than the number 4.

The <SHIFT>, <CTRL> and <ALT> keys operate 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.

3.4.1.1 Activating Modifier Keys

When a modifier key is pressed once, it is displayed in lowercase letters in the taskbar at the bottom of the screen. For example, if the <CTRL> key is pressed once, ctrl key is displayed in the taskbar. Once the next key is pressed, the modifier key becomes inactive and disappears from the taskbar.

3.4.1.2 Locking Modifier Keys

When a modifier key is pressed twice, it is 'locked' on. A 'locked' modifier key is displayed in uppercase letters in the taskbar. For example, pressing the <BLUE> key twice locks it on – it is displayed as BLUE KEY in the taskbar at the bottom of the computer screen.

The locked modifier key will remain active until it is pressed a third time to unlock or turn it off. Once a modifier key is unlocked (pressed a third time), the uppercase representation in the taskbar is no longer displayed.

*Note: The locking function of the <ORANGE> and <BLUE> keys can be disabled so that pressing either of these keys **once** will lock the keys 'on'. Refer to "Keyboard One Shot Modes" on page 69 for details.*

3.4.2 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. Pressing this key twice locks it '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

The Arrow Keys

The Arrow keys are located on the grey circular key at the top of the keyboard, directly below the display. 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 (<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, dialogue box or activity and return to the previous one.

The <SPACE> Key

Pressing this key inserts a blank space between characters. In a Windows dialogue box, pressing the <SPACE> key enables (√) or disables a checkbox.

The <SCAN> Keys

Pressing either of the <SCAN> keys – the two yellow keys situated in upper-left and upper-right corner of the keyboard – activates the scanner beam. For units that *do not have* internal scanners, these keys are inoperable.

The Function Keys – <F1> to <F10>

Function keys <F1> to <F10> perform special, custom-defined functions. These keys are accessed by pressing <BLUE> followed by numeric keys <1> to <10>. They can be used with the Windows CE .NET operating system or another application.

The Macro Keys – <M1> to <M3>

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

3.4.3 The Keypad Backlight

The intensity of the keypad backlight and the conditions under which this backlight is activated can be configured using the Keyboard icon in the Control Panel. The behaviour of the keypad backlight is tailored in the Keyboard Properties dialogue box. Refer to "Keyboard Backlight" on page 68 for details about this option.

Note: Keep in mind that this option may be restricted to supervisory use only.

3.5 The Display

Depending on the type of display – colour or monochrome – you can adjust the backlight behaviour or the contrast of the display to improve character visibility.

Note: Display backlight and contrast adjustments may be restricted to supervisory use only.

3.5.1 Colour Display

Adjusting The Backlight

Note: For units equipped with monochrome screens, the Backlight key <☀> turns the backlight on or off. Backlight intensity cannot be adjusted.

On colour screens, the display backlight can be adjusted using the keyboard.

- Press the Backlight key <☀> to cycle from the lightest to darkest settings, and then back to lightest. Press <ORANGE> <☀> to cycle backward from darker to lighter.

To set the *range* of the backlight intensity and the duration of time that the backlight will remain on, you'll need to choose the Display icon in the Control Panel. **Refer to "Display Backlight" on page 65** for details about the Display Properties Backlight tab.

3.5.2 Monochrome Display

Adjusting The Contrast

Note: *Contrast adjustment is only available on hand-helds equipped with mono-chrome screens. Contrast has no effect on units with colour screens.*

The display contrast can be adjusted from the keyboard using the Contrast key <◑> just below the arrow keys.

- Press this key until you are satisfied with the contrast adjustment. Press <ORANGE> <◑> to shift contrast backward.

To set the maximum *range* of the contrast on a monochrome screen, you'll need to choose the Display icon in the Control Panel. **Refer to "Display Contrast" on page 64 for details about the** Display Properties Contrast **tab.**

Keep in mind that this option may be restricted to supervisory use only

3.5.3 Calibrating The Touchscreen

If your touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, use the Stylus Properties dialogue box in the Control Panel to recalibrate the screen.

- In the Control Panel, choose the Stylus icon to display the Stylus Properties window.
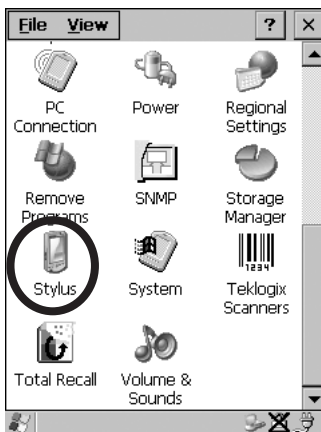

Figure 3.5 Stylus Icon

• Select the Calibration tab, and then tap on the 'Recalibrate' button.

Figure 3.6 Calibration Screen

• Follow the directions on the calibration screen to calibrate the screen.

Note: The Stylus Properties *dialogue box provides two additional tabs:* Double-tap *and* Options. *The* Double-Tap *tab allows you to adjust the sensitivity of the double-tap and the physical distance between taps. The* Options *tab allows you to disable the touchscreen.*

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

The WORKABOUT PRO is equipped with a single, dual-coloured LED. When the <ENTER/ON> key is pressed, the LED flashes green to indicate that the unit has been powered up.

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

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% 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 151 for details.
Flashing red then green in a 3 second cycle	Power up test sequence.

Table 3.1 WORKABOUT PRO LED BEHAVIOUR

Note: *The application installed on your WORKABOUT may alter the behaviour of the LED on your unit. Refer to your application manual for details.*

3.6.2 Onscreen Indicators

The taskbar at the bottom of the screen displays a variety of system status indicators.

Figure 3.7 Taskbar

Taskbar icons change dynamically, and only those icons that are applicable are displayed. For example, if a Bluetooth radio is not installed in your hand-held, the Bluetooth radio icon is not displayed in the taskbar.

Note: To access these icons and display the associated menu and dialogue boxes, refer to "Using The Taskbar" on page 46.

Windows® Start Button

This icon provides access to the Start Menu. Tapping on the Windows® Start button displays the menu.

Modifier Key Indicators

<SHIFT>, <CTRL>, <ALT>, <BLUE> and <ORANGE> are modifier keys that have associated onscreen indicators to show when a key is active or locked. If a modifier key is pressed once to activate it, the key is displayed in the taskbar in *lowercase* characters – for example, pressing the <BLUE> key once displays 'blue key' in the taskbar. If a modifier key is pressed twice, it is 'locked on' and the onscreen indicator is displayed in *uppercase* letters in the taskbar – for example, pressing <BLUE> twice displays 'BLUE KEY' in the taskbar.

Battery Gauge

The battery shaped icon displayed in the taskbar provides a visual indication of the remaining battery power. The icon acts as a meter that is either full, at three-quarter level, half, quarter level or empty.

When the battery level is low – approximately 15 minutes from empty – a warning window pops up. When the battery power is completely depleted, a final warning window indicates that the WORKABOUT PRO will be powered down.

If the unit is being powered externally, an external power icon is displayed in the taskbar.

Full	75%	50%	25%	Empty	External Power

Battery Charge

The battery charge icon is displayed in the taskbar when the battery is being charged.

LIF and USB Devices

When a device such as a docking station or a charger is connected to the USB (tether) port or the LIF (Low Insertion Force) port and is activated, an associated icon appears in the taskbar. A message also appears on the screen recognizing that a new device has been connected through either the USB or the LIF port.

New device connected:
LIF Port

New device connected:
USB Port

Bluetooth Radio

If a Bluetooth radio is installed in your unit, this icon is displayed in the taskbar.

Security Level

Security levels can be set to limit user access to the settings. In addition, applications can be restricted to prevent inadvertent changes.

3.6.3 Audio Indicators

The audio speaker provides a variety of sounds and can be configured to emit a sound 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. The volume keys are located above the <A> and <B> keys. The *increase* volume key is labelled with a plus symbol ◀))₊ and the *decrease* volume key is labelled with a minus symbol ◀))₋ .

3.6.3.1   Adjusting The Speaker Volume

To adjust the speaker volume:

- Press the <BLUE> key twice to lock the key 'on' and then, press the *increase volume* key ◀))₊ or the *decrease volume* ◀))₋ key until the volume meets your requirements.

- Remember to press the <BLUE> key again to turn it 'off'.

3.7 Monitoring The Battery And Maximizing Run Time

Under normal operating conditions, fully charged Standard Batteries hold a charge for up to 8 hours. High-Capacity batteries can hold a charge for up to 12 hours.

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. The taskbar battery icon is a linear gauge used to estimate the remaining run time of the battery. It is important to note that the battery capacity icon displays quarter percentages of *nominal* capacity (the capacity of a new battery). An aged battery, even when fully charged, shows somewhat less capacity than nominal.

  Double-tapping on the battery icon displays a dialogue box that provides detailed information about the battery status and performance.

- 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 – in this case, the battery should be removed.

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* allows the WORKABOUT PRO to link to an Ethernet network. They are typically used to upload transaction data to a server computer when a radio link in not available.

Note: *Refer to "Chargers And Docking Stations" on page 141 for more details.*

The desktop docking station can complete batch uploads to a Client USB connected PC or server. An optional10/100baseT 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 taskbar at the bottom 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 units. Keep in mind also that Bluetooth is available simultaneously with WAN and 802.11b on a single unit.*

A WORKABOUT PRO C 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. Keep in mind too that a Bluetooth and an 802.11b radio card can operate simultaneously in your unit. Refer to "The Bluetooth GPRS Phone" on page 84 for setup details.

3.10 The SD/MMC Card – Adding Memory

To add additional non-volatile memory to your hand-held, you can insert a Secure Digital/Multi-Media Card (SD/MMC) through the battery compartment.

3.10.1 Inserting The Card

- Remove the battery cover and the battery.

A hinged door at the top of the battery compartment protects the connectors.
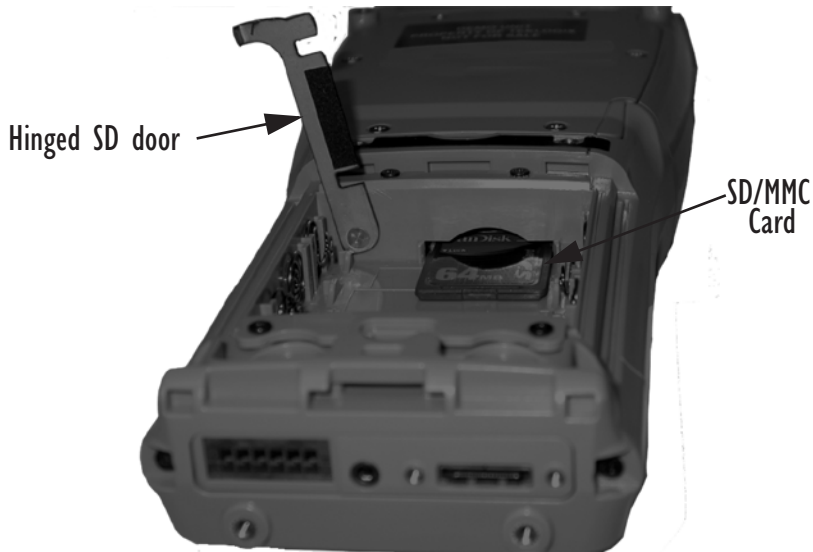

Figure 3.8 Inserting the SD.MMC Card

- Lift the hinged SD door by gently pulling upward on the metal tab.
- Orient the SD/MMC card according to the legend stamped into the battery well plastic.
- Place the card in the slot with the card contacts down, and slide it inward until it latches into place.
- Swing hinged door back into place.

To remove the card:

- Gently press it inward slightly until the detent 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:

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

If the touchscreen is used in harsh environments, consider applying a disposable screen protector (WA6110). 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 and touchscreen, use isopropyl alcohol.

WORKING WITH WINDOWS CE .NET 4

4.1 Navigating In Windows CE .NET And Applications

Graphic user interfaces like Windows CE .NET for portable devices or desktop Windows (2000, XP, etc.) utilize 'point and click' navigation. On the WORK-ABOUT PRO, this is accomplished using a touchscreen and stylus rather than a mouse. An equivalent keyboard shortcut is also available for every 'point and click' action.

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 "Calibrating The Touchscreen" on page 30.*

A touchscreen is a ***standard*** feature on all WORKABOUT PROs. Each is equipped with a *stylus* – a pointing tool that looks like a pen – stored in a slot at the top of the unit. The stylus is used to select objects on the touchscreen.

- Tap the stylus on the appropriate icon to open a file or launch an applet.

4.1.2 Navigating Using The Keyboard

If the touchscreen on your unit is disabled, choosing icons and navigating dialogue boxes, displaying the desktop, and so on will require keyboard input.

Operation	Key or Key Combination
Switch between active applications	\<ALT> \<TAB>
Open task manager	\<ALT> \<ESC>
Move the cursor	Arrow keys
Open file, folder or icon	\<ENTER>
Exit & Save	\<ENTER>
Close/Exit & Do Not Save	\<ESC>
Navigate Dialogue Boxes	\<TAB> To move cursor up \<SHIFT> \<TAB> To display contents of the next 'tab' \<CTRL>\<TAB>
Select Radio Button/Press Button	\<SPACE>
Go to Start Menu	\<BLUE>\<.>

Table 4.1 Keyboard Navigation

Keep in mind that unlike a desktop computer, the WORKABOUT PRO does not support key chording (pressing two keys at the same time). You must press one key followed by the next in sequence.

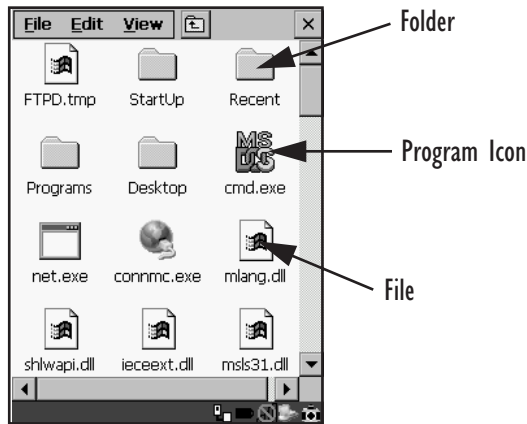# 4.2 Working With Files, Folders And Programs

Figure 4.1 Working With Windows Icons

- Double-tap on the appropriate icon – a folder icon, a program icon or a file icon – to open or launch your selection.

4.3 The Startup Desktop

When the WORKABOUT PRO boots up, the startup desktop (shell) is displayed. Any applications stored in the Startup folder start up immediately.

Figure 4.2 The WORKABOUT PRO Startup Desktop

Note: *The startup folder is in: \Windows\StartUp and \Flash Disk\Start Up.*

- Tap on an icon to open a window or, in the case of an application icon, launch an application.

4.3.1 The Desktop Icons

The icons displayed in the startup desktop operate in much the same way as those displayed on any standard PC desktop that is running Windows®.

My Computer

Choosing this icon displays the contents of your WORKABOUT PRO. If you're not sure how to work with the files, folders and programs displayed, refer to "Working With Files, Folders And Programs" on page 44.

Recycle Bin

This option temporarily contains items that were deleted, allowing you to either permanently delete or restore the items.

Command Prompt

Command Prompt is used to access the DOS command prompt. At the prompt, you can type DOS commands such as *dir* to display all the directories in the drive.

Inbox

Inbox is used to access and view your email.

Internet Explorer

Choosing this icon launches Internet Explorer – a standard Windows CE .NET version. Keep in mind that your supervisor will need to set up access using the Internet Options and the Network and Dial-up Connections icons in the Control Panel.

Microsoft Wordpad

This application, an abbreviated version of Microsoft Word, allows you to create documents on the WORKABOUT PRO.

Remote Desktop Connection

This option allows your WORKABOUT PRO to communicate with a remote desktop PC. "Remote Desktop Connection" on page 59 provides a website address with step-by-step instructions.

4.3.2   The Taskbar

Figure 4.3 The Taskbar

The WORKABOUT PRO is equipped with a taskbar at the bottom of the screen. It displays icons through which you can view the battery capacity and identify any active modifier keys – <SHIFT>, <ALT>, <CTRL>, <ORANGE> and <BLUE>. Keys that have been locked "on" are displayed in *uppercase* letters. When a peripheral is attached to the tether or LIF port, the associated icon is displayed. In addition, the taskbar displays the application(s) currently running on your unit and the security level assigned to it.

4.3.2.1   Using The Taskbar

- Using the stylus, tap on an icon to display the associated dialogue box. For example, tap on the battery icon to display a **Power Properties** dialogue box that indicates the current battery capacity.

Note: If your touchscreen is disabled, type <BLUE> <.> <Y> to choose Sys-
    tem Tray *from the* **Start Menu***. Press the <LEFT> or <RIGHT> arrow keys to choose a taskbar icon and press <ENTER> to display the associated dialogue box.*

4.3.2.2   Customizing The Taskbar

To customize the taskbar so that it displays only those icons you require:

- Tap on the Setti<u>n</u>gs option, and then tap on **Taskbar...** in the sub-menu,

The Taskbar and Start Menu dialogue box is displayed.

Figure 4.4 Taskbar And Start Menu Settings

• Tap the stylus on the items you want to activate or deactivate. A check mark indicates an active item.

4.4 The Start Menu

Note: *Some of the Start Menu items may be disabled based on the WORK-ABOUT PRO's current security settings.*

The Start Menu lists the operations you can access and work with. It is available from the startup desktop or from within any application.

To display the menu:

• Tap on the Windows® Start button in the left-most corner of the taskbar.
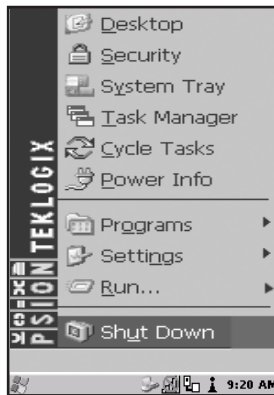
Figure 4.5 Start Menu

• Tap on the item in the menu with which you want to work.

4.4.1 The Desktop

Choosing the `Desktop` option from the **Start Menu** displays the WORKABOUT PRO desktop.

4.4.2 Security Settings

Choosing the `Security` option from the **Start Menu** displays a dialogue box in which you can define the WORKABOUT PRO access level – **Teklogix**, **Supervisor** or **User**.

Figure 4.6 Security Levels

Security Level

These security levels define the options accessible to the operator in the **Start Menu** and the taskbar. When you change security levels, you'll need to enter the appropriate password in the **Password** textbox. The security level is represented by an icon in the shape of a lock in the taskbar.

Changing A Password

Note: Keep in mind that this is the same password as that assigned through the **Password** *control panel applet. Refer to*

To assign a password:

- Choose a security level, and enter the existing password in the **Password** field
- Choose the **Set Password** button.

A dialogue box labelled **Password Properties** is displayed.

- Type the new password in the **Password:** text box
- In the **Confirm Password:** text box, retype the new password.

Configuring Security

Choosing the <u>C</u>onfigure button displays the Configure Security dialogue box.
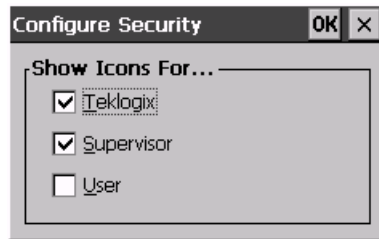
Figure 4.7 Configuring Security

This dialogue box allows you to determine which security levels will have an associated icon displayed in the taskbar. By default, a security icon is not displayed for user-level security.

4.4.3 The System Tray

Note: This option is useful if your touchscreen has been disabled. Activating System Tray *allows you to access taskbar icons using keyboard keys in place of the stylus.*

The System Tray option allows access to the icons in the taskbar using your keyboard. The taskbar displays indicators such as a battery capacity gauge and the security level. These indicators are attached to dialogue boxes that provide additional information.

- Choose System Tray from the Start Menu.

To display the dialogue box attached to an icon:

- Press the <LEFT> or <RIGHT> arrow keys to choose a taskbar icon and press <ENTER> to display the associated dialogue box.

4.4.4 The Task Manager

The `Task Manager` option allows you to switch to another task or to end an active task. To display the task manager window:

• Tap on the `Task Manager` in the **Start Menu**.
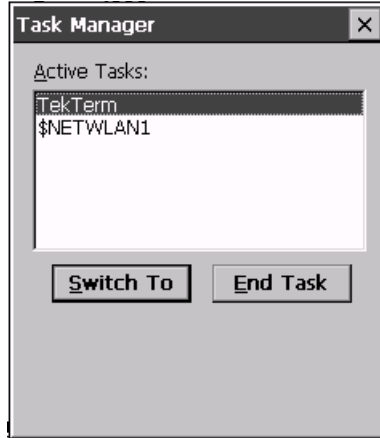
Figure 4.8 Task Manager

4.4.5 Cycle Tasks

When `Cycle Tasks` is selected (and the Task Manager is not open), you can cycle through active applications. To choose this option:

• Tap on `Cycle Tasks` in the **Start Menu**.

4.4.6 Power Info

Selecting `Power Info` from the **Start Menu** displays the **Power Properties** dialogue box. This dialogue box indicates the remaining charge capacity of the battery.

4.4.7   Programs

- Tap on Programs to display a sub-menu of options.
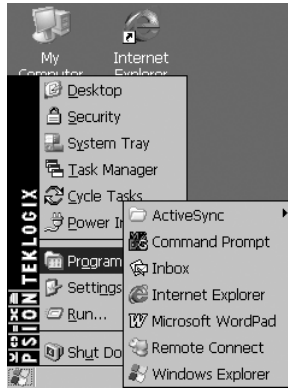
Figure 4.9 Program Sub-Menu

This sub-menu allows you to access to the following options:

ActiveSync®

This option allows you to connect to another device using ActiveSync.

Command Prompt

Command Prompt is used to access the DOS command prompt. At the prompt, you can type DOS commands such as *dir* to display all the directories in the drive.

Inbox

Inbox is used to access and view your email.

Internet Explorer

The WORKABOUT PRO is equipped with Microsoft® Internet Explorer consistent with all Windows CE .NET devices on the market. You can access the Internet Options icon through the Start Menu under Settings>Control Panel or by double-tapping on the desktop icon labelled My Computer and then, double-tapping on the Control Panel icon.

Microsoft Wordpad

This application, an abbreviated version of Microsoft Word, allows you to create documents using the WORKABOUT PRO.

Windows Explorer

Windows Explorer installed on your unit is consistent with all Windows CE .NET devices. You can access this option either from the **Start Menu** under Pr*o*grams>Windows Explorer.

Remote Desktop Connection

Remote Desktop Connection is an application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine using the WORKABOUT PRO (Windows CE .NET device). "Remote Desktop Connection" on page 59 provides a website with details about this option.

4.4.8 Settings

Tapping on Settin*g*s displays a sub-menu of options, including **Control Panel, Network and Dial-up Connections** and **Taskbar and Start Menu** settings.

Figure 4.10 Settings Sub-Menu

Control Panel

The **Control Panel** contains applets used to configure hardware, the operating system and the shell. If your unit is running with the Psion Teklogix Open Tekterm application or another application, additional configuration applets may appear in the **Control Panel**.

Network And Dial-Up Connections

The **Network and Dial-up Connections** window allows you to configure the radio or execute an existing configuration. Refer to "Configuring An IEEE 802.11b Radio" on page 111 for radio setup details.

Taskbar And Start Menu

The **Taskbar and Start Menu** option displays a dialogue box in which you can customize the taskbar, choosing which options will be displayed. Refer to "Customizing The Taskbar" on page 46 for additional details about this option.

4.4.9 Run

Choosing the Run option from the **Start Menu** displays a dialogue box in which you can enter the name of the program, folder or document you want to open or launch.

Figure 4.11 Run Dialogue Box

4.4.10   Shutdown

With Sh<u>u</u>tdown highlighted, pressing the <RIGHT> arrow key displays a
sub-menu of options, including Suspend, Warm Reset and Cold Reset.
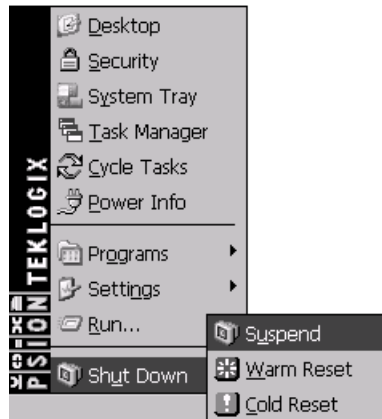
Figure 4.12 Shutdown Sub-Menu

Note: *This menu varies slightly depending on the security level chosen. When
the unit is set to **User** level, the* Sh<u>u</u>tdown *option is replaced by* S<u>u</u>spend.
A sub-menu is not available.

*At **Teklogix** security level, an additional option is available in the sub-menu
–* <u>B</u>ootloader. *This option behaves like cold-reset, except that the WORK-
ABOUT PRO starts Bootloader rather than Windows CE .NET*

Suspend

The S<u>u</u>spend option suspends the WORKABOUT PRO immediately – this is
equivalent to turning the hand-held off.

Warm Reset

The <u>W</u>arm Reset option resets the WORKABOUT PRO, leaving all saved files and
(registry) settings intact. Any unsaved data is lost.

Cold Reset

The <u>C</u>old Reset option resets the WORKABOUT PRO. Any files not stored in
permanent memory are lost. However, the registry settings are saved.

4.5 Using A Dialogue Box

A dialogue box (like the samples in Figure 4.13) appears when you need to make selections and enter further information.

You can move between dialogue items by tapping on them, or by pressing the arrow keys and the <TAB> key. (<SHIFT> <TAB> moves the cursor backwards.)
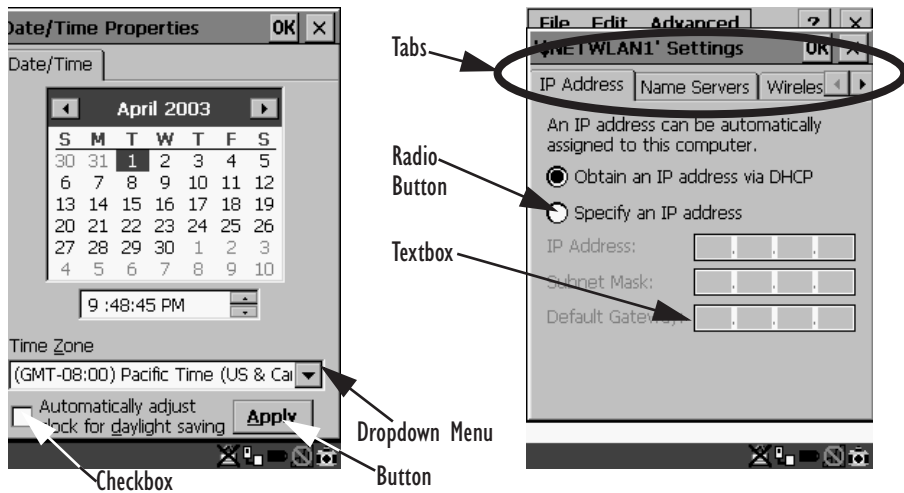
Figure 4.13 Dialogue Boxes

Dialogue boxes contain one or more of the following elements:

Tab: A tab separates different elements of a dialogue box. Tapping on a tab displays its contents.

Textbox: A textbox requires that you type information. Use the stylus to highlight the textbox and then type the appropriate information.

Dropdown: This type of menu is identified by up and down arrows next to the dropdown menu to indicate that additional options are available. Tap on the menu to highlight it, and use the arrows to cycle through the options.

Checkbox: This box allows you to select or deselect an option. To select or deselect a checkbox, tap the stylus in the checkbox to select ($\sqrt{}$) or deselect it.

Radio buttons: These buttons allow you to choose from a number of options. For example, in the sample screen in Figure 4.13 on page 55 you can choose to 'Obtain an IP address via DHCP' or 'Specify an IP address'. Tap on a radio button to activate the option next to it.

Buttons: This type of button allows you to 'Save', 'Delete' and so on the options you've chosen in a dialogue box. Tap the stylus on the button you want to activate it.

Saving Your Choices: Once you've made all your changes, tap on the OK button or press the <ENTER> to save your changes and exit the dialogue box.

Note: A dialogue box item that is displayed in grey text indicates that it is not currently available.

CONFIGURATION 5

5.1 Remote Desktop Connection

Remote Desktop Connection is a WORKABOUT PRO application used to connect to a Windows Terminal Server so that you can run a "session" on the Server machine, using the hand-held (Windows CE .NET device).

Refer to the following website for step-by-step information about setting up this connection:

http://www.microsoft.com/WindowsXP/pro/using/howto/gomobile/remotedesktop/default.asp

5.2 Pocket PC Compatibility

The WORKABOUT PRO supports the AYGShell API set that allows PocketPC-compatible applications to run on the hand-held. Microsoft® Windows CE .NET 4.2 is designed to include application programming interface (API) compatibility support for the Microsoft Windows Powered Pocket PC 2002 shell in units running Windows CE .NET 4.2.

The website below describes the APIs exposed through AYGShell and the application compatibility between Windows Powered Pocket PC 2002-based applications and Windows CE .NET 4.2-based devices:

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dncenet /html/WINCENET_CEPCC_App.asp

5.3 The Control Panel

The Control Panel provides a group of icons through which you can set a variety of system-wide properties, such as mouse sensitivity, network configuration and the desktop color scheme.

Note: If you are uncertain how to move around a dialogue box and make selections, review "Using A Dialogue Box" on page 55.

When the WORKABOUT PRO boots up, the startup desktop (shell) is displayed, and any applications stored in the Startup folder start up immediately.

To access the Control Panel:

- Use the stylus to tap on the Start button in the taskbar to display the Start Menu. Tap on Settings>Control Panel.

The Control Panel folder contains icons used in the setup of your WORKABOUT PRO.
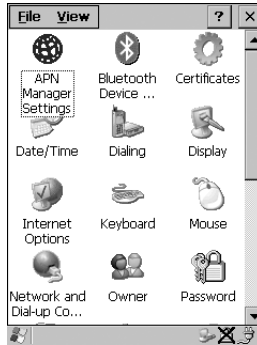

Figure 5.1 Control Panel

5.4 Control Panel Icons

The Control Panel provides a group of icons that allow you to customize and adjust settings on your WORKABOUT PRO.

APN Manager Settings

Allows you to specify the APN (access point name) settings for units equipped with a GSM/GPRS card.

Date/Time

Allows you to set the current Month, Date, Time and Time Zone on the unit.

Display

Changes the appearance (window colour scheme) on the unit desktop.

Keyboard

Toggles character repeat on and off and specifies delay and rate for repeated characters. It also allows you to adjust the keyboard backlight.

Volume & Sound

Volume &
Sounds

Allows you to adjust the volume of the sound emitted to indicate events like warnings, key clicks and screen taps. This option also allows you to tailor sounds (wave files) emitted from your WORKABOUT PRO.

Mouse Properties

Mouse

This icon allows you to customize the sensitivity and speed of the stylus double-tap.

Owner

Owner

Provides fields in which you can specify owner information. A '**Notes**' tab allows additional information to be entered and displayed when the unit is powered up. '**Network ID**' tab information is used to access network resources. (This information should be provided by your System Administrator.)

Password

Password

Allows you to assign a password to restrict access to elements of the unit. Once assigned, password access cannot be circumvented so it is important that you write down your password and keep it in a safe place. Refer to "Security Settings" on page 48 for details.

Power

Power

Displays battery pack power status. (Alternately, battery status can be accessed through the taskbar.) The '**Power Scheme**' tab allows you to determine a suspend states, and the '**Charger**' tab determines whether or not a battery that requires it, can be recalibrated. (Refer to "Power Saving Schemes" on page 75 for details.)

Regional Settings

Regional

Allows you to specify the local language the display text will use along with the format of numbers, currency, time and date for your region.

Remove Programs

Lists the programs that can be removed from your unit. To remove a program, select it and then click on the **Remove** button.

Stylus

Adjusts how Windows CE .NET recognizes your double-tap (as slow or rapid successive taps).

Under the '**Calibration**' tab, you can recalibrate your touchscreen by tapping on the 'Recalibrate' button and following the directions on the calibration screen.

System

Displays system and memory properties. Under the **Memory** tab, you can allocate memory between storage memory and program memory.

Dialing

Specifies dialing settings, including area code, country code, dial type and the code to disable call waiting. You can store multiple patterns – for example, 'Work', 'Home', and so on using this dialogue box.

Certificates

A public key is transmitted as part of a certificate. The certificate assigned through this icon is used to ensure that the submitted public key is, in fact, the public key that belongs to the submitter. The client checks that the certificate has been digitally signed by a certification authority that the client explicitly trusts. "Certificate Assignment" on page 77 directs you to the appropriate setup information.

PC Connection

Enables direct connections to a desktop computer. Selecting the '**Change Connection**' button allows you to change the type of direct connect to your PC.

Teklogix Scanners

If your WORKABOUT PRO is equipped with a scanner, this option provides the set up parameters and choose the bar code symbologies that the unit will successfully read.

Network And Dial-up Connections

Displays a network window from which the radio can be configured and an existing configuration can be executed.

Internet Options

Used to configure your Internet browser including options such as identifying the default and search page that the browser applies when connecting to the Internet, setting the cache size, specifying the Internet connection options, and defining the security level that is applied when browsing.

SNMP

SNMP (Simple Network Management Protocol) is the protocol used to monitor and manage devices attached to a TCP/IP network.

Bluetooth

A short-range wireless technology that enables data communication between devices. It 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.

Total Recall

Total Recall is a Psion Teklogix utility developed to maintain the persistence of installed applications and settings over cold boots. This is based on a backup and restore concept and is extended to incorporate many advanced features.

5.5 Basic Setup

5.5.1 Display Properties

- In the Control Panel, choose the Display icon.
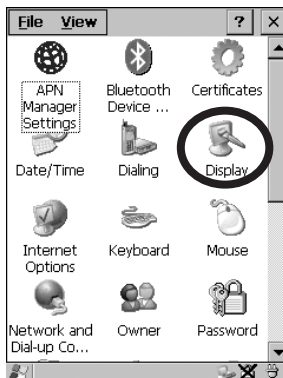
Figure 5.2 Choosing The Display Icon

5.5.1.1 Display Contrast

The Contrast tab allows you to adjust the display contrast to suit the environment in which you are using the hand-held. Keep in mind that contrast adjustments only an affect monochrome displays.

- In the Display Properties dialogue box, open the Contrast tab.
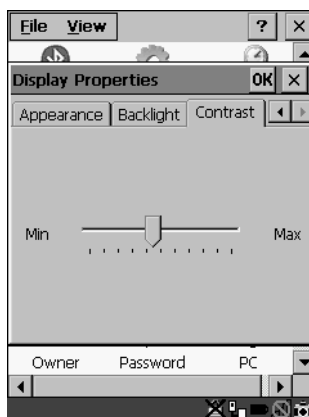
Figure 5.3 Display Contrast Properties

Sliding bar in the Contrast tab to the *left* decreases or ***darkens*** the display contrast. Sliding the bar to the *right* to increases or ***lightens*** the display contrast.

5.5.1.2   Display Backlight

The Display Properties dialogue box in the Control Panel allows you to specify the intensity of the backlight along with the duration of time it stays on after an event like a key press or scanner trigger.

Note: Keep in mind that this option may be restricted to supervisory use only.

•   In the Display Properties dialogue box, open the Backlight tab.
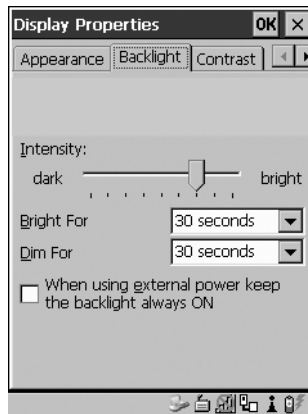
Figure 5.4 Display Backlight Properties

Note: Backlight changes take affect immediately. You do not need to reset the WORKABOUT PRO.

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

Bright For
The value chosen from this dropdown menu determines the duration of time that the backlight stays on at the configured intensity when a unit is not in use.

Dim For

The value chosen from this dropdown menu determines the duration of time that the backlight stays on at half the configured intensity (dimmed backlight) when a unit is not in use.

External Power Checkbox

When you select (√) the checkbox next to 'When using external power keep the backlight always ON.', the backlight remains ON at the configured intensity *when the WORKABOUT PRO is operating with external power* (not battery power). If power is being drawn from the battery, this option is ignored and the other parameters defined in Display Properties dialogue box take affect.

5.5.1.3   Display Appearance

•   In the Display Properties dialogue box, open the Appearance tab.
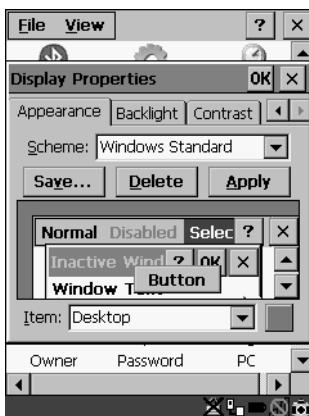
Figure 5.5 Display Appearance Properties

This dialogue box allows you to customize the display colour scheme.

5.5.2 Keyboard Properties

This icon displays the Keyboard Properties dialogue box in which you can adjust the repeat rate of the keys, the intensity of the keyboard backlight and the behaviour of the <BLUE> and <ORANGE> modifier keys. This dialogue box also allows you to define macro keys and Unicode characters.

•   In the Control Panel, choose the Keyboard icon.
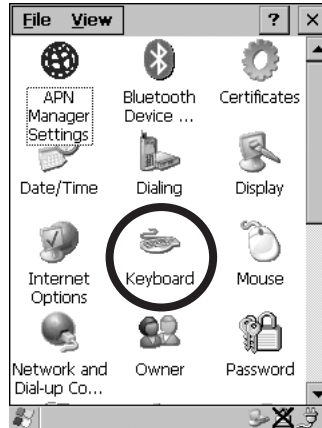
Figure 5.6 Choosing The Keyboard Icon

5.5.2.1   Key Repeat

•   In the Keyboard Properties dialogue box, open the Repeat tab.
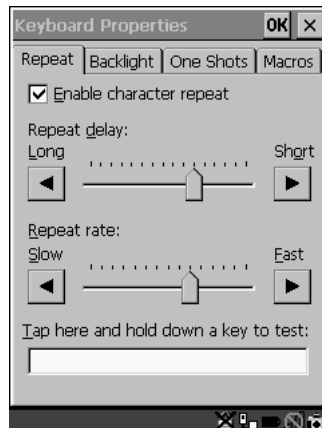
Figure 5.7 Key Repeat Properties

Repeat Delay

The value assigned for this parameter determines the delay in milliseconds between repeat characters. Sliding the Repeat Delay bar to the left increases the delay between key repeats while sliding the bar to the right shortens the repeat delay time.

Repeat Rate

The value assigned for the Repeat Rate parameter determines how quickly the key you press repeats and is measured in characters per second (cps). Sliding the bar to the left slows the repeat rate, and sliding the bar to the right increases the repeat rate.

Note: Use the field at the bottom of this dialogue box to test the repeat delay and rate settings you've chosen.

5.5.2.2   Keyboard Backlight

- In the Keyboard Properties dialogue box, open the Backlight tab.
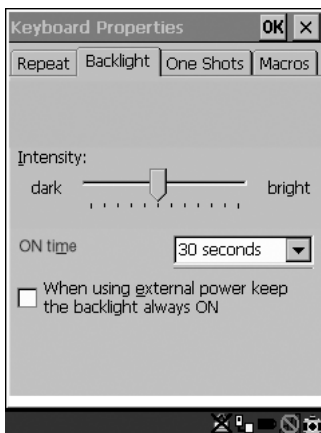
Figure 5.8 Keyboard Backlight Properties

Intensity

This parameter is used to adjust the light intensity of the keyboard backlight. Sliding the bar to the left darkens the keyboard backlight intensity, and sliding it to the right lightens the intensity.

ON Time

The value chosen from this dropdown menu determines the duration of time that the keyboard backlight stays on when a unit is not in use.

5.5.2.3 Keyboard One Shot Modes

- In the Keyboard Properties dialogue box, open the One Shots tab.
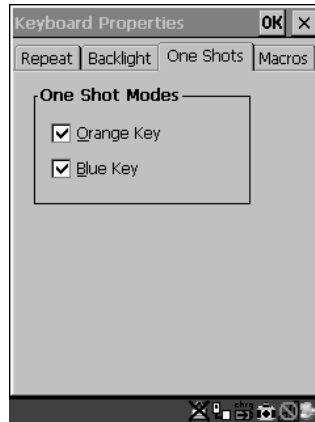
Figure 5.9 Keyboard One Shot Properties

When these options are enabled (√), the <ORANGE> and <BLUE> keys only remain active until the next key is pressed. If the 'One Shots' options are disabled (the checkbox is left blank), the <ORANGE> and <BLUE> keys are locked 'on' when pressed only **once**; they remain 'on' until they are pressed a second time to unlock them.

Note: *Keep in mind that checking the taskbar lets you know whether or not these keys are locked on. When the <ORANGE> and <BLUE> keys are locked 'on', the taskbar at the bottom of the screen displays them in **uppercase** characters –* ORANGE KEY *and* BLUE KEY. If *these keys are displayed in **lowercase** characters in the taskbar, you'll know that the* orange key *and the* blue key *are **not** locked. They will become inactive following a key press.*

5.5.2.4   Keyboard Macro Keys

- In the Keyboard Properties dialogue box, open the Macros tab.
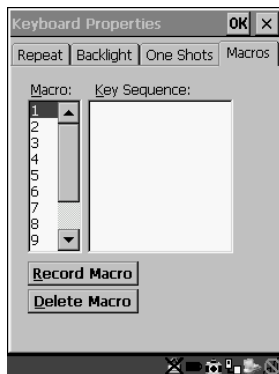
Figure 5.10 Macro Dialogue Box

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> (<BLUE>-<BKSP>), function keys and arrow keys.

Recording And Saving A Macro

You can program up to 3 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 Macro button.

A message screen is displayed instructing you to 'Please Enter Key Strokes'.
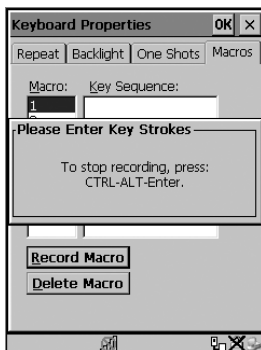
Figure 5.11 Recording A Macro

- 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, press the key sequence – <CTRL> <ALT> <ENTER>.

A new screen displays the macro sequence you created. The Save Macro button is highlighted.

- Tap on Save Macro to save your macro.

Note: If you want to discard the macro you've just created, tap on the Discard Macro button.

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> to execute the macro.

Deleting A Macro

- In the Macros tab, use the stylus to highlight the macro number you want to delete.

- Tap on the Delete Macro button, and press <ENTER>.

5.5.2.5   Unicode Mapping

- In the Keyboard Properties dialogue box, open the Unicode Mapping tab.
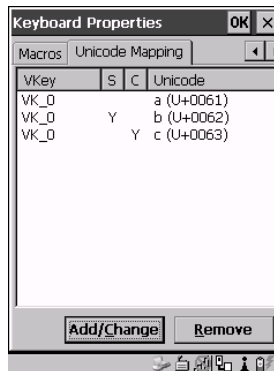
Figure 5.12 Unicode Mapping

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, the sample screen
above shows "a (U+0061)" indicating that the character "a" is represented by the
Unicode value "0061", and so on. Keep in mind that Unicode configurations are
represented as hexadecimal 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***
Keyboard Properties ***dialogue box.***

- Tap on the **Add/Change** button.
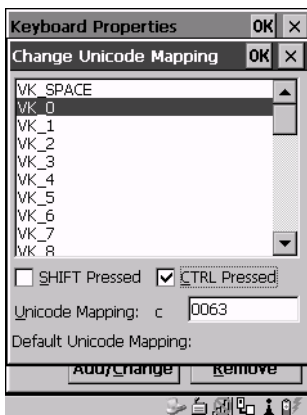
Figure 5.13 Adding And Change Unicode Values

- Highlight a value in the Unicode mapping list – in the sample screen above,
  a value will be assigned to virtual key 0 (VK 0).
- 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 the stylus 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 <u>R</u>emove button.

5.5.3 Volume And Sound Properties

- In the Control Panel, choose the Volume & Sounds icon.
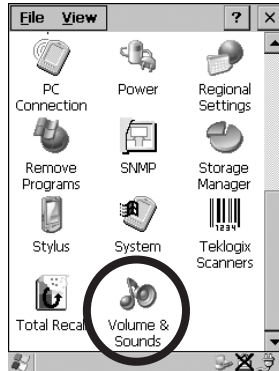
Figure 5.14 Choosing The Volume Icon

5.5.3.1   Volume Adjustments
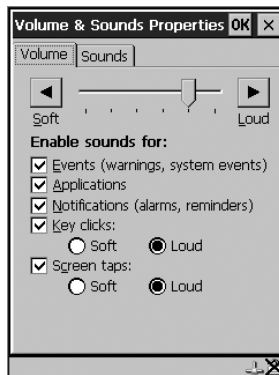
Figure 5.15 Volume Settings

- Slide the volume button to the left to lower the beeper volume or to the right to increase the beeper volume.
- Under the heading 'Enable sounds for:', enable (√) the conditions under which you want the WORKABOUT PRO to emit a beep.

5.5.4 Power Management Properties

This icon displays a Power Properties dialogue box that indicates the unit's battery capacity and allows you to manage battery use.

- In the Control Panel, choose the Power icon.
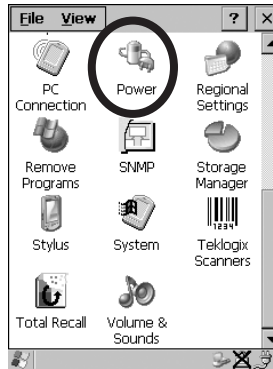
Figure 5.16 Choosing The Power Icon

5.5.4.1 Battery Capacity

- In the Power Properties dialogue box, open the Battery tab.
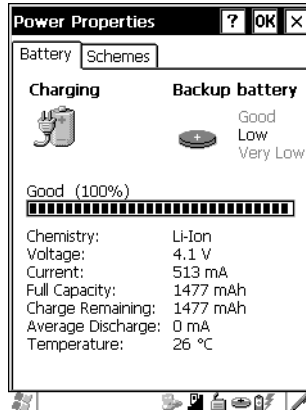
Figure 5.17 Power Battery Properties

The Battery tab details information about the battery installed in your WORKABOUT PRO.

5.5.4.2   Power Saving Schemes

- In the Power Properties dialogue box, open the Schemes tab.
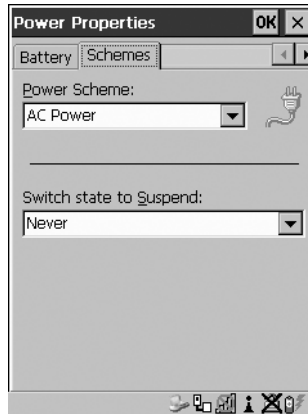
Figure 5.18 Power Scheme Properties

Power Scheme

This dropdown menu allows you to specify whether the unit is using AC Power or Battery Power.

Switch State To Suspend

Important: *If a WORKABOUT PRO is using battery power, Psion Teklogix recommends setting the Suspend value to 10 minutes. Setting 'Switch State To Suspend' to values greater than 10 or setting the suspend state to 'Never' will adversely affect the battery run time.*

To further reduce power consumption, carefully consider the duration of time that the display backlight is 'on' (see "Display Backlight" on page 65).

When the WORKABOUT PRO is idle – not receiving any user input (a key touch, a scan, and so on) or system activity (serial data, an activity initiated by an application, and so on), the hand-held uses the value assigned in the Switch State To Suspend field to determine when the unit will go to sleep (appear to be off).

When the time in the Suspend field elapses without any activity, the unit enters Suspend state. In Suspend state, the WORKABOUT PRO CPU enters a *sleep* state, and any radios are shut off. The state of the device (RAM contents) is preserved. Pressing

<ENTER> wakes the system from suspend state. When the unit is in suspend state, the network connection will not be broken immediately. If the connection is dropped, you must re-establish the network connection.

5.5.5 Stylus Properties

Note: Touchscreen calibration may not be enabled on your unit. If your screen appears to require recalibration, contact your supervisor.

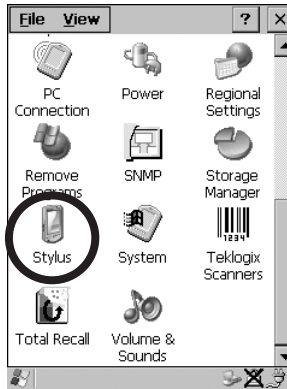- In the Control Panel, choose the Stylus icon.

Figure 5.19 Stylus Icon

5.5.5.1 Setting Double-Tap Sensitivity

- In the Double-Tap tab, follow the directions to tailor the sensitivity of the stylus when you tap on the touchscreen.
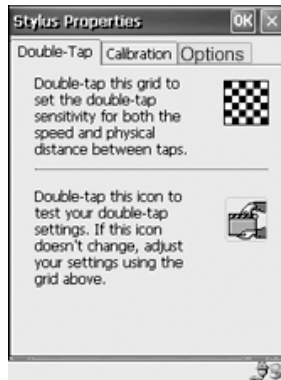
Figure 5.20 Setting Stylus Sensitivity

5.5.5.2   Touchscreen Calibration

Touchscreens rarely require recalibration. However, if your touchscreen has never been calibrated or if you find that the stylus pointer is not accurate when you tap on an item, follow the directions below.

- Choose the Calibration tab and then tap on the Recalibrate button.

Figure 5.21 Calibrating The Touchscreen

- Follow the directions in the Calibration tab to recalibrate the screen.

5.5.5.3   Touchscreen Options

This tab allows you to disable the touchscreen.

- Choose the Options tab and then tap on the 'Disable the touch panel' checkbox.

5.5.6 Certificate Assignment

- In the Control Panel, choose the Certificate icon.
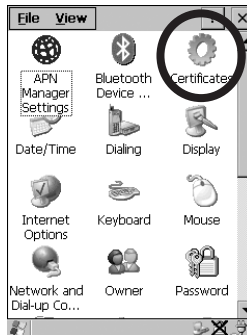
Figure 5.22 Certificate Icon

The dialogue box is used in conjunction with 802.1x authentication to enhance security.

Figure 5.23 Certificates Dialogue Box

For a detailed description about **Certificate** setup for both the server and client-side devices (WORKABOUT PROs), refer to the following website:

www.microsoft.com/windows2000/techinfo/planning/walkthroughs/default.asp - "Security Services"

Note: *When importing certificates, the unit only recognizes .cer files.*

5.6 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 5 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.

Note: *The Bluetooth radio card uses an internal antenna.*

- In the Control Panel, choose the Bluetooth Device Properties icon to display the Bluetooth Manager screen.
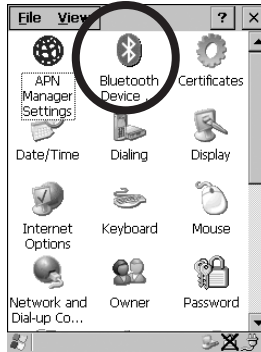
Figure 5.24 Bluetooth Icon

The Bluetooth Controls dialogue box is used to display the other Bluetooth devices with which you can communicate.

Figure 5.25 Bluetooth Devices Tab

5.6.1 The Devices Tab

Scan
- Click on the <Scan> button to list available devices.

Wait for the WORKABOUT PRO to complete its scan (approximately 20 seconds). When scanning starts, the **<Scan>** button will change to **<Stop>** – if necessary, you can tap on this button to stop the process. Once scanning is complete, all discovered devices will be displayed in the list box, with **Name**, **Address**, **Active** status, and **PIN** information.

Note: During the scanning process, addresses are located first, followed by names. Therefore, only the names of devices that are within the Bluetooth radio coverage range will be retrieved.

The **Active** column indicates whether any service is activated for that device. When a service is activated, the device is displayed in the list even when it is not detected during the scan.

The **PIN** column indicates whether you have a PIN (password) set for the device.

At this point you can either query for services or set the PIN for each device. Once you highlight a device in the list box, both the **<Services>** and **<Set PIN>** buttons become available.

Services

A discovered device may display several service profiles that it can use to communicate, and you will want to activate the type you need. Supported profiles that can be activated include: DUN (Dial-Up Networking service), Printer (serial service), and LANPPP (LANAccessUsingPPP service). ASync (ActiveSync) is another available profile.

- To start the service scan, highlight a device in the Devices tab list, and then click on the **<Services>** button or double-click on the device entry.

Note: If the remote device is out of reach or turned off, it can take a considerable amount of time for the Services dialogue box to appear – it may appear to be frozen.

Once the device's service profiles are displayed in the Services list box:

- Highlight the desired service, and then click on <**Activate**> or <**Deactivate**>, as required.

Once the service is successfully activated, the assigned port (if applicable) will appear in the **Port** column of the *Services* list box. You can choose to use **BSP** or **COM** as the port name. BSP is the latest Microsoft Bluetooth stack standard, but

older applications assume serial ports are COM. When using *COM* as the port name, the Bluetooth manager will try to find and use a free port between COM7 and COM9. When using *BSP* as the port name, BSP2 to BSP9 are available for use. The port is available as soon as it is activated.

Note: *The* **CH** *column shows the RFCOMM channel of the service IF the service is RFCOMM-based. This information is not generally needed except for debugging purposes.*

The **Authentication** and **Encryption** options can be changed only before activation. To change those after activation, deactivate the service first, then change the options.

Once a service is activated, all the information regarding the service, including the RFCOMM channel number, is saved in the registry. (Some remote devices may change their RFCOMM channel numbers when they reboot, so your saved setting may not work when the remote device is rebooted. In that case, you must deactivate the service and reactivate it to detect the current RFCOMM channel.)

Set PIN

PINs can be set for each device by pressing the <Set PIN> button in the Devices tab, or you can skip this step and try to connect to the device first.

Important: ***The remote device must have authentication enabled, otherwise the PIN authentication will fail.***

- Highlight a device, click on the <Set Pin> button, and type the PIN.

You will receive a message, either that the PIN has been successfully validated or that it has been rejected.

If the PIN has been validated, an asterisk (*) appears in the PIN column in the *Devices* list box, indicating that this device has a PIN set. Once a PIN is entered, it is saved in the registry.

To remove the PIN:

- Click on <Set PIN> and press <ENTER>.

If the WORKABOUT PRO attempts to connect to a remote device that has Authentication enabled and does not have a required PIN set, an *Authentication Request* dialogue box appears.

- Enter the PIN, and click on <OK> to connect the devices.

5.6.2 The Server Tab

Figure 5.26 Bluetooth Servers Tab

The Bluetooth connection is initiated from your WORKABOUT PRO to the remote device – therefore the WORKABOUT PRO is called the 'client' and the remote is called the 'server'. The Servers tab displays the server profiles that can be activated in your WORKABOUT PRO. There is currently one server profile available: **Serial**.

•   Tap on the checkbox to activate (√) the server, and it will display the associated port name beside the server name.

Once you activate a server profile, it is recommended that the WORKABOUT PRO be rebooted before you try to bond from a server.

Note: *You do not need to reboot if you are deactivating a server.*

5.6.3 The Property Tab
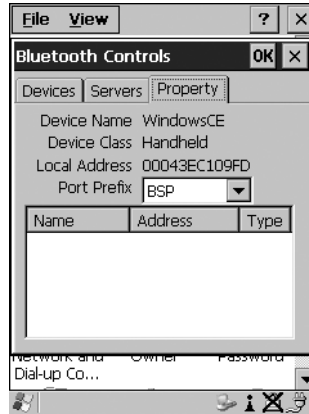
Figure 5.27 Bluetooth Servers Tab

The Property tab displays information about your WORKABOUT PRO, and provides some port options.

The **Device Name** field shows the device name of your WORKABOUT PRO. This name can be changed (see the *Note* in this section for details).

Device Class shows the Class of Device (e.g. desktop, hand-held), which is always set to **Handheld**.

Local Bluetooth Address shows the address of your WORKABOUT PRO radio.

Port Prefix is used to set the port name to either **BSP** or **COM**. When the name is set to **BSP**, BSP2 to BSP9 are available for activated services (including the server). When **COM** is chosen, COM7 to COM9 are available.

The **Connection list table** shows the *Name*, *Address*, and *Type* of the currently active connections. The table is periodically updated while on display, but it can take a few seconds before it reflects the actual list of connections. The *Type* column of the table shows 'ACL' or 'SCO'. The Connection list table shows the connections for scanning as well as the service connections.

Note: *You can change the device-name and description of your radio by clicking on the* System *icon in* Control Panel, *which will open the* System Properties *dialogue box. Click on the* Device Name *tab to access the menu and change your settings. Then click on* **OK**.

> *Although the name will have changed in the Property menu in Bluetooth Controls, the radio only reads it on boot-up. For the changes to take effect, you must reset the WORKABOUT PRO.*

5.6.4 The Bluetooth GPRS Phone

Once you've completed the Bluetooth settings described beginning on page 78, you can go ahead and set up communication through your GPRS phone.

    1.   To set up the internet parameters, select the Network And Dial-up Connections icon from the Control Panel.
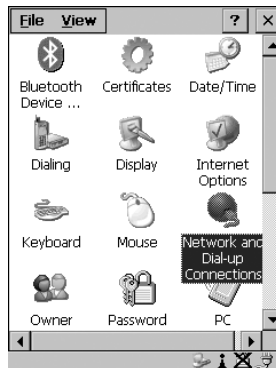
Figure 5.28 Network And Dial-up Connection Icon

    2.   Select the Make New Connection icon.
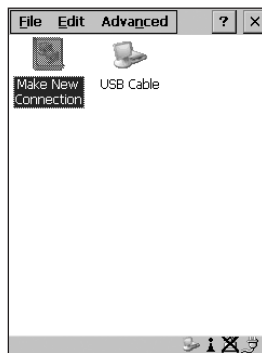
Figure 5.29 Creating A GPRS Connection

3. In the Make New Connection dialogue box, choose Dial-Up Connection.
    Enter a name for your GPRS network connection.
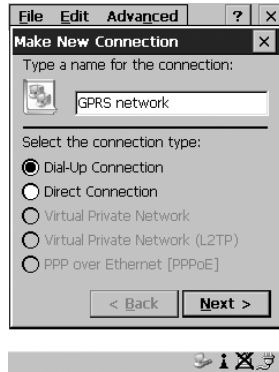
Figure 5.30 Setting Up The Connection

4. Highlight the **Next>** button, and press <ENTER> to display the Modem
    dialogue box.

Figure 5.31 Setting Up The Modem

5. In the dropdown menu labelled Select a modem:, choose the name of the
    modem with which you want to connect, and then choose the Configure
    button to display the Device Properties dialogue box.

The WORKABOUT PRO communicates with your phone and retrieves the parameters for the Device Properties dialogue box. The unit then disconnects.
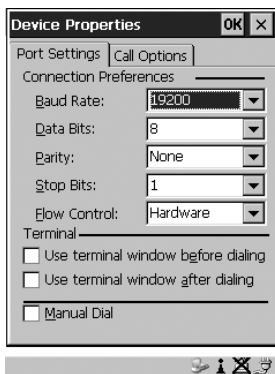
Figure 5.32 Port Settings

6. Under the Call Options tab, turn off Cancel the call if not connected within... and press <ENTER> to save your changes.
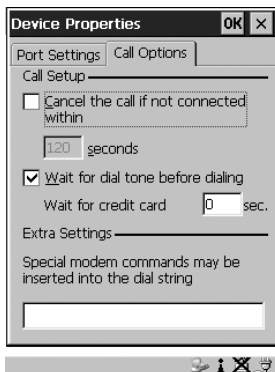
Figure 5.33 Call Options

7. In the **Modem** dialogue box, select the **Next>** button to display the **Phone Number** dialogue box.

Figure 5.34 Setting The Phone Number

The phone number you enter is network carrier dependent. Once you've specified all the necessary information, choose the **Finish** button.

8. In the **Control Panel**, choose the **Dialing** icon.

Figure 5.35 Dialing Icon

9. The values in the Dialing Properties dialogue box need to be edited accord-ing to your network carrier specifications.

Figure 5.36 Setting Up Dialing Properties

Once you've edited this dialogue box to reflect your network carrier requirements, press <ENTER> to save your changes.

10. At this point, you'll need to return to the Control Panel and select the Network and Dial-up Connections icon.

11. In the network connection window, the new network configuration – in this case – GPRS Network – is displayed. Choose the new icon.
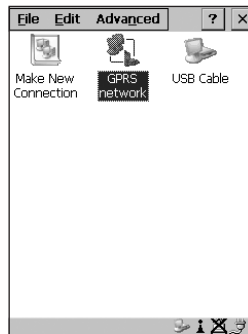
Figure 5.37 GPRS Network Connection

This onscreen message indicates the status of your connection – connected, disconnected, error messages, and so on.

Figure 5.38 Successful Connection

• Select the Hide button to move this message to the background.

You can now access the internet.
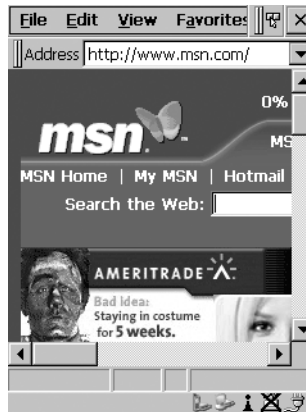
Figure 5.39 Accessing The Internet

5.7 SNMP (Simple Network Management Protocol) Setup

Simple Network Management Protocol (SNMP) is the protocol used to monitor and manage devices attached to a TCP/IP network (providing they support SNMP). SNMP uses Management Information Bases (MIBs) that define the variables an SNMP Network Management Station can access. Each product has a defined set of MIBs that determine how SNMP operates, the type of access allowed and so on.

All Teklogix products support the TEKLOGIX-GENERIC-MIB – a MIB that defines some common features across Teklogix products. All devices also support MIB-II, a management information base that defines the common features of TCP/IP networks. The SNMP Agent software embedded in the WORKABOUT PRO supports SNMPv1 (RFC 1157).

- In the Control Panel, choose the SNMP icon.

Figure 5.40 SNMP Icon

5.7.1   Contact Tab

The **SNMP** dialogue box is displayed.
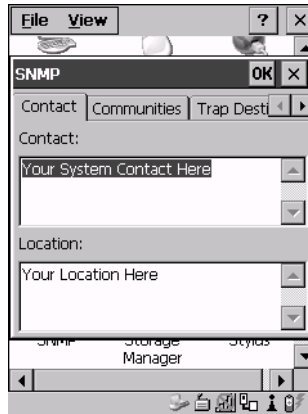
Figure 5.41 Contact Tab

Contact

This field identifies the contact person for this managed node along with information about how to get in touch with this person. The content of this parameter is accessible through MIB-II's `sysContact` object.

Location

This parameter is used to identify the physical location of this node (e.g., Warehouse A: Pillar 32B). The content of this parameter is accessible through MIB-II's `sysLocation` object.

5.7.2 Communities Tab

Figure 5.42 Community Settings

The "Communities" tab provides a means of limiting access to SNMP managed devices to those SNMP Managers with matching "community names", as specified by RFC 1157.

Enable SNMP

Enabling (√) '**Enable SNMP**' allows the device to respond to SNMP queries and to send Traps. After enabling this option and rebooting the device, the SNMP Agent will automatically start up. To disable this feature, remove the check mark from the check box.

5.7.2.1   Adding A Community

• Choose the **A**dd button to add a new 'community'.
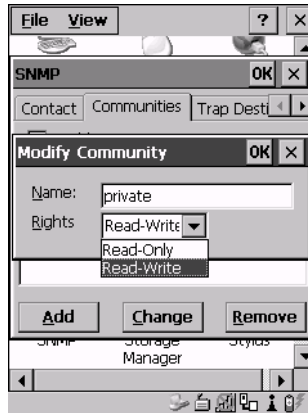
Figure 5.43 Adding A Community

Name

The value assigned here is the name assigned by the network administrator to the set of devices to which this managed node belongs.

Rights

This menu allows you to specify access – that is, 'Read-Only' or Read-Write'

5.7.2.2   Modifying A Community Setting

To modify an existing community:

- Highlight the community you want to alter.
- Tap the Change button.
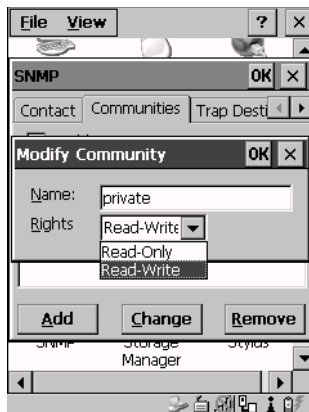
Figure 5.44 Changing Or Removing A Community

A Modify Community dialogue box is displayed, listing the community you highlighted.

- Edit the Name and/or Rights, and press <ENTER> to save your changes.

5.7.2.3   Removing An Existing Community

To remove an item:

- Highlight the community you want to remove in the Communities tab and then choose the Remove button.

A Delete Confirmation screen is displayed.

- To remove a community, tap the Yes button.
- If you decide not to remove the community, tap the No button.

5.7.3   Trap Destination Tab

A trap is an unsolicited report sent to SNMP Managers by the SNMP Agent running on the managed node. This option allows you to define where the report will be sent.

Figure 5.45 Trap Destination Tab

5.7.3.1   Enabling Authentication TRAPS

Enabling (√) 'Enable Authentication TRAPS' allows authorization traps to be sent when a failure is detected (e.g., an SNMP message received with a bad community name).

5.7.3.2   Adding A Destination

To add a new destination:

•   Tap on the **A**dd button.
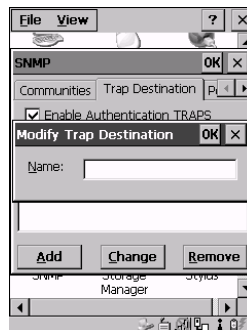
Figure 5.46 Adding A Trap Destination

•   Type a destination in the text box provided, and press <ENTER>.

5.7.3.3   Changing A Destination

To change an existing trap destination:

- Highlight the destination you want to alter in the Trap Destination tab, and then tap on the Change button.

A dialogue box like the one displayed when you *add* a destination is displayed.

Figure 5.47 Changing A Destination

- Make the changes to the destination, and press <ENTER> to save the changes.

5.7.3.4   Removing A Trap Destination

To remove a trap destination:

- In the Trap Destination tab, highlight the destination you want to delete.
- Tap on the Remove button.

A Delete Confirmation screen is displayed.

- To remove a destination, tap on the Yes button.
- If you decide not to remove the destination, tap on the No button.

5.7.4 Permitted Hosts Tab

For security reasons, the Network Administrator may want to restrict SNMP-node access to a known sub-set of SNMP Managers. This tab lists the IP addresses of all the SNMP Managers which are allowed to monitor and manage this device. If no entries are listed, the device will accept SNMP queries from any host.
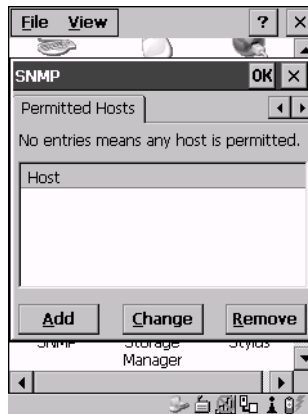
Figure 5.48 Permitted Hosts Tab

5.7.4.1 Adding A Host

To add a new host:

- Tap on the **Add** button.
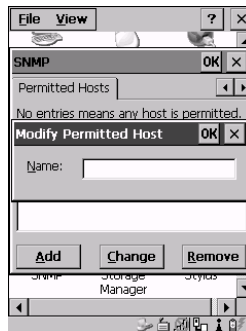
Figure 5.49 Adding A Host

- Type a new host IP address in the text box provided, and press <ENTER>.

5.7.4.2   Changing A Host

To change an existing host IP address:

- • Highlight the IP address you want to alter in the **Permitted Hosts** tab, and then tap on the **Change** button.

A dialogue box like the one displayed when you *add* a host is displayed.

- • Make the necessary changes, and press <ENTER>.

5.8   Total Recall

Total Recall is a Psion Teklogix utility developed to maintain applications and setting over cold boots. This utility is based on a backup and restore concept and is extended to incorporate power advanced features.

- • In the **Control Panel,** choose the **Total Recall** icon.
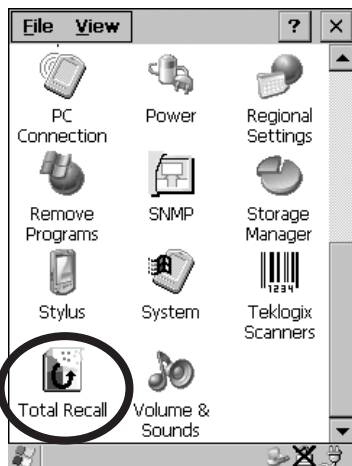
Figure 5.50 Total Recall Icon

5.8.1 Creating A Backup Profile
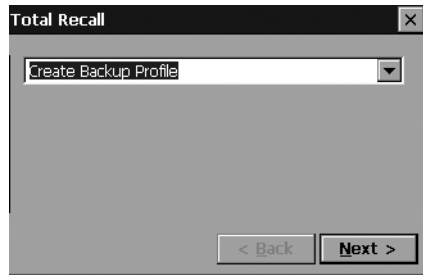
Figure 5.51 Backup Profile

In the dropdown menu, you can choose from four options: Create Backup Profile, View Selected Profile, Restore Selected Profile and Delete Selected Profile. Keep in mind however that until a profile is created, the only available option is Create Backup Profile.

- Tap on the **<Next>** button to begin the process.
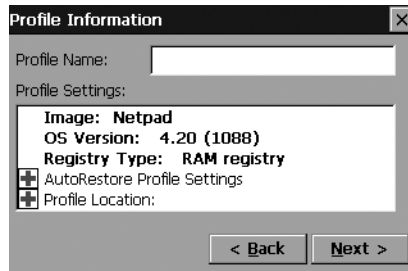
Figure 5.52 Profile Details

Profile Information

This dialogue box lists the possible storage destinations for the profile file.

- To begin, type a name for the profile in the field labelled Profile Name.

This dialogue box also lists the image type – **OS Version** and **Registry Type** for the WORKABOUT PRO.

- Tap on the ⊞ icon to expand your settings for **AutoRetore Profile** and **Profile Location**.
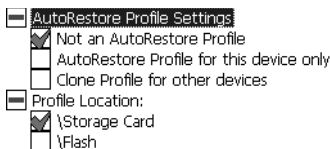
Figure 5.53 Profile Options

- **Not an AutoRestore Profile** – creates a backup that is manually restored by the operator.

- **AutoRestore Profile for this device only** – creates a profile that automatically restores itself following a cold boot.

- **Clone Profile for other devices** – creates a profile that automatically restores after resuming from a cold boot, but it will not contain the touch screen calibration coordinates or the Wireless radio settings.

- **Profile Location** – allows the operator to specify where the profile is to be saved. The location for the profile will typically be Flash or a Storage card.

- Tap on the <**N**ext> button to display the next dialogue box – **Add Files.**

Add Files
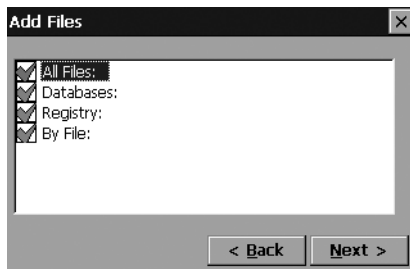
Figure 5.54 Adding Files

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 database, and/or the registry only.

- 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 the selected files, databases, and/or registry.
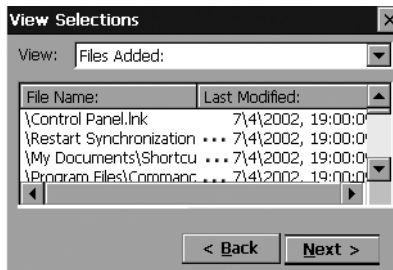
Figure 5.55 Viewing Selections

- Tap on the <Next> button to perform the operation.

Performing The Backup
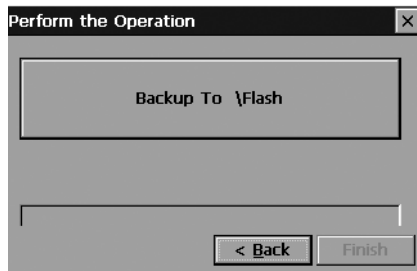
Figure 5.56 Performing The Backup

- Tap on Select the <Backup To \Flash> or <\Storage Card> button to start the process and create a profile.

5.8.2 Restoring A Profile
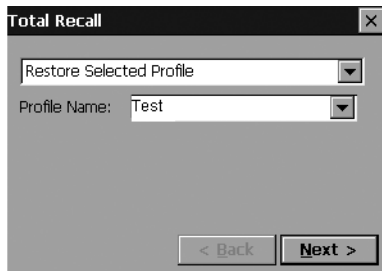
Figure 5.57 File Restoration

To manually restore a profile:

- Choose **Restore Selected Profile** from the dropdown menu, and select the **Profile Name** displayed in the drop down box.

Note: *You can also manually restore an auto restore profile located in flash or a storage device.*

5.9 APN Manager Settings

The **APN Settings Manager** icon in the **Control Panel** is used to set up APN (Access Point Name) settings for units equipped with GSM/GPRS radios.

Important: ***Typically, APN setup information is automatically configured for you. The** **APN Manager Settings** **icon is only necessary if automatic setup fails.***

5.9.1 Automatic GSM Setup – Connecting To The Network

When you initially attempt to connect to a network using a GSM radio, a dialogue box is displayed asking if you would like your GSM automatically configured.

1. Choose **Yes** to initiate automatic configuration.
2. In the **Start Menu**, choose `Settings>Network...` and in the connection window, double-tap on the **GPRS** icon that has been set up for you.
3. In the **Dial-Up** dialogue box, tap on the <**Connect**> button.

PIN (Personal Identification Number) Request

The SIM (Subscriber Identity Module) card in your unit may be password protected. In this case, a dialogue box will appear, requesting that you enter your PIN (Personal Identification Number).

1. Type the PIN assigned to your unit SIM.
2. In the **Start Menu**, choose Settings>Network... and in the connection window, double-tap on the **GPRS** icon that has been set up for you.
3. In the **Dial-Up** dialogue box, tap on the <**Connect**> button.

5.9.2 Manual GSM Setup – APN Settings Manager

Note: *Before using the APN Manager, close any active connections.*

*   In the **Control Panel**, choose the **APN Manager Settings** icon.
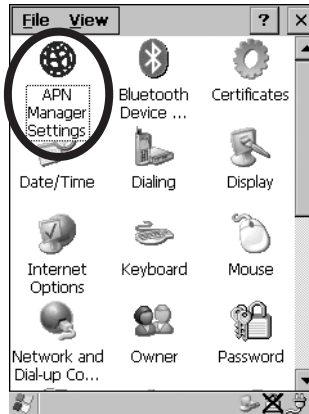
Figure 5.58 APN Manager Settings Icon

If automatic configuration has failed, you'll need to set up your details manually, using the APN (Access Point Name) settings tab.
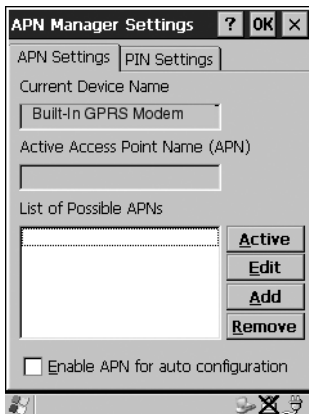
Figure 5.59 APN Settings Tab

- Tap on the <**A**dd> button.
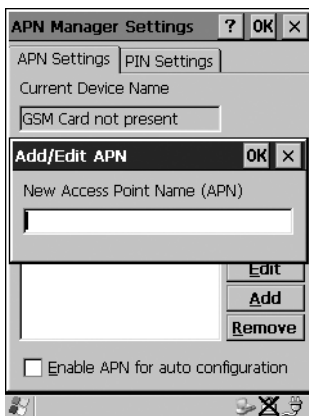
Figure 5.60 Adding A New APN

- In the **Add/Edit APN** dialogue box, type a new APN, and tap on <**OK**>.

Your new APN is added to the 'List of Possible APNs' under the APN Settings tab.
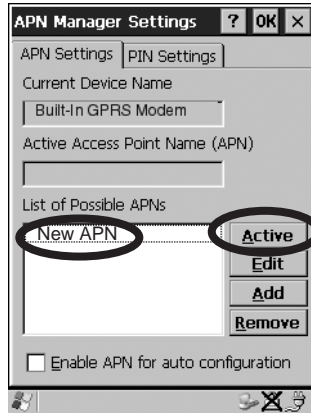
Figure 5.61 Adding A New APN

- To use your new APN, tap on the <**Active**> button.

*Note: To avoid overwriting your newly created APN, disable the checkbox next to '*Enable APN for auto configuration*'.*

5.9.3 PIN Settings

The Pin Settings tab is used to change, enable or disable the PIN (Personal Identification Number) assigned to your SIM card.
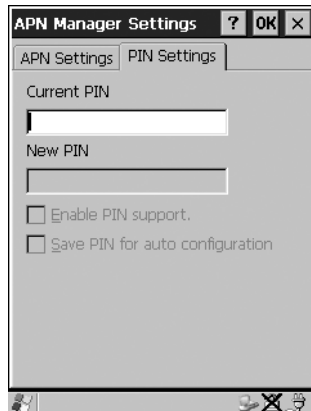
Figure 5.62 PIN Settings Tab

To change your PIN:

- Type your existing PIN in the text box labelled Current PIN.
- Type the new PIN in the text box labelled New PIN.

Enabling (√) Enable PIN Support. activates the PIN entry requirement – each time you connect to a network, your PIN will be requested. Leaving this checkbox unchecked disables PIN requirement.

Note: *Some SIM cards do not allow the PIN support to be disabled.*

Enabling (√) Save PIN for auto configuration. causes the PIN to be stored in the hand-held. At power up, the PIN is automatically submitted to the modem.

Important: **Keep in mind that if the WORKABOUT PRO is starting from a 'cold reboot', the PIN is deleted. If unauthorized use of the hand-held is a serious issue at your site,** Save PIN for auto configuration **should be disabled.**

CONNECTING TO A LAN WITH 802.11b 6

6.1 Installing The 802.11b Radio

The WORKABOUT PRO operates with an 802.11b Direct Sequence Spread
Spectrum radio. The CF (Compact Flash) card is easily installed in the unit.

- To begin, remove the battery pack. If your unit is using AC power,
  disconnect it.
- Remove the stylus from the end-cap before removing the end-cap itself.
- Remove the end-cap at the top of the WORKABOUT PRO – unscrew the
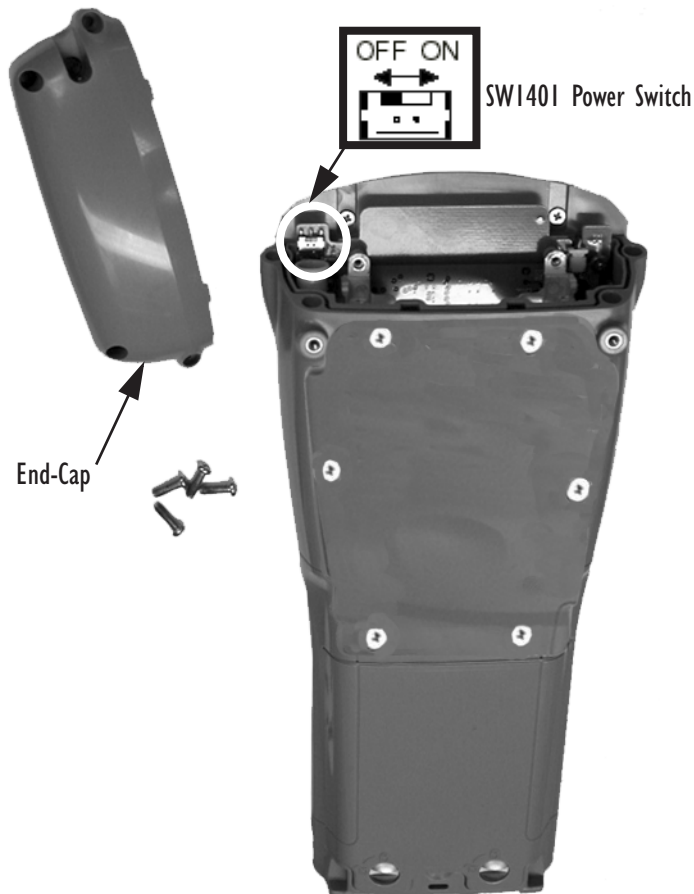 four Philips head screws from the cap.

Figure 6.1 The End-Cap And The SW1401 Power Switch

- Slide the SW1401 switch to the left to shut off internal battery power.
- With the back of the hand-held facing you, slide the radio (label up) into the CF slot at the top of the unit until it clicks into place.
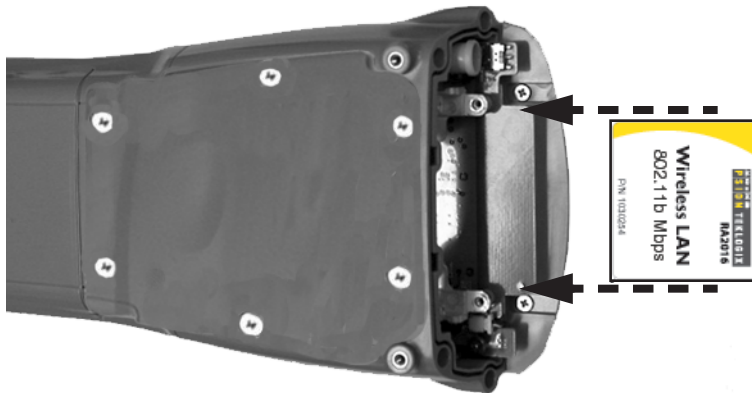
Figure 6.2 Inserting A CF Card

Once the radio is installed, you'll need to attach a CF card stopper to hold the radio in place.

Figure 6.3 CF Stopper

- Fit the CF stopper over the card, and use the four screws provided to secure the stopper in place.

CF Card Stopper Installed

Figure 6.4 CF Stopper Installed

- Install the battery, and replace the backplate.
- Slide the SW1401 switch to the right to turn power back on.
- Replace the end-cap, and tighten the four Philips screws to secure the end-cap.

Important: ***The WORKABOUT PRO does not support hot swapping cards. All power sources must be switched off before inserting a card in the unit.***

6.2 Connecting To A LAN Using An 802.11b Radio

Once the 802.11b radio is installed in the WORKABOUT PRO, you'll need to take a few steps to configure the radio.

6.2.1 Configuring An IEEE 802.11b Radio

While most common 802.11b settings are configured as defaults, there are some fields that must be completed, including the SSID of your access point and the security methods implemented in the network (including access keys).

> ⚠ *Important:* *If the WORKABOUT PRO radio has <u>never</u> been configured, the*
> *radio settings dialogue box will open automatically when the unit*
> *is powered on. In this case, skip to Step 4 on page 113.*

To configure the 802.11b radio:

1. Tap on the Start button in the taskbar, and tap on
   Settings>**N**etwork....

Figure 6.5 Network And Dial-Up Connections

> 📖 *Note: You can also press <CTRL> <ESC> to display the Start Menu.*

2. Tap on the radio icon to open the **802.11b Wireless LAN Settings** window – in
   the sample screen this is labelled **NETWLAN1**.
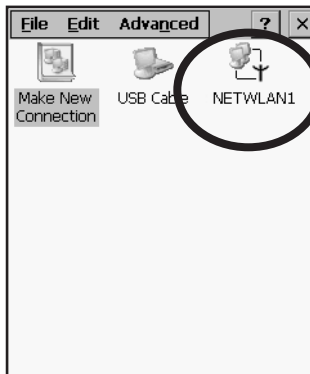
Figure 6.6 802.11b Wireless LAN Settings Window

3. Wireless Statistics Tab

When you choose the Wireless LAN icon, an 802.11b Wireless LAN Settings window (NETWLAN1 in the sample below) is displayed.
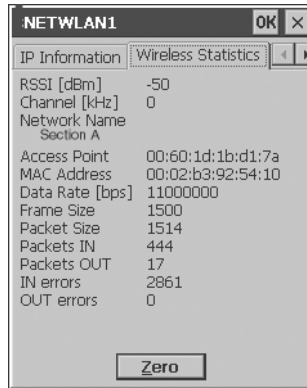
Figure 6.7 Wireless Statistics

This tab lists your radio statistics. Tapping on the <Zero> button resets the statistics of the last four items – Packets IN, Packets OUT, IN errors and OUT errors.

• Tap on the Wireless Information tab.

4. Wireless Information Tab

The options under this tab list existing networks to which you can connect, and it allows you to add a new network or modify the settings for an existing network.
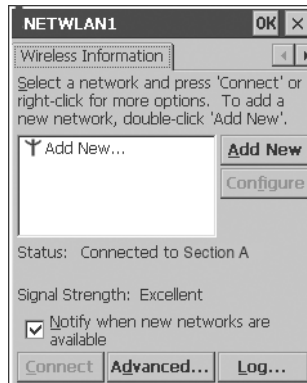
Figure 6.8 Wireless Information Tab

Note: <Configure> *button – To change the settings in an **existing network**, highlight the network you want to modify, and tap the* <Configure> *button to display the* Wireless Properties *dialogue box.*

<Connect> *button – To force connection to a specific, **existing network**, highlight the network to which you want your unit to connect, and tap the* <Connect> *button.*

This tab lists *available* networks – any access points that are broadcasting an SSID, and it lists *preferred* networks – networks that you have configured. Since access points are generally secure, they will most likely not be listed here. By default, the unit attempts to connect to preferred networks. This behaviour can be changed by enabling (√) 'Automatically connect to non-preferred networks' in the Advanced dialogue box (page 118).

- To **add** a new configuration, tap the <Add New> button. A blank Wireless Properties dialogue box is displayed.

5. Wireless Properties

Figure 6.9 Wireless Properties Dialogue Box

Network name (SSID):
- Type the appropriate SSID (Service Set Identifier) in the 'Network name (SSID):' text entry field at the top of this dialogue box.

The Network name field can contain a maximum of 32 characters. The name assigned here is listed as a *preferred* network.

Important: ***Keep in mind that the WORKABOUT PRO will only communicate with access points that are configured with the same SSID.***

Ad Hoc And Infrastructure

If you are using an "Infrastructure" network – one in which WORK-ABOUT PROs must pass data through an access point – leave the checkbox next to 'This is an ad hoc network' *blank*.

If you are using an "Ad Hoc" network – a network in which hand-held computers pass data *directly* to other hand-helds without an access point – tap on the checkbox next to 'This is an ad hoc network' to enable (√) Ad Hoc.

Encryption

WEP (Wired-Equivalent Privacy) encryption prevents others from accidentally accessing your network. If you are *not* using encryption, you can choose 'Disabled' from the dropdown encryption menu. Otherwise, leave this field as is.

Authentication

802.11b supports two subtypes of network authentication services: Open and Shared. Under Open authentication, any wireless station can request authentication. The station that needs to authenticate with another wireless station sends an authentication management frame that contains the identity of the sending station. The receiving station then sends back a frame that indicates whether it recognizes the identity of the sending station.

Under Shared authentication, each wireless station is assumed to have received a secret shared key over a secure channel that is independent from the 802.11b wireless network communications channel.

Network Key:

This text box is used to specify a 5 or 13 ASCII character sequence or an equivalent 10 or 26 Hexadecimal digit sequence that matches the active WEP key on the access point.

• To assign a **Network** **key,** tap the stylus in the checkbox next to 'The key is provided automatically' to remove the √ and *disable* this option.

Disable this option to access *Network Key & Key Index* fields. ⟶
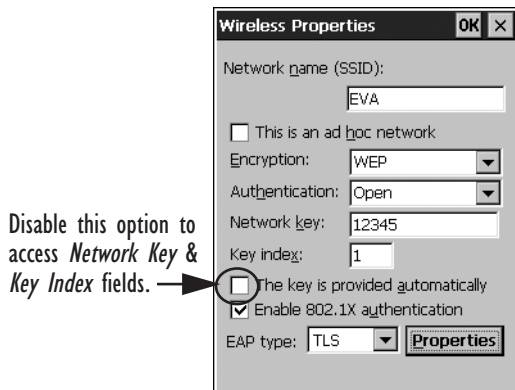
Figure 6.10 Accessing Network Key And Key Index

Key Index:
This field is used to identify the WEP key.

• Enter a value from 1 to 4.

Enable 802.1x authentication
"802.1X" is the IEEE standard that offers additional security for local area networks. It provides authentication for user devices attached to an Ethernet network, whether wired or wireless. A security protocol packet such as TLS or MD5 encapsulated in an "EAP" is used in conjunction with the "802.1x" standard to authenticate users at the MAC layer. Available EAPs are listed in the dropdown menu next to the 'EAP' option.

• To activate "802.1X", tap the stylus in the checkbox next to 'Enable 802.1x authentication' to enable (√) it.

EAP Type (Extensible Authentication Protocol):
This dropdown menu lists the EAP types available on your system. The items in this dropdown menu will vary depending on your network setup. Keep in mind also that some authentication protocols require that you select a 'Certificate'. By selecting the **Properties** button, you will be able to select a Certificate. "Certificate Assignment" on page 77 provides a website that outlines how to create certificates for your network.

6. Saving and exiting the radio setup.
   Once you have completed your configuration, tap on <**OK**>.

The connection you created will be listed in the Wireless Information tab as a preferred network. The radio will search for the SSID and will compare the WEP and authentication information you specified. If there is a match between your WORKABOUT PRO settings and the access point settings, the WORKABOUT PRO will communicate on the network through the access point.

6.2.2 Assigning An IP Address

If your network is *not* using a DHCP server, you will need to assign an IP address.

- In the NETWLAN1 Settings window, display the IP Information tab.
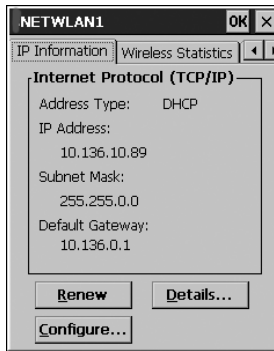
Figure 6.11 IP Information

Note: Tapping on the <Renew> button forces the WORKABOUT PRO to renew or find a new IP address. This is useful if, for example, you are out of communication range for a longer period of time and your hand-held is dropped from the network.

- Tap on the <Configure...> button to define a static IP address.
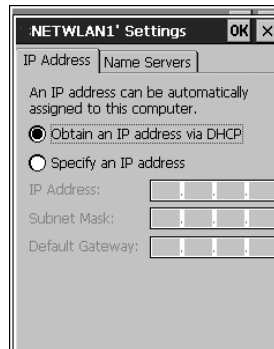
Figure 6.12 Defining An IP Address

- Tap on the radio button next to 'Specify an IP address' to select it.
- Type the appropriate address in each of the fields – IP Address, Subnet Mask and Default Gateway. Tap on <OK> to save your information.

6.2.3 Name Servers Tab

Note: ***If DHCP is enabled****, name server addresses are assigned automatically.*

- In the NETWLAN1 Settings window, display the IP Information tab.
- In the IP Information tab, tap the <Configure...> button.
- Display the Name Servers tab.
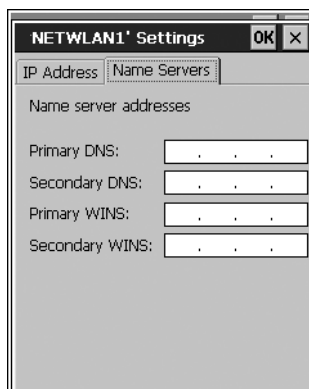
Figure 6.13 Name Servers Tab

The DNS and WINS fields in the Name Servers tab allow you to specify additional WINS and DNS resolvers. The format for these fields is ###.###.###.###.

6.2.4 Advanced Features

To display the Advanced Wireless Settings dialogue box:

- Tap on the <A**d**vanced...> button in the Wireless Information tab.

This window lists the available preferred networks.
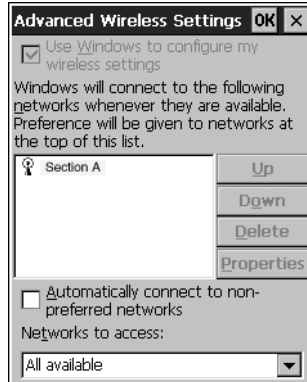
Figure 6.14 Advanced Settings

6.2.4.1   Rearranging Preferred Networks

The WORKABOUT PRO attempts to connect with the networks listed in this dialogue box *in sequence, beginning at the top of the list*. If you need to rearrange this list of networks – move networks up and down in the list:

- Highlight the network that you want to move up or down in the list.
- To move the highlighted item in the list upward or downward, tap the stylus on the **<Up>** or **<Down>** button.

6.2.4.2   Deleting A Preferred Network

To delete a network from this list:

- Highlight the network that you want to remove in the network list.
- Tap on the <**Delete**> button.

6.2.4.3   Changing Network Properties

To change the properties of an existing preferred network:

- Highlight the network that you want to modify.
- Tap on the <**Properties**> button.
- Make any necessary changes in the Wireless Properties dialogue box, and press <ENTER> to save the changes.

EXPANSION MODULES 7

7.1   Expansion Modules

Easily installable expansion modules available for the WORKABOUT PRO allow you to customise this hand-held to meet your specific mobile computing requirements. This chapter outlines how to install the following expansion modules: PCMCIA, GSM/GPRS and SE 1223HP scanner.

7.1.1   Removing The End-Cap And Back Plate

To install a module, you'll need to remove the end-cap and back plate on the WORKABOUT PRO. This is a simple process of unfastening four screws on the end-cap and six screws on the back plate.

Back plate

End-cap

SW1401
Power Switch
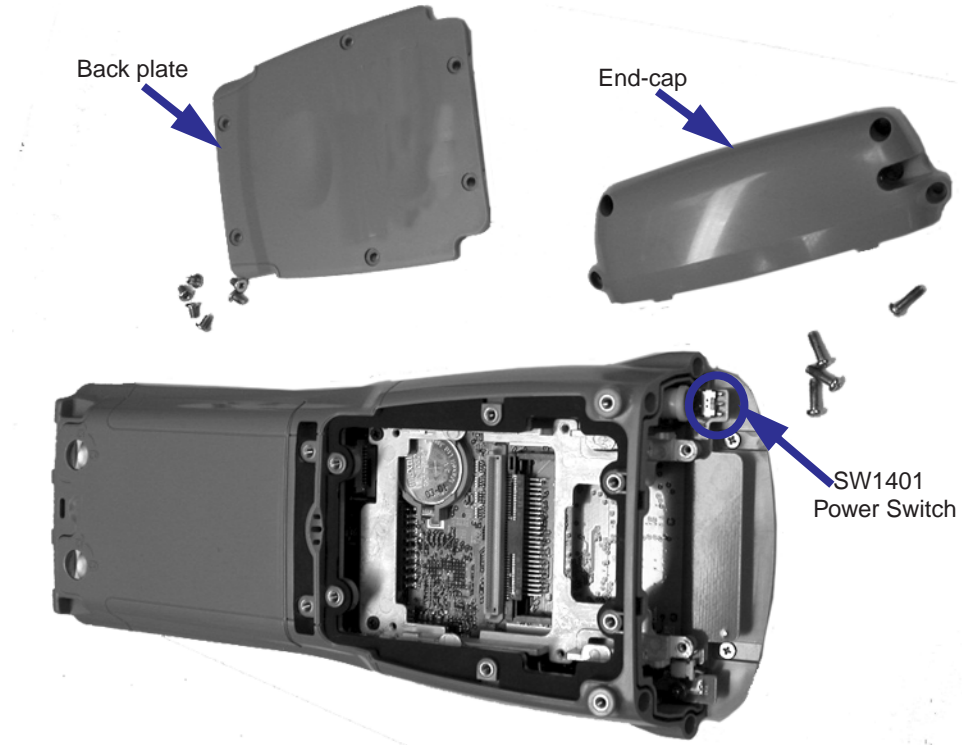
Figure 7.1 Removing The End-Cap And Back Plate

7.1.2 What's Inside

Expansion Connector

Compact Flash (CF) Connector

SW1401 Power Switch

Internal Battery

Main Logic Board

Metal Frame
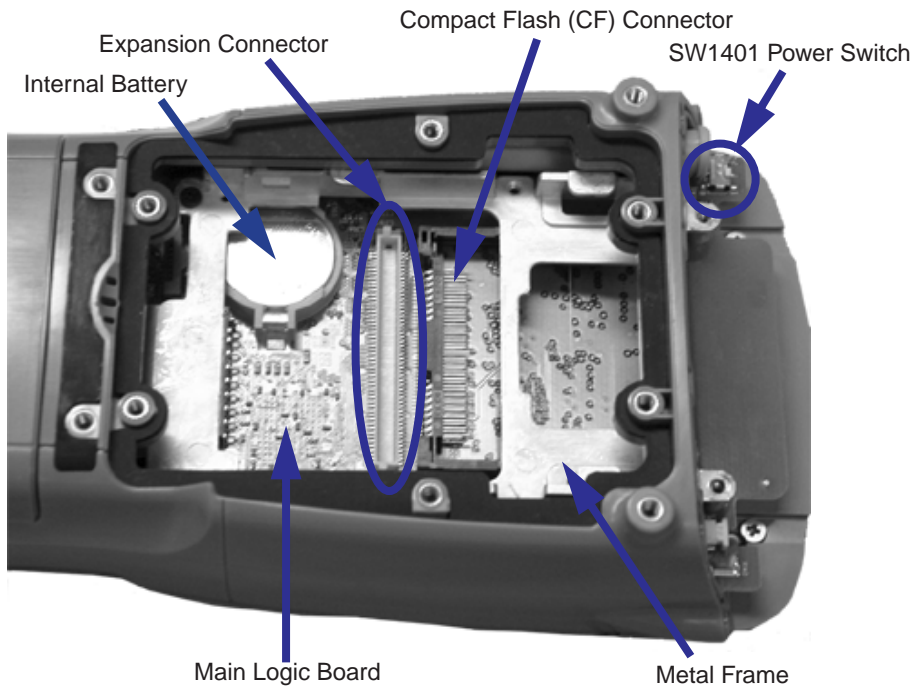
Figure 7.2 Standard Features

7.1.3 Shutting Off Power

Before installing a module or card in the WORKABOUT PRO, all power sources must be turned off.

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the stylus from the top of the unit.
- Remove the end-cap, and slide the SW1401 switch to the left to shut off internal battery power.

SW1401 Power Switch

Figure 7.3 SW1401 Power Switch

7.1.4 Installing The PCMCIA Module

Important: ***The WORKABOUT PRO does not support hot swapping. All
power sources must be turned off before inserting any card or
module in the unit.***

To insert a PCMCIA PC card in your WORKABOUT, you will need to install a
PCMCIA module equipped with a 100-pin connector. This module snaps onto the
expansion connector on your WORKABOUT PRO.

Figure 7.4 PCMCIA Module

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the end-cap and back plate.
- Slide the SW1401 switch to the left to shut off internal battery power.
- Remove the two screws at the top of the metal frame.
- Align the connector on the PCMCIA module with the expansion connector on the hand-held, and gently snap the PCMCIA module connector into the expansion connector.
- Using six screws, fasten the module into place on the main logic board. Remember to replace the two metal frame screws to secure the module and frame in place.

Important: *Once the PCMCIA module is installed in the unit, you do not need to remove the back plate to insert a PCMCIA PC card. Just remove the end-cap and slide the card into the unit.*

• Apply gentle downward pressure to securely seat the card in the connector.

Insert the PCMCIA card as shown here, with the label facing you.

Figure 7.5 Inserting A PCMCIA Card

• Slide the SW1401 switch to the right to turn power back on.

• Replace the end-cap, back plate and batteries.

7.1.5 Installing A GSM/GPRS Module

The GSM/GPRS module accommodates a GSM radio and a SIM card and is equipped with a built-in antenna. The module snaps onto the expansion connector on your WORKABOUT PRO.

Antenna

Antenna
Contacts

Antenna
Contacts

GSM/GPRS Radio

SIM Card Slot
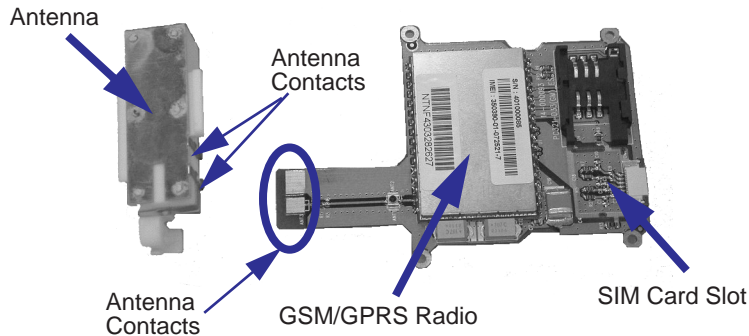
Figure 7.6 GSM/GPRS Module

- Remove the batteries. If your unit is using AC power, disconnect it.
- Remove the end-cap at the top of the WORKABOUT PRO.
- Slide the SW1401 switch to the left to shut off internal battery power.

With the power shut down, you can install the GSM/GPRS module and the antenna.

- Slide the GSM/GPRS radio under the metal frame, and align the GSM/GPRS connector with the expansion connector on the WORK-ABOUT PRO. Apply slight pressure to snap the module into place on the hand-held.
- Use the screws provided to secure the module in place.
- Fit the antenna at the top of the unit making certain that the antenna contacts are aligned with the contacts on the GSM/GPRS module.
- Use the screws provided to secure the antenna on the metal frame.
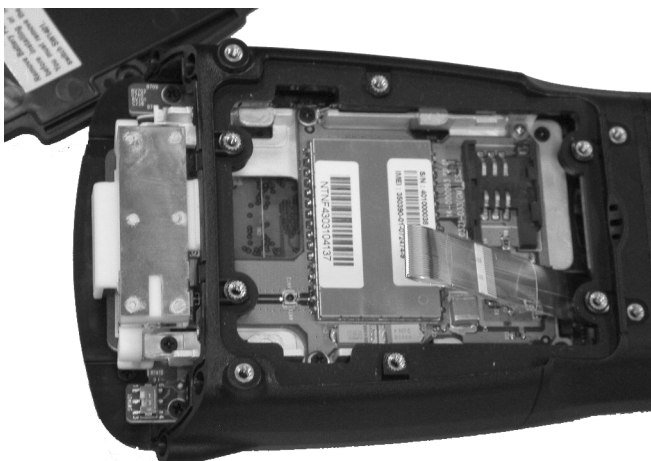
Figure 7.7 An Installed GSM/GPRS Module

- Slide the SW1401 switch to the right to turn power back on.
- Replace the end-cap, back plate and batteries.

7.1.6 Installing An SE 1223HP Scanner

The SE 1223HP scanner is the internal scanner module available with the WORKABOUT PRO. To install it:

- Remove the batteries. If your unit is using AC power, disconnect it.

- Remove the stylus and then, remove the end-cap at the top of the WORKABOUT PRO.
- Slide the SW1401 switch to the left to shut off internal battery power.
- Remove the back plate from the unit.

A scanner flex cable is already attached to the WORKABOUT PRO. You need to connect the flex cable to the internal scanner module.

- On the scanner module, pull the tabs on either side of the connector up.
- Using pincers, insert the flex cable into the connector on the scanner module.
- Push the connector tabs down to secure the flex cable in place.

Flex
Cable

Scanner
Module

Connector
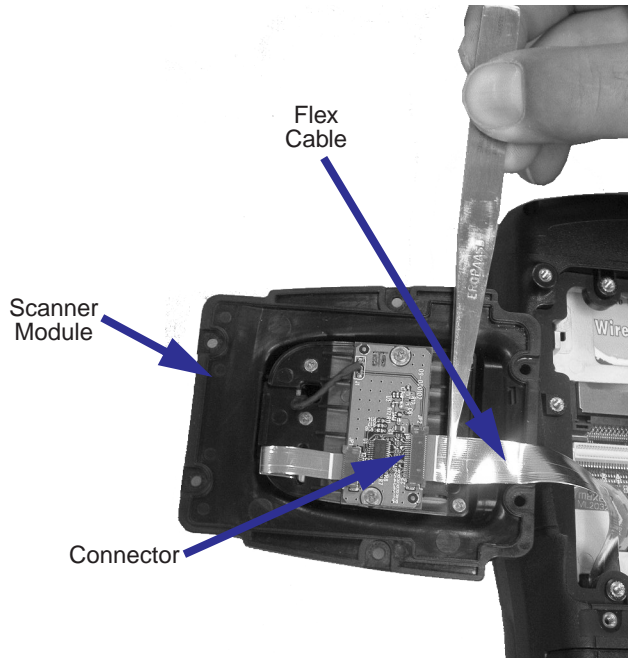
Figure 7.8 Attaching The Flex Cable To The Scanner Module

- Fit the scanner module over the back of the WORKABOUT PRO – it replaces the back plate of the unit.
- Fasten the module in place with the screws provided.

- Slide the SW1401 power switch to the right to turn power back on, and replace the end-cap, backplate and batteries.

Figure 7.9 Scanner Module Installed In WORKABOUT PRO

PERIPHERAL DEVICES & ACCESSORIES 8

8.1 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	WA6020
Pistol Grip	WA6001
Protective Vinyl Case	WA6090
Soft Shell Holster	WA6050

Table 8.1 Carrying Accessories

Important: **Do not use adhesives such as Loctite to secure the screws on carrying accessories. These chemicals may damage the plastic casing.**

8.1.1 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
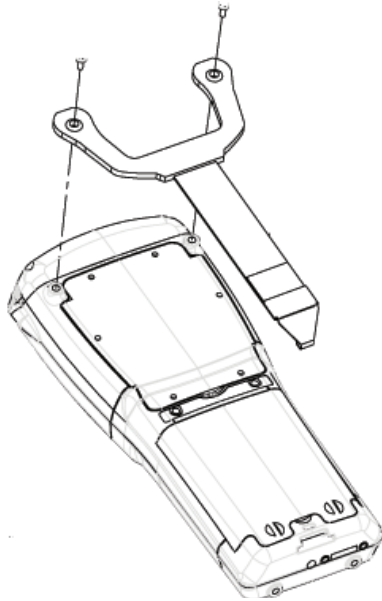
Figure 8.1 Securing The Hand Strap

- 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.
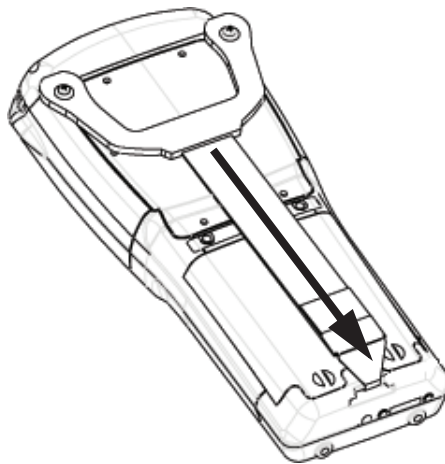
Figure 8.2 Attaching The Hand Strap

8.1.2 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.
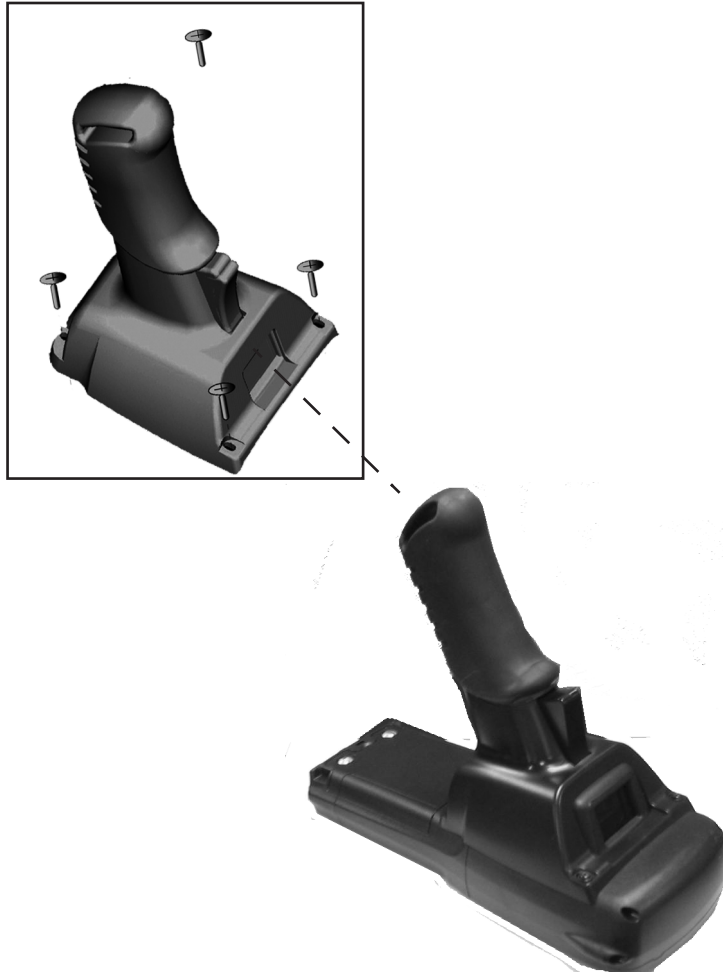

Figure 8.3 Pistol Grip

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 secure the pistol grip in place.

8.1.3 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.

Figure 8.4 Carrying Case

8.1.3.1   Using The Swivel Belt Loop With The Carrying Case

The WORKABOUT PRO carrying case is equipped with two rings onto which you can attach a swivel belt loop so that you can hang the unit from your belt. If you prefer, you can also attach a belt clip to this accessory so that you can clamp the unit onto your waistband or belt. (rather than slide your belt through the belt loop).

Figure 8.5 Belt Loop And Belt Clip

- Clip the two hooks on the belt strap to the bottom of the carrying case.
- Slide your belt through the belt loop.

Figure 8.6 Attaching The Belt Loop

Alternatively, you can attach a plastic clip to the swivel belt loop and clip it to your waistband or belt.

Figure 8.7 Belt Clip

8.1.4 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 8.8 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.

8.2 The Batteries

Note: *Review "Battery Specifications" on page 168 for detailed information.*

The WORKABOUT PRO will operate with a Standard Lithium Ion battery pack, a High-Capacity Lithium Ion battery pack or three AA alkaline batteries. If you are using a Lithium Ion battery pack, it must first be charged.

In addition to the main battery, the hand-held is equipped with a rechargable coin battery – a Maxell ML2032.

8.2.1 Lithium Ion Battery Safety Precautions

Important: **It is critical that this safety information be reviewed and that all warnings be strictly followed.**

Warning: **BATTERIES ARE CONSIDERED HAZARDOUS WASTE and must be returned to Psion Teklogix for proper disposal. All used batteries must be forwarded to one of the following offices:**

Psion Teklogix Inc.   Psion Teklogix Corp.
2100 Meadowvale Blvd.   1810 Airport Exchange Blvd.
Mississauga, Ontario   Suite 500
Canada   Erlanger, Kentucky
L5N 7J9   USA 41018

Psion Teklogix S.A.
La Duranne; 135 Rue Rene Descartes; BP 421000
13591 Aix-En-Provence
Cedex 3; France

Warning: **TO PREVENT the battery from leaking acid, generating heat or exploding, adhere to precautions listed below.**

- There is a risk of explosion if a WORKABOUT PRO battery is replaced with an incorrect type.
- The battery incorporates built-in safety devices. To ensure their proper function, do not disassemble or alter any parts of the battery.
- Do not short-circuit the battery by directly connecting any of the exposed terminals with metal objects such as wire. Do not transport or store the battery together with metal objects such as necklaces, hair pins, etc.
- Do not dispose of batteries in fire.
- Do not use or leave the battery near a heat source such as a fire or heater.

- Do not immerse the battery in water.
- When charging, use the battery charger specifically designed for the battery.
- Do not pierce, strike, throw or step on the battery.
- Do not directly solder the battery.
- Do not connect the battery to an electrical outlet, vehicle cigarette lighter, etc.
- Do not put battery into a microwave oven or pressurized container.
- Do not use the battery in combination with primary batteries (such as dry-cell batteries) or batteries of different capacities or brands.
- Immediately remove the battery from the device or battery charger and stop use if the battery gives off an odor, generates heat, becomes discoloured or deformed, or in any way appears abnormal during use.
- Do not continue charging the battery if it does not recharge within the specified charge time.
- The battery may burst or ignite if the battery leaks. Always ensure that it is away from any exposed flames.
- If leaking electrolyte sprays into your eyes, rinse them with clean running water, and immediately seek medical attention.
- Do not store the battery in extremely high temperatures (e.g., a vehicle, strong direct sunlight, etc.). This may cause the battery to overheat or ignite, and it may also reduce the performance and service life of the battery.
- Do not use in areas where static electricity is greater than what the manufacturer guarantees.
- Keep batteries out of reach of children*.*

8.3 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:

- Single Battery Charger – Model #WA3001
- Quad Battery Charger – Model #WA3004
- Desktop Docking Station – Model #WA4002
- Quad Docking Station – Model #WA4004

8.3.1 Installation – Chargers And Docking Stations

When installing a charger or docking station at your site, 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.

8.3.2 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.

8.3.3 Operator Controls

WORKABOUT PRO docking stations and chargers have no operator controls or power switches.

8.3.4 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.

8.4 Desktop Docking Station – Model #WA4002

WORKABOUT PRO
Charge Well
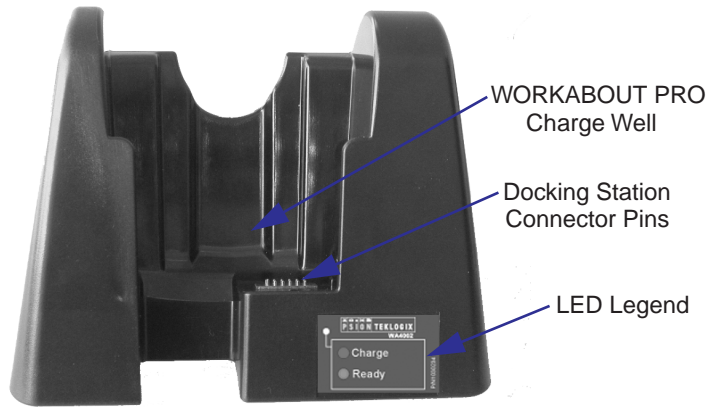
Docking Station
Connector Pins

LED Legend

Figure 8.9 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.
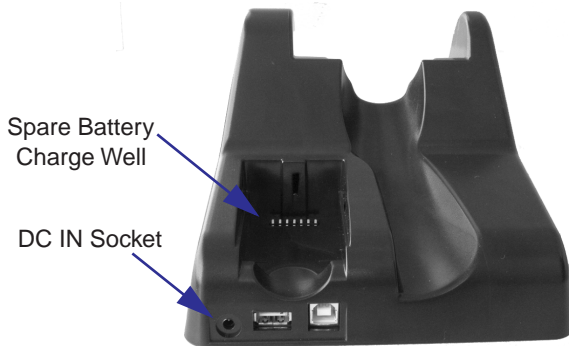

Spare Battery
Charge Well

DC IN Socket

Figure 8.10 Back Of Desktop Docking Station

8.4.1 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 in the taskbar of the hand-held 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.

8.4.2 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.

8.4.3 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.

8.4.4 Charger LED Indicators

Figure 8.11 Battery Charge Status

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 charge well.
Solid red	Charge in progress.
Solid green	Battery is fully charged.

Table 8.2 Desktop Battery Charger LED Behaviour

Note: *Battery charging continues whether the hand-held is switched on or off.*

8.4.5 Troubleshooting The Charging Operation Of The Dock

The quad battery charger troubleshooting section beginning on also applies to the charging behaviour of the desktop docking station.

8.4.6 Desktop Docking Station Ports

Host USB Port

Client USB Port

DC IN Socket

Figure 8.12 Back of Desktop Docking Station

The desktop docking station 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.

8.4.7 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 to PC is included with your docking station.

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.

You'll need to install connectivity software on your PC before you can pass information between the hand-held and the PC.

8.4.7.1 Using Microsoft® ActiveSync® To Work With Files

ActiveSync® – Microsoft PC connectivity software – can be used to connect the WORKABOUT PRO to PCs running this software. You'll be able to:

- 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.

Note: You'll need the USB setup utility to configure the .ini file. For information about this USB application, refer to Appendix C: USB Setup Application.

To install ActiveSync, follow the step-by-step instructions provided with the program's setup wizard. Refer to the following website for details:
http://www.microsoft.com/windowsmobile/resources/downloads/pocketpc/activesync35.mspx

8.4.8 Linking A WORKABOUT PRO To An Ethernet Network

An USB-Ethernet adaptor cable (WA4010) is available to connect the WORKABOUT PRO to an Ethernet network through the desktop docking station.

Ethernet Port

USB Connector

Figure 8.13 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.

8.4.8.1   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.

8.4.9   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.

8.5   Single Battery Charger – Model #WA3001

Figure 8.14 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.

8.5.1 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.

8.5.2 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.

8.5.3 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% 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 151 for details.
Flashing red then green in a 3 second cycle	Power up test sequence.

Table 8.3 Single Battery LED Behaviour

Note: *Battery charging continues whether the hand-held is switched on or off.*

8.6   Quad Battery Charger – Model #WA3004

Table 8.4   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.*

8.6.1   Charging Batteries

- Slide the battery into a charge well, aligning the contacts on the battery with the contacts in the charge well.

8.6.2   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.

8.6.3   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 8.3 on page 149 for details.

8.6.4   Troubleshooting

8.6.4.1   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.

8.6.4.2   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.

8.6.4.3   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.

8.6.4.4   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 powerup.

8.7   Quad Docking Station – Model #WA4004

Figure 8.15 Quad Docking Station

Note: *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.

8.7.1   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.

8.7.2   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.

8.7.3   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 displays the appropriate icon in the taskbar –   . 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.

8.7.4   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.

8.7.4.1   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.

8.7.5 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 5 hours to fully charge the internal battery.

8.7.6 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.

8.7.6.1   Network Link Unsuccessful

If a network link fails, the WORKABOUT PRO application alerts the operator that the link was unsuccessful.

8.7.6.2   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.

8.8   AC Wall Adaptor And Tether Cable

Figure 8.16 WORKABOUT PRO AC Wall Adaptor And Tether Cable

Connecting a wall adaptor (WA3220) and tether cable (WA3220) to your WORKABOUT PRO will supply AC power to your unit. The tether cable is equipped with a tether port so that you can attach a peripheral device to the hand-held while providing power. A power lead must be ordered separately.

- Insert the tether connector into the tether port on your hand-held. Tighten the screws to secure the cable in place.
- Insert the DC power plug into the DC IN socket on the tether cable, and plug the pronged end of the power cable into an AC outlet.

8.9 Automotive Adaptor

Figure 8.17 Automotive Adaptor

The automotive adaptor is an optional accessory that allows you to power your WORKABOUT PRO through your vehicle cigarette lighter.

- Attach a tether cable (see Figure 8.16 on page 155) to the base of the WORKABOUT PRO.
- Insert the automotive adaptor DC power plug into the DC IN socket on the tether cable.
- Insert the adaptor in your vehicle cigarette lighter outlet to power your unit.

8.10 The Vehicle Cradle

Figure 8.18 Unpowered Vehicle Cradle

The vehicle cradle is available in two versions – unpowered (WA1000) and powered (WA1010). A port replicator option is available for both types of 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.

8.10.1 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 improperly 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 consideration, especially for separately tethered scanners and other devices with loose cables. If you are unable to obtain suitable advice,

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.

8.10.1.1   Mounting Template

The vehicle cradle is shipped with detailed mounting instructions including a drill template.

8.10.2 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.

8.10.3 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.

8.10.4 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.

8.10.5 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.

8.10.6   Powered Vehicle Cradle Installation

The powered cradle option 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 10 to 55V, 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.***

8.10.6.1   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.

8.10.7 The Port Replicator

Figure 8.19 Port Replicator

The port replicator (Model# WA4005) 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).

8.11 Bluetooth Peripherals

The WORKABOUT PRO C (a unit equipped with a colour display) – comes 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.

> *Note:* *Bluetooth is **not** available for WORKABOUT PRO Ms*

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

Keep in mind that Bluetooth and IEEE 802.11b 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 802.11b network, Psion Teklogix recommends using Bluetooth peripherals that have low transaction rates (such as printers and scanners).

Bluetooth peripherals are configured using the Bluetooth control panel applet. Refer to "Bluetooth Setup" on page 78 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 associate with the WORKABOUT PRO host.

SPECIFICATIONS **9**

Note: *Performance specifications are nominal and subject to change*
without notice.

9.1 Hand-Held Computer Specifications

Size

- Length: 8.7" (221mm)
- Width: 3" (76mm) at grip area tapering to 3.5" (90mm) at display area.
- Depth: 1.2" (31mm) at grip area tapering to 1.7" (44mm) at display area.
- Keypad area: 3" (75.5mm) width x 1.4" (36mm) depth

Weight

With battery: 16 oz. (454g); add 2.6 oz. (75g) with scanner expansion module;

add 0.7 oz. (19g) with 802.11b CF card radio.

Operating System

Microsoft Windows CE .NET Version 4.2

Processor

- Intel Xscale PXA255

Power Management

- 3.8V Standard Capacity Li-ion rechargeable battery - up to 8hours of operation.
- 3.8V High-Capacity Li-ion rechargeable battery - up to 12 hours of operation.
- Advanced Smart Battery w/ gas gauge.
- Quick swap battery packs.
- Built-in fast charger.
- Rechargeable, user-replacable internal coin battery.
- Also accepts 3 AA Alkaline batteries.

Communication

Ports   USB Host port on base for tethered USB devices (printers, etc.)
Low Insertion Force Docking Station Port with:
- USB Device Port
- USB Host port
- Power in/out

Environmental

Operating Temperature	14°F to 122°F (-10°C to +50°C)
Storage Temperature	-13°F to 140°F (-25°C to +60°C)
Rain And Dust Resistance	IEC 529, classification IP54.
Humidity	5% - 95% RH non-condensing
Shock	Multiple 4 ft. (1.2m) drops to polished concrete.

Approvals

Safety	UL60950-1, CSA C22.2 No 60950-1
EMC	FCC Part 15 Class B EN 55022 EN 55024
Laser	IEC 60825-1, Class 2 FDA 21 CFR 1040.10, 1040.11 Class II
In Vehicle Cradle	E Mark

9.2   Radio Specifications

802.11b Direct Sequence Spread Spectrum

Transmit Power	100mW max for USA
	50mW max for EU countries
Frequency Range	2.400-2.474 for USA, Canada
	2.400-2.484GHz for EU
Channels	1 to 11 for USA, Canada
	1-13 for EU countries
	1-13 or 14 for Japan
Data Rates	1,2,5.5 and 11Mbps

9.3   SE 1223HP Scanner Specifications

Physical Characteristics	SE 1223HP (Decoded)
Dimensions:	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
Weight:	1.33 oz. max. (37.7 gm max.)
Performance Characteristics	
Light Source:	Visible Laser Diode 650 nm
Scan Rate:	35 (± 5) scans/sec (bidirectional)
Scan Angle:	42º ± 2º
Scan Patterns:	Linear
Minimum Print Contrast:	Minimum 20% absolute dark/light reflectance measured at 650 nm
Symbologies:	UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar, MSI UCC/EAN 128, Tri-Optic Code 39
Programmable Parameters:	Laser On Time, Aim Duration, Power Mode, Trigger Mode, Bidirectional Redundancy, Symbology types/lengths, Data Formatting, Serial Parameters, Beeper Tone
Interfaces:	12 position ZIF connector. Symbol Standard SSI Interface with logic level serial data communications plus trigger, beeper and decode LED signals

User Environment	
Ambient Light, Artificial:	450 ft. candles (4,844 lux)
Ambient Light, Sunlight:	10,000 ft. candles (107,640 lux)
Operating Temperature:	-22˚ F to 140˚ F (-30˚ C to 60˚ C)
Storage Temperature:	-40˚ F to 140˚ F (-40˚ C to 60˚ C)
Humidity:	5% to 95% noncondensing
Power, Input Voltage:	5.0 VDC ± 10%
Power, Input Current:	110 mA typical
Power, Standby Current:	130 µA max.
Shock:	2,000 G
Regulatory	
Laser Classification:	Intended for use in CDRH Class II and IEC Class 2 devices
Electrical Safety:	UL, VDE, and CUL recognized component laser

9.4 Battery Specifications

9.4.1 Standard Battery Pack

Chemistry Capacity	Lithium Ion Polymer Battery (Li-Polymer)
	1750 mAh nominal at 350mA discharge 20 °C (68˚ F) to 2.8V(minimum)
Voltage	3.7V nominal (2.8V min. to 4.2V max.)
Cell Configuration	1S2P (2 parallel connected cells)
Cell Type	Lithium-ion Polymer Battery
Max. Discharge Current	1A (-10˚ C to 60˚ C) -- (14˚ F to 140˚ F)
Charge Algorithm	CC to CV
Max. Charge Voltage	4.2V +/- 0.05V
Max. Charge Current	800 mA
Discharge Cut-off	2.6V min – DS2761 protection circuit initiates
Recommended Fast Charge	1550 mA for 2.5hrs
Max. Fast Charge Time	3.0 hrs.
Recommended Termination Taper Current	50 - 100 mA
Recommended Charge Termination Timeout	30 min.

Charge Temperature	0˚ C to 45 ˚C (32˚ F to 113˚ F)
Discharge Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F)
Recommended Termination Taper Current	50 - 100 mA
Recommended Charge Termination Timeout	30 min.
Charge Temperature	0˚ C to 45 ˚C (32˚ F to 113˚ F)
Discharge Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F)
Storage Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F) Storing battery at elevated temperatures is ***not*** recommended.
Cycle Life	300 cycles minimum with no degradation below 80% of nominal capacity based on standard charge / standard discharge rates (to 2.8V) @ 25ºC
Impedance	45mΩ max. @ 1kHz AC only the battery cell
Total Internal Resistance	200 m Ωmax., fully charged new pack (including cell resistance and protection circuit resistance) @ 1kHz AC
High Temperature Recovery	>60% nominal capacity after 20 days @ 60˚ C (full charge) -- (140˚ F)
Low Temperature Recovery	>80% nominal capacity after 72 hours @ -20˚ C (full charge) -- (-4˚ F)
Capacity recovery	-20˚ C to 60˚ C (-4˚ F to 140˚ F) >80% capacity recovery within 1 month -20˚ C to 45˚ C (-4˚ F to 113˚ F) >75% capacity recovery within 3 month -20˚ C to 20˚ C (-4˚ F to 68˚ F) >70% capacity recovery within 1 year

9.4.2 High-Capacity Battery Pack

Chemistry Capacity	Lithium Ion Polymer Battery (Li-Polymer)
	2625 mAh nominal at 350mA discharge 20 °C (68˚ F) to 2.8V(minimum)
	1800 mAh nominal at 300mA discharge at –20 °C to 2.8V (minimum)
Voltage	3.7V nominal (2.8V min. to 4.2V max.)
Cell Configuration	1S3P (3 parallel connected cells)
Cell Type	Lithium-ion Polymer Battery

Max. Discharge Current	1.7A (-10˚ C to 60˚ C) -- (14˚ F to 140˚ F) 0.5C (-20˚ C to 60˚ C) -- (-4˚ F to 140˚ F)
Charge Algorithm	CC to CV
Max. Charge Voltage	4.2V +/- 0.05V
Max. Charge Current	900 mA
Discharge Cut-off	2.6V min – DS2761 protection circuit initiates
Recommended Fast Charge	2325 mA for 4.0 hrs
Max. Fast Charge Time	5.0 hrs
Recommended Termination Taper Current	50 - 100 mA
Recommended Charge Termination Timeout	30 min.
Charge Temperature	0˚ C to 45 ˚C (32˚ F to 113˚ F)
Discharge Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F)
Recommended Termination Taper Current	50 - 100 mA
Recommended Charge Termination Timeout	30 min.
Charge Temperature	0˚ C to 45 ˚C (32˚ F to 113˚ F)
Discharge Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F)
Storage Temperature	-20˚ C to 60˚ C (-4˚ F to 140˚ F) Storing battery at elevated temperatures is ***not*** recommended.
Cycle Life	300 cycles minimum with no degradation below 80% of nominal capacity based on standard charge / standard discharge rates (to 2.8V) @ 25ºC
Impedance	35mΩ max. @ 1kHz AC only the battery cell
Total Internal Resistance	210 m Ωmax., fully charged new pack (including cell resistance and protection circuit resistance) @ 1kHz AC
High Temperature Recovery	>60% nominal capacity after 20 days @ 60˚ C (full charge) -- (140˚ F)
Low Temperature Recovery	>80% nominal capacity after 72 hours @ -20˚ C (full charge) -- (-4˚ F)

Capacity recovery	-20˚ C to 60˚ C (-4˚ F to 140˚ F) >80% capacity recovery within 1 month -20˚ C to 45˚ C (-4˚ F to 113˚ F) >75% capacity recovery within 3 month -20˚ C to 20˚ C (-4˚ F to 68˚ F) >70% capacity recovery within 1 year

9.4.3 Maxell ML2032 Rechargeable Coin Battery

Model	ML2032
System	Lithium Ion
Nominal Voltage (V)	3 V
Nominal Capacity (mAh*)	65
Nominal Discharge Current (µA)	200
Charge/Discharge Cycle Lifetime	
Depth of Discharge = 10%	1,000 (6.5 mAh discharge) (total capacity 6,500 mAh)
Depth of Discharge = 20%	300 (13 mAh discharge) (total capacity 3,900 mAh)
Temperature Ranges	
Operating	-10˚ C to 60˚ C (14˚ F to 140˚ F)

*   Nominal capacity indicates duration until the voltage drops down to 2.0V when
      discharged at a nominal discharge current at 20˚ C (68˚ F).

APPENDIX A

SUPPORT SERVICES AND WORLDWIDE OFFICES

Psion Teklogix provides a complete range of product support services to its customers worldwide. These services include technical support and product repairs.

A.1   Technical Support

Technical Support for Mobile Computing Products is provided via e-mail through the Psion Teklogix customer and partner extranets. To reach the website, go to *www.psionteklogix.com* and click on the appropriate Teknet link on the home page. Then click on the "Log-in" button or the "Register" button, depending on whether you have previously registered for Teknet. Once you have logged in, search for the "Support Request Form".

A.2   Product Repairs

International
For technical support outside of Canada or the U.S.A., please contact your local Psion Teklogix office listed on our worldwide website:

> http://www.psionteklogix.com

Click on the heading labelled 'Contacts' to choose a Psion Teklogix technical support representative closest to you.

Canada/U.S.A
Canadian and U.S. customers can receive access to repair services, by calling the toll-free number below, or via our secure website (see *Technical Support*, above).

Note: Customers calling the toll-free number should have their Psion Teklogix customer number or trouble ticket number available.

> Voice: 1 800 387-8898 (press option '2')
>
> Fax: 1 905 812-6304

A.3 Worldwide Offices

**COMPANY HEADQUARTERS
AND CANADIAN SERVICE CENTRE**

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**NORTH AMERICAN HEADQUARTERS
AND U.S. SERVICE CENTRE**

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Fax: +1 859 371 6422

Email: salesusa@psion.com

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APPENDIX B

PORT PINOUTS

B.1 Standard Battery Contact Pin Definition

PIN #	Signal Name	Description
1	P+	Power Pin for Battery Pack Positive
2	P+	Power Pin for Battery Pack Positive
3	DQ	One-wire Interface Data Pin
4	T	GND
5	P-	Power Pin for Battery Pack Negative
6	P-	Power Pin for Battery Pack Negative
7	PS	Power Switch Sense Pin

B.2 High-Capacity Battery Contact Pin Definition

PIN #	Signal Name	Description
1	P-	Power Pin for Battery Pack Negative
2	DQ	One-wire Interface Data Pin
3	T	GND
4	P+	Power Pin for Battery Pack Positive
5	PS	Power Switch Sense Pin
–	–	Plastic Rib
6	P-	Power Pin for Battery Pack Negative

B.3   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.4   Tether Port Pinout

PIN #	Signal Name
1	Ground
2	USB Host Data Plus, For connecting USB Devices
3	USB Host Data Minus, For connecting USB Devices
4	USB Host Power, for powering USB devices (5V, 100mA Max)
5	TX Data } TX Data and RX Data are only available on terminals with no internal Bluetooth
6	RX Data }
7	Tether Detect, determines if a device is attached to the Tether port
8	DC Power In, for supplying power to WORKABOUT PRO / charging battery (5V, 3A)

PIN #	Signal Name
9	DC Power In, for supplying power to WORKABOUT PRO / charging battery (5V, 3A)
10	DC Power In, for supplying power to WORKABOUT PRO / charging battery (5V, 3A)
11	Not used.
12	Not used.
13	Not used.
14	Not used.
15	Not used.
16	Ground
17	Ground
18	Ground

B.5 Audio Mini-Plug

APPENDIX
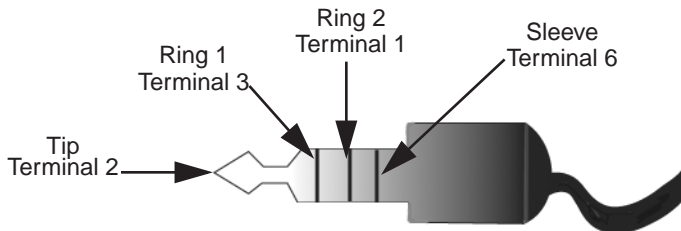
USB SETUP APPLICATION

C.1 USB Setup

The USB Setup application (PN 1000997) is used to update a Windows PC so that it can connect to a Psion Teklogix WORKABOUT PRO.

System Requirements

- Windows® 2000 or XP
- ActiveSync 3.1 or later

The two driver classes that control USB communication are `usbstor` (for communication with a device running `BooSt`) and `wceusbsh` (for communication through ActiveSync with a device running Windows CE .NET). These drivers must be updated with WORKABOUT PRO-specific information so that the WORKABOUT PRO can be recognized by your PC.

The install program:

- updates copies of the device installation scripts `usbstor.inf` and `wceusbsh.inf` with Psion Teklogix-specific information,
- sets up a USB connection between the PC and the WORKABOUT PRO, *and*
- installs the WORKABOUT PRO as a device on your PC. This may require notifying the PC OS that the device should be reinstalled and then reconnecting the USB device.

C.1.1 Launching The Application

The log file is initialized and the program introduction is written to it.

C.1.2 Pre-Installation: Updating usbstor.inf And wceusbsh.inf

1. Welcome Dialogue Box:
   You can click on the <Back> and <Next> buttons to navigate between the pre-install windows. At any time during the pre-installation process, you can tap on <Cancel> to exit the program.
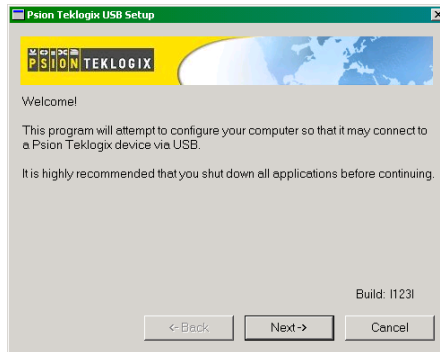
- Shut down all other software programs – especially ActiveSync – to avoid a restart request during installation.

- Tap on the <Next> button.
  The program checks that ActiveSync is installed and that it is a supported version – 3.1 or later. If the version installed on your PC is not supported, you'll need to exit the USB Setup application, and install a later version of ActiveSync.

2. Device Driver INF File Selection Dialogue Box:
   This dialogue box allows you to choose the paths of the appropriate inf files. Default file paths are provided in this dialogue box.
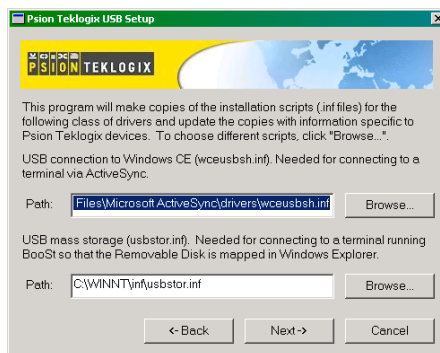
- If necessary, tap on the <Browse> buttons to select different paths for the `inf` files.

3. Device Driver Install Selection Dialogue Box:
   You can choose to have the device drivers installed immediately by selecting the check box (√), or you can leave the check box blank and Windows will install the WORKABOUT PRO the next time it is connected. It is recommended that the device be installed immediately.
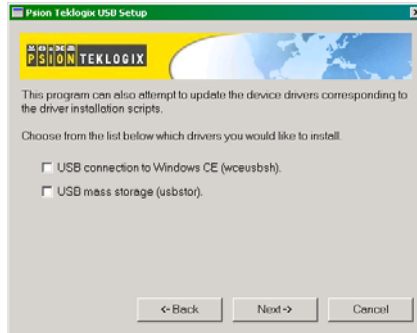
- Select the drivers you want to update – `wceusbsh` and `usbstor`.
- Tap on the <Next> button.

Note: None of the drivers are updated by default. To complete the process, you must establish USB connections.

4. Device Driver Backup Selection Dialogue Box:
   The USB Setup application will attempt to back up the driver `.sys` files before attempting the installation. It specifies which files it will try to back up and the location to which it will back them up.
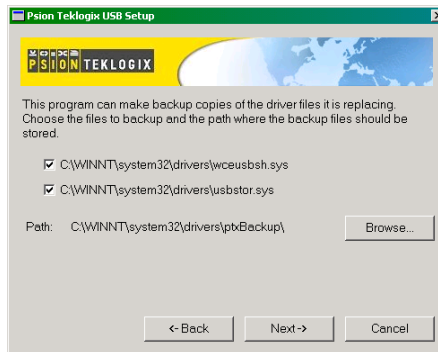
Note: Both drivers are selected for backup by default. The backup directory is <system directory>\drivers\ptxBackup.

C.1.3 Installation: WORKABOUT PRO As A Device On Your PC

1. Install Dialogue Box:
   The `.sys` files you selected are copied to the backup directory. If an unknown error occurs during the backup, you are asked whether you'd prefer to cancel the install or continue with the process. The `wceusbsh.inf` and `usbstor.inf` files are updated.

2. If you indicated that the `wceusbsh` driver should be installed, the Install dialogue box appears again. The USB Setup application will attempt to install the drivers immediately. This will succeed only if a valid USB connection to the device that is running Windows CE .NET exists.

- If the install fails due to an unknown error, the install for this particular driver is aborted.

- If the install fails because there was an inappropriate USB connection, there are two possibilities:

  - An appropriate USB connection was never established between the PC and the WORKABOUT PRO running Windows CE .NET. In this case, when an appropriate USB connection with this device exists, Windows will automatically attempt to install the device driver.

  - An appropriate USB connection exists between the PC and the WORK-ABOUT PRO running Windows CE .NET, but it has since been severed. Windows may or may not attempt to automatically install the device drivers on the next appropriate USB connection.

- A window is displayed where you can tap on <Cancel> to abort the `wceusbsh` driver installation and continue. It also contains instructions to boot your device into Windows CE .NET and establish a USB connection between the device and the PC. When you create the appropriate connection, Windows automatically installs the device drivers. The 'Found New Hardware' wizard may appear. Your only interaction with this window is to click on the <Finish> button.

- If this is the first appropriate connect between the device and the PC – i.e., there was no previous devnode for the device in the system – the <Continue> button is activated as soon as the connection is made. Where there was a devnode present in the system and it has been marked for reinstall, the <Continue> button will not become active until Windows has

completed the driver installation and the device is no longer marked for reinstall. Only one devnode per device can be 'unset' when the device drivers are finally installed.

3. If you indicated that the usbstor driver should be installed, the same steps as described above are carried out for usbstor except that the WORKABOUT PRO must be running BooSt. (Press and hold down the <SCAN> <BLUE> <ENTER> keys for a minimum of 6 seconds to launch the BooSt program.) Keep in mind that a device running BooSt has a different hardware ID than when it is running Windows CE .NET.

C.1.4 Post Installation

1. Done Dialogue Box:
   This dialogue box indicates the success or failure of the installation.

- To view the log file, tap on the <Log File> button

- To exit the program, tap on the <Exit> button.

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